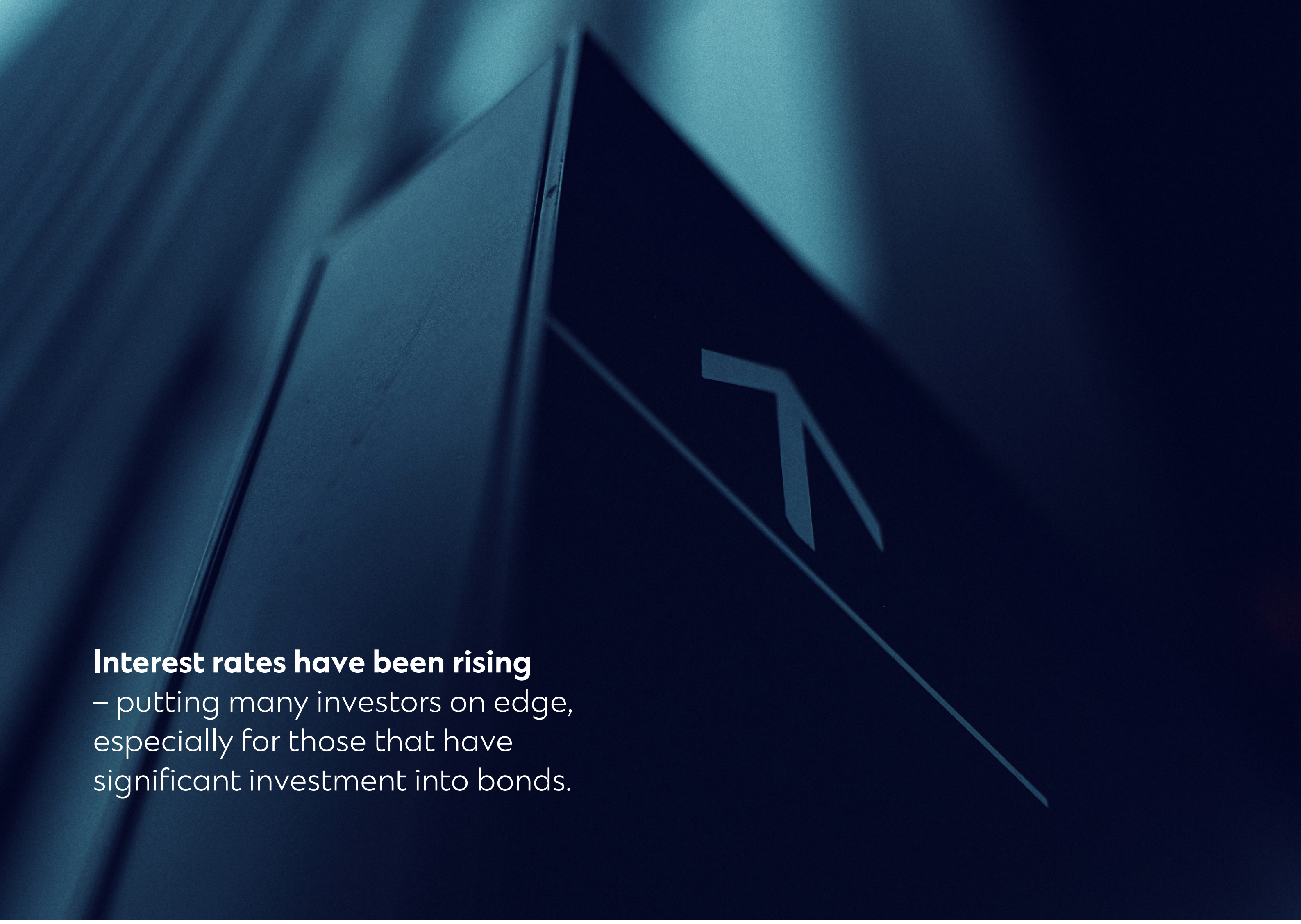
standard chartered

InvesTips

Is your investment protected from a rise in interest rates?

September 2022

WS Global CIO Office



Interest rates have been rising
– putting many investors on edge, especially for those that have significant investment into bonds.

Interest rate risk refers to the risk of dropping bond prices when interest rates goes up (see the diagram below). One way to explain this inverse relationship between interest rates and bond prices is opportunity cost. When an investor purchases a bond and interest rates rise, he or she practically gives up the opportunity to invest into investments that can offer more attractive returns. Therefore, when interest rates are expected to rise, the demand for existing bonds declines, driving the prices lower.

The inverse relationship between interest rates and bond prices

Source: Standard Chartered

Steve Brice
Global Chief Investment Officer

Trang Nguyen
Senior Portfolio Manager, Multi-Asset

Bond duration is one of the most common ways to quantify this risk by measuring the bond prices' sensitivity to a 1% movement in its yield. For instance, Developed Markets (DM) Investment Grade (IG) bonds has a duration of 7.0 years, a parallel move up in rates of 100bps should translate into a 7.0% loss in the price return of the bond. Considering the expected income of 3.0%, it means a potential loss of 4.0% loss for the investment, all other factors being equal (chart 2). Under the same condition, the impact is rather limited for Emerging Markets (EM) USD Government bonds – reporting a positive total return of 1.3%. Clearly, interest rate fluctuations affect the prices of all bonds, price sensitivities vary significantly depend on their characteristics such as geographical focus, credit quality and time to maturity.

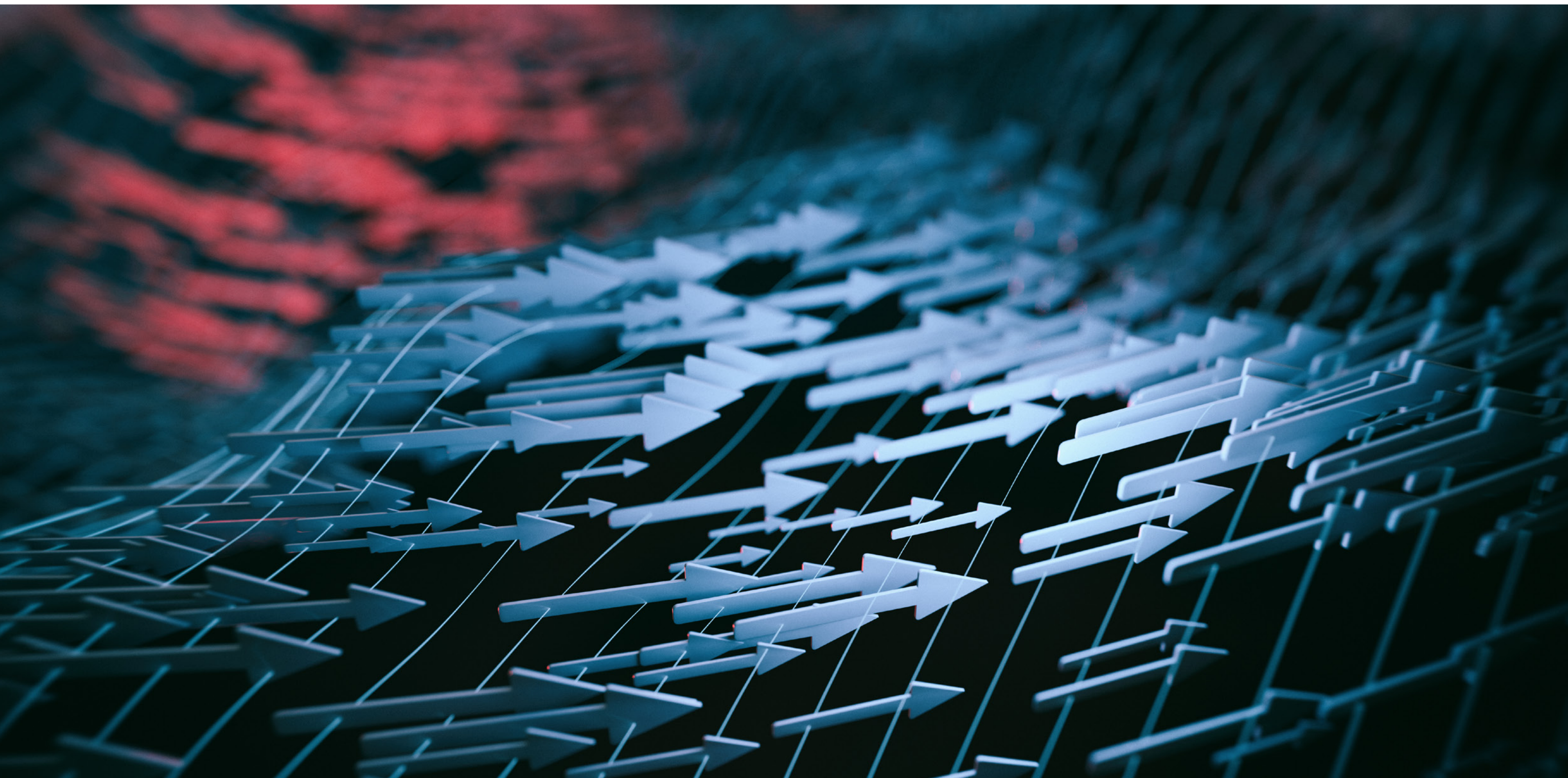
Simulated total returns of fixed income assets assuming different shifts in bond yields

Yield to worst and duration for fixed income asset as of 29 August 2022

		Asia HY	EM USD Govt	DM HY	EM LCY Govt	Asia USD	DM IG Corp	DM IG Govt	TIPS
Yield to Maturity		14.5%	8.2%	8.7%	6.9%	6.3%	4.7%	3.0%	4.7%
Duration		2.9	6.9	4.3	5.0	4.5	7.7	7.0	2.6
Change in yield*	-1.5%	18.8%	18.6%	15.1%	14.4%	13.0%	16.3%	13.6%	8.6%
	-1.0%	17.4%	15.1%	13.0%	11.9%	10.8%	12.5%	10.1%	7.3%
	-0.5%	15.9%	11.7%	10.9%	9.4%	8.5%	8.6%	6.6%	6.0%
	0.0%	14.5%	8.2%	8.7%	6.9%	6.3%	4.7%	3.0%	4.7%
	0.5%	13.0%	4.8%	6.6%	4.4%	4.0%	0.9%	-0.5%	3.4%
	1.0%	11.6%	1.3%	4.5%	1.9%	1.7%	-3.0%	-4.0%	2.0%
	1.5%	10.1%	-2.1%	2.3%	-0.6%	-0.5%	-6.8%	-7.5%	0.7%

Source: Bloomberg, Standard Chartered. Simulated returns are calculated assuming a parallel shift across the whole yield curve.

In this publication, we look at the past episodes of rising interest rates and highlight **five practical ways an average investor can do to mitigate this risk without a complete portfolio repositioning.**



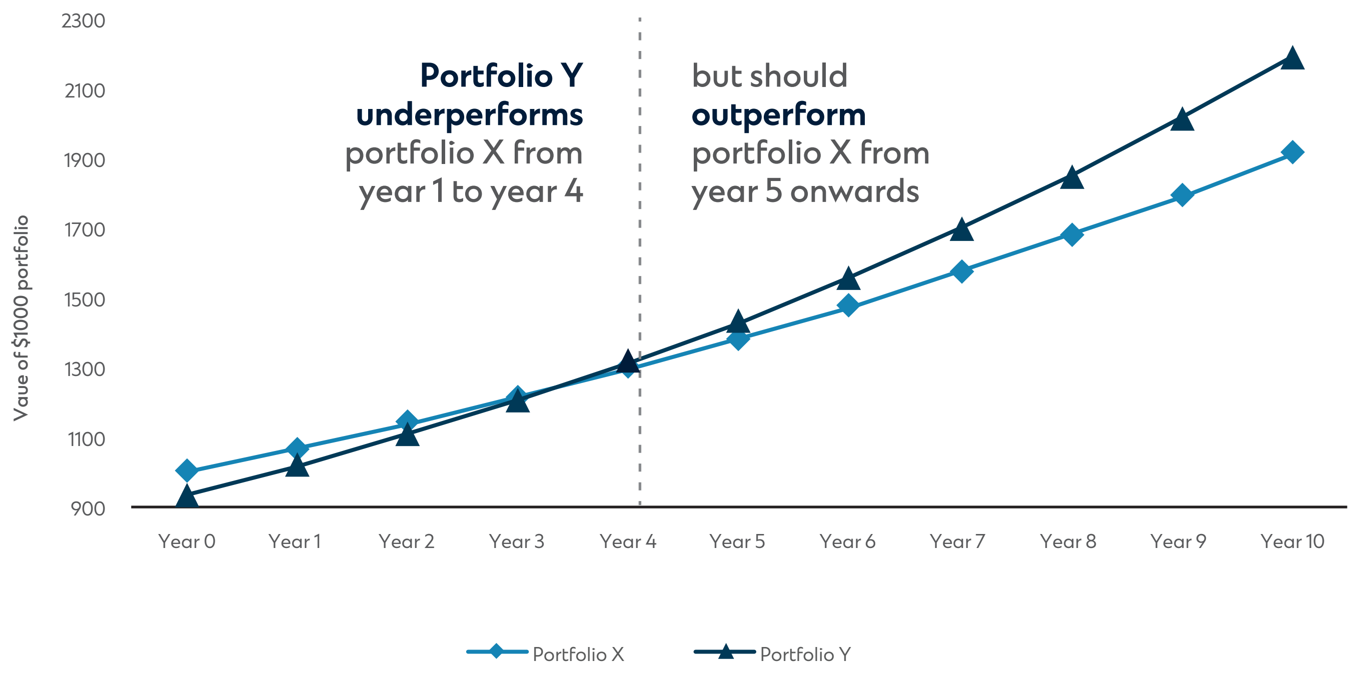
Shorten your portfolio's duration, but keep in mind that investment time horizon matters

In a fast-rising interest rate environment, investors can feel the instant pressure to shorten the portfolio duration to limit the potential losses and one potential option is drastically shifting bond investment into cash. While the cash strategy can alleviate the short-term pain from falling bond prices, it could soon have investors lagging both income-generating bonds and inflation. This is because rising bond yields can be beneficial for (bond) investors in the long run as bond investments can be reinvested and grow at a higher rate.

To demonstrate this point, in the chart below, we look at the performances of two hypothetical bond portfolios (with duration of 4.3 years) – portfolio X assuming no rate increase and portfolio Y assuming a rise of 150 basic points (bps) from the beginning. While portfolio Y sees an initial price loss due to higher interest rate, if investors continue to stay the course and reinvest the income at a higher yield, the performance of portfolio Y is likely to catch up with that of portfolio X in year 4 and continue to grow faster in the later years. The extent to which a portfolio's duration should be shortened should be decided in the context of investor's investment time horizon. Rising interest rate can be beneficial as long as the duration of the portfolio is shorter than the investment horizon.

Investors are likely to benefit from staying the course and invest into a rising rate portfolio

Performance of two hypothetical portfolios X assuming no rate increase and Y assuming a 150 bps rate increase on day one



Source: Standard Chartered

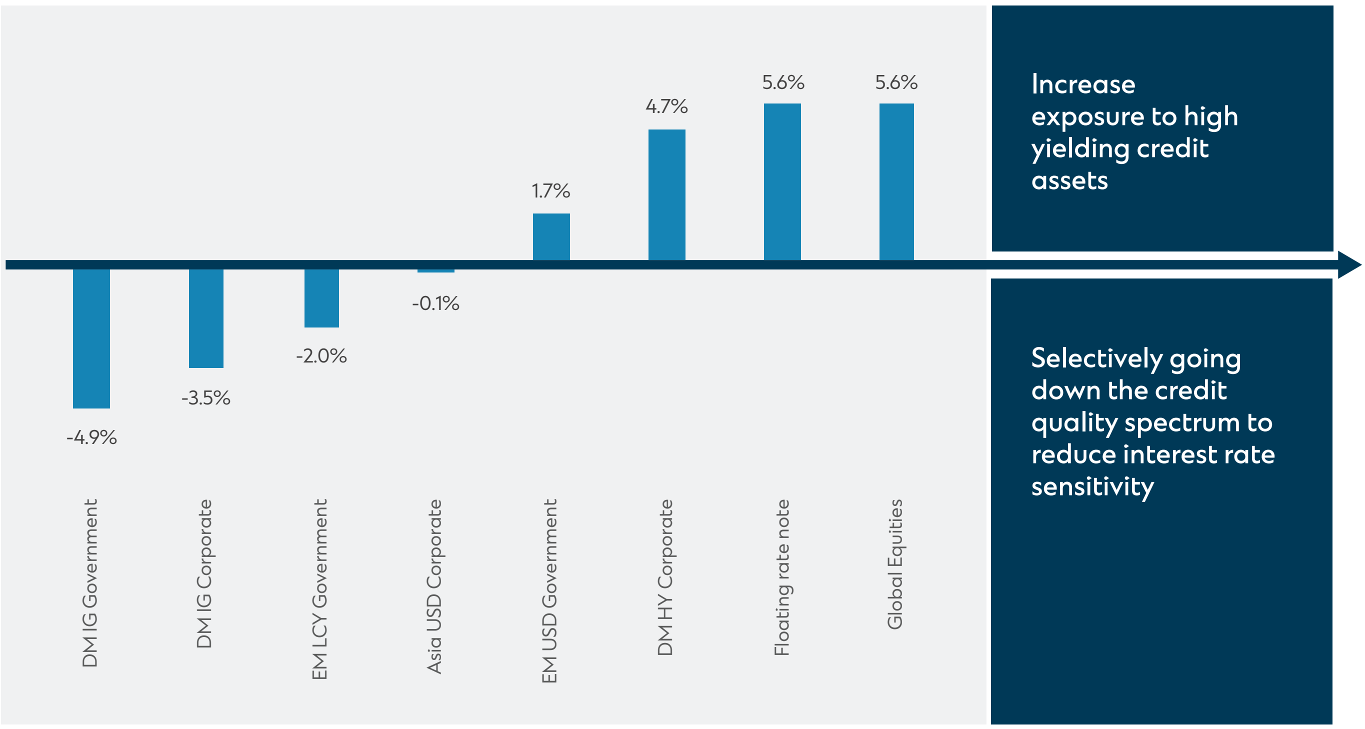
Increase spread oriented exposure

One of the common ways to reduce the interest rate sensitivity of an investment portfolio without compromising the expected income is by diversifying into high yielding credit assets. These bonds offer a yield spread on top of the government debt, creating additional buffer to absorb the impact in bond prices when interest rate moves. In the chart below, we look at the performance of various bond components in the past instances of US 10-year government bond yield rising by more than 100 bps. Results show that most credit components such as EM USD Government, Asia USD, and DM HY bonds delivered positive returns despite the rise in rates.

Therefore, the substantially higher yield on offer with relative low duration can make investing into lower credit assets such DM HY bonds and Floating rate notes a compelling case. Fundamentally, when interest rates move higher because the economy improves, many lower-quality investment get upgraded in credit quality, which results in an increase in their price.

Diversifying bond exposure into high yielding credit help cushion the spike in interest rates

Average performance of various bond components in the past instances of US 10-year government bond yield rising for more than 100 bps since 1998



Source: Bloomberg, Standard Chartered

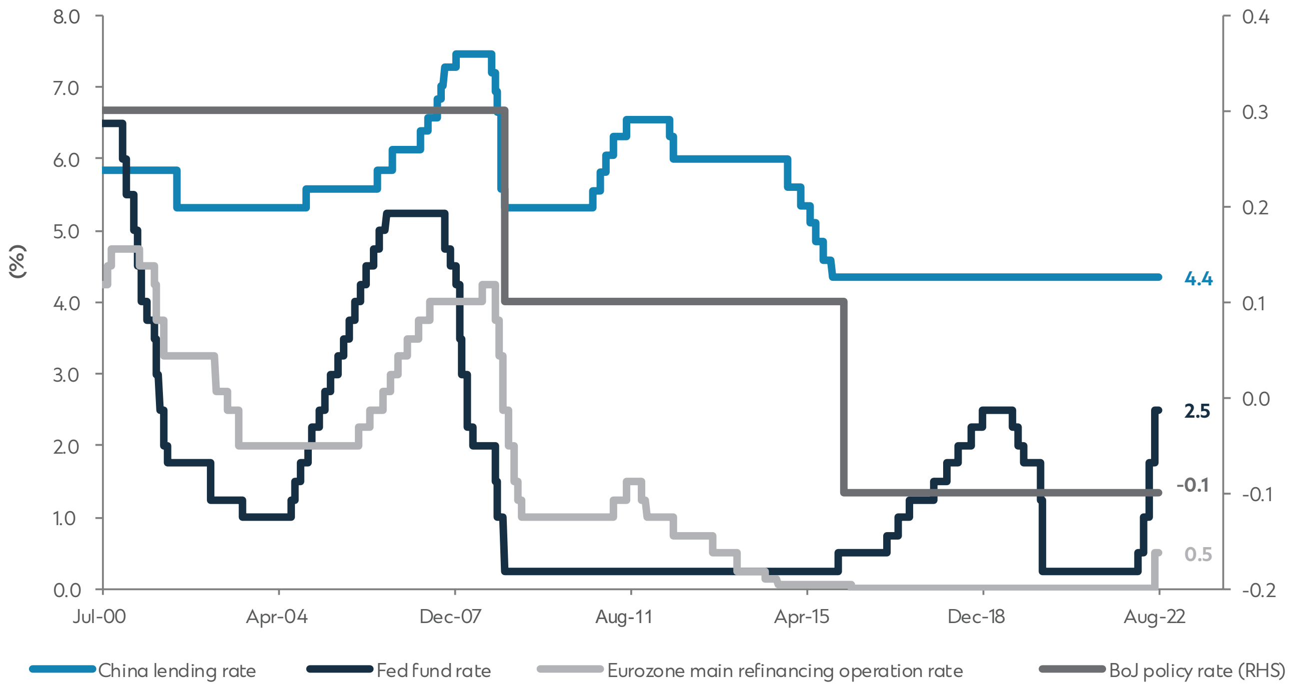
Going global

Even though global financial markets have become more integrated, pockets of segmentation still exist. It means it is unlikely that interest rates around the world would all rise at the same time, affecting all bond investments in the same fashion.

The chart below shows the history of policy rates in major countries and regions. We note that historically it is common to see divergence in interest rate trajectories across regions, especially between DM and EM. Within DM, even though ECB tends to follow suit with the Fed in their monetary policy stance, the timing, pace and duration of rate hiking cycle in Europe can vary significantly compared to those of the US. This creates opportunities for investors to reduce their portfolio's interest rate sensitivity to domestic rates by incorporating foreign bonds in their portfolios or diversifying the bond allocation globally.

Incorporating global fixed income in a portfolio can help reduce the interest rate sensitivity to domestic rates

History of major central banks' policy rates since 2000



Source: Bloomberg, Standard Chartered

Diversify government bond exposure across different bond maturities

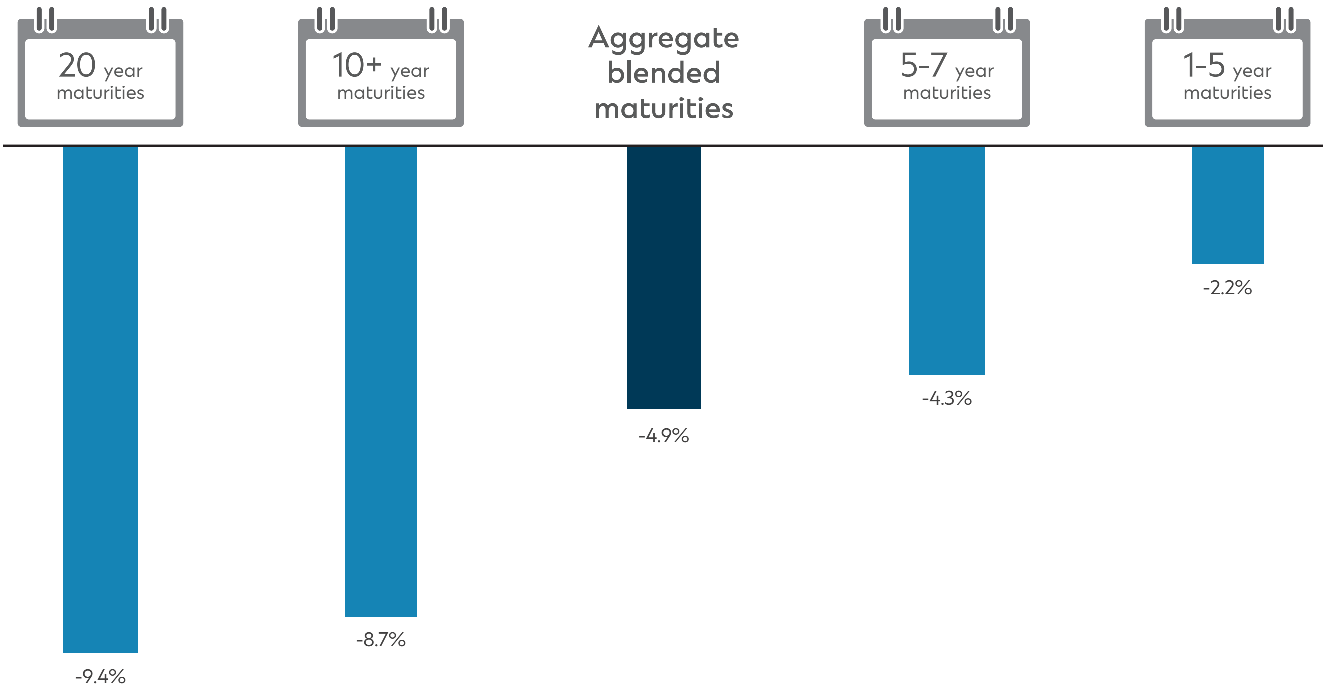
Historically, government bonds have come with the strongest interest rate risk (compared to other bond components). The longer duration to maturity bonds they have, the more sensitive they can be to interest rate movements.

While these quality bonds play an important role in an investment portfolio, especially in risk off environments, understanding the dynamics of the yield curve is rather a complicated task. This is because generally, a parallel curve shift – a situation when interest rates for all maturities increase or decrease by the same amount – occur rarely, if ever. Instead, we are more likely to see nonparallel shifts in the rate curve – meaning different portions of the Treasury market experiences different increases in rates. Hence, facing a rising rate environment, investors can consider holding a diversified exposure to this part of the bond markets, instead of focusing on one segment of bond maturities.

The chart below shows how government bonds with different maturities performed in the past instances when the US 10-year government bond yield rose by more than 100bps. With a similar level of yield on offer, a diversified bond exposure across maturity suffered much less downside risk when rates rise.

In a rising rate environment, investors can benefit more from a diversified government bond exposure across maturities

Average returns of US government bonds across different maturities when US Treasury 10-year bond yield rose by 100bps since 1998



Source: Bloomberg, Standard Chartered

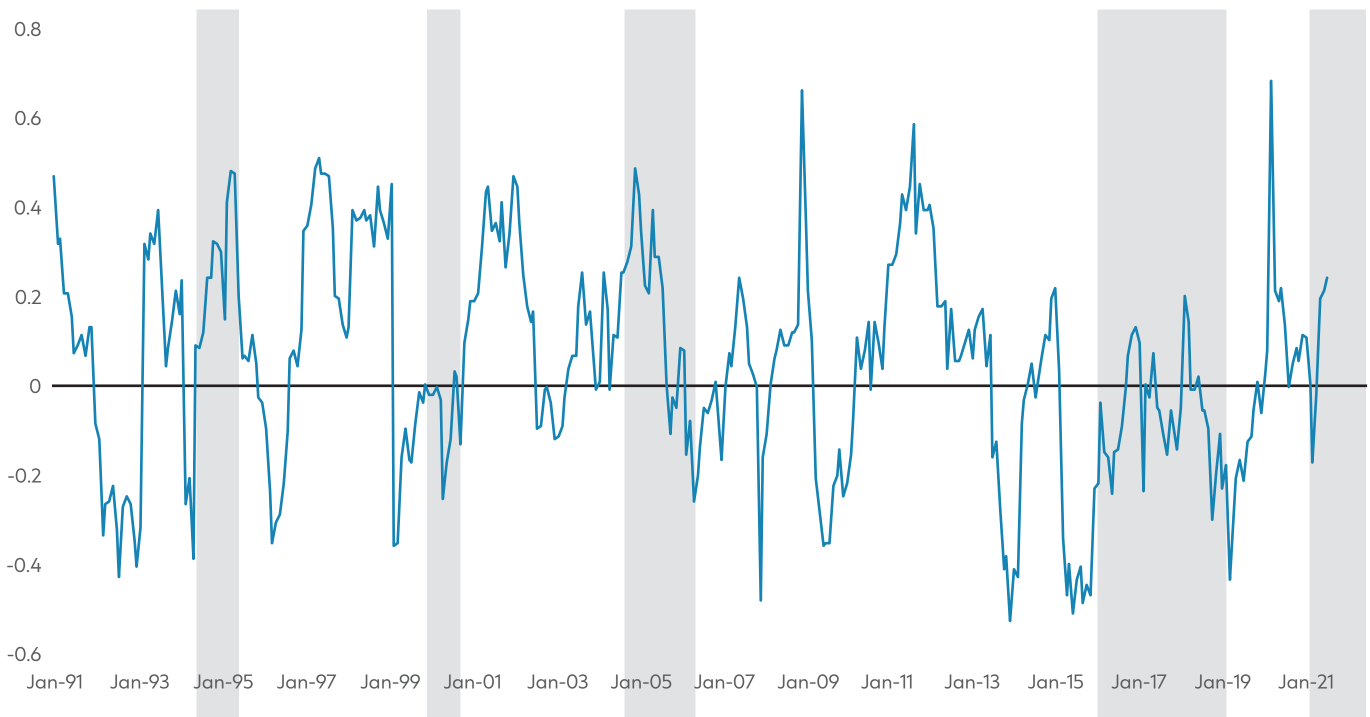
Look beyond bonds and add exposure to equity (incrementally)

Generally, rates tend to rise in response to inflationary fears and a growing economy. It is no coincidence that equities tend to do well in the early stage of a rate hiking cycle. That is because during this period, we often see an economy expanding at a healthy pace, corporate earnings growing and investors becoming more optimistic about the outlook of the economy. As a result, equities prices are likely to be pushed higher. History shows that on average, most major equity regions reported positive returns during the past hiking cycles. In addition, having some equity exposure is likely to add diversification benefit to the overall bond portfolio as we tend to see low or dropping correlation between government bonds and equities in the past periods of rising rates (refer to the chart below).

That said, it does not suggest an excessive overweight into equities because prolonged periods of high interest rates and heightened inflationary pressures can weigh on performance of risk assets including equities. Rather, for investors that heavily invest into bonds, an incremental addition of equity can be helpful to reduce interest rate sensitivity and preserve the real value of portfolios over time.

Incremental adding equity exposure can provide diversification benefits to a bond portfolio during rising rate periods

12-month correlation between S&P 500 equity markets and US government bonds since 1990



Source: Bloomberg, Standard Chartered

Disclosures

This document is confidential and may also be privileged. If you are not the intended recipient, please destroy all copies and notify the sender immediately. This document is being distributed for general information only and is subject to the relevant disclaimers available at our Standard Chartered website under Regulatory disclosures. It is not and does not constitute research material, independent research, an offer, recommendation or solicitation to enter into any transaction or adopt any hedging, trading or investment strategy, in relation to any securities or other financial instruments. This document is for general evaluation only. It does not take into account the specific investment objectives, financial situation or particular needs of any particular person or class of persons and it has not been prepared for any particular person or class of persons. You should not rely on any contents of this document in making any investment decisions. Before making any investment, you should carefully read the relevant offering documents and seek independent legal, tax and regulatory advice. In particular, we recommend you to seek advice regarding the suitability of the investment product, taking into account your specific investment objectives, financial situation or particular needs, before you make a commitment to purchase the investment product. Opinions, projections and estimates are solely those of SC at the date of this document and subject to change without notice. Past performance is not indicative of future results and no representation or warranty is made regarding future performance. The value of investments, and the income from them, can go down as well as up, and you may not recover the amount of your original investment. You are not certain to make a profit and may lose money. Any forecast contained herein as to likely future movements in rates or prices or likely future events or occurrences constitutes an opinion only and is not indicative of actual future movements in rates or prices or actual future events or occurrences (as the case may be). This document must not be forwarded or otherwise made available to any other person without the express written consent of the Standard Chartered Group (as defined below). Standard Chartered Bank is incorporated in England with limited liability by Royal Charter 1853 Reference Number ZC18. The Principal Office of the Company is situated in England at 1 Basinghall Avenue, London, EC2V 5DD. Standard Chartered Bank is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority. Standard Chartered PLC, the ultimate parent company of Standard Chartered Bank, together with its subsidiaries and affiliates (including each branch or representative office), form the Standard Chartered Group. Standard Chartered Private Bank is the private banking division of Standard Chartered. Private banking activities may be carried out internationally by different legal entities and affiliates within the Standard Chartered Group (each an "SC Group Entity") according to local regulatory requirements. Not all products and services are provided by all branches, subsidiaries and affiliates within the Standard Chartered Group. Some of the SC Group Entities only act as representatives of Standard Chartered Private Bank and may not be able to offer products and services or offer advice to clients.

Market Abuse Regulation (MAR) Disclaimer

Banking activities may be carried out internationally by different branches, subsidiaries and affiliates within the Standard Chartered Group according to local regulatory requirements. Opinions may contain outright "buy", "sell", "hold" or other opinions. The time horizon of this opinion is dependent on prevailing market conditions and there is no planned frequency for updates to the opinion. This opinion is not independent of Standard Chartered Group's trading strategies or positions. Standard Chartered Group and/or its affiliates or its respective officers, directors, employee benefit programmes or employees, including persons involved in the preparation or issuance of this document may at any time, to the extent permitted by applicable law and/or regulation, be long or short any securities or financial instruments referred to in this document or have material interest in any such securities or related investments. Therefore, it is possible, and you should assume, that Standard Chartered Group has a material interest in one or more of the financial instruments mentioned herein. Please refer to our Standard Chartered website under Regulatory disclosures for more detailed disclosures, including past opinions/ recommendations in the last 12 months and conflict of interests, as well as disclaimers. A covering strategist may have a financial interest in the debt or equity securities of this company/issuer. All covering strategist are licensed to provide investment recommendations under Monetary Authority of Singapore or Hong Kong Monetary Authority. This document must not be forwarded or otherwise made available to any other person without the express written consent of Standard Chartered Group.

Sustainable Investments

Any ESG data used or referred to has been provided by Morningstar, Sustainalytics, MSCI or Bloomberg. Refer to 1) Morningstar website under Sustainable Investing, 2) Sustainalytics website under ESG Risk Ratings, 3) MCSI website under ESG Business Involvement Screening Research and 4) Bloomberg green, social & sustainability bonds guide for more information. The ESG data is as at the date of publication based on data provided, is for informational purpose only and is not warranted to be complete, timely, accurate or suitable for a particular purpose, and it may be subject to change. Sustainable Investments (SI): This refers to funds that have been classified as 'ESG Intentional Investments – Overall' by Morningstar. SI funds have explicitly stated in their prospectus and regulatory filings that they either incorporate ESG factors into the investment process or have a thematic focus on the environment, gender diversity, low carbon, renewable energy, water or community development. For equity, it refers to shares/stocks issued by companies with Sustainalytics ESG Risk Rating of Low/Negligible. For bonds, it refers to debt instruments issued by issuers with Sustainalytics ESG Risk Rating of Low/Negligible, and/or those being certified green, social, sustainable bonds by Bloomberg. For structured products, it refers to products that are issued by any issuer who has a Sustainable Finance framework that aligns with Standard Chartered's Green and Sustainable Product Framework, with underlying assets that are part of the Sustainable Investment universe or separately approved by Standard Chartered's Sustainable Finance Governance Committee. Sustainalytics ESG risk ratings shown are factual and are not an indicator that the product is classified or marketed as "green", "sustainable" or similar under any particular classification system or framework.

Country/Market Specific Disclosures

Bahrain: This document is being distributed in Bahrain by Standard Chartered Bank, Bahrain Branch, having its address at P.O. 29, Manama, Kingdom of Bahrain, is a branch of Standard Chartered Bank and is licensed by the Central Bank of Bahrain as a conventional retail bank. **Botswana:** This document is being distributed in Botswana by, and is attributable to, Standard Chartered Bank Botswana Limited which is a financial institution licensed under the Section 6 of the Banking Act CAP 46.04 and is listed in the Botswana Stock Exchange. **Brunei Darussalam:** This document is being distributed in Brunei Darussalam by, and is attributable to, Standard Chartered Bank (Brunei Branch) | Registration Number RFC/61 and Standard Chartered Securities (B) Sdn Bhd | Registration Number RC20001003. Standard Chartered Bank is incorporated in England with limited liability by Royal Charter 1853 Reference Number ZC18. Standard Chartered Securities (B) Sdn Bhd is a limited liability company registered with the Registry of Companies with Registration Number RC20001003 and licensed by Brunei Darussalam Central Bank as a Capital Markets Service License Holder with License Number BDCB/R/CMU/S3-CL and it is authorised to conduct Islamic investment business through an Islamic window. **China Mainland:** This document is being distributed in China by, and is attributable to, Standard Chartered Bank (China) Limited which is mainly regulated by National Financial Regulatory Administration (NFRA), State Administration of Foreign Exchange (SAFE), and People's Bank of China (PBOC). **Hong Kong:** In Hong Kong, this document, except for any portion advising on or facilitating any decision on futures contracts trading, is distributed by Standard Chartered Bank (Hong Kong) Limited ("SCBHK"), a subsidiary of Standard Chartered PLC. SCBHK has its registered address at 32/F, Standard Chartered Bank Building, 4-4A Des Voeux Road Central, Hong Kong and is regulated by the Hong Kong Monetary Authority and registered with the Securities and Futures Commission ("SFC") to carry on Type 1 (dealing in securities), Type 4 (advising on securities), Type 6 (advising on corporate finance) and Type 9 (asset management) regulated activity under the Securities and Futures Ordinance (Cap. 571) ("SFO") (CE No. AJI614). The contents of this document have not been reviewed by any regulatory authority in Hong Kong and you are advised to exercise caution in relation to any offer set out herein. If you are in doubt about any of the contents of this document, you should obtain independent professional advice. Any product named herein may not be offered or sold in Hong Kong by means of any document at any time other than to "professional investors" as defined in the SFO and any rules made under that ordinance. In addition, this document may not be issued or possessed for the purposes of issue, whether in Hong Kong or elsewhere, and any interests may not be disposed of, to any person unless such person is outside Hong Kong or is a "professional investor" as defined in the SFO and any rules made under that ordinance, or as otherwise may be permitted by that ordinance. In Hong Kong, Standard Chartered Private Bank is the private banking division of SCBHK, a subsidiary of Standard Chartered PLC. **Ghana:** Standard Chartered Bank Ghana Limited accepts no liability and will not be liable for any loss or damage arising directly or indirectly (including special, incidental or consequential loss or damage) from your use of these documents. Past performance is not indicative of future results and no representation or warranty is made regarding future performance. You should seek advice from a financial adviser on the suitability of an investment for you, taking into account these factors before making a commitment to invest in an investment. To unsubscribe from receiving further updates, please send an email to feedback . ghana @ sc . com. Please do not reply to this email. Call our Priority Banking on 0302610750 for any questions or service queries. You are advised not to send any confidential and/ or important information to Standard Chartered via e-mail, as Standard Chartered makes no representations or warranties as to the security or accuracy of any information transmitted via e-mail. Standard Chartered shall not be responsible for any loss or damage suffered by you arising from your decision to use e-mail to communicate with the Bank. **India:** This document is being distributed in India by Standard Chartered in its capacity as a distributor of mutual funds and referrer of any other third party financial products. Standard Chartered does not offer any 'Investment Advice' as defined in the Securities and Exchange Board of India (Investment Advisers) Regulations, 2013 or otherwise. Services/products related securities business offered by Standard Charted are not intended for any person, who is a resident of any jurisdiction, the laws of which imposes prohibition on soliciting the securities business in that jurisdiction without going through the registration requirements and/or prohibit the use of any information contained in this document. **Indonesia:** This document is being distributed in Indonesia by Standard Chartered Bank, Indonesia branch, which is a financial institution licensed and supervised by Otoritas Jasa Keuangan (Financial Service Authority) and Bank Indonesia. **Jersey:** In Jersey, Standard Chartered Private Bank is the Registered Business Name of the Jersey Branch of Standard Chartered Bank. The Jersey Branch of Standard Chartered Bank is regulated by the Jersey Financial Services Commission. Copies of the latest audited accounts of Standard Chartered Bank are available from its principal place of business in Jersey: PO Box 80, 15 Castle Street, St Helier, Jersey JE4 8PT. Standard Chartered Bank is incorporated in England with limited liability by Royal Charter in 1853 Reference Number ZC 18. The Principal Office of the Company is situated in England at 1 Basinghall Avenue, London, EC2V 5DD. Standard Chartered Bank is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority. The Jersey Branch of Standard Chartered Bank is also an authorised financial services provider under license number 44946 issued by the Financial Sector Conduct Authority of the Republic of South Africa. Jersey is not part of the United Kingdom and all business transacted with Standard Chartered Bank, Jersey Branch and other SC Group Entity outside of the United Kingdom, are not subject to some or any of the investor protection and compensation schemes available under United Kingdom law. **Kenya:** This document is being distributed in Kenya by and is attributable to Standard Chartered Bank Kenya Limited. Investment Products and Services are distributed by Standard Chartered Investment Services Limited, a wholly owned subsidiary of Standard Chartered Bank Kenya Limited that is licensed by the Capital Markets Authority in Kenya, as a Fund Manager. Standard Chartered Bank Kenya Limited is regulated by the Central Bank of Kenya. **Malaysia:** This document is being distributed in Malaysia by Standard Chartered Bank Malaysia Berhad ("SCBMB"). Recipients in Malaysia should contact SCBMB in relation to any matters arising from, or in connection with, this document. This document has not been reviewed by the Securities Commission Malaysia. The product lodgement, registration, submission or approval by the Securities Commission of Malaysia does not amount to nor indicate recommendation or endorsement of the product, service or promotional activity. Investment products are not deposits and are not obligations of, not guaranteed by, and not protected by SCBMB or any of the affiliates or subsidiaries, or by Perbadanan Insurans Deposit Malaysia, any government or insurance agency. Investment products are subject to investment risks, including the possible loss of the principal amount invested. SCBMB expressly disclaim any liability and responsibility for any loss arising directly or indirectly (including special, incidental or consequential loss or damage) arising from the financial losses of the Investment Products due to market condition. **Nigeria:** This document is being distributed in Nigeria by Standard Chartered Bank Nigeria Limited (SCB Nigeria), a bank duly licensed and regulated by the Central Bank of Nigeria. SCB Nigeria accepts no liability for any loss or damage arising directly or indirectly (including special, incidental or consequential loss or damage) from your use of these documents. You should seek advice from a financial adviser on the suitability of an investment for you, taking into account these factors before making a commitment to invest in an investment. To unsubscribe from receiving further updates, please send an email to clientcare . ng @ sc . com requesting to be removed from our mailing list. Please do not reply to this email. Call our Priority Banking on 02 012772514 for any questions or service queries. SCB Nigeria shall not be responsible for any loss or damage arising from your decision to send confidential and/or important information to Standard Chartered via e-mail. SCB Nigeria makes no representations or warranties as to the security or accuracy of any information transmitted via e-mail. **Pakistan:** This document is being distributed in Pakistan by, and attributable to Standard Chartered Bank (Pakistan) Limited having its registered office at PO Box 5556, I.I Chundrigar Road Karachi, which is a banking company registered with State Bank of Pakistan under Banking Companies Ordinance 1962 and is also having licensed issued by Securities & Exchange Commission of Pakistan for Security Advisors. Standard Chartered Bank (Pakistan) Limited acts as a distributor of mutual funds and referrer of other third-party financial products. **Singapore:** This document is being distributed in Singapore by, and is attributable to, Standard Chartered Bank (Singapore) Limited (Registration No. 201224747C/ GST Group Registration No. MR-8500053-0, "SCBSL"). Recipients in Singapore should contact SCBSL in relation to any matters arising from, or in connection with, this document. SCBSL is an indirect wholly owned subsidiary of Standard Chartered Bank and is licensed to conduct banking business in Singapore under the Singapore Banking Act, 1970. Standard Chartered Private Bank is the private banking division of SCBSL. IN RELATION TO ANY SECURITY OR SECURITIES-BASED DERIVATIVES CONTRACT REFERRED TO IN THIS DOCUMENT, THIS DOCUMENT, TOGETHER WITH THE ISSUER DOCUMENTATION, SHALL BE DEEMED AN INFORMATION MEMORANDUM (AS DEFINED IN SECTION 275 OF THE SECURITIES AND FUTURES ACT, 2001 ("SFA")). THIS DOCUMENT IS INTENDED FOR DISTRIBUTION TO ACCREDITED INVESTORS, AS DEFINED IN SECTION 4A(1)(a) OF THE SFA, OR ON THE BASIS THAT THE SECURITY OR SECURITIES-BASED DERIVATIVES CONTRACT MAY ONLY BE ACQUIRED AT A CONSIDERATION OF NOT LESS THAN S$200,000 (OR ITS EQUIVALENT IN A FOREIGN CURRENCY) FOR EACH TRANSACTION. Further, in relation to any security or securities-based derivatives contract, neither this document nor the Issuer Documentation has been registered as a prospectus with the Monetary Authority of Singapore under the SFA. Accordingly, this document and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the product may not be circulated or distributed, nor may the product be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons other than a relevant person pursuant to section 275(1) of the SFA, or any person pursuant to section 275(1A) of the SFA, and in accordance with the conditions specified in section 275 of the SFA, or pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. In relation to any collective investment schemes referred to in this document, this document is for general information purposes only and is not an offering document or prospectus (as defined in the SFA). This document is not, nor is it intended to be (i) an offer or solicitation of an offer to buy or sell any capital markets product; or (ii) an advertisement of an offer or intended offer of any capital markets product. Deposit Insurance Scheme: Singapore dollar deposits of non-bank depositors are insured by the Singapore Deposit Insurance Corporation, for up to S$100,000 in aggregate per depositor per Scheme member by law. Foreign currency deposits, dual currency investments, structured deposits and other investment products are not insured. This advertisement has not been reviewed by the Monetary Authority of Singapore. **Taiwan:** SC Group Entity or Standard Chartered Bank (Taiwan) Limited ("SCB (Taiwan)") may be involved in the financial instruments contained herein or other related financial instruments. The author of this document may have discussed the information contained herein with other employees or agents of SC or SCB (Taiwan). The author and the above-mentioned employees of SC or SCB (Taiwan) may have taken related actions in respect of the information involved (including communication with customers of SC or SCB (Taiwan) as to the information contained herein). The opinions contained in this document may change, or differ from the opinions of employees of SC or SCB (Taiwan). SC and SCB (Taiwan) will not provide any notice of any changes to or differences between the above-mentioned opinions. This document may cover companies with which SC or SCB (Taiwan) seeks to do business at times and issuers of financial instruments. Therefore, investors should understand that the information contained herein may serve as specific purposes as a result of conflict of interests of SC or SCB (Taiwan). SC, SCB (Taiwan), the employees (including those who have discussions with the author) or customers of SC or SCB (Taiwan) may have an interest in the products, related financial instruments or related derivative financial products contained herein; invest in those products at various prices and on different market conditions; have different or conflicting interests in those products. The potential impacts include market makers' related activities, such as dealing, investment, acting as agents, or performing financial or consulting services in relation to any of the products referred to in this document. **UAE:** DIFC – Standard Chartered Bank is incorporated in England with limited liability by Royal Charter 1853 Reference Number ZC18.The Principal Office of the Company is situated in England at 1 Basinghall Avenue, London, EC2V 5DD. Standard Chartered Bank is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority. Standard Chartered Bank, Dubai International Financial Centre having its offices at Dubai International Financial Centre, Building 1, Gate Precinct, P.O. Box 999, Dubai, UAE is a branch of Standard Chartered Bank and is regulated by the Dubai Financial Services Authority ("DFSA"). This document is intended for use only by Professional Clients and is not directed at Retail Clients as defined by the DFSA Rulebook. In the DIFC we are authorised to provide financial services only to clients who qualify as Professional Clients and Market Counterparties and not to Retail Clients. As a Professional Client you will not be given the higher retail client protection and compensation rights and if you use your right to be classified as a Retail Client we will be unable to provide financial services and products to you as we do not hold the required license to undertake such activities. For Islamic transactions, we are acting under the supervision of our Shariah Supervisory Committee. Relevant information on our Shariah Supervisory Committee is currently available on the Standard Chartered Bank website in the Islamic banking section. For residents of the UAE – Standard Chartered UAE ("SC UAE") is licensed by the Central Bank of the U.A.E. SC UAE is licensed by Securities and Commodities Authority to practice Promotion Activity. SC UAE does not provide financial analysis or consultation services in or into the UAE within the meaning of UAE Securities and Commodities Authority Decision No. 48/r of 2008 concerning financial consultation and financial analysis. **Uganda:** Our Investment products and services are distributed by Standard Chartered Bank Uganda Limited, which is licensed by the Capital Markets Authority as an investment adviser. **United Kingdom:** In the UK, Standard Chartered Bank is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority. This communication has been approved by Standard Chartered Bank for the purposes of Section 21 (2) (b) of the United Kingdom's Financial Services and Markets Act 2000 ("FSMA") as amended in 2010 and 2012 only. Standard Chartered Bank (trading as Standard Chartered Private Bank) is also an authorised financial services provider (license number 45747) in terms of the South African Financial Advisory and Intermediary Services Act, 2002. The Materials have not been prepared in accordance with UK legal requirements designed to promote the independence of investment research, and that it is not subject to any prohibition on dealing ahead of the dissemination of investment research. **Vietnam:** This document is being distributed in Vietnam by, and is attributable to, Standard Chartered Bank (Vietnam) Limited which is mainly regulated by State Bank of Vietnam (SBV). Recipients in Vietnam should contact Standard Chartered Bank (Vietnam) Limited for any queries regarding any content of this document. **Zambia:** This document is distributed by Standard Chartered Bank Zambia Plc, a company incorporated in Zambia and registered as a commercial bank and licensed by the Bank of Zambia under the Banking and Financial Services Act Chapter 387 of the Laws of Zambia.