

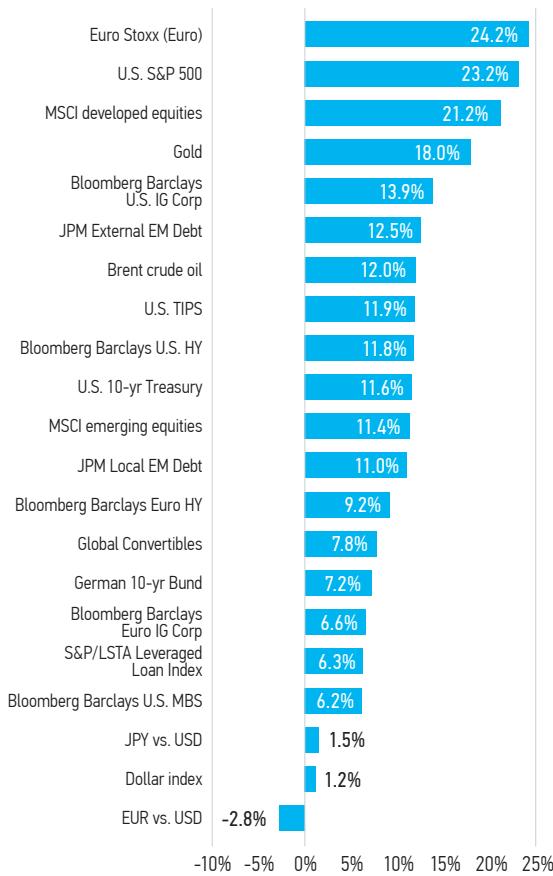
Normalization Continues

FIXED INCOME | GLOBAL FIXED INCOME TEAM | MACRO INSIGHT | NOVEMBER 2019

In many ways, October was a continuation of the developments that started in September. Government bond yields rose on better (although still far from good) economic news; political risks receded further as significant negatives (i.e., the U.S./China trade dispute and Brexit) eased. With no further evidence of additional monetary policy easing around the world, it was not surprising that bond yields drifted upward, although in a quite ragged pattern, prolonging investors' whiplash-like experience. What we are experiencing is a lot of high-frequency volatility with little evidence of a trend. This experience is likely to continue as we approach a fork in the road: data will get better as geopolitical risks will recede, or we will return to trade war concerns and deteriorating economic fundamentals.

This ragged performance also permeated credit markets. Investment grade spreads narrowed and emerging market yields fell, which we found to be appropriate when considering the better economics and geopolitics. Surprisingly, U.S. high yield spreads widened even as U.S. equities made new highs. All we can do is reiterate last month's advice: be close to home (e.g., neutral) with a small optimistic bias. Keep risks balanced, not too much rate risk, not too much credit risk. And focus on bottom up security and country selection where fundamentals are sound and valuations are reasonable.

DISPLAY 1 Asset Performance Year-to-Date



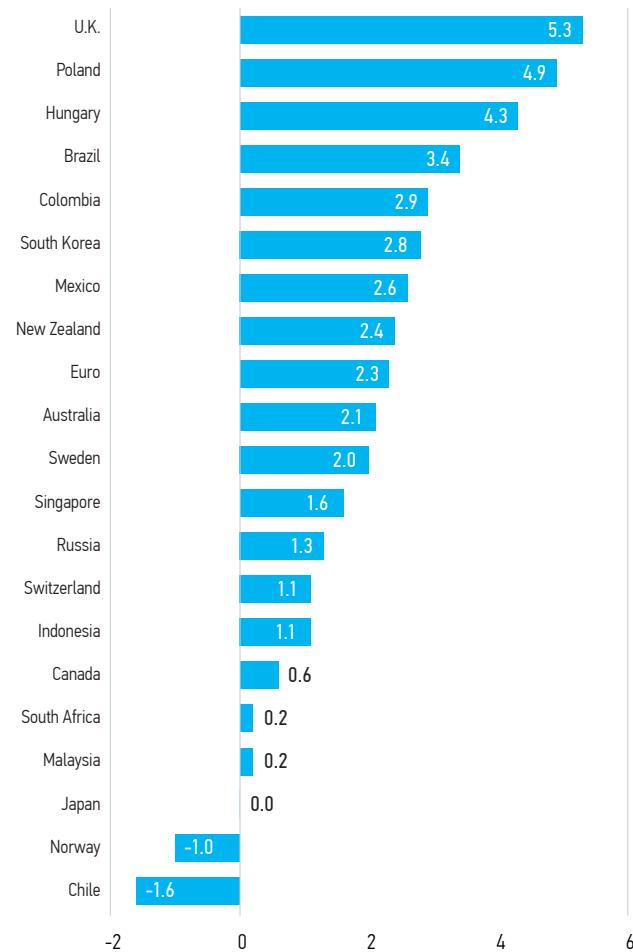
Note: USD-based performance. Source: Thomson Reuters Datastream. Data as of October 31, 2019. The indexes are provided for illustrative purposes only and are not meant to depict the performance of a specific investment. **Past performance is no guarantee of future results.** See pages 6 and 7 for index definitions.

The views and opinions expressed are those of the Portfolio Management team as of November 2019 and are subject to change based on market, economic and other conditions. **Past performance is not indicative of future results.**

DISPLAY 2

Currency Monthly Changes Versus U.S. Dollar

(+ = appreciation)



Source: Bloomberg. Data as of October 31, 2019. Note: Positive change means appreciation of the currency against the USD.

DISPLAY 3

Major Monthly Changes in 10-Year Yields and Spreads

COUNTRY	10-YR YIELD LEVEL (%)	MONTH CHANGE (BPS)	10-YR SPREAD (BPS)	MONTH CHANGE (BPS)
(Spread over USTs)				
United States	1.69	+3		
United Kingdom	0.63	+14	-106	+11
Germany	-0.41	+16	-210	+14
Japan	-0.13	+8	-182	+5
Australia	1.14	+12	-55	+9
Canada	1.41	+5	-28	+2
New Zealand	1.31	+22	-39	+19
(Spread over Bunds)				
France	-0.10	+18	31	+1
Greece	1.16	-18	157	-35
Italy	0.92	+10	133	-6
Portugal	0.17	+1	57	-16
Spain	0.24	+9	64	-7
EM	INDEX LOCAL YIELD (%)	MTD CHANGE (BPS)	USD SPREAD (BPS)	MTD CHANGE (BPS)
EM External Spreads				
EM Local Yields	5.27	-6	321	-15
EM Corporate Spreads				
Brazil	5.80	-55	233	-6
Colombia	5.70	+4	182	-1
Hungary	1.14	+6	102	+2
Indonesia	7.09	-29	184	-1
Malaysia	3.44	+4	124	0
Mexico	6.86	-14	320	+3
Peru	4.46	+7	131	0
Philippines	4.31	-4	88	+10
Poland	1.77	-3	33	-1
Russia	6.31	-55	180	-13
South Africa	9.59	+18	347	+17
Turkey	12.39	-84	459	-5
Venezuela	—	—	16671	-1802
CREDIT	SPREAD (BPS)	MTD CHANGE (BPS)		
U.S. IG	110	-5		
EUR IG	102	-9		
U.S. HY	392	+19		
EUR HY	370	+20		
SECURITIZED				
Agency MBS	81	0		
U.S. BBB CMBS	248	+5		

Positive Neutral Negative

Source: Bloomberg, JP Morgan. Data as of October 31, 2019.

The views and opinions expressed are those of the Portfolio Management team as of November 2019 and are subject to change based on market, economic and other conditions. **Past performance is not indicative of future results.**

Fixed Income Outlook

The developed bond market sell off that began in September continued in the second half of October, with non-U.S. yields again hit the hardest. This time the culprit can be laid at the door of two factors:

1. Better economic data, generally speaking, or at least optimism that data was troughing; and
2. Growing optimism that the U.S. and China would cut a trade deal, ending, at least for now, risks of escalation.

We are cautiously optimistic that the market is correct in starting to price a bottoming of the economic data. In our minds, this optimism is based on two interrelated factors, factors that investors should always remember. First, economic data does not deteriorate forever. Trip wires are triggered which endogenously slow the descent, especially when there are no obvious large imbalances in the world. Second, and distinctly related to the first, monetary policy globally has eased substantially in 2019. This is a normal policy response to a deterioration in economic conditions, both current and expected.

The U.S. monetary policy response has been significant and unusual in that unemployment is at record lows, unemployment claims are not rising, the economy is growing, and inflation is not falling. The Federal Reserve (Fed) has never before cut rates three times in such conditions. Their actions are truly pre-emptive and should significantly improve the chances of an acceleration of growth in 2020. Other central bank responses have not been so out of character and can, in some ways, be viewed as lagged responses to actual deterioration in economic conditions. But the bottom line is that economies now have a lot more support than they did 12 months ago, and no recession is likely for the foreseeable future. If only that pesky trade war would go away.

However, let's not get too carried away with our optimism, there are many potholes in the road ahead. Evidence of a growth turnaround is still scarce. Trend growth has fallen. R^* (the full employment real interest rate) has fallen along with growth. Capex is still weak as the long-term U.S./China relationship remains to be decided and animal spirits are definitely scarce. Moreover, while manufacturing/

industrial activity may be bottoming, the service side of the global economy is still gently weakening. Since this is a much larger share of the global economy, if services do not turn around in the months ahead, our optimism might be misplaced. Labor markets, as we have discussed in the past, remain key. If household economies continue to grow, we are alright. Otherwise, expect more rate cuts.

The outlook for monetary policy is probably the easiest to predict, at least in the short term. Rates are low and they are going to stay low. The hurdle to raise rates is much higher than it is to cut them. For now, central banks have done their duty. They responded in what we would call a fairly aggressive way to actual slowdowns and risks of further economic deterioration. We expect no further changes in the fourth quarter and probably in the first quarter of next year as well. It will take time to see how effective this year's rate cuts have been and how the U.S./China trade negotiations and Brexit develop. In the interim, expect to see data dependency and vigilance being the watch words. And, since further rate cuts are likely to be in response to worse data, they might not be so benignly interpreted by financial markets, meaning while bad news = rate cuts, this does not mean rate cuts = equity/high yield rallies. Bad news is bad news.

During this period of intense uncertainty, we continue to look for signs/indicators showing how the situation is going to evolve. We continue to believe the yield curve is the best barometer of market confidence. We think a measure of success, e.g., reflation, would be a steepening of yield curves. If monetary stimulus is working its magic, curves should steepen.

In the short term, we seem to be coming into a period of greater calm. The U.S. and China appear close to a "Phase 1" deal; a hard Brexit is seemingly off the table. No global recession. All we can do is reiterate last month's advice. Be close to home (e.g., neutral) with a small optimistic bias. Keep risks balanced, not too much rate risk, not too much credit risk. Yields and credit are buys on weakness. And focus on bottom up security and country selection where fundamentals are sound and valuations are reasonable.

MONTHLY REVIEW

**Developed
Market (DM)
Rate/Foreign
Currency
(FX)**

Following in September's footsteps, developed market sovereign bonds sold off again in October. While there was a slew of worse-than-expected economic data in the U.S. and Europe during the first half of the month, geopolitical risks, such as U.S./China trade negotiations and a no-deal Brexit eased toward the end of the month.

The Federal Open Market Committee (FOMC) had a very busy October between its meeting, releasing minutes from the September meeting, and announcing a new program to buy Treasury bills in order to alleviate stress in the short-term funding markets. At its October meeting, the FOMC cut interest rates by 25 basis points, lowering the federal funds rate to a range of 1.50%-1.75%. The third "insurance" cut of the year was widely anticipated by the markets, but now the question is what will the FOMC do next? Comments from various Fed members suggest the Fed is on hold indefinitely, through at least until 2020, unless economic conditions deteriorate significantly. Data wise, ISM numbers in the U.S. fell to its lowest level in 10 years, with U.S./China trade tension one of the driving forces of the lower than expected reading.¹

**Emerging
Market (EM)
Rate/FX**

Emerging markets (EM) fixed income asset performance was positive in the month as improving risk appetite more than offset the negative impact of higher 10-year U.S. Treasury yields.² The better sentiment was attributed to an improvement in the geopolitical tone as Brexit was delayed and the U.S. and China made progress in trade negotiations. Also contributing to the positive momentum were some signs of stabilization in global economic growth as September data from China showed stabilization in credit growth, improvement in PMIs, increased investment, and better housing and retail sales. Within domestic debt, both local rate returns and EM currency strength versus the U.S. dollar contributed to performance. During the period, commodity prices generally rose, with energy prices leading the way, followed by agricultural commodities, and mixed results from metals prices as base metal prices slipped. Investors continued to add to the EM debt asset class, funneling a total of \$3.2 billion into EM debt strategies, with the majority of flows going to hard currency strategies (\$2.4 billion) and the remaining \$0.8 billion going to local currency strategies.³

OUTLOOK

Global growth is likely to continue to be lower for the remainder of 2019. Central banks have become more accommodative, particularly in the U.S. and eurozone, but additional accommodatory measures seem unlikely unless the macro deteriorate significantly. The three major risks we see to the outlook are Brexit, U.S./China trade disputes, and the weakness in the manufacturing and trade sectors undermining the consumer. In this context, we expect U.S. Treasury yields to remain below 2%.

EM debt could benefit in the near term if progress is seen in the U.S./China trade talks and/or there was further evidence of stabilization in global economic activity. Our baseline scenario envisions a successful signing of the "Phase 1" agreement between Presidents Trump and Xi, though its timing is now less certain, following Chile's cancelation of the APEC summit in mid-November. There could be incentives for both sides to agree on a trade truce. From the U.S. perspective, proximity of presidential elections and the pressure from business lobbies/consumers to delay the application of further tariffs on imports from China. From China's point of view, though a "Phase 1" limited deal does not include tariff rollback provisions, it may allow both sides to focus on other issues that are more important to China, e.g., Huawei, at a relatively low cost in terms of concessions. On the economic activity front, high-frequency indicators point to an incipient stabilization in EM growth, which, if confirmed by upcoming soft data, could boost risk appetite in the short term. Key risks to our near-term outlook stem from U.S. politics, as the impeachment inquiry shifts to a more public phase that could lead to heightened volatility.

¹ Source: Bloomberg, as of October 31, 2019.

² Source: Bloomberg, as of October 31, 2019.

³ Source: J.P. Morgan, as of October 31, 2019.

The views and opinions expressed are those of the Portfolio Management team as of November 2019 and are subject to change based on market, economic and other conditions. **Past performance is not indicative of future results.**

MONTHLY REVIEW

OUTLOOK

Credit

October saw corporate spreads tighter, with the rally broad-based. Risk-free yields ended the month higher, continuing to reverse the move in August. The key drivers in October were:

1. The European Central Bank (ECB) QE announcement due to start on November 1 at 20 Bn per month,
2. U.S./China trade negotiations that edged towards a "Phase 1" agreement expected to be signed in November,
3. Q3 corporate reporting that was better than lowered expectations, and
4. Economic data that, while still weak, exceeded expectations. The U.S. rate cut at the end of the month confirmed the consensus view that easy monetary policy will last for the foreseeable future.

We are carefully monitoring the incoming economic data (with heightened focus on employment trends) as well as comments from central banks. While easy financial conditions support low default rates and technical demand likely creates positive momentum over Q4, credit spreads are close to the long run average. Q2/Q3-to-date corporate reporting did not signal weakness but, looking forward, we wait to see whether the weaker economic growth and forward-looking surveys are reflected in Q4 results. Our strategy has been to take profits on long-held positions pre-summer as spreads move below the long-run average, but we remain net long risk, looking to be tactical over the remainder of the year, with a bias to sell into expected strength.

Securitized

Rates continued to rise in October as economic conditions and geo-political risks seem to be improving. U.S. consumer economic conditions remain stable, with historically low unemployment, rising wages, and healthy spending rates, and increasing home sales continuing to be buoyed by lower mortgage rates. Securitized credit spreads were largely unchanged in October across both agency Mortgage Backed Securities (MBS) and credit sectors. Current coupon agency MBS nominal spreads tightened 1 basis point in October to 100 basis points above interpolated U.S. Treasuries.⁴ The Bloomberg Barclays U.S. MBS Index returned 0.28% for the month, and has returned 5.97% year to date. The duration of the Bloomberg Barclays U.S. MBS Index lengthened 0.13 years to 2.86 years during October.⁵ National mortgage rates rose 3 basis points in October to 3.75%, but remain very low by historical comparison; with mortgage rates 33 basis points lower in 2019 and 100 basis points lower than a year ago.⁶ Pay-ups for specified pools remain strong as investors look for pools with lower prepayment risks. The Fed MBS portfolio shrank by \$21 billion during October to \$1446 trillion and is now \$191 billion lower year to date.⁷ Mortgage mutual funds saw net inflows of roughly \$1 billion in October, increasing year-to-date net inflows to roughly \$14 billion.⁸ Primary dealer holdings of agency MBS remain at an elevated level of \$50 billion, down from \$70 billion at the end of September, but still well above a more historically normal holding level of \$10-\$30 billion.⁹ The combination of the continued reduction of the Fed's MBS holdings and probable reduction of primary dealer MBS holdings could create a significant supply-demand headwind for agency MBS performance going into year-end.

Our outlook remains largely unchanged. We still have a positive fundamental credit outlook for residential and consumer credit conditions in both the U.S. and Europe. We remain slightly negative on agency MBS, which is under pressure from both increased prepayment risks from lower mortgage rates and also from the continued supply-demand dynamics from the Fed continuing to reduce its MBS holdings and bloated primary dealer inventories. Agency MBS spreads have widened materially over the past few months reflecting these risks and now offer more comparable relative value, but the supply pressure will likely remain in place going into year end.

⁴ Source: J.P. Morgan. Data as of October 31, 2019.

⁵ Source: Bloomberg. Data as of October 31, 2019.

⁶ Source: Bankrate.com. Data as of October 31, 2019.

⁷ Source: Federal Reserve Bank of New York. Data as of October 31, 2019.

⁸ Source: Lipper U.S. Fund Flows. Data as of October 31, 2019.

⁹ Source: Bloomberg. Data as of October 31, 2019.

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 a rising interest-rate environment, bond prices may fall and may result in periods of volatility and increased portfolio redemptions. In a declining interest-rate environment, the portfolio may generate less income. **Longer-term securities** may be more sensitive to interest rate changes. 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.

DEFINITIONS

R* is the real short term interest rate that would occur when the economy is at equilibrium, meaning that unemployment is at the neutral rate and inflation is at the target rate.

INDEX DEFINITIONS

The indexes shown in this report are not meant to depict the performance of any specific investment, and the indexes shown do not include any expenses, fees or sales charges, which would lower performance. The indexes shown are unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

The **Bloomberg Barclays Euro Aggregate Corporate Index (Bloomberg Barclays Euro IG Corporate)** is an index designed to reflect the performance of the euro-denominated investment-grade corporate bond market.

The **Bloomberg Barclays Global Aggregate Corporate Index** is the corporate component of the Barclays Global Aggregate index, which provides a broad-based measure of the global investment-grade fixed income markets.

The **Bloomberg Barclays U.S. Corporate Index (Bloomberg Barclays U.S. IG Corp)** is a broad-based benchmark that measures the investment-grade, fixed-rate, taxable corporate bond market.

The **Bloomberg Barclays U.S. Corporate High Yield Index** measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below. The index excludes emerging market debt.

The **Bloomberg Barclays U.S. Mortgage Backed Securities (MBS) Index** tracks agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA) and Freddie Mac (FHLMC). The index is constructed by grouping individual TBA-deliverable MBS pools into aggregates or generics based on program, coupon and vintage. Introduced in 1985, the GNMA, FHLMC and FNMA fixed-rate indexes for 30- and 15-year securities were backdated to January

1976, May 1977 and November 1982, respectively. In April 2007, agency hybrid adjustable-rate mortgage (ARM) pass-through securities were added to the index.

Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care.

The **Dow Jones Commodity Index Gold (Gold)** is designed to track the gold market through futures contracts.

Euro vs. USD—Euro total return versus U.S. dollar.

German 10YR bonds—Germany Benchmark 10-Year Datastream Government Index; **Japan 10YR government bonds**—Japan Benchmark 10-Year Datastream Government Index; and **10YR U.S. Treasury**—U.S. Benchmark 10-Year Datastream Government Index.

The **Hang Seng Index** includes the largest and most liquid stocks listed on the Main Board of the Stock Exchange of Hong Kong.

The **ICE Brent Crude futures contract (Brent crude oil)** is a deliverable contract based on EFP delivery with an option to cash settle.

The **ICE BofAML European Currency High-Yield Constrained Index (ICE BofAML Euro HY constrained)** is designed to track the performance of euro- and British pound sterling-denominated below-investment-grade corporate debt publicly issued in the eurobond, sterling

The **ICE BofAML U.S. Mortgage-Backed Securities (ICE BofAML U.S. Mortgage Master) Index** tracks the performance of U.S.-denominated, fixed-rate and hybrid residential mortgage pass-through securities publicly issued by U.S. agencies in the U.S. domestic market.

The **ICE BofAML U.S. High Yield Master II Constrained Index (ICE BofAML U.S. High Yield)** is a market value-weighted index of all domestic and Yankee high-yield bonds, including deferred-interest bonds and payment-in-kind securities. Its securities have maturities of one year or more and a credit rating lower than BBB-/Baa3, but are not in default domestic or euro domestic markets by issuers around the world.

The views and opinions expressed are those of the Portfolio Management team as of November 2019 and are subject to change based on market, economic and other conditions. **Past performance is not indicative of future results.**

The **ISM Manufacturing Index** is based on surveys of more than 300 manufacturing firms by the Institute of Supply Management. The ISM Manufacturing Index monitors employment, production inventories, new orders and supplier deliveries. A composite diffusion index is created that monitors conditions in national manufacturing based on the data from these surveys.

Italy 10-Year Government Bonds—Italy Benchmark 10-Year Datastream Government Index.

The **JP Morgan CEMBI Broad Diversified Index** is a global, liquid corporate emerging markets benchmark that tracks U.S.-denominated corporate bonds issued by emerging markets entities.

The **JPMorgan Government Bond Index**—Emerging markets (**JPM local EM debt**) tracks local currency bonds issued by emerging market governments. The index is positioned as the investable benchmark that includes only those countries that are accessible by most of the international investor base (excludes China and India as of September 2013).

The **JPMorgan Government Bond Index Emerging Markets** (**JPM External EM Debt**) tracks local currency bonds issued by emerging market governments. The index is positioned as the investable benchmark that includes only those countries that are accessible by most of the international investor base (excludes China and India as of September 2013).

The **JP Morgan Emerging Markets Bond Index Global** (**EMBI Global**) tracks total returns for traded external debt instruments in the emerging markets and is an expanded version of the EMBI+. As with the EMBI+, the EMBI Global includes U.S. dollar-denominated Brady bonds, loans and eurobonds with an outstanding face value of at least \$500 million.

The **JP Morgan GBI-EM Global Diversified Index** is a market-capitalization weighted, liquid global benchmark for U.S.-dollar corporate emerging market bonds representing Asia, Latin America, Europe and the Middle East/Africa.

JPY vs. USD—Japanese yen total return versus U.S. dollar.

The **National Association of Realtors Home Affordability Index** compares the median income to the cost of the median home.

The **Nikkei 225 Index** (**Japan Nikkei 225**) is a price-weighted index of Japan's top 225 blue-chip companies on the Tokyo Stock Exchange.

The **MSCI AC Asia ex-Japan Index** (**MSCI Asia ex-Japan**) captures large- and mid-cap representation across two of three developed markets countries (excluding Japan) and eight emerging markets countries in Asia.

The **MSCI All Country World Index** (**ACWI**, **MSCI global equities**) is a free float-adjusted market capitalization weighted index designed to measure the equity market performance of developed and emerging markets. The term "free float" represents the portion of shares outstanding that are deemed to be available for purchase in the public equity markets by investors. The performance of the Index is listed in U.S. dollars and assumes reinvestment of net dividends.

The **MSCI Emerging Markets Index** (**MSCI emerging equities**) captures large- and mid-cap representation across 23 emerging markets (EM) countries.

The **MSCI World Index** (**MSCI developed equities**) captures large and mid-cap representation across 23 developed market (DM) countries.

Purchasing Managers Index (PMI) is an indicator of the economic health of the manufacturing sector.

The **S&P 500® Index** (**U.S. S&P 500**) measures the performance of the large-cap segment of the U.S. equities market, covering approximately 75 percent of the U.S. equities market. The index includes 500 leading companies in leading industries of the U.S. economy.

The **S&P/LSTA U.S. Leveraged Loan 100 Index** (**S&P/LSTA Leveraged Loan Index**) is designed to reflect the performance of the largest facilities in the leveraged loan market.

The **S&P GSCI Copper Index** (**Copper**), a sub-index of the S&P GSCI, provides investors with a reliable and publicly available benchmark for investment performance in the copper commodity market.

The **S&P GSCI Softs (GSCI soft commodities) Index** is a sub-index of the S&P GSCI that measures the performance of only the soft commodities, weighted on a world production basis. In 2012, the S&P GSCI Softs Index included the following commodities: coffee, sugar, cocoa and cotton.

Spain 10-Year Government Bonds—Spain Benchmark 10-Year Datastream Government Index.

The **Thomson Reuters Convertible Global Focus USD Hedged Index** is a market weighted index with a minimum size for inclusion of \$500 million (US), 200 million euro (Europe), 22 billion yen, and \$275 million (Other) of convertible bonds with an equity link.

U.K. 10YR government bonds—U.K. Benchmark 10-Year Datastream Government Index. For the following Datastream government bond indexes, benchmark indexes are based on single bonds. The bond chosen for each series is the most representative bond available for the given maturity band at each point in time. Benchmarks are selected according to the accepted conventions within each market. Generally, the benchmark bond is the latest issue within the given maturity band; consideration is also given to yield, liquidity, issue size and coupon.

The **U.S. Dollar Index (DXY)** is an index of the value of the United States dollar relative to a basket of foreign currencies, often referred to as a basket of U.S. trade partners' currencies.

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 701and 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 Junghofstrasse 13-15 60311 Frankfurt Deutschland (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Ireland:** Morgan Stanley Investment Management (Ireland) Limited. Registered Office: The Observatory, 7-11 Sir John Rogerson's, Quay, Dublin 2, Ireland. Registered in Ireland under company number 616662. Regulated by the Central Bank of Ireland. **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 ("IMA") and investment advisory agreements ("IAA"). 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 investment. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall

The views and opinions expressed are those of the Portfolio Management team as of November 2019 and are subject to change based on market, economic and other conditions. **Past performance is not indicative of future results.**

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 Japan Securities Dealers Association, 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 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 NO BANK GUARANTEE | 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. This material has not been reviewed by the Monetary Authority of Singapore. **Australia:** This publication is disseminated in Australia by Morgan Stanley Investment Management (Australia) Pty Limited ACN: 122040037, AFSL No. 314182, which accept 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 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 each investor 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 is 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.

Explore our site at www.morganstanley.com/im