

# Safeguarding assets

- INTELLIGENT EXPOSURE TO A LATE-CYCLE BULL MARKET --
- MANAGE YOUR LEVERAGE --
- GLOBAL PORTFOLIOS ARE THE CORNERSTONE --

INVESTMENT PRODUCTS: NOT FDIC INSURED · NOT CDIC INSURED ·  
NOT GOVERNMENT INSURED · NO BANK GUARANTEE · MAY LOSE VALUE

# Safeguarding assets

Steven Wieting | Chief Investment Strategist and Chief Economist

Today's late-cycle conditions are a good time to seek to safeguard your assets. They also offer opportunities for doing so.

96

The US economic expansion is on course to break records. In July 2019, the recovery in the world's largest economy that began in mid-2009 is likely to become the longest since measurements began more than a century and a half ago. The bull market in US equities, meanwhile, already surpassed its previous all-time record in August 2018. In light of this - as well as high valuations across numerous asset classes - you may well be asking how long the recovery and bull market can possibly continue.

Citi Private Bank does not believe that the recovery and equity bull market are about to end. We agree with the old saying that 'bull markets do not die of old age.' Few of the economic or financial conditions that have figured around previous peaks are in evidence today. Inflation is largely contained, while US interest rates are rising only gradually by past standards.

Global growth is therefore well poised to endure through 2019 and perhaps beyond - see **Building stronger portfolios for turbulent times**. We thus remain positive on

the near-term outlook for risk assets. That said, we recognize that we are in a late-cycle environment. Monetary conditions are no longer as easy as they were, particularly in the US. The US yield curve has flattened and may invert at some point in the next year or so, something that has historically signalled a recession further down the line. Emerging markets have suffered substantial volatility and poor relative performance over the past twelve months.

In this environment, we think it is important to explore ways of safeguarding assets. We do not want people to try to time the markets - that's a fool's game - see **This is not the time for market timing**. We recommend instead a number of constructive actions that you might take in order to help protect gains made over recent years while also continuing to seek opportunities. These include pursuing strategies that seek market upside while shielding against downside, managing leverage, and diversifying portfolio risks by globalizing allocations. We now explore some of these possibilities.



# Intelligent exposure to a late-cycle bull market

Iain Armitage | Global Head of Capital Markets

In today's mature bull market, you need not choose between ongoing upside potential and protecting your assets.

Today's late-cycle conditions pose a clear dilemma when positioning portfolios. Should you stay fully exposed to risk assets and seek to capture the ongoing upside that we expect? Or, should you reduce exposure, so as to preserve gains made so far? Staying over-exposed for too long risks taking a hit when the next downturn arrives. Selling now, however, means missing out if the markets continue to rise. But what if you didn't have to make this seemingly binary choice? What if you could instead maintain exposure to potential upside, while also limiting downside risks?

As it happens, there are ways that you can do just that. By employing certain capital markets strategies, you can capture ongoing market gains while simultaneously helping to protect the value that your assets have accumulated. To see this intelligent market exposure in action, let's take the example of an investor who has a portfolio of developed market equities held for the long-term. In this scenario, the portfolio has delivered a total return of 95% since the financial-crisis lows of 2009. Now, though, the investor would like to protect some of this return while also keeping open the possibility of capturing more upside.

FIGURE 1. MAINTAINING EXPOSURE WHILE PROTECTING GAINS

	100% developed markets equities	50% equities 50% capital markets strategy*	Difference	POTENTIAL EFFECTS
Strategic return estimate	4.90%	4.81%	-0.09%	REDUCES RETURN
Standard deviation	16.23%	12.87%	-3.36%	REDUCES VOLATILITY
Sharpe ratio	0.16	0.19	+0.03	IMPROVES RISK-ADJUSTED RETURNS

\*Capital markets strategy is a full capital at maturity strategy, as described in the article. Source: Citi Private Bank as of 10 Oct 2018. Past performance is no guarantee of future results. Strategic Return Estimates are no guarantee of future returns. Developed Market Equities is an asset class within our AVS methodology and indexes are used to proxy for the performance. See Glossary for definitions.

Strategies that provide a payment at maturity can be customized according to your specific needs

The investor therefore decides to sell half of this portfolio of equities - **figure 1** - crystallizing the gains made so far. The proceeds of the sale are then invested in a full capital at maturity strategy that provides the same upside exposure to developed market equities for a four-year period. If equities continue to rise, this approach delivers one-for-one gains at the end of four years. If equities fall, however, the investor still receives the full original investment back at maturity.

By taking this approach, the investor has crystallized half of the portfolio's gains, retaining full upside exposure while limiting downside exposure. This leads to a potentially enhanced risk-adjusted return, albeit marginally lower absolute returns. Of course, if markets simply rise for four years, the investor would have been better off staying fully invested in equities, as this strategy does not earn dividends, unlike the cash position it has partly replaced. Over time, reinvested dividends are an important contributor to total returns.

Strategies that provide a payment at maturity can be customized according to your specific needs. As well as replacing broad-based holdings of equities, indices or exchange traded funds, they can perform the same function for mutual fund holdings that focus on particular themes, such as Asian growth, or robotics for example, allowing access to manager alpha. They can also address various other asset classes and sectors, including fixed income, foreign exchange, and emerging markets. The individual terms of this approach can also be adjusted to reflect your views. It is possible to select, for example, the desired tenor, the amount of protection and the specific market exposure, such as enhanced growth or income orientation.

While such strategies can help mitigate portfolio risk, they also come with risks of their own. For example, if the issuer of the strategy experiences financial distress, your investment could be at risk even if your view of the market has been correct and the strategy's value has increased. Also, there is only a limited secondary market, such that selling prior to maturity may mean you do not get back the full value of what you invested. It is therefore recommended that these strategies be held to maturity.

## Today's late-cycle conditions present a compelling reason for integrating payment at maturity strategies as core holdings within your portfolio

We believe that such strategies - whether with full or partial protection - can serve as core holdings within your portfolio, replacing and complementing your holdings of equities, fixed income, foreign exchange and mutual funds. (See **Core and opportunistic investing** box in **Themes: Important actions and forces that will drive portfolio returns.**) We also think they can offer a way of building resilient exposure if you have been holding cash while awaiting an entry-point into the markets.

Today's late-cycle conditions present a compelling reason for integrating payment at maturity strategies as core holdings within your portfolio. Volatility - a key determinant of their cost - is at only around one-third of what it was in 2011, when the bull market was at a much earlier stage. As a result of this - and of the rising interest rate environment - the cost of establishing these strategies remains attractive. However, the lesson of history is clear: today's pricing will not last forever. If and when markets eventually do start falling, the cost of entering may no longer be economical. The time to prepare is before it is too late.

*Benjamin Garrity also contributed to this article.*

# Manage your leverage

Kris Xippolitos | Global Head of Fixed Income Strategy



Late-cycle conditions call for smarter use of leverage rather than abandoning it altogether.

100

Investing for income has become increasingly challenging over recent years. Central banks' monetary policies helped to drive down the yields on many assets towards historic lows. In response to declining investment cash flows, many investors have tried to compensate by buying longer-duration and lower credit-quality assets. Some have also taken on leverage in an attempt to enhance returns.

## Handle with care

Used prudently, leverage can be an effective tool when building a portfolio. By financing positions with borrowed money, investors can not only seek enhanced returns, but also diversify their portfolio by freeing

up capital to pursue other opportunities simultaneously. Low interest rates improved cost effectiveness, while restrained volatility in many markets reduced the uncertainty of running leveraged positions.

Of course, leverage is also a double-edged sword. Just as it magnifies returns on investments in a rising market, it magnifies their losses in a falling market. However, we do not expect a widespread fall in risk asset markets any time soon.

We remain overweight global equities and high yield fixed income. And it is not our recommendation that investors avoid using any leverage at all. Our message is to be thoughtful and selective in how leverage is deployed. We certainly advise against using too much of it.

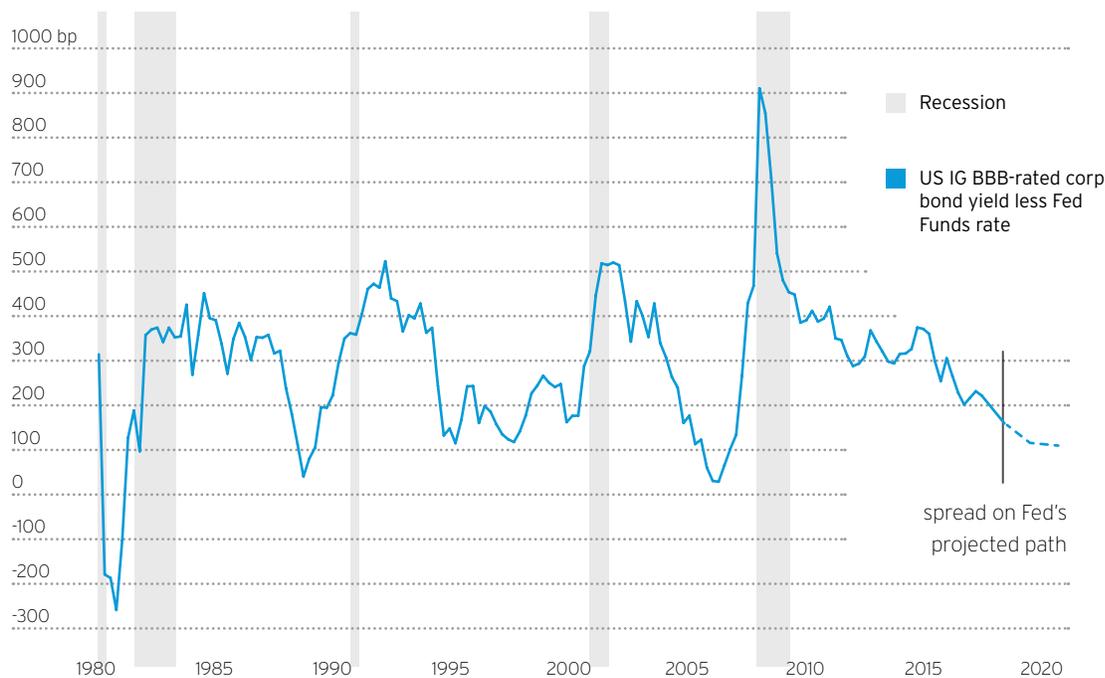
## Leverage is costing more

The cost of leverage is on the rise. The Federal Reserve's monetary tightening cycle has helped to drive up 3-month US dollar LIBOR from 0.38% to 2.38% over the last three years. More importantly, the difference between shorter- and longer-term rates is narrower than it has been in more than a decade. The cost of borrowing - determined by short rates - has thus risen by more than the yields on the longer-term assets that leveraged investors might invest in. So, leveraged returns are falling.

We expect US rate rises to continue in 2019. The Fed is expected to hike at least three times during the year and may go further if financial conditions allow. It is thus possible that LIBOR could reach around 3.5% by the end of 2019. In this environment, the spread available from borrowing at short-term rates and investing in longer-term BBB rated corporate fixed income could dip towards their post-1982 lows - **figure 1**.

If investors wish to seek to maintain leveraged returns at current levels, they are therefore likely to have either to assume more duration and credit risk, or add even more leverage. Given the lateness of the cycle, caution is required.

**FIGURE 1. DIMINISHING RETURNS FROM LEVERAGED POSITIONS**



Source: Bloomberg, as of 10 Oct 2018. Short-term rates are represented in the chart by the Fed Funds rate, which helps determine LIBOR pricing. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events

## Be smarter with leverage

Despite the rate increases, borrowing costs remain well below long-term averages. So, we think that conservative use of leverage can still make sense. Another possibility for investors who feel comfortable doing so would be adding some lower credit quality assets to the portfolio as a substitute for leverage. For this purpose, investors might employ a specialist active manager who may be able to avoid those assets that are most at risk of encountering difficulties.

We also recommend that investors consider hedging their loan exposures. This can be done by utilizing capital markets strategies. For example, there are strategies available that can either lessen the impacts from rising borrowing costs, offset them, or even seek a profit from them. While some hedges come at additional expense, there may also be ways to minimize the cost.

For the most leveraged investors, we would urge undertaking a review of your overall leverage. This should take into account not only your overall leverage, but also the risks of the underlying investments involved. The objective is to identify an appropriate amount of risk-adjusted leverage such that your portfolio could experience a significant decrease in market value without your getting a margin call. Citi Private Bank's Global Investment Lab stands ready to help you explore the risks and opportunities arising from your leverage, and how best you might preserve your assets.

We also recommend  
that investors  
consider hedging  
their loan exposures

# Global portfolios are the cornerstone

Steven Wieting | Chief Investment Strategist and Chief Economist

While we believe in global diversification at all times, it is of critical value in today's environment.

'Go global now' was our single most important piece of advice in Outlook 2018. We demonstrated that investing over time in a broad variety of different asset classes from across the world has helped to lower the overall risk of many portfolios, while also potentially raising returns. Global portfolios have displayed endurance through market cycles, which has helped their owners preserve and grow wealth over time. We therefore stress the importance of global portfolios for helping to preserve assets at all times, but especially now.

When global markets are moving asynchronously, this is precisely the time when diversification and rebalancing are critical. Late-cycle conditions typically see increased market volatility. Portfolios that are highly concentrated in particular regions, risky asset classes or both are obviously more vulnerable to such turbulence. After cyclical peaks, global diversification has been pivotal in helping to preserve portfolio value. Such periods have also been when concentrated local or regional portfolios have proven to be most at risk.

## Enduring through cycles

To highlight this, we explored asset class performance between 1952 and 2016. We then created historical globally diversified

allocations, using indices to proxy for equities, fixed income, hedge funds, commodities, and cash within our Adaptive Valuation Strategies methodology. The resulting global allocation would not have experienced a negative return during any five-year timeframe during those six decades, a period that included the 1970s oil price shocks, the October 1987 stock market crash, the dot.com bust of the early 2000s, and the Global Financial Crisis of 2008.

As well as helping to preserve assets during episodes of market stress, a global multi-asset class allocation would have produced superior returns to a concentrated regional allocation. Over the entire period, a global multi-asset class allocation would have produced a 10.9% annualized return before fees. But an allocation only to equities and fixed income drawn entirely from the best performing individual region - the US - would have produced a 9.3% annualized return before fees.

The performance for each of the last seven decades of a globally diversified allocation - aligned at an asset class level to Citi Private Bank's AVS Risk Level 3 allocation in US dollars including hedge funds - is shown in the infographic. Over time, such an allocation would have produced higher risk-adjusted returns than any individual asset class. That's a big deal for a long-term investor.

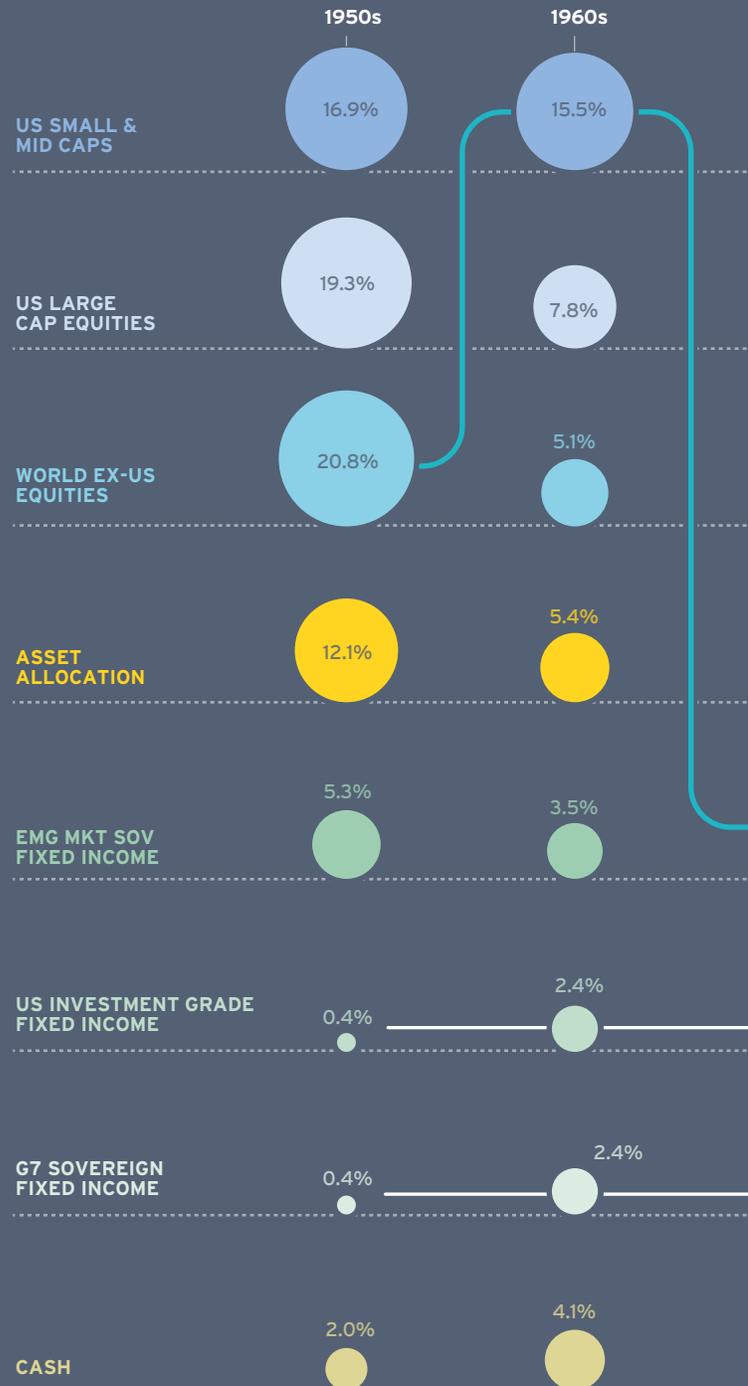
Despite the clear lessons of history, many client portfolios remain highly concentrated. In fact, we often come across portfolios that focus upon just two or three asset classes. A typical client's exposure is also concentrated 70% to 85% in a single currency. This is risky late in the cycle. After years of rising markets, it is all too easy for complacency to creep in. Allocations may have drifted from target weightings after long spells of strong performance by certain assets and weak performance by others.

Some investors believe their portfolios to be much more globally diversified than they really are simply because they are aligned to a certain benchmark. As of September 2018, two leading equity and fixed income benchmarks had respective weightings of 52% and 43% in one country alone: the US. This partly reflects the stronger relative performance of US asset prices over recent years. However, we believe that building a global portfolio demands much more than simply replicating broad benchmark weightings. The flipside of outsized weightings to individual countries is little or no exposure to others, even though these may offer attractive diversification potential.

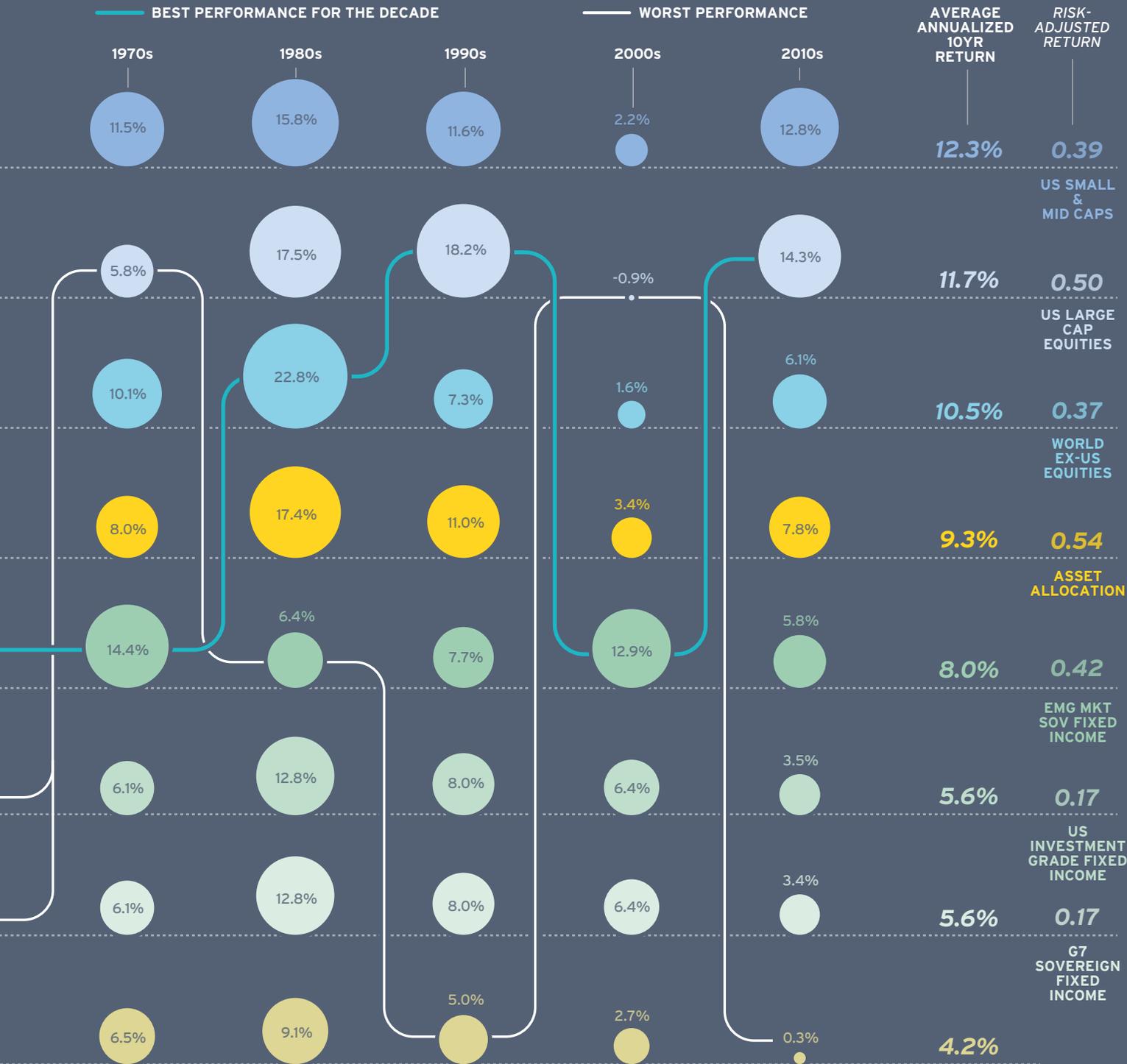
**Never too late to go global**

We encourage you to revisit your portfolio and to see how it aligns to the allocation that we recommend for you. To help you do this, our Global Investment Lab can produce an Outlook Watchlist report for you, which also shows your positioning compared to our investment themes. Your Investment Counselor can then discuss with you some customized opportunities for helping to safeguard your assets by going global.

**ASSET CLASS PERFORMANCE BY DECADE**



Source: Citi Private Bank's Office of the Chief Investment Strategist, Bloomberg, as of 27 Oct 2018. See glossary for asset class definitions. Indices are unmanaged. 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. Adaptive Valuation Strategies (AVS) is the Private Bank's proprietary strategic asset allocation methodology.



“Asset allocation” in this diagram represents an AVS Risk Level 3 allocation, which includes allocations to equities, fixed income, commodities, cash and hedge funds. Risk levels are an indication of clients’ appetite for risk. Risk Level 3 – Seeks modest capital appreciation and, secondly capital preservation. The returns shown were calculated at an asset class level using indices and do not reflect fees, which would have reduced the performance shown. Risk-adjusted return is defined here as the Sharpe ratio. See glossary for definition of terms.

# 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/ Jefferies 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 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 Emerging Market Fixed Income** is composed of 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 High Yield Fixed Income** is composed of 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.

**High Yield Bank Loans** are debt financing obligations issued by a bank or other financial institution to a company or individual that holds legal claim to the borrower's assets in the event of a corporate bankruptcy. These loans are usually secured by a company's assets, and often pay a high coupon due to a company's poor (non-investment grade) credit worthiness.

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

## INDEX DEFINITIONS

The **Bloomberg Barclays Global Aggregate Bond Index** is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

The **Bloomberg-JP Morgan Asia Currency Index** is designed as a spot index of the most actively traded currency pairs in Asia's emerging markets valued against the US dollar.

The **CSI 300** is a capitalization-weighted stock market index designed to replicate the performance of top 300 stocks traded in the Shanghai and Shenzhen stock exchanges. It was considered as a blue chip index for mainland China stock exchanges

**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).

**Citi Emerging Markets Sovereign Bond Index** includes local currency sovereign bond indices for 14 emerging markets countries. These indices comprise fixed-rate sovereign debt with at least one-year until maturity. They are market capitalization-weighted and rebalanced monthly for Brazil, Chile, Colombia, Hungary, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, Russia, Thailand, Turkey, and South Africa.

The **Citi Euro Broad Investment Grade Index** is a multi-asset benchmark for investment-grade, Euro-denominated fixed income bonds. It includes government, government-sponsored, collateralized, and corporate debt.

**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.

The **Citi World Broad Investment Grade Index** is a multi-asset, multicurrency benchmark which provides a measure of the global fixed income markets.

The **Euro Stoxx 600** represents large-, mid- and small-cap companies across 17 countries across Europe including: Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The **MSCI Emerging Markets Index** captures large- and mid- cap representation across twenty-four Emerging Markets (EM) countries. With 837 constituents, the index covers 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 five Emerging Markets (EM) countries in Latin America. With 113 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.

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.

## 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.

**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.

**LIBOR** - The London interbank offered rate is the rate of interest at which banks offer to lend funds to each other. It is used a reference rate for large amounts of financial contracts.

**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.

**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.

**Sharpe ratio** is a measure of risk-adjusted return, expressed as excess return per unit of deviation, typically referred to as risk.

**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 longterm 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.

**Volatility** - is a statistical measure of the variation of returns for a given security, market index, or asset class. It is most often measured by way of standard deviation. The higher the volatility, the riskier the underlying asset is considered to be.

**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.

## Disclosures

**In any instance where distribution of this communication (“Communication”) is subject to the rules of the US Commodity Futures Trading Commission (“CFTC”), this communication constitutes an invitation to consider entering into a derivatives transaction under US CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.**

This Communication is prepared by Citi Private Bank (“CPB”), a business of Citigroup, Inc. (“Citigroup”), which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, “Citi”). Not all products and services are provided by all affiliates, or are available at all locations.

CPB personnel are not research analysts, and the information in this Communication is not intended to constitute “research”, as that term is defined by applicable regulations. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report.

**This Communication is provided for information and discussion purposes only, at the recipient’s request. The recipient should notify CPB immediately should it at any time wish to cease being provided with such information.** Unless otherwise indicated, (i) it does not constitute an offer or recommendation to purchase or sell any security, financial instrument or other product or service, or to attract any funding or deposits, and (ii) it does not constitute a solicitation if it is not subject to the rules of the CFTC (but see discussion above regarding communication subject to CFTC rules) and (iii) it is not intended as an official confirmation of any transaction.

Unless otherwise expressly indicated, this Communication does not take into account the investment objectives, risk profile or financial situation of any particular person and as such, investments mentioned in this document may not be suitable for all investors. Citi is not acting as an investment or other advisor, fiduciary or agent.

The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Recipients of this Communication should obtain advice based on their own individual circumstances from their own tax, financial, legal and other advisors about the risks and merits of any transaction before making an investment decision, and only make such decisions on the basis of their own objectives, experience, risk profile and resources. The information contained in this Communication is based on generally available information and, although obtained from sources believed by Citi to be reliable, its accuracy and completeness cannot be assured, and such information may be incomplete or condensed. Any assumptions or information contained in this Communication constitute a judgment only as of the date of this document or on any specified dates and is subject to change without notice. Insofar as this Communication may contain historical and forward looking information, past performance is neither a guarantee nor an indication of future results, and future results may not meet expectations due to a variety of economic, market and other factors. Further, any projections of potential risk or return are illustrative and should not be taken as limitations of the maximum possible loss or gain. Any prices, values or estimates provided in this Communication (other than those that are identified as being historical) are indicative only, may change without notice and do not represent firm quotes as to either price or size, nor reflect the value Citi may assign a security in its inventory. Forward looking information does not indicate a level at which Citi is prepared to do a trade and may not account for all relevant assumptions and future conditions. Actual conditions may vary substantially from estimates which could have a negative impact on the value of an instrument.

Views, opinions and estimates expressed herein may differ from the opinions expressed by other Citi businesses or affiliates, and are not intended to be a forecast of future events, a guarantee of future results, or investment advice, and are subject to change without notice based on market and other conditions. Citi is under no duty to update this document and accepts no liability for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained in or derived from this Communication.

Investments in financial instruments or other products carry significant risk, including the possible loss of the principal amount invested. Financial instruments or other products denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. This Communication does not purport to identify all risks or material considerations which may be associated with entering into any transaction.

Structured products can be highly illiquid and are not suitable for all investors. Additional information can be found in the disclosure documents of the issuer for each respective structured product described herein. Investing in structured products is intended only for experienced and sophisticated investors who are willing and able to bear the high economic risks of such an investment. Investors should carefully review and consider potential risks before investing.

OTC derivative transactions involve risk and are not suitable for all investors. Investment products are not insured, carry no bank or government guarantee and may lose value. Before entering into these transactions, you should: (i) ensure that you have obtained and considered relevant information from independent reliable sources concerning the financial, economic and political conditions of the relevant markets; (ii) determine that you have the necessary knowledge, sophistication and experience in financial, business and investment matters to be able to evaluate the risks involved, and that you are financially able to bear such risks; and (iii) determine, having considered the foregoing points, that capital markets transactions are suitable and appropriate for your financial, tax, business and investment objectives.

This material may mention options regulated by the US Securities and Exchange Commission. Before buying or selling options you should obtain and review the current version of the Options Clearing Corporation booklet, Characteristics and Risks of Standardized Options. A copy of the booklet can be obtained upon request from Citigroup Global Markets Inc., 390 Greenwich Street, 3rd Floor, New York, NY 10013 or by clicking the following links,

<http://www.theocc.com/components/docs/riskstoc.pdf> or [http://www.theocc.com/components/docs/about/publications/november\\_2012\\_supplement.pdf](http://www.theocc.com/components/docs/about/publications/november_2012_supplement.pdf)

If you buy options, the maximum loss is the premium. If you sell put options, the risk is the entire notional below the strike. If you sell call options, the risk is unlimited. The actual profit or loss from any trade will depend on the price at which the trades are executed. The prices used herein are historical and may not be available when you order is entered. Commissions and other transaction costs are not considered in these examples. Option trades in general and these trades in particular may not be appropriate for every investor. Unless noted otherwise, the source of all graphs and tables in this report is Citi. Because of the importance of tax considerations to all option

transactions, the investor considering options should consult with his/her tax advisor as to how their tax situation is affected by the outcome of contemplated options transactions.

None of the financial instruments or other products mentioned in this Communication (unless expressly stated otherwise) is (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citi or any other insured depository institution.

Citi often acts as an issuer of financial instruments and other products, acts as a market maker and trades as principal in many different financial instruments and other products, and can be expected to perform or seek to perform investment banking and other services for the issuer of such financial instruments or other products. The author of this Communication may have discussed the information contained therein with others within or outside Citi, and the author and/or such other Citi personnel may have already acted on the basis of this information (including by trading for Citi's proprietary accounts or communicating the information contained herein to other customers of Citi). Citi, Citi's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of Citi may be long or short the financial instruments or other products referred to in this Communication, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different from or adverse to your interests.

IRS Circular 230 Disclosure: Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside Citi. Any statement in this Communication regarding tax matters is not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Neither Citi nor any of its affiliates can accept responsibility for the tax treatment of any investment product, whether or not the investment is purchased by a trust or company administered by an affiliate of Citi. Citi assumes that, before making any commitment to invest, the investor and (where applicable, its beneficial owners) have taken whatever tax, legal or other advice the investor/beneficial owners consider necessary and have arranged to account for any tax lawfully due on the income or gains arising from any investment product provided by Citi.

This Communication is for the sole and exclusive use of the intended recipients, and may contain information proprietary to Citi which may not be reproduced or circulated in whole or in part without Citi's prior consent. The manner of circulation and distribution may be restricted by law or regulation in certain countries. Persons who come into possession of this document are required to inform themselves of, and to observe such restrictions. Citi accepts no liability whatsoever for the actions of third parties in this respect. Any unauthorized use, duplication, or disclosure of this document is prohibited by law and may result in prosecution.

Other businesses within Citigroup Inc. and affiliates of Citigroup Inc. may give advice, make recommendations, and take action in the interest of their clients, or for their own accounts, that may differ from the views expressed in this document. All expressions of opinion are current as of the date of this document and are subject to change without notice. Citigroup Inc. is not obligated to provide updates or changes to the information contained in this document.

The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Past performance is not a guarantee of future results. Real results may vary.

Although information in this document has been obtained from sources believed to be reliable, Citigroup Inc. and its affiliates do not guarantee its accuracy or completeness and accept no liability for any direct or consequential losses arising from its use. Throughout this publication where charts indicate that a third party (parties) is the source, please note that the attributed may refer to the raw data received from such parties. No part of this document may be copied, photocopied or duplicated in any form or by any means, or distributed to any person that is not an employee, officer, director, or authorized agent of the recipient without Citigroup Inc.'s prior written consent.

Citigroup Inc. may act as principal for its own account or as agent for another person in connection with transactions placed by Citigroup Inc. for its clients involving securities that are the subject of this document or future editions of Outlook.

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.

(MLP's) - 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. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

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.

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.

The indexes are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.

Past performance is no guarantee of future results.

International investing entails greater risk, as well as greater potential rewards compared to US investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

Leverage when used in an investment strategy, its use may have the effect of increasing losses or increasing returns. Any event that adversely affects the value of an investment will be magnified to the extent that such an investment is leveraged and could result in greater losses than if the investment were not leveraged.

The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Readers interested in the strategies or concepts should consult their tax, legal, or other advisors, as appropriate.

Diversification does not guarantee a profit or protect against loss. Different asset classes present different risks.

Citi Private Bank is a business of Citigroup Inc. ("Citigroup"), which provides its clients access to a broad array of products and services available through bank and non-bank affiliates of Citigroup. Not all products and services are provided by all affiliates or are available at all locations.

In the U.S., investment products and services are provided by Citigroup Global Markets Inc. ("CGMI"), member FINRA and SIPC, and Citi Private Advisory, LLC ("Citi Advisory"), member FINRA and SIPC. CGMI accounts are carried by Pershing LLC, member FINRA, NYSE, SIPC. Citi Advisory acts as distributor of certain alternative investment products to clients of Citi Private Bank. CGMI, Citi Advisory and Citibank, N.A. are affiliated companies under the common control of Citigroup.

Outside the U.S., investment products and services are provided by other Citigroup affiliates. Investment Management services (including portfolio management) are available through CGMI, Citi Advisory, Citibank, N.A. and other affiliated advisory businesses. These Citigroup affiliates, including Citi Advisory, will be compensated for the respective investment management, advisory, administrative, distribution and placement services they may provide.

Citi may offer, issue, distribute or provide other services in relation to certain unsecured financial instruments issued or entered into by BRRD Entities (i.e. EU entities within the scope of Directive 2014/59/EU (the BRRD), including EU credit institutions, certain EU investment firms and/ or their EU subsidiaries or parents) (BRRD Financial Instruments). In various jurisdictions (including, without limitation, the European Union and the United States) national authorities have certain powers to manage and resolve banks, broker dealers and other financial institutions (including, but not limited to, Citi) when they are failing or likely to fail. There is a risk that the use, or anticipated use, of such powers, or the manner in which they are exercised, may materially adversely affect (i) your rights under certain types of unsecured financial instruments (including, without limitation, BRRD Financial Instruments), (ii) the value, volatility or liquidity of certain unsecured financial instruments (including, without limitation, BRRD Financial Instruments) that you hold and / or (iii) the ability of an institution (including, without limitation, a BRRD Entity) to satisfy any liabilities or obligations it has to you. In the event of resolution, the value of BRRD Financial Instruments may be reduced to zero and or liabilities may be converted into ordinary shares or other instruments of ownership for the purposes of stabilisation and loss absorption. The terms of existing BRRD Financial Instruments (e.g., date of maturity or interest rates payable) could be altered and payments could be suspended.

There can be no assurance that the use of any BRRD resolution tools or powers by the BRRD Resolution Authority or the manner in which they are exercised will not materially adversely affect your rights as a holder of BRRD Financial Instruments, the market value of any investment you may have in BRRD Financial Instruments and/or a BRRD Entity's ability to satisfy any liabilities or obligations it has to you. You may have a right to compensation from the relevant authorities if the exercise of such resolution powers results in less favourable treatment for you than the treatment that you would have received under normal insolvency proceedings. By accepting any services from Citi, you confirm that you are aware of these risks.

Citibank N.A., London Branch (registered branch number BR001018), Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB, is authorised and regulated by the Office of the Comptroller of the Currency (USA) and authorised by the Prudential Regulation Authority. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. The contact number for Citibank N.A., London Branch is +44 (0)20 7508 8000.

Citibank Europe plc is authorised by the Central Bank of Ireland and by the Prudential Regulation Authority. It is subject to supervision by the Central Bank of Ireland, and subject to limited regulation by the Financial Conduct Authority and the Authority, and regulation by the Financial Conduct Authority are available from us on request. Citibank Europe plc, UK Branch is registered as a branch in the register of companies for England and Wales. Its registered address is Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB. VAT No.: GB 429 6256 29. Citibank Europe plc is registered in Ireland with number 132781, with its registered office at 1 North Wall Quay, Dublin 1. Citibank Europe plc is regulated by the Central Bank of Ireland. Ultimately owned by Citigroup Inc., New York, USA.

In Jersey, this document is communicated by Citibank N.A., Jersey Branch which has its registered address at PO Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citibank N.A. Jersey Branch is a participant in the Jersey Bank Depositors Compensation Scheme. The Scheme offers protection for eligible deposits of up to £50,000. The maximum total amount of compensation is capped at £100,000,000 in any 5 year period. Full details of the Scheme and banking groups covered are available on the States of Jersey website [www.gov.je/dcs](http://www.gov.je/dcs), or on request.

In Hong Kong, this document is issued by CPB operating through Citibank, N.A., Hong Kong branch, which is regulated by the Hong Kong Monetary Authority. Any questions in connection with the contents in this document should be directed to registered or licensed representatives of the aforementioned entity. To the extent this document is provided to clients who are booked and/or managed in Hong Kong: No other statement(s) in this document shall operate to remove, exclude or restrict any of your rights or obligations of Citibank under applicable laws and regulations. Citibank, N.A., Hong Kong Branch does not intend to rely on any provisions herein which are inconsistent with its obligations under the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission, or which mis-describes the actual services to be provided to you.

In Singapore, this document is issued by CPB operating through Citibank, N.A., Singapore branch, which is regulated by the Monetary Authority of Singapore. Any questions in connection with the contents in this document should be directed to registered or licensed representatives of the aforementioned entity.

In Canada, Citi Private Bank is a division of Citibank Canada, a Schedule II Canadian chartered bank. Certain investment products are made available through Citibank Canada Investment Funds Limited ("CCIFL"), a wholly owned subsidiary of Citibank Canada. Investment Products are subject to investment risk, including possible loss of principal amount invested. Investment Products are not insured by the CDIC, FDIC or depository insurance regime of any jurisdiction and are not guaranteed by Citigroup or any affiliate thereof.

CCIFL is not currently a member, and does not intend to become a member of the Mutual Fund Dealers Association of Canada ("MFDA"); consequently, clients of CCIFL will not have available to them investor protection benefits that would otherwise derive from membership of CCIFL in the MFDA, including coverage under any investor protection plan for clients of members of the MFDA.

This document is for information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities to any person in any jurisdiction. The information set out herein may be subject to updating, completion, revision, verification and amendment and such information may change materially.

Citigroup, its affiliates and any of the officers, directors, employees, representatives or agents shall not be held liable for any direct, indirect, incidental, special, or consequential damages, including loss of profits, arising out of the use of information contained herein, including through errors whether caused by negligence or otherwise.

© Copyright 2018, Citigroup Inc. Citi, Citi and Arc Design and other marks used herein are service marks of Citigroup Inc. or its affiliates, used and registered throughout the world.