

Built for Change

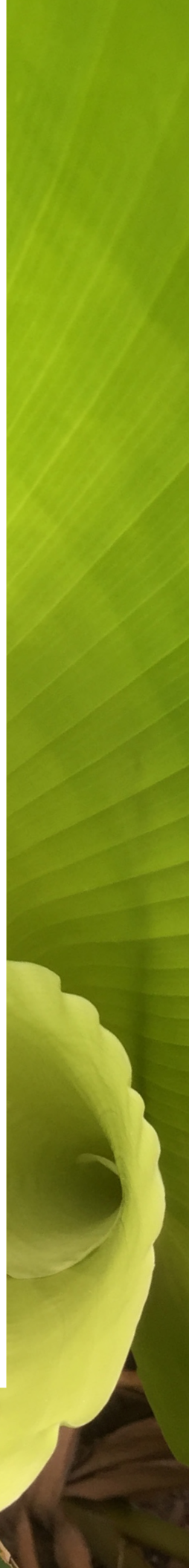
# Fixed Income: From the Fed to Blockchain

---

**FIXED INCOME** | MACRO INSIGHT | 2018

As global growth continues, some think we may be in the later stages of the economic cycle. What should fixed income investors be watching in this environment?

We sat down with six senior portfolio managers in Morgan Stanley Investment Management's fixed income group—including those who oversee public as well as private and liquidity strategies—to get their take on where risks and opportunities lie. As active managers, they have the latitude to dynamically adjust their portfolios in an effort to extract value from duration positioning, credit analysis, yield curve exposure and security selection.



## 1 Let's start high level. What is your outlook for Fed policy, interest rates and inflation?

**JIM CARON:** The consensus around the Fed is that they will probably hike rates twice more this year, though there's a chance that they may skip December. It depends on economic developments.

We don't see a lot of movement higher in interest rates and don't think the 10-year yields will materially rise (and stay) above 3% unless we get a significant change in inflation or growth expectations. Core inflation so far has been running around 2%. It may drift a little higher than that but probably not materially. So I don't really see an inflation impetus.

Growth has been good in the U.S. and second quarter growth is likely to be strong. But as we move into the third and fourth quarters, we may find it peaked for the year in the second quarter. So we may have lower growth, but by lower we mean it could be 2.8%, 2.9% or so. I don't see any economic events taking place right now that would push inflation rates or growth expectations higher, so interest rates are likely to remain bound within a benign range—say, in the 2.7% to 3.1% range.

**JONAS KOLK:** Our view is that the Fed will likely raise rates twice more, for a total of four moves this year. I think some of the geopolitical stuff that's going on—trade, tariffs, turmoil in Europe and foreign policy questions with China and North Korea—will play into the Fed's decision-making. The market is priced for one and a half moves for the rest of this year, so whether the Fed ultimately raises rates once or twice more, the market won't be overly surprised either way.

Looking into next year, I see a bit of a disconnect: The Fed is signaling three more hikes, but the market is priced for much less than that. That will be interesting to watch.

On the inflation front, I think the Fed is confident that inflation will meet their 2% target and are willing to let it run slightly above 2% if the numbers get there. I don't think that the Fed would tolerate a huge inflation overshoot for a prolonged period of time, but I think it is likely to run at or slightly above the Fed's target later this year and into next year.

## 2 What do you think the yield curve is telling us?

**JIM CARON:** Because the Fed is increasing interest rates, the path of least resistance for the yield curve is for it to flatten. And I choose my words carefully here, because the Fed is not "tightening"—it is simply removing excess accommodation. I would argue that the Fed will not start tightening until the nominal Fed funds rate rises above 3%, and that might not be until 2019.

A very flat or inverted curve that comes coincident with a Fed's fund rate at or above 3% would send a signal about a potential recession nine, 12 or possibly 18 months later, but the idea behind a flat-to-inverted curve signaling a coming slowdown in the market is based on an assumption that the Fed is actually tightening policy.

Moreover, the Fed still holds a lot of Treasuries on its balance sheet. As a result of this continued "stock effect" of quantitative easing (QE), we calculate the term premia and yield curve are probably about 40 basis points flatter than they would be otherwise. So making an apples-to-apples comparison of the shape of the curve with historical context would require adding about 40 basis points to the curve right now in order to control for lingering QE effects.

The flattening of the yield curve does signal an expectation that growth may be peaking, but we also have to ask how much growth will slow, how quickly and whether that necessarily signals a recession. Right now what I would say is that we're watching it but we're not overly worried.

**JONAS KOLK:** As Jim pointed out, although historically an inverted yield curve has been a fairly strong recession indicator, today's inversion is not typical. Normally, the Fed raises rates in order to slow down an overheating economy or to contain inflation that's getting a little bit too hot for their liking. The current "tightening" campaign is totally different in that the Fed is simply trying to normalize monetary policy from extreme levels—not to slow the economy or contain inflation. They are not tightening in the historical sense.

The Fed is signaling three hikes, but the market is priced for much less than that.

The flattening of the yield curve does signal an expectation that growth may be peaking.

There are also factors in the broader market that are holding down long-term rates. Some of the major central banks of the world—for example the ECB or the Bank of Japan—are still continuing quantitative easing and expanding their balance sheet. Taking that duration and those bonds out of the marketplace has helped hold down longer-term interest rates. With the Fed raising rates but not tightening and the amount of quantitative easing still in the global system, the predictive importance of a flattening or an inverted curve might not be as high this time around.

### 3 What key indicators should we be watching at this juncture?

**JIM CARON:** The number one market indicator is the dollar. It has the most far-reaching implications—a strengthening dollar would help slow the global economy, which would in turn feedback and slow the U.S. economy. It would signal risk-off, causing people to move out of risky assets.

The second key indicator is jobs. The unemployment rate staying relatively low, at 4% or lower, is going to be critical for continued strength and consumption. And the third indicator would be wages. We need to see wages start to move a little higher. To some extent, slow wage growth has been keeping inflation down, but I would also look at wage growth pretty closely. Those three are the key indicators at this point.

**JONAS KOLK:** I come at this from the liquidity part of the market, at the short end of the curve. We look at eurodollar contracts, which are forward three-month LIBOR proxies. These are showing not only a slowing of the pace of tightening in 2019 and into early 2020, but also slightly lower yields for those end-of-2020 contracts. We're talking about single-digit basis points, but that eurodollar curve nevertheless indicates not only a Fed that is pausing at some point in mid-2019 but maybe even a Fed that's starting to move in the opposite direction.

Those forward contracts don't jibe with the path the Fed is projecting, so I think watching those contracts to see how they develop over the next 12 to 24 months will be interesting. Right now they are showing a picture that would require some fairly significant changes

in terms of how the Fed is viewing their outlook for monetary policy.

If we continue to see front-end rates rising against the backdrop of some uncertainty in the longer end of the curve, it can create some real opportunities in front-end liquidity-type products.

### 4 What asset classes offer the best opportunities today?

**NEIL STONE:** We generally think this is a good environment for credit, specifically investment-grade corporates. Among the high-rated bonds—say single-A financials and single-A industrials—we have a strong preference for the financials even though they're trading at roughly the same spread. The financials, the banks in particular, continue to be in a period of secular de-risking and remain supported by strong regulatory oversight. Most financials have been raising capital, reducing the risk of their businesses and generally doing the kinds of things that bondholders like. Financials have been, and continue to be, our favorite segment of the investment-grade credit market given this combination of improving fundamentals and attractive valuations.

We are a bit more cautious on the nonfinancial side given some weaker fundamentals, mergers and acquisitions (M&A) risks and evolving technology and disruption risks. We've seen a fair bit of financial engineering—what you might call bondholder unfriendly activity like increasing leverage for M&A or stock buybacks, especially among some of the higher-rate companies. Many of these companies don't mind getting downgraded so long as they can remain investment grade. Companies already at the lower end of investment grade tend to be more careful about engaging in these kinds of activities because they are sensitive to avoiding a downgrade into high yield. Our credit research team has found some attractive opportunities in this segment of the market.

We also remain focused on growing technologies. Blockchain, autonomous driving and renewable energy could produce winners and losers in the years ahead. So all else being equal, we have a preference for higher-rated financials and for the lower end of investment grade for nonfinancial companies.

Blockchain, autonomous driving and renewable energy could produce winners and losers in the years ahead

**RICHARD LINDQUIST:** I'll touch on high yield. Our approach is to invest in middle-market credits, which we define as companies with \$150 million to \$1 billion in total bonds outstanding, and within that space, focusing on lower-duration credit given the rising-rate environment. Our preference has been to keep duration in our portfolios around three quarters of a year shorter than the index, while maintaining a yield advantage of 50 to 100 basis points relative to the index, so we are looking for middle-market companies with higher yields and shorter durations.

We are overweight in cyclical areas: energy, diversified manufacturing, building materials, transportation services and industrial other, which ties in with Jim's outlook. The economic backdrop is good, default rates continue to decline and technicals remain strong. Through June, U.S. high-yield new issuance is down 27% year-over-year, which has been supportive of the market.<sup>1</sup> Additionally most of the bond issuance is being used to retire older, higher coupon debt.

With no sector currently facing overwhelming default issues, we are underweight sectors with a lot of low-coupon, long-duration bonds such as wireless, wirelines, cable and media. We don't have default concerns, but don't believe these sectors offer good relative value at the moment given the duration risk.

We are also broadly underweight financials due to credit concerns. These financials are very different from the investment-grade financials that Neil was talking about. In high yield, financial companies tend to be smaller, with a subprime client base, focusing on things like payday lending, auto lending, student loan lending or mortgage servicing. These are much riskier than large investment-grade financial institutions.

Finally, we're also underweight health care due to idiosyncratic news and uncertainty surrounding what a new health care bill might look like coming out of Washington.

**ERIC BAURMEISTER:** After the fairly dramatic sell off in the second quarter of this year, there's a lot of value across a wide breadth of emerging market assets, whether it be sovereign debt, local or external, or corporate debt. And with a

backdrop of good global growth and an interest rate environment that isn't too challenging, we could expect emerging market assets to recover rather smartly.

Our biggest concern is global trade conflicts that lead to lower trade and a drop in commodity prices. A step backward in globalization would be tough for emerging markets, but that's not our central case. After the re-pricing, some countries were fairly penalized due to their policy mix, but many were penalized unfairly, in our opinion—as a result, we've seen opportunities across emerging markets.

Based on valuations, we are overweight local market issues and emerging market corporates at the expense of sovereign bonds. We think Argentina represents a lot of value with the way that they have embraced a reform program, are favorably disposed to Nigeria mainly through their banking sector, and like local markets in Egypt, Mexico and South Africa and external debt in Ukraine and Kazakhstan. Although Lopez Obrador won the presidency, we felt that the fears of him were overblown, creating an opportunity in Mexican assets.

## 5 What opportunities do you see in the alternative fixed income space?

**KEN MICHLITSCH:** We believe alternative lending offers investors exposure to a secular shift in the way consumers and small businesses access capital. The lending model grew out of small balance, peer-to-peer unsecured consumer loans financed by retail investors, but as the asset class matured, institutional investors came in and now fund most such loans.

At the same time, the types of credit risk underwritten by alternative lenders have expanded beyond unsecured consumer to include small-business lending, student loans, auto finance and other forms of specialty finance. Alternative lending provides a potential combination of better yield and low duration. Its lower duration helps reduce sensitivity to rising interest rates, while outsized credit spreads provide a cushion against credit loss. Alternative lending has exposure

Alternative lending has exposure to consumer credit, making it a good diversifier when paired with other assets.

<sup>1</sup> Bloomberg Barclays data as of June 30, 2018

to consumer credit, rather than corporate or government credit, making it a good diversifier when paired with other asset classes.

It has exhibited attractive absolute and risk-adjusted returns. And it reflects a highly diverse opportunity set, with a variety of strategies providing multiple sources of diversification<sup>2</sup>—by loan segment, credit quality, security interest, ticket size or duration.

6

### What are your views on currencies?

**ERIC BAURMEISTER:** We have a favorable view of the Mexican peso, the South African rand and the Russian ruble. The ruble could be volatile depending on sanctions and relations with Russia, but Russia has based their budget on a \$40 oil price and we're well above that. The excess money is going into an oil stabilization fund and toward reserve accumulation. That's all positive for the Russian ruble.

We also like the Egyptian pound. It's a fairly stable currency and has high rates, both real and nominal, that make it attractive. More recently, we have turned more positive

on the Malaysian ringgit as well, based on Prime Minister Mahathir looking to be far more fiscally responsible than people had feared, while doing a good job cleaning out corruption. We also think the big sell-off in the Argentine peso has made local floating-rate bonds in Argentina fairly attractive. We are still avoiding Turkey, even though the lira had a huge sell-off, and feel that the market is right in punishing Turkey for the direction of its policy. We do not see measures being taken that would reduce their current account deficit, and we expect their fiscal position to weaken.

**JIM CARON:** I agree with everything that Eric said against the dollar. Thematically, I like to think of it as being long the high yielders as opposed to the low yielders, with many of the high yielders being in the emerging market space. The only ones that I would potentially add are Australia and New Zealand, which are high quality.

Trying to get carry within currencies and owning the high yielders is a consistent theme. The only exception would be the dollar—it could be considered a high yielder these days, but we think the dollar may be overvalued.

**MODERATOR:** Thanks to all of you for sharing your views. Clearly, today's bond market requires a new mindset. The kind of flexibility you demonstrate – in being able to tap a wide range of alpha sources globally – will be crucial in helping to deliver competitive returns in this new era of fixed income.

<sup>2</sup> Diversification does not eliminate the risk of loss.



# Meet Our Portfolio Managers



## **JIM CARON**

*Head of Macro  
Global Fixed Income Team*

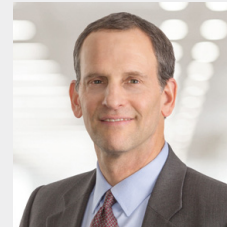
*Jim is a portfolio manager and senior member of the Global Fixed Income team and a member of the Asset Allocation Committee. He joined Morgan Stanley in 2006 and has 26 years of investment experience.*



## **JONAS KOLK**

*Chief Investment Officer  
Global Liquidity Team*

*Jonas is CIO and head of Portfolio Management for the Global Liquidity team. He joined Morgan Stanley in 2004 and has 27 years of investment experience.*



## **NEIL STONE**

*Head of U.S. Multi-Sector  
Global Fixed Income Team*

*Neil is a portfolio manager on the Global Fixed Income team. He joined Morgan Stanley in 1995 and has 33 years of investment experience.*



## **RICHARD LINDQUIST**

*Head of Global High Yield  
Global Fixed Income Team*

*Richard is head of the High Yield Fixed Income team at Morgan Stanley Investment Management. He joined the firm in 2011 and has 36 years of investment experience.*



## **ERIC BAURMEISTER**

*Head of the Emerging Markets Debt Team*

*Eric is the head and senior portfolio manager of the Emerging Markets Debt team. He joined Morgan Stanley in 1997 and has 24 years of investment experience.*



## **KEN MICHLITSCH**

*Head of the AIP Alternative Lending*

*Ken is lead portfolio manager for the AIP Alternative Lending Group. He joined Morgan Stanley Investment Management in 2011 and has 20 years of professional experience.*

---

## Our Active Fixed Income Solutions

### **Global Fixed Income**

Active managers with an exclusive focus on alpha generation that believe value prevails and research wins in the long run.

### **Global Liquidity**

Aims to effectively meet clients' unique cash and working capital needs, offering a broad range of money market funds and customized separate account solutions.

### **Private Credit**

Offers clients access to a variety of private credit investments ranging from Senior and Mezzanine debt for the middle market to late-stage growth credit, as well as alternative lending strategies.

## Risk Considerations

Fixed income securities are subject to the ability of an issuer to make timely principal and interest payments (credit risk), changes in interest rates (interest rate risk), the creditworthiness of the issuer and general market liquidity (market risk). In the current rising interest rate environment, bond prices may fall and may result in periods of volatility and increased portfolio redemptions. **Longer-term** securities may be more sensitive to interest rate changes. In a declining interest rate environment, the portfolio may generate less income. Certain **U.S. government** securities purchased by the strategy, such as those issued by Fannie Mae and Freddie Mac, are not backed by the full faith and credit of the U.S. It is possible that these issuers will not have the funds to meet their payment obligations in the future. Public bank loans are subject to liquidity risk and the credit risks of lower-rated securities. **High-yield securities (junk bonds)** are lower-rated securities that may have a higher degree of credit and liquidity risk. **Sovereign debt securities** are subject to default risk. **Mortgage- and asset-backed securities** are sensitive to early prepayment risk and a higher risk of default, and may be hard to value and difficult to sell (**liquidity risk**). They are also subject to credit, market and interest rate risks. The currency market is highly volatile. Prices in these markets are influenced by, among other things, changing supply and demand for a particular currency; trade; fiscal, money and domestic or foreign exchange control programs and policies; and changes in domestic and foreign interest rates. Investments in foreign markets entail special risks such as currency, political, economic and market risks. The risks of investing in **emerging market** countries are greater than the risks generally associated with foreign investments. **Derivative instruments** may disproportionately increase losses and have a significant impact on performance. They also may be subject to counterparty, liquidity, valuation, correlation and market risks. **Restricted and illiquid securities** may be more difficult to sell and value than publicly traded securities (liquidity risk). Due to the possibility that prepayments will alter the cash flows on **collateralized mortgage obligations (CMOs)**, it is not possible to determine in advance their final maturity date or average life. In addition, if the collateral securing the CMOs or any third-party guarantees are insufficient to make payments, the portfolio could sustain a loss.

**Limited secondary market and liquidity of alternative lending securities:** Alternative lending securities generally have a maturity between one to seven years. Investors acquiring alternative lending securities directly through Platforms and hoping to recoup their entire principal must generally hold their loans through maturity. There is also currently no active secondary trading market for loans in which the Fund will invest, and there can be no assurance that such a market will develop in the future. Until an active secondary market develops, the Fund will primarily adhere to a “purchase and hold” strategy and will not necessarily be able to access significant liquidity. In the event of adverse economic conditions in which it would be preferable for the Fund to sell certain of its loans, the Fund may not be able to sell a sufficient proportion of its portfolio as a result of liquidity constraints. In such circumstances, the overall returns to the Fund from its investments may be adversely affected. In addition, the limited liquidity may cause a Platform’s other investors and potential investors to consider these investments to be less appealing, and demand for these investments may decrease, which may adversely affect the Platforms’ business.

## DISTRIBUTION

**This communication is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.**

**United Kingdom:** Morgan Stanley Investment Management Limited is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA, authorised and regulated by the Financial Conduct Authority. **Dubai:** Morgan Stanley Investment Management Limited (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158).

**Germany:** Morgan Stanley Investment Management Limited Niederlassung Deutschland Jungthofstrasse 13-15 60311 Frankfurt Deutschland (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Italy:** Morgan Stanley Investment Management Limited, Milan Branch (Sede Secondaria di Milano) is a branch of Morgan Stanley Investment Management Limited, a company registered in the U.K., authorised and regulated by the Financial Conduct Authority (FCA), and whose registered office is at 25 Cabot Square, Canary Wharf, London, E14 4QA. Morgan Stanley Investment Management Limited Milan Branch (Sede Secondaria di Milano) with seat in Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy, is registered in Italy with company number and VAT number 08829360968. **The Netherlands:** Morgan Stanley Investment Management, Rembrandt Tower, 11th Floor Amstelplein 11096HA, Netherlands. Telephone: 31 2-0462-1300. Morgan Stanley Investment Management is a branch office of Morgan Stanley Investment Management Limited. Morgan Stanley Investment Management Limited is authorised and regulated by the Financial Conduct Authority in the United Kingdom. **Switzerland:** Morgan Stanley & Co. International plc, London, Zurich Branch. Authorised and regulated by the

Eidgenössische Finanzmarktaufsicht (“FINMA”). Registered with the Register of Commerce Zurich CHE-115.415.770. Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland, Telephone +41 (0) 44 588 1000. Facsimile Fax: +41(0)44 588 1074.

**Japan:** For professional investors, this document is circulated or distributed for informational purposes only. For those who are not professional investors, this document is provided in relation to Morgan Stanley Investment Management (Japan) Co., Ltd. (“MSIMJ”)’s business with respect to discretionary investment management agreements (“IMAs”) and investment advisory agreements (“IAAs”). This is not for the purpose of a recommendation or solicitation of transactions or offers any particular financial instruments. Under an IMA, with respect to management of assets of a client, the client prescribes basic management policies in advance and commissions MSIMJ to make all investment decisions based on an analysis of the value, etc. of the securities, and MSIMJ accepts such commission. The client shall delegate to MSIMJ the authorities necessary for making investments. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall not make individual instructions. All investment profits and losses belong to the clients; principal is not guaranteed. Please consider the investment objectives and nature of risks before investing. As an investment advisory fee for an IAA or an IMA, the amount of assets subject to the contract multiplied by a certain rate (the upper limit is 2.16 percent per annum (including tax)) shall be incurred in proportion to the contract period. For some strategies, a contingency fee may be incurred in addition to the fee mentioned above. Indirect charges also may be incurred, such as brokerage commissions for incorporated securities. Since these charges and expenses are different depending on a contract and other factors, MSIMJ cannot present the rates, upper limits, etc. in advance. All clients should read the Documents Provided Prior to the Conclusion of a Contract

carefully before executing an agreement. This document is disseminated in Japan by MSIMJ, Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.

**U.S.:** A separately managed account may not be suitable for all investors. Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required. For important information about the investment manager, please refer to Form ADV Part 2.

**Please consider the investment objectives, risks, charges and expenses of the funds carefully before investing. The prospectuses contain this and other information about the funds. To obtain a prospectus please download one at [morganstanley.com/im](http://morganstanley.com/im) or call 1-800-548-7786. Please read the prospectus carefully before investing.**

Morgan Stanley Distribution, Inc. serves as the distributor for Morgan Stanley Funds.

**NOT FDIC INSURED | OFFER NOT BANK GUARANTEED | MAY LOSE VALUE | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | NOT A BANK DEPOSIT**

**Hong Kong:** This document has been issued by Morgan Stanley Asia Limited for use in Hong Kong and shall only be made available to "professional investors" as defined under the Securities and Futures Ordinance of Hong Kong (Cap 571). The contents of this document have not been reviewed nor approved by any regulatory authority including the Securities and Futures Commission in Hong Kong. Accordingly, save where an exemption is available under the relevant law, this document shall not be issued, circulated, distributed, directed at, or made available to, the public in Hong Kong. **Singapore:** This document should not be considered to be the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under section 304 of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"), (ii) to a "relevant person" (which includes an accredited investor) pursuant to section 305 of the SFA, and such distribution is in accordance with the conditions specified in section 305 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. **Australia:** This publication is disseminated in Australia by Morgan Stanley Investment Management (Australia) Pty Limited ACN: 122040037, AFSL No. 314182, which accepts responsibility for its contents. This publication, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act.

#### **IMPORTANT INFORMATION**

**EMEA:** This marketing communication has been issued by Morgan Stanley Investment Management Limited ("MSIM"). Authorised and regulated by the Financial Conduct Authority. Registered in England No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

There is no guarantee that any investment strategy will work under all market conditions, and investors should evaluate their ability to invest for the long term, especially during periods of downturn in the market. Prior to investing, investors should carefully review the strategy's / product's relevant offering document. There are important differences in how the strategy is carried out in each of the investment vehicles.

A separately managed account may not be suitable for all investors.

Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index.

Please consider the investment objectives, risks and fees of the Strategy carefully before investing.

The views and opinions are those of the author or the investment team as of the date of preparation of this material and are subject to change at any time due to market or economic conditions and may not necessarily come to pass. Furthermore, the views will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date of publication. The views expressed do not reflect the opinions of all investment teams at Morgan Stanley Investment Management (MSIM) or the views of the firm as a whole, and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific Morgan Stanley Investment Management product.

Certain information herein is based on data obtained from third-party sources believed to be reliable. However, we have not verified this information, and we make no representations whatsoever as to its accuracy or completeness.

This communication is not a product of Morgan Stanley's Research Department and should not be regarded as a research recommendation. The information contained herein has not been prepared in accordance with legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This material is a general communication, which is not impartial, and has been prepared solely for informational and educational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. All investments involve risks, including the possible loss of principal. The information herein has not been based on a consideration of any individual investor circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, investors should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision.

Any index referred to herein is the intellectual property (including registered trademarks) of the applicable licensor. Any product based on an index is in no way sponsored, endorsed, sold or promoted by the applicable licensor and it shall not have any liability with respect thereto.

MSIM has not authorised financial intermediaries to use and to distribute this document, unless such use and distribution are made in accordance with applicable law and regulation. Additionally, financial intermediaries are required to satisfy themselves that the information in this document is suitable for any person to whom they provide this document in view of that person's circumstances and purpose. MSIM shall not be liable for, and accepts no liability for, the use or misuse of this document by any such financial intermediary.

This document may be translated into other languages. Where such a translation is made, this English version remains definitive. If there are any discrepancies between the English version and any version of this document in another language, the English version shall prevail.

The whole or any part of this work may not be reproduced, copied or transmitted or any of its contents disclosed to third parties without MSIM's express written consent.

Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

All information contained herein is proprietary and is protected under copyright law.

Learn more at [www.morganstanley.com/builtforchange](http://www.morganstanley.com/builtforchange)