# Positioning for higher rates

The experiment of fueling growth with expansionary monetary policy may soon give way to fiscal easing, including significantly lower taxes in the US case.

Whether or not growth is achieved by fiscal policy, interest rates could well rise again.

To position for higher rates, we see a variety of fixed income possibilities.

Taking risks – such as credit risk – and broadening geographic horizons offers scope to earn higher yields.

We see opportunities in US and Eurozone high yield bonds and senior bank loans, US preferred stocks issued by large banks, Latin American debt and Treasury Inflation Protected Securities (TIPS).

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# Positioning for higher rates

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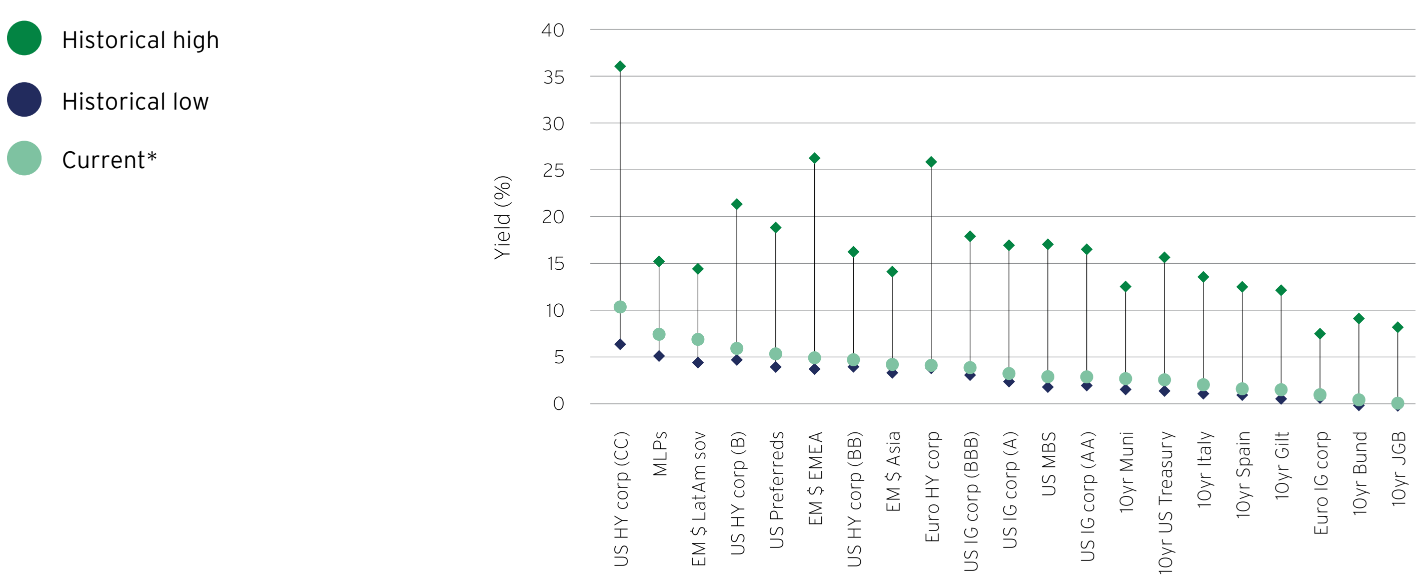
## Despite the risk to fixed income if interest rates continue to rise, we still see investment opportunities in certain assets.

Interest rates and bond yields have been in a downtrend for most of the last four decades. In 2016, this decline went beyond rational levels – **figure 1.** In the Eurozone, for example, some corporate borrowers were able to issue bonds at negative yields, effectively charging buyers for the privilege of risking their savings. In Denmark – one of several countries with negative central-bank policy rates – some homeowners actually received interest payments from their mortgage lenders. This unprecedented inversion of normality left many investors feeling bewildered. However, the experiment of fueling growth with expansionary monetary policy may soon give way to increased fiscal spending. The consensus is that whether or not growth is achieved by fiscal policy, interest rates could well rise again.

Figure 1. Global yields in perspective




Source: The Yield Book, Bloomberg *as of 12 Dec 2016. Past performance is not indicative of future returns.

Even just before Donald Trump's unexpected victory in the US election, global bond yields had begun to rise. Ten-year sovereign yields in Germany switched from negative to positive and those in the UK had more than doubled from their summer lows – **figure 2**. US 10-year Treasury yields rose steadily from 1.36% in July to 1.85% in late October before surging to 2.35% on the election results.[1] Even if this is simply the end of persistently falling yields – let alone the start of a sustained rise – it would be a significant transition point for growth, inflation, and for all asset classes.

There is clearly potential for a further rise in global yields. Inflation appears to have bottomed, thanks partly to the rebound in the oil price in 2016. And while US budget deficits have been shrinking over recent years, healthcare and pension costs are likely to lead to permanently larger deficits. Governments both in the US and elsewhere are likely to engage in fiscal easing in an attempt to stimulate their economies by lowering taxes, increasing spending and borrowing more to make up the difference – see **Late-cycle stimulus** and **Is infrastructure spending the cure?** Trump's plans to cut taxes alone could result in annualized incremental borrowings of US$300bn.

For the global economy, higher borrowing and fiscal spending present various risks. An increase in US borrowing has a good chance of driving up rates not only in the US, but also around the world. This would be unhelpful for economies where growth is still weak. Assuming the US economy strengthens, there is also a danger that greater US government borrowing 'crowds out' private borrowers at home or abroad, preventing them from financing profitable economic activity.

Figure 2. Yields reverse long-term downtrend


Source: Haver Analytics, as of 12 Dec 2016.

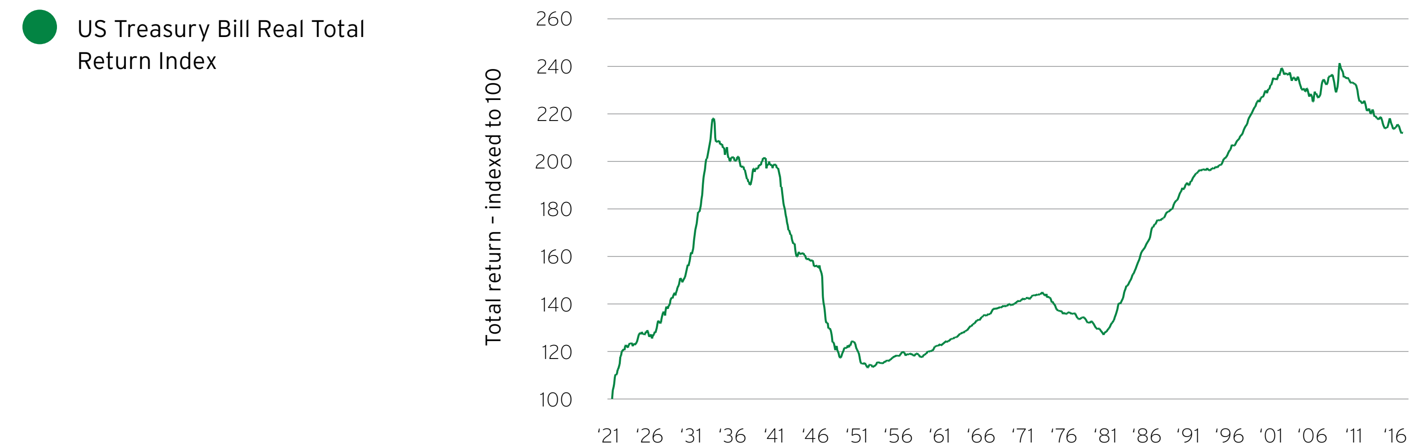
Figure 3. Estimated gains & losses from rate-changes

| Scenario | 5yr Trsy (%) | 10yr Trsy (%) | 30yr Trsy (%) | US IG Corps (%) | US HY Corps (%) | EM USD Sovs (%) |
|---|---|---|---|---|---|---|
| US rates fall 100bp | 6.5 | 11.5 | 28.3 | 10.5 | 10.0 | 13.0 |
| US rates fall 50bp | 4.5 | 7.0 | 15.0 | 7.0 | 8.5 | 9.4 |
| US rates rise 100bp | -1.0 | -5.0 | -15.0 | -2.3 | 3.5 | -0.3 |
| US rates rise 200bp | -4.75 | -12.3 | -30.0 | -7.5 | 0.3 | -5.6 |

Source: Citi Private Bank as of November 21, 2016. US Investment Grade Corporates are represented by the Citi US Broad Investment Grade Index; US High Yield Corporates were represented by the Citi's US High-Yield Market Index and EM US dollar denominated Sovereigns by the Citi's Emerging Markets US Dollar Government Bond Index.

1 As of 13 Dec 2016, the 10yr US Treasury yield is 2.45%.

Figure 4. Real returns on US cash over time



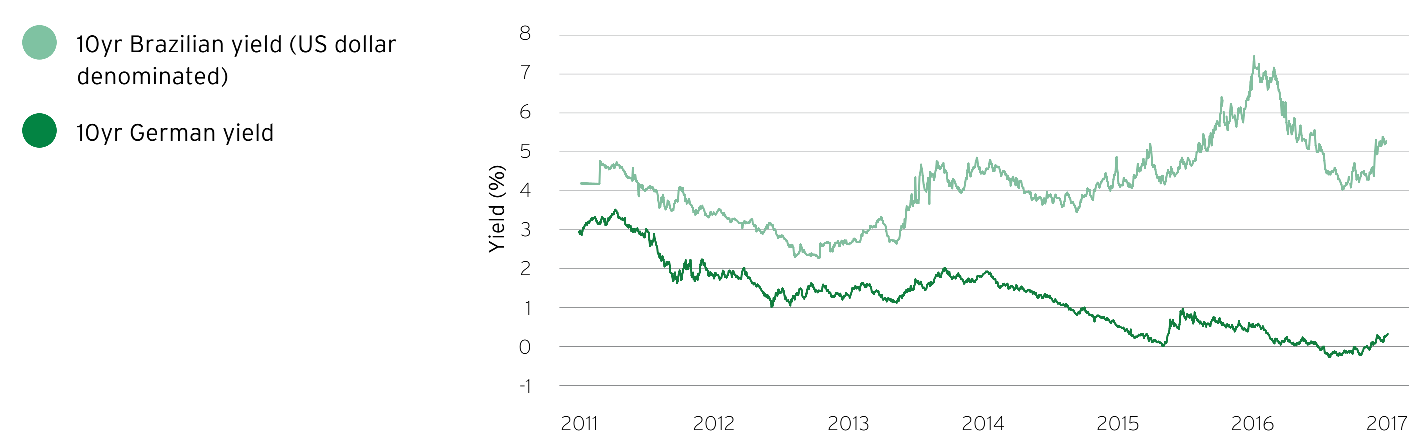

Source: Citi Private Bank and Haver Analytics as of October 20, 2016. Past performance is no guarantee of future returns. Real results may vary. US Treasury Bill Total Return Index, Inflation Adjusted, 1920-Oct 2016.

For investors, there is now greater uncertainty. If interest rates continue to rise, substantial losses on fixed income securities would follow. **Figure 3** shows the estimated impact of various scenarios in US rates upon different types of bonds. Higher yields could clearly have a negative effect on performance. For example, an increase in the 10-year Treasury yield from its recent level of 2.4% to its 2010 cycle-highs of 4.0% could generate negative returns of more than 12%. Longer-duration bonds could see declines of more than twice that amount. Even performance in corporate bonds would be disappointing, despite their ability to absorb some of the yield shock. This is partly why we favor opportunities in US high yield – see below.

Faced with the likelihood of expansionary fiscal policies in the US and elsewhere, what might investors do? There may be a temptation to hold cash in expectation of investing at higher rates in the future. We do not recommend such an approach, however. Negative inflation-adjusted returns on cash can persist for very long periods – **figure 4**. And even though we don't expect high and sustained inflation, we still think central banks will lag behind inflation when it comes to raising interest rates.

The current divergence in yields across many fixed income assets is now as wide as it has been, even during periods when absolute yields were much higher. The gap between the yields of US dollar-denominated Brazilian 10-year investment grade bonds and Euro-denominated German bonds – **figure 5** – is just one example of this. Taking other risks – such as credit risk – and broadening one's geographic horizons also offers scope to earn higher yields. We therefore examine a few ways to position for higher rates in the section that follows.

Figure 5. International yield divergences




Source: The Yield Book, as of 5 Dec 2016. Past performance is not indicative of future returns.

## High yield bonds and variable-rate loans

In 2016, US high yield (HY) bonds delivered their best annual performance since 2009. The Bloomberg Barclays US High Yield Index had produced a total return of 15% as of the end of November. While their valuations have risen, we believe that US HY bonds continue to look attractive. With an average S&P rating of BB-, index yields remain near 6.25% – some 335 basis points (bp) higher than similar-duration investment grade corporate bonds. High yield debt as an asset class also has lower price sensitivity to movements in interest-rates – **figure 3**. We would expect a slightly positive return in this asset class even if US Treasury yields rose 200 basis points to new cycle highs.

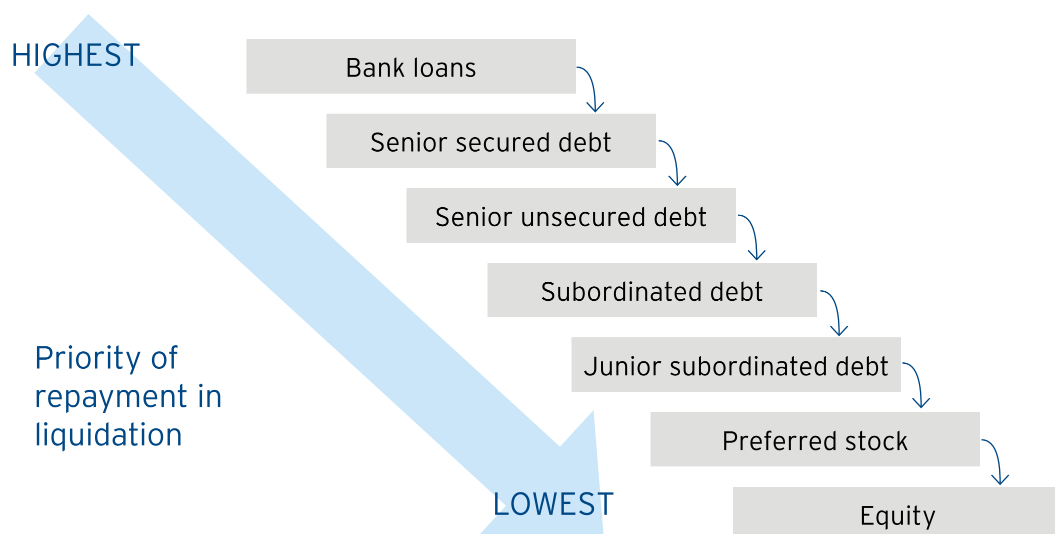
In our view, HY markets at today's valuations require investors to be more selective at the sector level. In the US, energy-related issuers, for example, may still offer interesting opportunities. The collapse in the price of crude oil from US$115 in June 2014 to US$27 in January 2016 led to rising fears of distress in the energy sector. The average index price of US HY energy bonds collapsed to as low as US$51 in February 2016, but has since rebounded to above US$98. This was driven by a near-doubling in the price of crude from its depressed February lows.

The stronger US dollar and hopes for energy deregulation that would boost supply may cause a near-term setback in the oil price recovery. However, we believe that the large capital investment cutbacks over the past two years will help crude oil to extend its recovery and slightly exceed US$60 by the end of 2017. If the oil price moves further above production costs, energy HY bonds could make an even fuller recovery.

While less sensitive to interest rate movements, US HY bonds can still experience substantial volatility. Indeed, implied volatility of HY debt is on average 60% greater than that of investment grade corporate bonds. A less volatile – but still high-yielding alternative – are HY senior bank loans. The average BB/B-rated bank loan yields 4.5%, whereas similarly-rated HY bonds typically yield around 5.5%. Senior bank loans rank higher in the capital structure, such that their investors would receive higher priority for repayment if the borrower went bankrupt - **figure 6**.

High yield senior bank loans also pay coupons which can adjust to changes in short-term rates, typically the London Interbank Offered Rate (LIBOR). As a result, the duration of bank loans is lower than that of fixed-rate bonds, which can help mitigate price volatility. Indeed, implied volatility of US HY bank loans is 60% less than that of HY bonds.

Figure 6. The capital structure




Source: Citi Private Bank, as of 30 Nov 2016.

With the recent rise in US interbank rates, HY senior bank loans have seen inflows of funds. If the Federal Reserve raises interest rates as we expect, interbank rates would increase further, attracting additional inflows.

Despite lower yields compared to the US, we think that European HY bonds still offer compelling value for regional investors. The average yield on the Bloomberg Barclays Pan-European High Yield Index is 4.3%, compared to 1% on European investment grade corporates. In contrast to the US, European senior HY bank loan yields of 5.5% are above those of HY bonds. This premium reflects the European senior loan market's relatively smaller size and lesser accessibility. We do not expect a rise in European interbank rates to increase any time soon, but floating rates and a limited available supply environment should help to dampen price volatility, as with their US equivalents.

Investing in a lower part of the capital structure can also help achieve enhanced yields.

## US preferred stocks

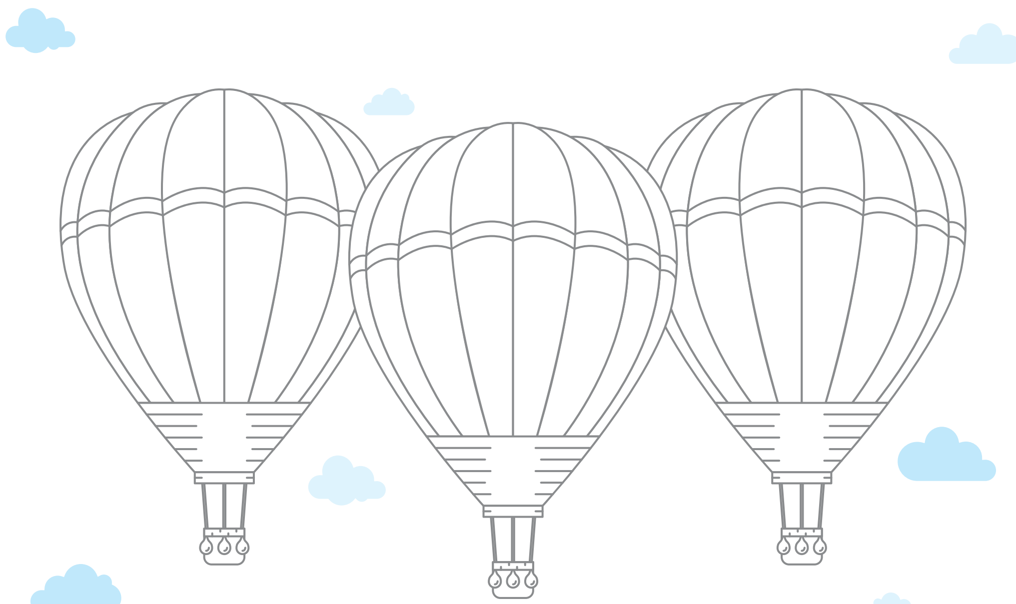
Investing in a lower part of the capital structure can also help achieve enhanced yields. Preferred stocks, which have both equity and fixed income characteristics, typically have priority over common equity in the event of the issuer entering liquidation - **figure 6**. However, they rank lower than other subordinated and senior debentures. Since the global financial crisis of 2007-09, reforms such as Dodd-Frank and Basel III have required banks to bolster their balance sheets, aiming to make the financial system less susceptible to shocks. As such, we have favored this asset class for some time. Despite the recent rise in long-term Treasury yields, US preferreds have gained nearly 40% over the last five years.

US preferred stocks – or 'preferreds' – come in various structures, all with differing yield propositions. We favor structures issued by large US banks, which feature fixed-to-floating rate coupons. These securities pay fixed coupons until a certain future date, whereupon they can be redeemed by their issuer at their originally issued face value. If they are not redeemed at this point, they switch to paying a floating-rate coupon. These coupon payments periodically adjust with a pre-determined spread – or back-end spread – over the three-month London Interbank Offer Rate or Libor. As a result, fixed-to-floating rate securities are less vulnerable to rising interest rates than securities that just pay a fixed coupon.

Depending on the length of time of the issuer's option to redeem at face value, the yield-to-worst – or the lowest yield investors can typically expect on these securities – can be as much as 6.5%. It should be noted that credit ratings for these securities are lower than those on the senior debt issued by the same entity. However, we do not expect a deterioration of credit quality in the US banking sector especially in the context of higher interest rates. Instead, interest rate risk will likely be the main driver of performance for these securities.

# POSITIONING FOR HIGHER RATES

A continued rise in interest rates would pose a risk to fixed income assets. But we still see opportunities to earn higher yields by taking currency, credit and other risks, while also extending geographic horizons.



## High yield (HY) energy bonds

Energy sector default rates remain high, but oil's recovery has boosted HY energy bonds.

If crude oil prices continue to rise towards US$60/barrel...

HY energy bonds could recover further.

**Risks:** credit risk / default risk

## US preferred stocks

Large US banks' preferred stocks have the potential to yield 6.5% or more.

Preferred stocks have priority over common equity if issuer enters liquidation.

Fixed-to-floating securities are less vulnerable to rising interest rates.

**Risks:** credit risk

## Brazilian-real denominated sovereign bonds

Cash yields of almost 13% on short-term local currency issues.[i]

Declining inflation has raised the chances of interest rate cuts.

**Risks:** currency risk, credit risk

i Source: The Yield Book, as of 12 Dec 2016.

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is no guarantee of future events. Real results may vary.

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## Emerging market fixed income

Emerging market assets – and especially Latin American fixed income – are currently among our highest-conviction overweight holdings. Despite this year's strong rally and setback following Donald Trump's election – see Latin America fixed income review – on a relative value basis, some Latin American fixed income assets can be classified as cheap. We therefore see scope for continued outperformance. This is due to improvements in the political outlook in Brazil and more market-friendly regimes, such as in Argentina. Sharply higher US yields and a stronger dollar can fuel volatility, but our constructive view on oil prices may support further outperformance. One area that we favor within Latin American debt is US dollar-denominated Brazilian corporates, which currently yield around 7.25%. We also find value in Argentinian quasi-sovereign debt – debt which is directly or indirectly guaranteed by the government – and currently yields around 7.5%.

Certain local currency EM markets also offer attractive short-term yields. In Brazil, short-term Brazilian-real denominated sovereign yields are above those on longer-dated maturities, with cash rates of roughly 13%. Declining inflation has increased the likelihood for additional central bank policy easing, which could flatten local yield curves. US dollar-denominated 10-year bonds issued by highly-rated sovereigns such as Saudi Arabia (AA-) currently yield close to 3.75%, while lower-rated nations such as Lebanon (B-) and Nigeria (B+) have US dollar-denominated bond yields above 7%.

## Lower-risk opportunities

We also identify selective opportunities across the risk spectrum and different maturities, including some for investors who prefer short-duration assets. For example, recent reforms in US money markets have led to a rise in short-term US dollar funding rates. This has pushed up rates on commercial paper and other short-term floating rate bank debt. Even yields on US municipal variable-rate demand notes have moved from 0.01% to 0.6%.

With oil and headline inflation rebounding around the world, we also favor some inflation-indexed bonds relative to conventional government bonds. In the US, longer duration Treasury Inflation Protected Securities (TIPS) provide real yields of 0.5% to 1.0% and an additional rate equal to the overall increase in the Consumer Price Index (CPI). If the oil price recovers to just above half the 2014 peak level, we would expect the overall US CPI to rise from 1.6% to above 3% in 2017.

An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. There may be additional risk associated with international investing, including foreign, economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards. These risks may be magnified in emerging markets. International investing may not be for everyone. Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

# Glossary

**Asset class definitions**

Cash is represented by US 3-month Government Bond TR, measuring the US dollar-denominated active 3-Month, fixed-rate, nominal debt issues by the US Treasury.

Commodities asset class contains the index composites — GSCI Precious Metals Index, GSCI Energy Index, GSCI Industrial Metals Index, and GSCI Agricultural Index — measuring investment performance in different markets, namely precious metals (e.g., gold, silver), energy commodity (e.g., oil, coal), industrial metals (e.g., copper, iron ore), and agricultural commodity (i.e., soy, coffee) respectively. Reuters/Jeffries CRB Spot Price Index, the TR/CC CRB Excess Return Index, an arithmetic average of commodity futures prices with monthly rebalancing, is used for supplemental historical data.

Global Developed Market Corporate Fixed Income is composed of Bloomberg Barclays indices capturing investment debt from seven different local currency markets. The composite includes investment grade rated corporate bonds from the developed-market issuers.

Global Developed Market Equity is composed of MSCI indices capturing large-, mid- and small-cap representation across 23 individual developed-market countries, as weighted by the market capitalization of these countries. The composite covers approximately 95% of the free float-adjusted market capitalization in each country.

Global Developed Investment Grade Fixed Income is composed of Bloomberg Barclays indices capturing investment-grade debt from twenty different local currency markets. The composite includes fixed-rate treasury, government-related, and investment grade rated corporate and securitized bonds from the developed-market issuers. Local market indices for US, UK and Japan are used for supplemental historical data.

Global Developed Market Large-Cap Equity. The asset class is composed of MSCI indices capturing large cap representation across nine individual developed-market countries, as weighted by the market capitalization of these countries. The composite covers approximately 95% of the free float-adjusted market capitalization in each country.

Global Emerging Market Equity is composed of MSCI indices capturing large and mid-cap representation across 20 individual emerging-market countries. The composite covers approximately 85% of the free float-adjusted market capitalization in each country. For the purposes of supplemental long-term historical data, local-market country indices are used, wherever applicable.

Global Emerging Fixed Income is composed of Bloomberg Barclays indices measuring performance of fixed-rate local currency emerging markets government debt for 19 different markets across Latin America, EMEA and Asia regions. iBoxx ABF China Govt. Bond, the Markit iBoxx ABF Index comprising local currency debt from China, is used for supplemental historical data.

Global Equity is represented by the MSCI ACWI Index, capturing all sources of equity returns in 23 developed and 23 emerging markets.

Global Fixed Income is represented by the Bloomberg Barclays Multiverse Index, with returns hedged into US dollars.

Global High Yield Fixed Income is composed of Bloomberg Barclays indices measuring the non-investment grade, fixed-rate corporate bonds denominated in US dollars, British pounds and Euros. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below, excluding emerging market debt. Ibbotson High Yield Index, a broad high yield index including bonds across the maturity spectrum, within the BB-B rated credit quality spectrum, included in the below-investment-grade universe, is used for supplemental historical data.

Hedge Funds is composed of investment managers employing different investment styles as characterized by different sub categories – HFRI Equity Long/Short: Positions both long and short in primarily equity and equity derivative securities; HFRI Credit: Positions in corporate fixed income securities; HFRI Event Driven: Positions in companies currently or prospectively involved in wide variety of corporate transactions; HFRI Relative Value: Positions based on a valuation discrepancy between multiple securities; HFRI Multi Strategy: Positions based on realization of a spread between related yield instruments; HFRI Macro: Positions based on movements in underlying economic variables and their impact on different markets; Barclays Trader CTA Index: The composite performance of established programs (Commodity Trading Advisors) with more than four years of performance history.

Private Equity characteristics are driven by those for Developed Market Small Cap Equities, adjusted for illiquidity, sector concentration, and greater leverage.

Real Estate contains index contains all Equity REITs (US REITs and publicly-traded real estate companies) not designated as Timber REITs or Infrastructure REITs: NAREIT US REIT Index, NAREIT Canada REIT Index, NAREIT UK REIT Index, NAREIT Switzerland REIT Index, NAREIT Euro-zone REIT Index, NAREIT Japan REIT Index, NAREIT Hong Kong REIT Index, NAREIT Singapore REIT Index, NAREIT Australia REIT Index

**Index definitions**

The Bloomberg-JPMorgan Asia Currency Index (ADXY) is a US dollar tradable index of emerging Asian currencies, which serves as a benchmark for monitoring Asia's currency markets on an aggregate basis. It is a spot index of emerging Asia's most actively traded currency pairs valued against the US dollar.

The Bloomberg Barclays Pan-European High Yield Index measures the market of non-investment grade, fixed-rate corporate bonds denominated in the following currencies: Euro, British pounds, Danish krone, Norwegian krone, Swedish krona, and Swiss franc. Inclusion is based on the currency of issue, and not the domicile of the issuer.

The Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged USD is a Citi's Emerging Markets US Dollar Government Bond Index (EMUSDGBI) includes US Dollar-denominated emerging market sovereign debt issued in the global, Yankee, and Eurodollar markets. The index comprises debt of more than 50 countries from Latin America, Eastern Europe, Middle East, Africa, and Asia and offers geographical diversification without exposure to local currency fluctuations. The index provides exposure to a broad array of countries and sub-indices are available in any combination of country, maturity, and rating.

Citi's US High-Yield Market Index is a US dollar-denominated index which measures the performance of high-yield debt issued by corporations domiciled in the US or Canada. Recognized as a broad measure of the North American high-yield market amongst all Citi's fixed income indices, it includes cash-pay and deferred-interest securities. All the bonds are publically placed, have a fixed coupon, and are non-convertible.

Citi US Broad Investment Grade Index (USBIG)—Corporate, is a subsector of the USBIG. The index includes fixed rate US Dollar-denominated investment grade corporate debt within the finance, industrial and utility sectors. This index includes US and non-US corporate securities (excludes US government-guaranteed and non-US sovereign and provincial securities).

Commodity Index is the S&P Goldman Sachs Commodity Index (S&P GSCI), a composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities.

The CBOE Volatility Index (VIX) is a measure of expectations of near-term volatility based on S&P 500 stock index option prices.

Emerging market currencies are represented by the OITP (Other important trading partners) index is a weighted average of the foreign exchange values of the US dollar against a subset of currencies in the broad index that do not circulate widely outside the country of issue. The weights are derived by rescaling the currencies' respective weights in the broad index so that they sum to 1 in each sub-index.

European equities are represented by the MSCI Europe index, which captures large- and mid-cap representation across 15 Developed Markets (DM) countries in Europe. It covers approximately 85% of the free float-adjusted market capitalization across the European Developed Markets equity universe.

Gold is represented by the commodity futures price for gold.

The High Yield Energy Bond Price index measures the price performance of US bonds with ratings below investment grade comprising energy and natural resources industries.

Japan equities are represented by the MSCI Japan index, which is designed to measure the performance of the large- and mid-cap segments of the Japanese market. It covers approximately 85% of the free float-adjusted market capitalization in Japan.

LIBOR is a benchmark interest rate that some of the world's leading banks charge each other for short-term loans. It stands for London Interbank Offered Rate and serves as the first step to calculating interest rates on various loans throughout the world.

The MSCI All Country World Index represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.

The MSCI Asia ex-Japan index has large and mid-cap representation across 2 of 3 Developed Markets countries and 8 Emerging Markets countries in Asia. It captures approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI China index has large- and mid-cap representation across China H shares, B shares, Red chips and P chips. With 139 constituents, it covers about 85% of this China equity universe.

The MSCI Emerging Markets Index represents the performance of large- and mid-equities from 23 emerging countries, covering approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI Emerging Markets (EM) Latin America Index captures large and mid cap representation across 5 Emerging Markets (EM) countries* in Latin America. With 121 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI World Index represents the performance of more than 1,600 large- and mid-cap stocks across 23 developed markets countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI World ex-USA Index represents the performance of large- and mid-cap representation across 22 of 23 developed markets countries excluding the United States. With 1,005 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

Oil is represented by the West Texas Intermediate Crude Oil price.

The Standard & Poor's 500 Index is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.

US Investment Grade Corporate Debt Total Return Index is an index made up of investment-grade debt issued by US companies, measured on a total return basis.

USD vs developed currencies is a broad weighted average index of the foreign exchange values of the US dollar against the currencies of a large group of major US trading partners.

USD vs emerging markets = The OITP (other important trading partners) index is a weighted average of the foreign exchange values of the US dollar against a subset of currencies in the broad index that do not circulate widely outside the country of issue.

**Other terminology**

Adaptive Valuations Strategies is Citi Private Bank's own strategic asset allocation methodology. It determines the suitable long-term mix of assets for each client's investment portfolio.

Correlation is a statistical measure of how two assets or asset classes move in relation to one another. Correlation is measured on a scale of 1 to -1. A correlation of 1 implies perfect positive correlation, meaning that two assets or asset classes move in the same direction all of the time. A correlation of -1 implies perfect negative correlation, such that two assets or asset classes move in the opposite direction to each other all the time. A correlation of 0 implies zero correlation, such that there is no relationship between the movements in the two over time.

The price-to-book ratio (P/B) compares the capitalization of an individual stock or of an index of stocks to the value of that stock or that index's combined shareholder capital. It is calculated by dividing the current closing price of the stock by the most recently reported book value per share. A low P/B can indicate a lowly-valued company or index, while a high P/B can indicate high valuation.

The price-earnings ratio (P/E) measures a company's or an index of companies' current share price relative to its earnings per share. A low P/E can indicate a lowly-valued company or index, while a high P/E can indicate high valuation.

Return on equity (ROE) is the amount of net income earned as a percentage of shareholders equity. It captures a company's profitability – or aggregate profitability among numerous companies – by showing how much profit is achieved with shareholders' capital.

Strategic asset allocation is the process of creating a long-term investment plan by assembling an appropriate mix of equities, fixed income, cash and other investments. It can potentially enhance portfolio returns and help manage risk.

Strategic Return Estimates are Citi Private Bank's forecast of returns for specific asset classes over a 10-year time horizon. The forecast for each specific asset class is made using a proprietary methodology that is appropriate for that asset class. Equity asset classes are forecast using a proprietary methodology based on the calculation of valuation levels with the assumption these valuation levels revert to their long-term trends over time. Fixed Income asset classes are forecast using a proprietary methodology based on current yield levels. Other asset classes have other specific forecasting methodologies. Please note that hedge funds, private equity, real estate, structured products and managed futures are generally illiquid investments and are subject to restrictions on transferability and resale. Each SRE is gross of actual client fees and expenses. Components of the methodology used to create the SREs include the rate of return for various asset classes based on indices. Termination and replacement of investments may subject investors to new or different charges. Past performance is not indicative of future results. Future rates of return cannot be predicted with certainty. Investments that pay higher rates of return are often subject to higher risk and greater potential loss in an extreme scenario. The actual rate of return on investments can vary widely over time, especially for long-term investments. This includes the potential loss of principal on your investment. It is not possible to invest directly in an index.

Tactical asset allocation looks to adjust the strategic asset allocation of a client's investment portfolio to incorporate shorter-term market insights.

Yield-to-Maturity (YTM) is the total return received on a bond or index of bonds when held to maturity. The total return includes both the payment of coupons and the return of the principal at maturity.

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Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk. Asset allocation does not assure a profit or protect against a loss in declining financial markets.

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Master Limited Partnership

- Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPS may exhibit high volatility.
- Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced.
- Concentration Risk. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.
- The price and dividends paid by Energy Related MLPs may be affected by a number of factors, including:
- Worldwide and domestic supplies of, and demand for, crude oil, natural gas, natural gas liquids, hydrocarbon products and refined products;
- Changes in tax or other laws affecting MLPs generally;
- Regulatory changes affecting pipeline fees and other regulatory fees in the energy sector;
- The effects of political events and government regulation;
- The impact of direct government intervention, such as embargos;
- Changes in fiscal, monetary and exchange control programs:
- Changes in the relative prices of competing energy products;

- Changes in the output and trade of oil and other energy producers;
- Changes in environmental and weather conditions;
- The impact of environment laws and regulations and technological changes affecting the cost of producing and processing, and the demand for, energy products;
- Decreased supply of hydrocarbon products available to be processed due to fewer discoveries of new hydrocarbon reserves, short- or long-term supply distributions or otherwise;
- Risks of regulatory actions and/or litigation, including as a result of leaks, explosions or other accidents relating to energy products;
- Uncertainty or instability resulting from an escalation or additional outbreak of armed hostilities or further acts of terrorism in the United States or elsewhere;
- General economic and geopolitical conditions in the United States and worldwide.

Mortgage-backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Please read offering documents and/or prospectus information carefully for the risks associated with the particular MBS security you are purchasing.