Morgan Stanley
INVESTMENT MANAGEMENT

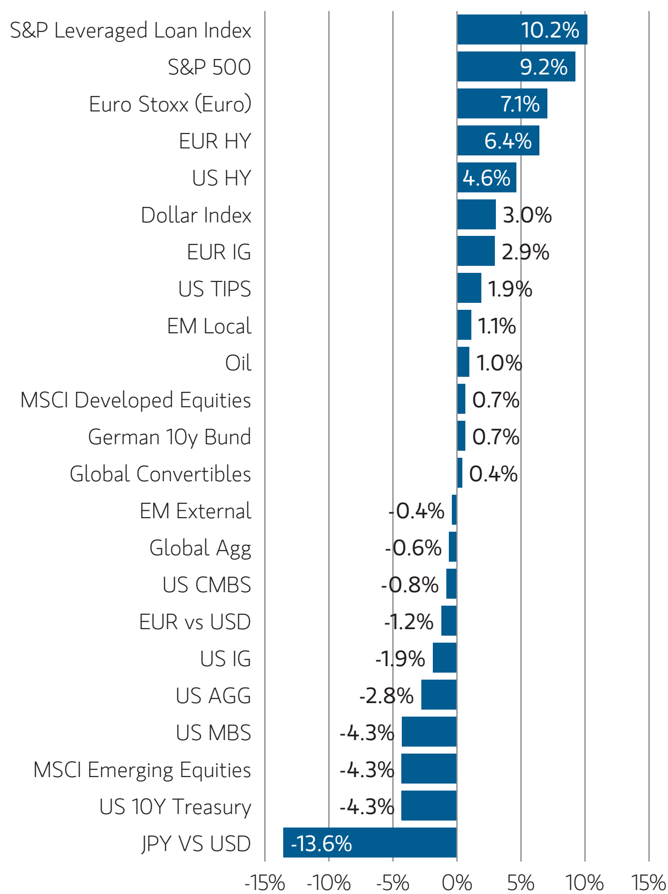
Global Fixed Income Bulletin

# Another October Shocker: Déjà Vu?

**MACRO INSIGHT** | BROAD MARKETS FIXED INCOME TEAM | November 2023

October was another challenging month for global fixed income assets, as yields continued to rise (curves "bear steepened" with the long end rising faster than the short end), spreads widened, and the dollar strengthened. As war broke out in the Middle East and economic data remained resilient in the U.S., and inflation remained sticky across the globe, it was evident that rates were to remain higher for longer. The 10-year interest rate rose 36 basis points (bps) in the U.S., 18bps in Japan, 25bps in New Zealand, and 44bps in Australia. Yields in the emerging markets also continued their ascent as most countries fixed their sights on what was happening in the U.S. The longer it takes for the U.S. economy to slow and the dollar to weaken, the harder it is for emerging market assets to rebound and global growth to outperform the U.S. Also, the onset of the war in the Middle East increased volatility within the fixed income sector and added uncertainty to an already difficult landscape. Credit spreads were mostly wider over the month for many of the same reasons (e.g., resilient U.S. economy, continuing inflation, hawkish central banks, higher rates, war in the Middle East, etc.) with high yield underperforming investment grade. Securitized credit was mixed over the month, but the trend was to slightly wider spreads. Within FX, the U.S. Dollar (USD) continued to strengthen against most currencies.

**DISPLAY 1**
**Asset Performance Year-to-Date**




Note: USD-based performance. Source: Bloomberg. Data as of October 31, 2023. 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 8-9 for index definitions.

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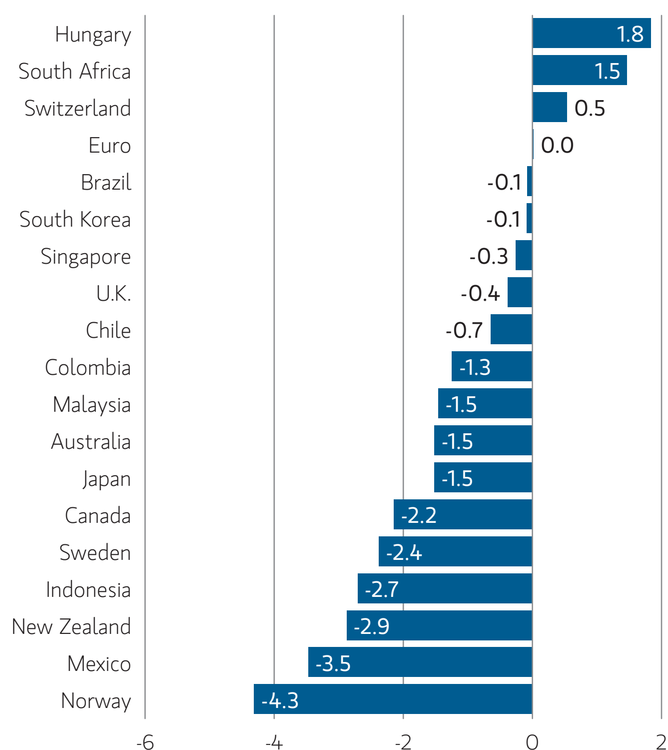
**DISPLAY 2**

## Currency Monthly Changes versus U.S. Dollar

*(+ = appreciation)*




Note: Positive change means appreciation of the currency against the USD.
Source: Bloomberg. Data as of October 31, 2023.

**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** | 4.93 | 36 | | |
| **United Kingdom** | 4.51 | 7 | -42 | -28 |
| **Germany** | 2.81 | -3 | -212 | -39 |
| **Japan** | 0.95 | 18 | -398 | -18 |
| Australia | 4.93 | 44 | -1 | 8 |
| Canada | 4.06 | 4 | -87 | -32 |
| New Zealand | 5.55 | 25 | 62 | -11 |
| **EUROPE** | | | (SPREAD OVER BUNDS) | |
| France | 3.43 | 3 | 62 | 6 |
| Greece | 4.18 | -18 | 137 | -15 |
| Italy | 4.73 | -6 | 192 | -2 |
| Portugal | 3.53 | -8 | 72 | -5 |
| Spain | 3.88 | -5 | 108 | -2 |
| **EM** | **10-YR LOCAL YIELD (%)** | **MTD CHANGE (BPS)** | **SPREAD (BPS)** | **MTD CHANGE (BPS)** |
| **EM External Spreads** | | | 444 | -14 |
| **EM Corporate Spreads** | | | 393 | 4 |
| **EM Local Yields** | 6.89 | -23 | | |
| | | | (SPREAD OVER USTS) | |
| Brazil | 11.87 | 21 | 694 | -14 |
| Colombia | 11.76 | -3 | 683 | -39 |
| Hungary | 7.49 | 11 | 256 | -25 |
| Indonesia | 7.09 | 20 | 216 | -16 |
| Malaysia | 4.07 | 10 | -86 | -26 |
| Mexico | 10.18 | 32 | 525 | -4 |
| Peru | 7.67 | 21 | 274 | -15 |
| Poland | 5.65 | -25 | 72 | -61 |
| South Africa | 12.24 | -12 | 731 | -48 |
| **CREDIT** | | | **SPREAD (BPS)** | **MTD CHANGE (BPS)** |
| **U.S. IG** | | | 129 | 8 |
| **EUR IG** | | | 160 | 7 |
| **U.S. HY** | | | 437 | 43 |
| **EUR HY** | | | 473 | 42 |
| **SECURITIZED** | | | | |
| **Agency MBS** | | | 178 | 1 |
| **U.S. BBB CMBS** | | | 923 | 13 |

Positive Neutral Negative

Source: Bloomberg, JPMorgan. Data as of October 31, 2023

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## Fixed Income Outlook

Fixed income markets remain challenging with inverted yield curves, bear steepening, and volatile price action all making it difficult to have a high degree of confidence about what will come in 2024. What we do know is that growth has been strong in the U.S. and weak outside it, generally speaking. This economic strength has been the reason for poor global financial returns in Q3, in our view. More specifically, September's poor financial market performance continued in October. U.S. Treasury 10-year real yields rose another 29 bps in October, driving poor asset market performance across the risk spectrum. In many ways, the reaction of bond and equity markets was understandable. After credit markets did not react much to the September U.S. Treasury market sell off, very strong October data releases (which began with the early October gangbuster employment report and finished with the extremely strong Q3 GDP report) could not be absorbed as worries of a hard landing widened credit spreads materially. In other words, there was only so much "good" news credit markets could take.

While good economic news would probably be "good" news in normal times for credit and equity markets, it was not in October. With inflation still well above target and looking like it might get a little sticky in the months ahead, news that the U.S. economy continued to accelerate well above trend portended ever higher interest rates. The consequences of the sell-off in stocks and bonds was a material tightening of financial conditions, unwinding optimism earlier in the year when it was thought the economy would slow sufficiently to avoid sell-offs in equity and rates markets.

One of the key developments which put an end to the Q3 bear market were comments by Fed officials, including Fed Chairman Jerome Powell, both prior to and after the November FOMC meeting expressing concern that financial conditions were tightening too much. The comments served to jeopardize the probability of the ever-elusive soft-landing scenario (e.g., lower inflation, no recession) which the Fed has fervently hoped for.

One of the most interesting aspects of the bond market sell-off was its bear steepening, with long rates rising faster than short rates, which left us with a few primary observations. First, with growth strong, there was upward pressure on real rates (as noted above). Second, the U.S. government is running very large deficits given the strength of the economy, adding bond supply to a market already saturated with U.S. Treasuries. Indeed, three of the largest buyers of Treasuries have either vanished or significantly reduced their appetite: The Fed is doing quantitative tightening (QT); banks are losing reserves or have large mark-to-mark losses on security portfolios, and foreign official institutions are less active given the bear market in rates. Lastly, Fed comments suggested a lack of willingness to commit to further rate hikes, even if another one was shown in the dot plot. A lack of commitment to hike rates in the face of too high inflation suggests a lack of desire to "over- tighten" policy, subordinating the inflation fight to avoid a recession.

By the end of the month, yields around the world were looking reasonably attractive given the Q3 sell-off, but the attractive real and nominal yields on offer have not lasted. Fed actions and commentary at the November FOMC meeting, weak U.S. business confidence data (alongside very weak European data) and a sharp downturn in employment growth sparked a significant rally. From October 31 to November 3, U.S. Treasury yields fell 38 bps taking them back to levels not seen since mid-September. Similar rallies occurred in most advanced economy bond markets with Emerging Markets (EM) markets lagging behind. This has reduced the attractiveness of government bonds in very quick order as we do not see the U.S. economy moving into recession anytime soon. Inflation is still significantly above target (albeit moving lower) and progress should get harder. Indeed, there are reasons why it might tick up over the next few months. While the Fed may well be done raising rates, it does not mean that they will be cutting rates anytime soon. Therefore, although most central banks are likely finished hiking rates, we are not finished with the era of high rates, the maintenance of which remains critical to win the war against inflation. With markets now pricing in rate cuts in many countries (eurozone, U.S., Canada) there is a reasonable chance that these cuts either won't happen or will happen in smaller sizes. It should be noted that the chances of rate cuts in the Eurozone are higher than they are in the U.S., but bond yield differentials and yield curve shapes already reflect this. We are wary of chasing yields lower in this environment. Therefore, we believe a neutral position on interest rate exposure is now warranted while we wait for new data on the extent of the U.S. and global slowdown, particularly on the inflation front.

We do think selective EM bond markets look attractive. Recent U.S. economic data released in November suggest the tightening in financial conditions in Q3 is working to slow the economy. This "bad" news, e.g. the slowing of the U.S. economy, is "good" news for EM. Stable, lower yields, and a weaker dollar are good for EM in general.

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We prefer Latin American bond markets as central banks in this region have been able to cut rates and are likely to continue doing so if the Fed is truly on hold.

Another beneficiary of lower U.S. Treasury yields and slower growth (not weak growth, that would be bad) is credit markets. Credit spreads had been a casualty of fast rising yields in October, so it was not a surprise when they rallied/tightened as yields fell in the first week of November. If the Fed is truly embarking on a new more benign policy path and with non-U.S. economies struggling in general, credit markets should perform well. However, and it is a major caveat, growth cannot stay strong. This would bring Fed hawkishness back into play, especially if the improvement in inflation slows down. On the other hand, if U.S. growth does materially slow down, the Fed could cut interest rates while still maintaining a tight monetary policy, given cash rates of 5.5%. We think a cautious modestly long position in credit markets both in investment grade and in high yield is warranted. Shorter-maturity high yield bonds do look attractive in this environment. The outlook for inflation will be critical to know if markets need to be worried about credit spreads.

We continue to favor shorter maturity securitized credit, such as Residential Mortgage-Backed Securities (RMBS), Asset Backed Securities (ABS), and selected Commercial Mortgage-Backed Securities (CMBS), the most. That said, the outlook has modestly deteriorated as household balance sheets come under more pressure and excess savings are run down. We are trying to take advantage of higher yields on higher quality issuers to achieve our target returns, rather than venturing down the risk/rating spectrum. Anything that would reduce the chances of further rate hikes and higher borrowing costs is good for securitized credit. Our favorite category of securitized credit remains non-agency residential mortgages, despite challenging home affordability. Surprisingly, U.S. housing looks like it may have bottomed out, with prices rising once again.

The outlook for the U.S. dollar also appears to be changing, though we remain largely neutral. While very strong in Q3 it failed to make new highs in many cases despite supportive fundamentals. As such it looks much more opportune to begin thinking about underweighting the dollar, not versus other advanced economy (AE) currencies but against selective EM ones. Most AE currencies have challenging fundamentals, making them less attractive to buy compared to the U.S. dollar. However, lower, and more stable U.S. yields, combined with still high carry in many EM currencies, make these currencies reasonable alternatives.

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| | MONTHLY REVIEW | OUTLOOK |
|---|---|---|
| **Developed Market Rate/ Foreign Currency** | Developed market rates in October continued from where they left off in September. Data remained surprisingly resilient, yields rose, and curves steepened. Central banks made it increasingly clear they were close to the end of their hiking cycle, if not likely done; however, they also noted that rate cuts were unlikely to happen anytime soon. As a result, front end yields were more mixed, while long end rates were all higher. In the U.S., the 2-year, 10-year, and 30-year yields rose 4bps, 36bps, and 39bps respectively, as the curve steepened sharply. There was no Fed meeting, but data was broadly strong with CPI above expectations and quarterly GDP ending at 4.9% quarter-on-quarter seasonally adjusted annual rate. Yields in the Eurozone were more mixed, with parts of the curve shifting lower as data came in softer than expected. The European Central Bank also opted to stay on hold with the market interpreting the commentary as marginally dovish. Elsewhere, the Bank of China, Bank of Japan, Reserve Bank of Australia, and Reserve Bank of New Zealand kept policy rates the same.[1] | A key theme in October remained steeper yield curves as the back end came under pressure, while the front end remained largely locked in place. While attributed to many factors, the still-resilient economy, the shift in central bank guidance, and an increase in term premium likely explain most of it. Despite the steep sell-off for long-end yields, it's unclear if the full extent of selling is done. Many curves are still inverted and term premium, while elevated in the context of the negative levels of the past decade, is still well below the +1-3% levels found before the post-Global Financial Crisis period. At the same time, the higher yields should feed through to tighter financial conditions, putting further pressure on the economy. Given the uncertainty, it is difficult to concretely express an outright view on interest rates; however, we continue to find steepeners attractive at certain parts of the curve as they would keep benefiting from further increases in term premium and/or a more typical bull steepening if the Fed pivots in the face of economic weakness. In terms of foreign exchange, the dollar was largely unchanged, only 0.5%. We remain more neutral on the U.S. dollar, preferring to focus on other attractive opportunities. |
| **Emerging Market Rate/ Foreign Currency** | Emerging Markets Debt (EMD) produced negative returns across all segments of the asset class for the month. Spreads widened for both sovereign and corporate credit, and most EM currencies weakened. All eyes were on the Fed as the next meeting loomed right after month-end and the U.S. dollar continued to strengthen along with the hawkish sentiment from the market. The onset of war in the Middle East created uncertainty in the region. EM central banks were mixed during the period as some banks such as Indonesia and the Philippines shifted to hikes due to the macro environment while Chile continued to cut rates, though less than expected. A notable EM currency that rallied was the Polish Zloty following the election of a new government, which promises new reform measures and a better relationship with the European Union. Outflows continued for both hard and local currency funds with -$8.0B and -$5.1B, respectively.[2] | While the Fed is closer to the end of its tightening cycle than to its beginning, the Fed's terminal rate is uncertain as is how long it will keep its policy rate elevated. More orthodox monetary policy by many EM central banks has allowed them to end tightening cycles and, in an increasing number of cases, begin easing. However, some EM central banks have started to pivot back towards hikes which further highlights the divergence across the asset class. The war in the Middle East is a tragic situation that will continue to be closely monitored. Country and credit level analysis will be pivotal to uncover value in the asset class. |

[1] Source: Bloomberg. Data as of October 31, 2023.

[2] Source: Bloomberg. Data as of October 31, 2023. EM corporates represented by The **JP Morgan CEMBI Broad Diversified Index**.

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| | MONTHLY REVIEW | OUTLOOK |
|---|---|---|

**Corporate Credit**

**MONTHLY REVIEW**

Euro Investment Grade (IG) spreads marginally outperformed U.S. IG spreads this month as October saw credit market spreads widen, with single name volatility increasing where Q3 results missed expectations. Market tone in the month was driven by several factors; firstly, increased geo-political risk as tensions in the Middle East rose. Secondly, strong economic data in the U.S. supported by strong employment data in contrast to Europe where GDP confirmed the weak PMI/IFO signals. Thirdly, Q3 reporting while on aggregate ahead of expectations saw weakness in Energy and Chemicals relative to expectations and some downgrades to growth expectations. Finally, the higher interest rate and commodity/energy and equity volatility led to the market demanding increased risk premium driving credit spreads wider. Notable in the month was the underperformance of high yield relative to investment grade (BBB underperformed A rated) and Financials versus Industrials in USD (unlike Euro where Financials performed in-line supported by low supply with banks funding in the USD market.)[3]

The U.S. and global high yield markets recorded a weak month in October amid volatile U.S. Treasury yields, U.S. Congressional dysfunction, generally disappointing high yield earnings and war in the Middle East. The technical conditions in high yield softened further in October despite paltry new issuance as demand from retail investors further receded. October marked a clear departure from the consistent outperformance of the lower-rated segment of the high yield market that characterized the preponderance of the first nine months of the year.[4]

In October, global convertibles fell along with other risk assets for the third month in a row, as the U.S. 10-year rate reached 5% for the first time since 2007. MSCI global equities declined as did the Global Aggregate Credit index. The Refinitiv Global Convertibles Focus Index fared the worst, falling 2.97%. Higher beta convertibles fared the worst, while higher credit quality names such as Utilities held up the most. Issuance was moderate at $3.9bn in October which is consistent with both the time of year and falling stocks.[5]

**OUTLOOK**

Looking forward, our base case remains unchanged, with credit expected to trade around current levels (having widened from the summer tights at the end of July) making carry an attractive return opportunity. We expect supply to rebound in November but disappoint relative to expectations in aggregate for Q4. Although we do see risks of pre-financing 2024 supply needs given the inverted yield curve (meaning holding cash is not expensive for corporates), economic uncertainty into Q1 2024 argues for taking advantage of the market today while it remains open. Finally, there are several factors we are closely watching that could shift the narrative: remaining Q3 corporate earnings, the potential for economic policy support in China and higher energy prices.

The high yield market ended October with a historically attractive yield; however, our outlook and positioning remain somewhat cautious. The need for caution is predicated on prevailing catalysts that include restrictive monetary policy, near term headwinds facing the U.S. consumer, and high yield issuers and valuations that trade inside historical norms. Within convertibles, optimism remains among investors for a strong pick up in supply in coming months due to the theme of rates being higher-for-longer.

[3] Source: Bloomberg Indices: U.S. Corporate Index and the European Aggregate Corporate Index. Data as of October 31, 2023.

[4] Source: J.P. Morgan and Bloomberg US Corporate High Yield Index. Data as of October 31, 2023.

[5] Source: Bloomberg and Refinitiv Global Convertibles Focus Index. Data as of October 31, 2023.

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| | MONTHLY REVIEW | OUTLOOK |
|---|---|---|
| **Securitized Products** | Securitized credit spreads remained largely unchanged in October despite an uptick in supply. U.S. ABS spreads were slightly wider for consumer-oriented loans, but business-oriented ABS spreads were unchanged. European securitized market activity slowed in October as new issuance remains historically light. Agency MBS spreads continued to drift wider during the month as both the Fed and U.S. banks continue to reduce their U.S. Agency MBS positions. Current coupon agency MBS spreads widened 1bp in October to +178bps above comparable duration U.S. Treasuries. Current coupon MBS spreads are now 35 basis points wider year-to-date, in contrast to the U.S. IG corporate Index average spread which is essentially unchanged year-to-date.[6] | We believe that "higher rates for longer" will continue to erode household balance sheets, causing stress for consumer ABS and further stress for commercial real estate borrowers. Residential mortgage credit opportunities look more attractive to us, given that most borrowers have locked in 30-year fixed rate mortgages at substantially lower mortgage rates, and given that home price appreciation over the past few years has meaningfully increased homeowner equity. We continue to move up in credit quality, adding higher rated opportunities and government-guaranteed agency MBS. We like agency MBS at these wider spread levels, and we continue to add agency RMBS to our portfolios. We have also added duration to our portfolios at these higher rate levels, as we believe the Fed is likely finished its rate hikes, and rates are now likely at or near their peak levels.<br><br>Securitized yields remain at historically wide levels, and we believe these wider spreads offer more than sufficient compensation for current market risks. Fundamental credit conditions remain stable despite recession risks; although delinquencies across many asset classes are increasing slowly, overall delinquencies remain low from a historically perspective, and we believe delinquency and default levels will remain non-threatening to the large majority of securities. U.S. non-agency RMBS remains our favorite credit sector despite weakened home affordability. U.S. home prices remain stable, challenged by higher mortgage costs but supported by positive supply-demand dynamics. Stable household balance sheets and employment outlook help support borrower credit and continued conservative loan underwriting also supports the mortgage credit story. We remain more cautious of commercial real estate, especially office, which continues to be negatively impacted in the post-pandemic world. Our European securitized holdings were down slightly in October, and we have meaningfully reduced our European holdings over the past year. |

[6] Source: Bloomberg. Data as of October 31, 2023.

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## Risk Considerations

**Diversification** neither assures a profit nor guarantees against loss in a declining market.

There is no assurance that a portfolio will achieve its investment objective. Portfolios are subject to **market risk**, which is the possibility that the market values of securities owned by the portfolio will decline and that the value of portfolio shares may therefore be less than what you paid for them. Market values can change daily due to economic and other events (e.g., natural disasters, health crises, terrorism, conflicts, and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g., portfolio liquidity) of events. Accordingly, you can lose money investing in a portfolio. **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, and 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.

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**DEFINITIONS**

**Basis point**: One basis point = 0.01%.

**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.

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

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

The **Bloomberg US 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 US Corporate Index** is a broad-based benchmark that measures the investment grade, fixed-rate, taxable, corporate bond market.

The **Bloomberg US 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.

**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 US Treasury**—US Benchmark 10-Year Datastream Government Index.

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

The **ICE BofAML US High Yield Master II Constrained Index (ICE BofAML US 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.

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 US-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).

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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 US 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 US-dollar corporate emerging market bonds representing Asia, Latin America, Europe and the Middle East/Africa.

**JPY vs. USD**—Japanese yen total return versus US dollar.

The **Markit ITraxx Europe Index** comprises 125 equally weighted credit default swaps on investment grade European corporate entities, distributed among 4 sub-indices: Financials (Senior & Subordinated), Non-Financials and HiVol.

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 US dollars and assumes reinvestment of net dividends.

**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 **Refinitiv Convertible Global Focus USD Hedged Index** is a market weighted index with a minimum size for inclusion of $500 million (US), 200 million (Europe), 22 billion Yen, and $275 million (Other) of Convertible Bonds with an Equity Link.

The **Russell 2000® Index** is an index that measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

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

**S&P CoreLogic Case-Shiller US National Home Price NSA Index** seeks to measure the value of residential real estate in 20 major US metropolitan areas: Atlanta, Boston, Charlotte, Chicago, Cleveland, Dallas, Denver, Detroit, Las Vegas, Los Angeles, Miami, Minneapolis, New York, Phoenix, Portland, San Diego, San Francisco, Seattle, Tampa and Washington, D.C.

The **S&P/LSTA US 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 **US 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 US trade partners' currencies.

The **Chicago Board Options Exchange (CBOE) Market Volatility (VIX) Index** shows the market's expectation of 30-day volatility.

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