



standard  
chartered

InvesTips

# Resilience of bonds

Staying calm during turbulence

September 2025



WS Global CIO Office

Bonds are the cornerstone of balanced investing – delivering steady, predictable income, tempering volatility and lending resilience to a portfolio. The modern bond market has existed for over 200 years and is valued at approximately USD 121trn as of 2025.

It is expected to grow at an annual rate of around 6% over the next five years. Evidently, bonds hold a prominent position in the investing landscape; whether you are just starting out or planning for retirement, bonds can be a steady anchor that guides your financial journey.

In this publication, we explore the foundational aspects of bonds, consider their relevance in a well-rounded financial journey, and identify strategies to integrate them into a portfolio for sustained growth, resilience and stability.



**Steve Brice**  
Global Chief Investment Officer

**Manpreet Gill**  
Chief Investment Officer, Africa, Middle East & Europe  
(AMEE)

# Understanding bonds

Bonds are fixed-income instruments issued by governments, municipalities or companies to raise capital for their projects and operations. These issuers pay periodic interest payments (annual or semi-annual) and make full repayment of the principal at maturity to the investors.

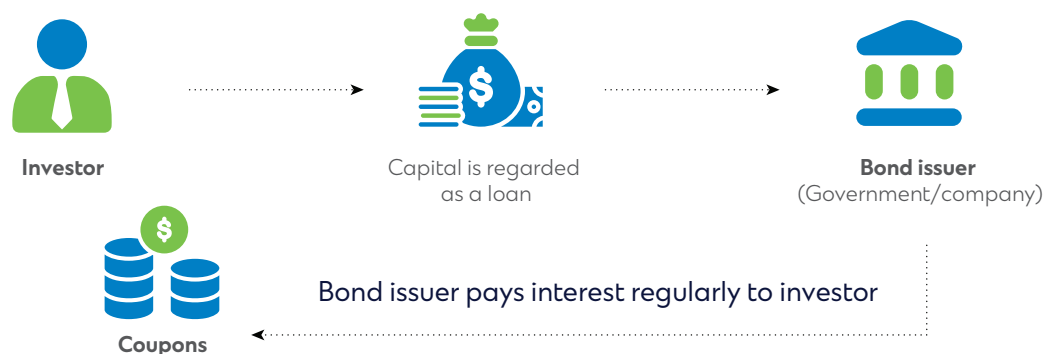
To understand the bond market, we need to familiarise ourselves with a few foundational elements.

- **Face value** is the amount a bond issuer promises to repay the investor at maturity. Bonds trade at par when priced at face value, at a discount when priced below it and at a premium when priced above it.
- **Coupon rate** is the interest rate the bond issuer pays to the investor and is expressed as a percentage of the bond's face value.
- **Term** refers to the fixed length of time a bond remains active; maturity is the specific date when the bond's term ends and the issuer repays the principal to the investor.
- **Current yield** measures a bond's annual return relative to its prevalent market price. It is derived by dividing the bond's annual interest (or coupon) payments by its current price.
- **Yield to maturity (YTM)** estimates the total return generated on a bond if it is held till maturity. This measure incorporates both coupon payments and capital gains or losses at maturity, making it a comprehensive measure of a bond's total return potential.
- **Credit ratings** reflect an issuer's ability to meet its debt obligations. S&P, Fitch and Moody's are some of the popular agencies that assign such ratings. Typically, government bonds receive high ratings such as AAA or AA, indicating a low risk of default, while lower ratings such as B or CCC suggest a higher risk of default (common among junk bonds).

## Bond market workings

Now that we know a few basics about bonds, let's dive into the workings of the bond market. This market is quite different from those of other financial markets due to their structure, participants and sensitivity to macroeconomic factors. Governments and corporations use the bond market to raise capital by issuing debt and investors earn regular income in return for lending those funds.

Fig. 1  
How does the bond market work?



Source: Standard Chartered, Strike

## Types of bonds

There are different types of bonds, with varying risk return profiles. Understanding bond types can help investors build a comprehensive bond portfolio that mitigates risk and achieves stable returns.

Type	Description	Prominent risk exposures	Risk profile
<b>Government bonds/ Treasury inflation- protection securities (TIPS)</b>	Issued by national governments  Generally used to fund public projects and operations	Interest rate, inflation (except TIPS), currency (for foreign bonds)	Low
<b>Municipal bonds</b>	Issued by local/state governments for infrastructure  Often tax-advantaged in many jurisdictions	Default, interest rate, liquidity, legislative risk	Low-medium
<b>Corporate bonds</b>	Issued by companies to raise capital  Risk varies based on issuer's creditworthiness	Default, interest rate, liquidity	Medium-high
<b>Investment grade bonds</b>	Bonds issued by governments, municipalities or financially stable companies  Credit rating BBB- /Baa3 or higher indicating lower default risk	Default, inflation, interest rate, reinvestment	Low-medium
<b>High-yield 'junk' bonds</b>	Issued by companies with low credit ratings  Offers higher returns than investment grade bonds	Default, liquidity, interest rate	High
<b>Zero coupon bonds</b>	Sold at a discount and redeemed at face value at maturity	Interest rate, inflation, reinvestment	High (price volatility)
<b>Floating rate bonds</b>	Interest rate adjusts periodically based on a benchmark  Protects against rising interest rates	Default, benchmark risk, liquidity	Low-medium
<b>Convertible bonds</b>	Can be converted into shares of issuing company at a pre-determined ratio	Default, equity market risk, interest rate	Medium
<b>Inflation-indexed bonds</b>	Interest and principal adjust with inflation  Protects purchasing power	Interest rate, deflation, liquidity	Low
<b>Callable bonds</b>	Can be redeemed early by the issuer	Reinvestment, interest rate, default	Medium

Source: Standard Chartered

# Key drivers of bond markets

Bond markets are influenced by a range of interconnected factors; a clear understanding of these drivers can help investors anticipate market shifts, mitigate risks and position their portfolio for better outcomes.

- **Interest rates** are a key driver of the bond market, directly affecting how bond prices and yields move. Central bank actions (monetary policy) such as quantitative easing or tightening of benchmark rates and government borrowing levels influence supply, demand and pricing in the bond market. When central banks raise benchmark rates, borrowing costs increase. This typically leads to a decline in bond prices, reflecting the inverse relationship between bond prices and interest rates – a key dynamic that defines **interest rate risk**.
- **Credit risk** is the likelihood that a bond issuer may default on interest or principal payments. This risk influences bond price yields and investor confidence. Investors demand higher yields to compensate them for the increased possibility of a default, i.e. higher credit risk. **Reinvestment risk** is the chance that an investor may have to reinvest funds at a lower interest rate than the original investment.
- **Inflation expectations** play a central role in shaping the bond market dynamics. When inflation is likely to rise in the future, investors anticipate higher interest rates, which in turn drives prices of outstanding bonds lower. Several entities offer inflation-indexed bonds to help mitigate inflation risk by adjusting payments in line with rising price levels.
- Holding long-term bonds increases exposure to uncertainty (interest rate risk, credit risk), leading investors to seek additional yield known as the **term premium**. As the term premium rises, long-term bond yields increase relative to short-term bond yields.
- **Liquidity** differs across bond types and influences the bond price, yield and risk profile. Government bonds are highly liquid owing to their large issuance and active trading, translating to stable prices and lower liquidity premium. Corporate bonds, especially those with lower credit ratings, often exhibit reduced liquidity, prompting investors to seek an extra compensation in the form of a liquidity premium for reduced market accessibility.



Fig. 2  
Bond market dynamics

Drivers of bond prices



Source: Standard Chartered

# Understanding yield curve and duration

While the aforesaid market drivers shape overall bond market dynamics, yield curve and duration are key concepts that one should understand to gain insights into the implication of interest rate movements and to help manage portfolio sensitivity.



## Yield curve

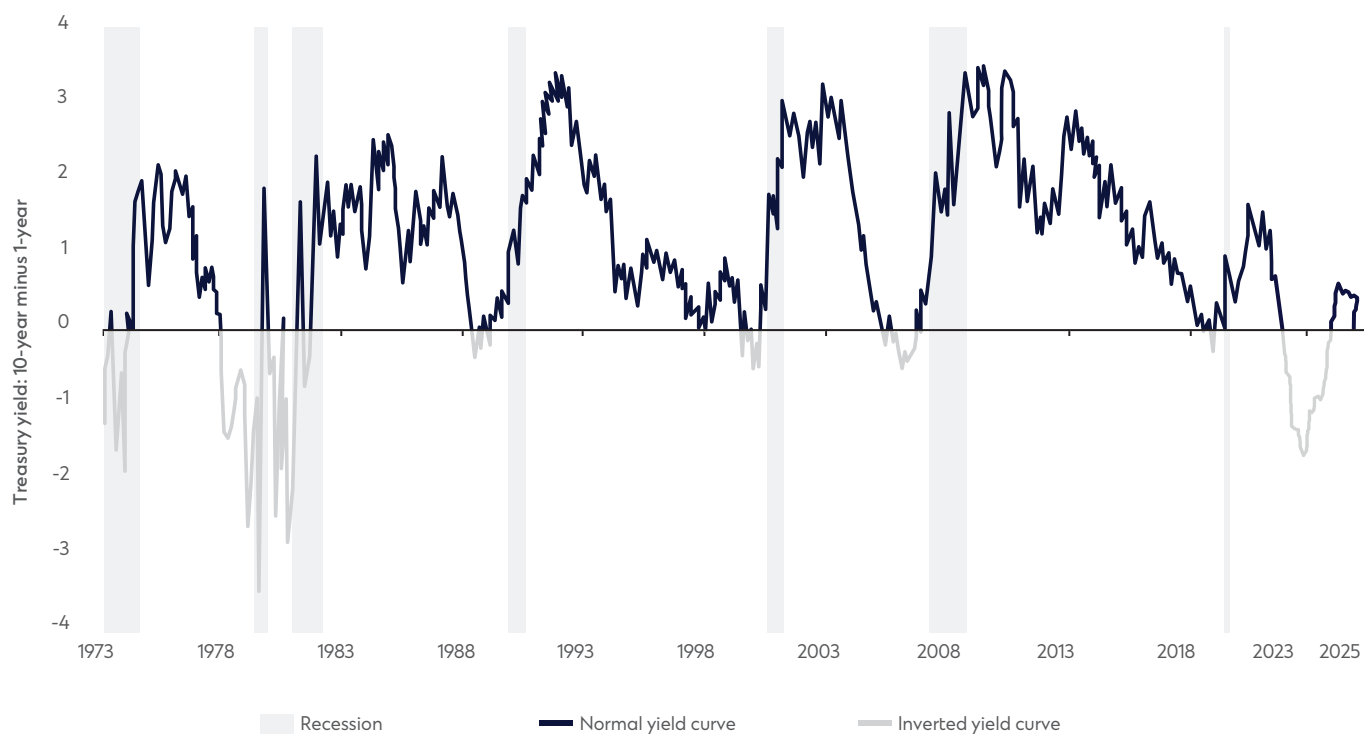
A yield curve is created by plotting the yields of bonds with the same credit rating across different maturities, showing how interest rates vary across tenors. Studying the shape of the yield curve of government bonds can provide insights into the potential future direction of interest rate and signal the phase of an economic cycle (expansion or contraction). There are four prominent yield curve shapes:

- A **normal yield curve** indicates positive investor sentiment and the likelihood of economic expansion at a steady pace. Here, short-term treasury yields are lower than long-term treasury yields.
- When short-term treasury yields are similar to long-term yields, the yield curve looks flat and is referred to as a **flat yield curve**. This type of curve signals economic uncertainty or depicts a period of transition between growth and contraction.
- An **inverted yield curve** implies that long-term yields are below short-term yields. This can be a leading indicator of potential economic slowdown or recession.
- A **steep yield curve** is when long-term yields (e.g. 10-year) are higher than short-term yields (e.g. 2-year), typically by at least 100 basis points. This is an indicator of robust economic growth.

The yield curve has historically been a leading indicator of economic health and has predicted past recessions well. While the shape of the yield curve can hint at potential shifts in the economic cycle, it is still difficult to predict a recession, its timing or the magnitude.

Fig. 3

Yield curve: Treasury yield spreads and business cycles (1973-2025)



Source: Standard Chartered, St. Louis Federal Reserve (FRED)

### Duration

Bond prices are sensitive to interest rate changes, and duration measures this sensitivity by indicating how much a bond's price is likely to move when interest rates rise or fall. Duration is often confused with maturity, but the latter refers to the term (length of time) over which the bond's principal is repaid while duration is used as a risk metric. Consider both duration and maturity to construct a bond portfolio that balances interest rate risk and liquidity needs.



Long-term bonds and those with low coupons typically have longer durations and are highly sensitive to interest rate changes. Conversely, short-term or high coupon rate bonds have shorter durations and are less affected by interest rate movements. This is because short maturity bonds repay investors' principal sooner, reducing both interest rate and reinvestment risk. The chart below illustrates interest rate sensitivity across durations.

Fig. 4  
Gauging interest rate sensitivity

Bonds with longer durations experience greater value fluctuations

1% rise in rates			1% drop in rates		
Duration	% NAV change	Resulting value	Duration	% NAV change	Resulting value
1 year	-1%	USD 990	1 year	+1%	USD 1,010
5 years	-5%	USD 950	5 years	+5%	USD 1,050
10 years	-10%	USD 900	10 years	+10%	USD 1,100

Initial value of USD 1,000

Source: Standard Chartered, PIMCO

Investors can use duration to manage their fixed income investment strategies because this measure integrates several bond characteristics including maturity date, coupon payments, bond price and YTM. The duration of the bond portfolio is adjusted according to the interest rate forecasts to elevate investment outcomes.

# Why consider bonds?

Now that we have looked at key concepts of bonds, let's see why we should consider them in our portfolio. This section explores the key reasons why bonds are a valuable component of an investment portfolio.

## Reliable and steady income

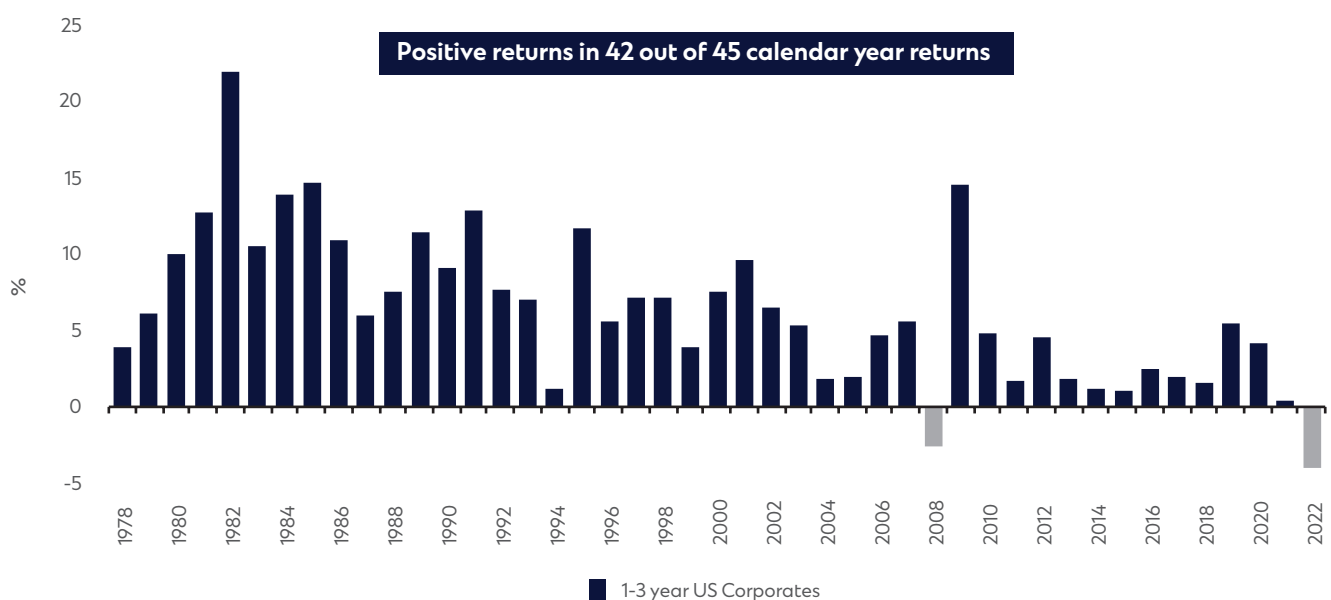
Bonds provide fixed and regular interest payments, offering a predictable and reliable income source. This is ideal for investors or retirees who need regular, stable cashflow. These payments are made at periodic intervals and allow the investor to know the cash flow well in advance, facilitating prudent financial planning and budgeting. These assets experience lower volatility compared to equities and are hence, suitable for risk-averse investors and those seeking passive income. This relative stability also reduces the risk of sudden income loss.

## Preserving and growing capital

A historical analysis of bonds over very long periods (40+ years) demonstrates their effectiveness in preserving and growing capital. A comprehensive study by Lord Abbett, an investment management company for the period 1978-2022 indicated that short-term US corporate bonds (1-3-year maturities) consistently delivered positive annual returns, with the exceptions being the global financial crisis and the 2022 inflation spike. While high quality, long-term and government bonds are widely recognised for their capital preservation abilities, these findings underscore that short-term corporate bonds can also support wealth preservation and growth.

Fig. 5  
Bonds preserve and grow capital

Short-term corporate debt has shown consistent positive annual returns (US short maturity debt annual returns 1978-2022)



Source: Standard Chartered, Morningstar, Lord Abbett  
1-3 year US Corporates represented by the ICE BofA 1-3 year Corporate Index

### Portfolio diversification

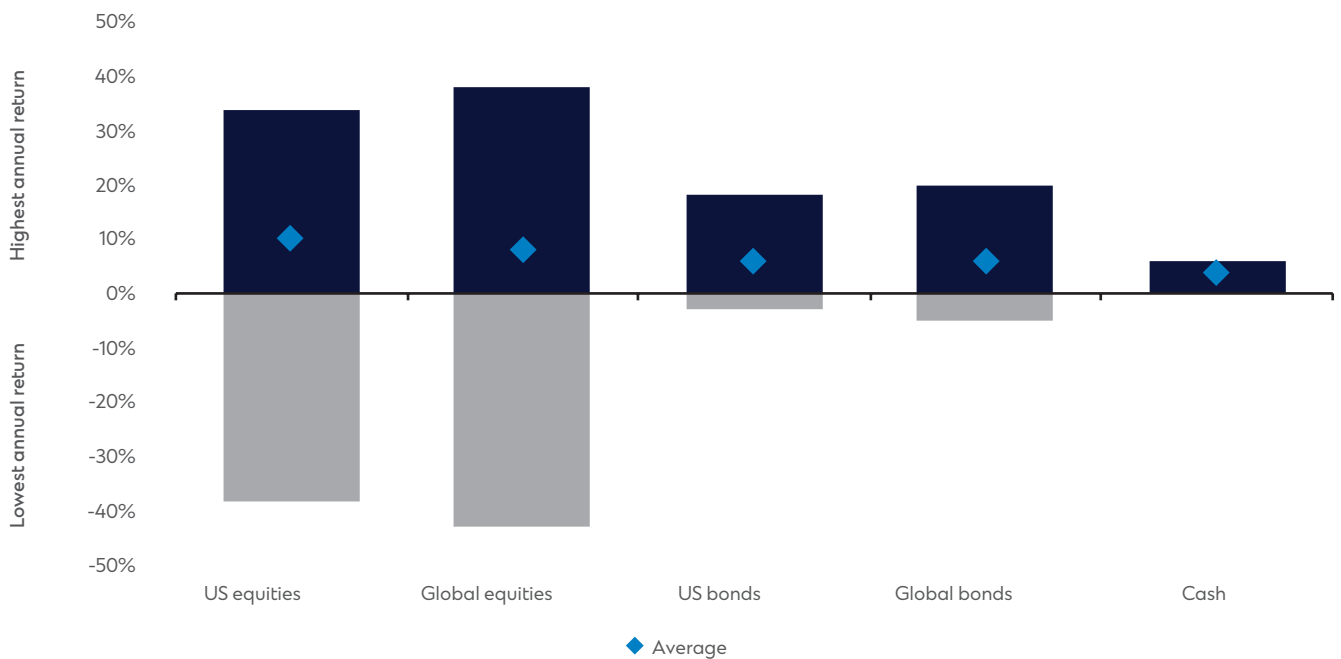
Bonds are considered to be a good diversifier in a portfolio, primarily because of their low correlation to equities. The chart below shows bond and stock risk-return from 1991 to 2023. It highlights that bonds behave differently from stocks in terms of risk and return. Moreover, historically, the downside risk in bonds has been much lower than in equities, making the former a more stable component for preserving capital in a portfolio. This makes bonds a valuable part of a portfolio, offering stable returns and helping to cushion against steep market downturns.

### Risk mitigation

Investment grade bonds (rated BBB-/Baa3 or higher) carry lower risk than stocks. During periods of market turmoil, these bonds experience lower volatility, even relative to the riskier options within the bond universe. It is, therefore, crucial to have some exposure to these bonds in a portfolio to insulate against extreme drawdowns.

Just as an equity portfolio would be spread across sectors and geographies to reduce risk, investing across bond types, issuers, sectors, credit quality and maturities can help to build a solid bond portfolio that endures intermediate market/economic volatilities. By using a mix of maturities, investors can align their interest rate risk exposures with their risk tolerance levels.

Fig. 6  
Bonds and equities – risk-return profile



Source: Standard Chartered, Bloomberg as of 31 December 2023, PIMCO

US equities are represented by the 500 Index, global equities are represented by the MSCI EAFE Net Total Return Index. US bonds are represented by the Bloomberg US Aggregate Bond Index, global bonds are represented by the Bloomberg Global-Aggregate Total Return Index and cash is represented by the FTSE three-month Treasury Bill Index

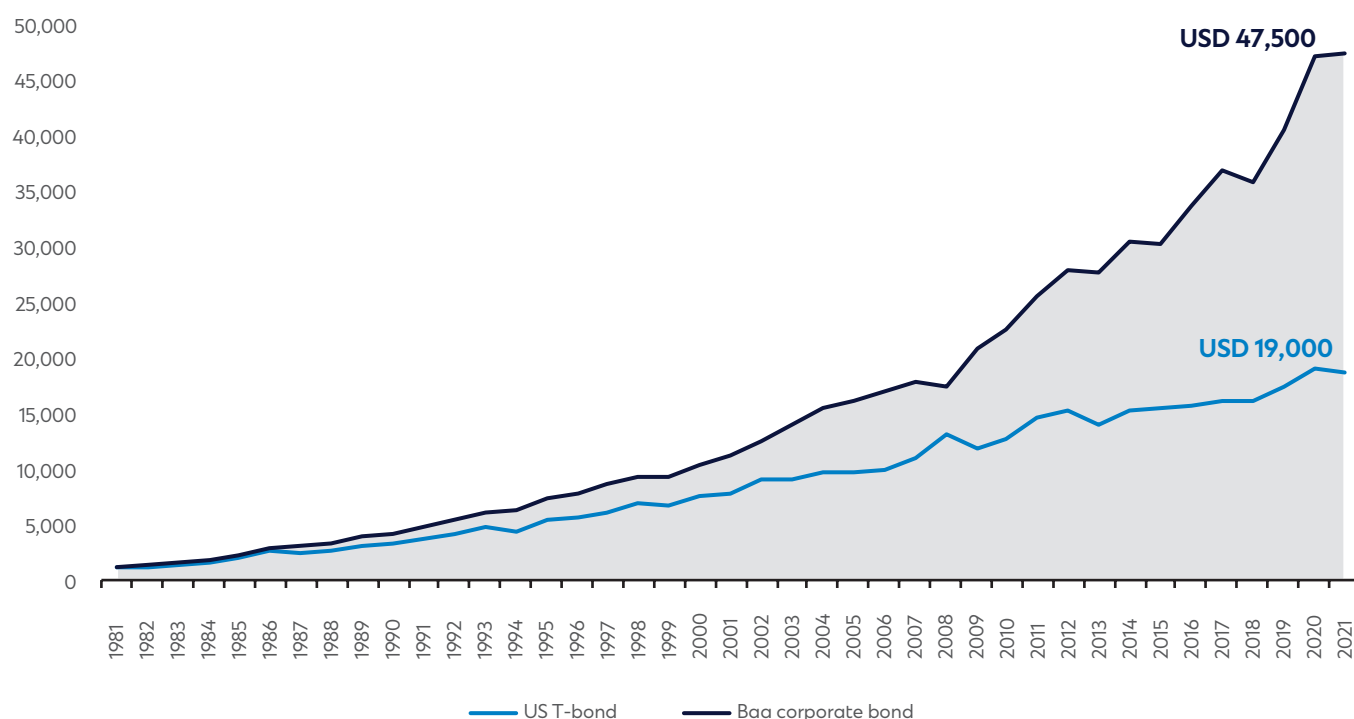
# Bond markets – a historical perspective

Now, let's look at how bonds as an asset class have performed in the past. While equity bull phases are widely documented, far less is written about the multi-decade bond bull market. The bond market bull run spanned about 40 years (1981–2021), driven by steadily falling interest rates.

The US Treasury bonds delivered an average annual return of 10.21% between 1980 and 1999, and 5.77% from 2000 to 2020. For the same periods, corporate Baa bonds, which are investment grade bonds issued by US corporates, delivered 12.07% and 8.04% annual returns, respectively. In fact, a modest investment of USD 1,000 in Treasury bonds at the start of 1981 would have grown to over USD 19,000 by 2021, and the same amount invested in Baa bonds would have appreciated to around USD 47,000, underpinning the potential of bonds to build long-term wealth.

Fig. 7  
Bonds in the long term

T-bonds and Baa bonds performance



Source: Standard Chartered, Bloomberg

However, like all return-generating assets, bond markets have also seen their share of turbulence. We look at a few prominent instances below.

- **The great bond massacre (1994)** was triggered by an unexpected and sharp rate hike by the Fed, which soured investor sentiment. Bond investors globally lost over USD 1.5trn in value during the year. The crisis peaked in November 1994, as 10-year US Treasury yields hit 8%, however, yields subsequently fell to 6% by mid-1995, reversing much of the earlier rise. Subsequently, expectations and strategies adjusted to the new market realities, aided by the Federal Reserve's more transparent communication and policy signals, which helped rebuild confidence and contributed to the eventual stabilisation of rates.
- **The global financial crisis (2007-2009)** was marked by a sudden rise in default rates of high-risk mortgage loans against falling housing prices. The average yields on junk bonds peaked above 20% by 2009. While corporate and structured bonds experienced massive losses, treasury bonds across the world held up relatively well. By 2010, bond markets were on the road to recovery. Most segments within the bond market achieved normalcy within two years from their trough in 2009. The bond market recovery was faster than that of equities, supported by government and central bank interventions.
- **The US-China trade war (2018)** resulted in elevated prices, severe supply-chain disruptions, lower trade (economic activity) and market volatility. During this period, the bond markets also experienced significant disruptions. There was evident flight to safety and low investor confidence. However, with the execution of phase one of the US-China trade deal and amid easing trade tensions, the bond market recovered gradually.

While downturns are a part of all asset classes, the key takeaway from the above is that bond markets are resilient, and during periods of high volatility, good-quality/government bonds continue to preserve capital and provide reliable income. According to an International Monetary Fund 2019 study, bonds may experience short-term losses during economic crises, but they tend to recover lost value over time. The study also observes that bond investors with a buy-and-hold strategy and ones who enter during distress often fare better than those investors who sell during crises.



# Investment strategy in bonds

Bond selection should be governed by well-defined investment objectives and risk tolerance. Having a disciplined framework that assesses factors such as issuer quality, maturity structure and credit risk can be beneficial. The key factors to consider when evaluating bond investments are:



## Good credit quality

Good credit quality is essential to mitigate default risk and generate stable returns. Investors should prioritise holding investment-grade bonds from credible issuers to help protect their portfolio against severe drawdowns. Depending on one's risk appetite, selective allocations to high-yield bonds can be considered.



## Bond maturity

Bond maturity is an important consideration, as it factors in the period of investment and helps investors determine whether it aligns with their financial goals and timeline. Allocating investments across various bond maturities is another popular strategy that facilitates effective risk mitigation. We look at two such approaches below.

- A **laddering approach** staggers maturities across time and reinvests proceeds at prevailing rates, thereby supporting consistent cash inflow (potentially reducing interest rate risk).
- Meanwhile, a **barbell strategy** entails investing in a combination of short- and long-term bonds. It mitigates interest rate risk by allowing proceeds from short-term bonds to be reinvested at higher rates when interest rates rise, while long-term bonds anyway offer higher yields.



## Yield to maturity (YTM)

Use YTM to compare bonds with similar risk profiles and maturities to identify better return opportunities. Higher YTM may come with higher credit risk. Also, evaluate post-tax returns while investing in taxable bonds.



## Liquidity

Consider liquidity of bonds to ensure they can be transacted easily. Evaluate bonds based on how well they align with your goals and timeline. A bullet strategy (entails purchasing multiple bonds that all mature at the same time) helps by matching all bond maturities to your target financial objective.

# Conclusion

Bonds remain one of the core investment pillars, lending resilience and stability to a portfolio. They offer diversification, predictable income and capital preservation across market phases. Their lower volatility and steady coupons support income stability while tempering overall risk exposure. A thoughtful bond allocation helps investors to maintain liquidity and safeguard capital throughout market phases.



## 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.

Copyright © 2025, Accounting Research & Analytics, LLC d/b/a CFRA (and its affiliates, as applicable). Reproduction of content provided by CFRA in any form is prohibited except with the prior written permission of CFRA. CFRA content is not investment advice and a reference to or observation concerning a security or investment provided in the CFRA SERVICES is not a recommendation to buy, sell or hold such investment or security or make any other investment decisions. The CFRA content contains opinions of CFRA based upon publicly-available information that CFRA believes to be reliable and the opinions are subject to change without notice. This analysis has not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body. While CFRA exercised due care in compiling this analysis, CFRA, ITS THIRD-PARTY SUPPLIERS, AND ALL RELATED ENTITIES SPECIFICALLY DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, to the full extent permitted by law, regarding the accuracy, completeness, or usefulness of this information and assumes no liability with respect to the consequences of relying on this information for investment or other purposes. No content provided by CFRA (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of CFRA, and such content shall not be used for any unlawful or unauthorized purposes. CFRA and any third-party providers, as well as their directors, officers, shareholders, employees or agents do not guarantee the accuracy, completeness, timeliness or availability of such content. In no event shall CFRA, its affiliates, or their third-party suppliers be liable for any direct, indirect, special, or consequential damages, costs, expenses, legal fees, or losses (including lost income or lost profit and opportunity costs) in connection with a subscriber's, subscriber's customer's, or other's use of CFRA's content.

## 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) MSCI 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. AJ1614). 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](mailto: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 Chartered 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](mailto: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.