



360 Perspectives

Understanding Asia USD Bonds

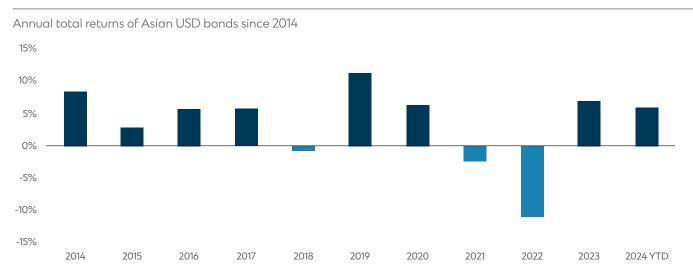


Understanding Asia USD bonds

The Asian USD bond market has experienced remarkable growth since its inception in the early 2000s, reaching USD 500bn in 2014 and surpassing USD 1trn in 2020. Over the past decade, it has generated positive returns in 7 out of 10 years.

Recent interest in the Asia USD credit space has surged, driven by its recovery from Covid-19 lows and the rebound after the China property crisis. Supportive spread differentials and other key attributes make this asset class appealing for fixed income and multi-asset portfolios, especially for investors willing to take on more risk.

Fig.1
Asian USD bonds have delivered positive returns in 7 out of the last 10 years



Source: Bloomberg, Standard Chartered. Data as of 31 August 2024.

Manpreet Gill

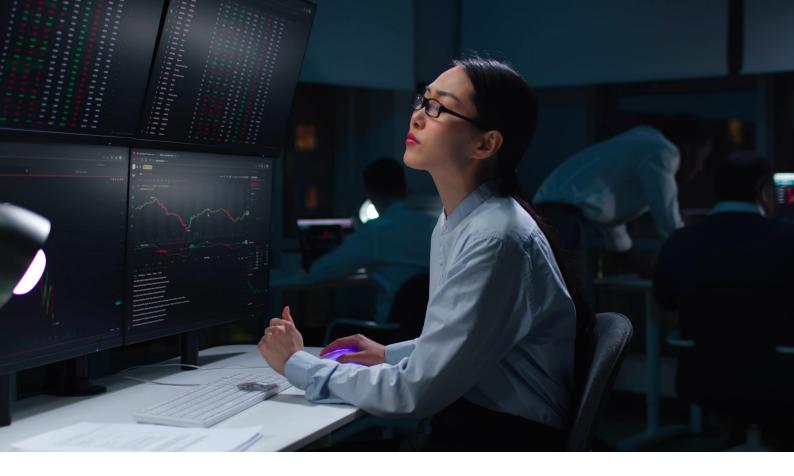
Chief Investment Officer, Africa, Middle East & Europe (AMEE)

Hannah Chew

Portfolio Strategist

In this paper, we lay out:

- 1 The history of the Asian USD bond market,
- 2 Breakdown of the composition of the Asian USD bond market,
- 3 The attractiveness of this asset class, and
- 4 How it can be integrated into investors' portfolios

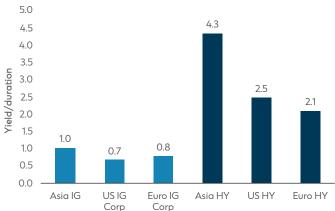


Additionally, we will compare the performance of Asia USD bonds to global USD and EUR corporate credit. Key insights reveal that Asian USD bonds:

- generally offer higher yields and spreads with relatively shorter duration
- Asia IG bonds have delivered stronger risk-adjusted returns compared to their US and Euro IG peers (0.89 vs. 0.46 and 0.68 respectively)
- Serve as a good diversification tool, with lower correlation to global bonds and equities than their developed market counterparts

Fig. 2 Asia bonds offers higher yield per unit of interest rate risk

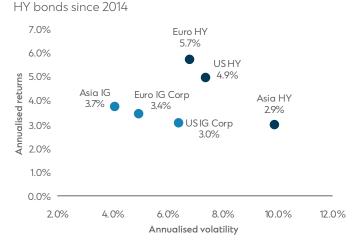
Yield-duration ratios of Asian, US and Euro bonds as of 31 August 2024



Source: Bloomberg, Standard Chartered

Fig. 3
Asian IG bonds offers higher returns with lower volatility compared to US and Euro IG bonds

Annualised risk and returns of Asian, US and Euro IG and



History of Asian bond markets

In the early to mid-1990s, the East Asian experienced high rapid growth, which was disrupted by the Asian Financial Crisis in 1997. The crisis began with the sharp depreciation of the Thai baht, leading to a loss of investor confidence and impacting financial markets across the region.

The crisis was partly due to Asian corporations' heavy reliance on bank financing, as regional bond markets were underdeveloped. The de facto peg of local currencies to the US dollar, combined with a large difference between local and foreign interest rates, led many borrowers to take on foreign currency loans.

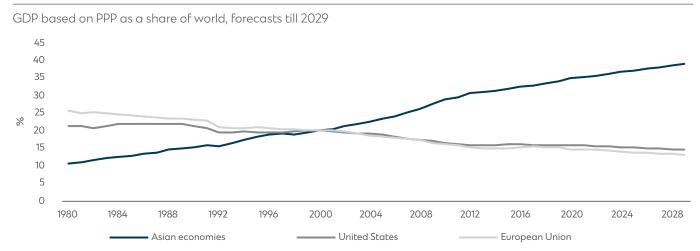
This resulted in a 'double mismatch', where companies faced both currency and maturity risks, borrowing short-term in foreign currencies to fund long-term domestic investments. Following the currency depreciation, many corporates found it difficult to access credit to continue funding their investments.

This crisis highlighted the need for a stronger regional bond market, with policy makers concluding that a more robust primary and secondary bond market in the region would reduce dependence on bank financing and help mitigate maturity mismatch risks.

Strong growth in Asian GDP has been a supportive driver for the development of the Asian bond market

Globalization and increased world trade since the 1990s have also contributed to the rise of Asian economies, which now accounts for 35% of global GDP (in Purchasing Power Parity terms), as of 2023. As economic growth in Asian region continues to outpace Developed Markets, demand for Asian USD bonds is expected to remain strong.

Fig. 4
The growing share of Asian* economies within global GDP and trend is set to continue through 2029



Source: IMF, Standard Chartered

 $^{{}^*\}textit{Asian markets include China}, \textit{Hong Kong, India, Indonesia, Korea, Malaysia, Philippines, Singapore and others.}\\$

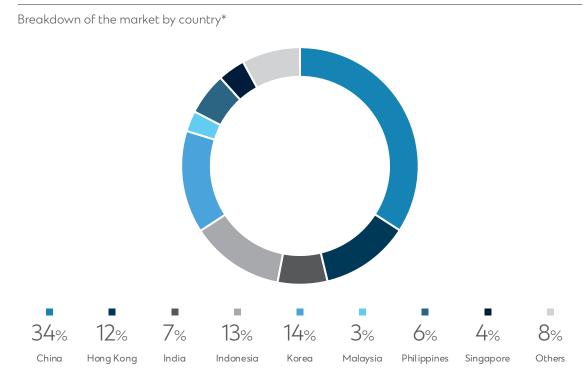
Understanding the composition of the Asian bond market

The following sections illustrate the characteristics of the Asian bond market, offering insights to market diversification, sectors distribution, and overall credit quality.



The Asian USD bond market currently includes exposure to 16 markets across Asia. Mainland China is the largest issuer country, although its share has declined from over 50% in 2020 to around 34% currently, primarily due to a contraction in its real estate sector. Hong Kong, South Korea, and Indonesia are the next largest markets, collectively making up nearly 40% of the asset class.

Fig. 5
Asian USD bond market offers geographical diversification with exposure to high growth economies



Source: Bloomberg, Standard Chartered

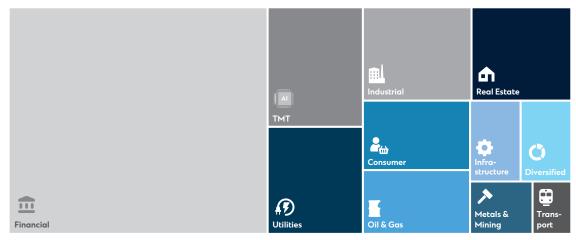
^{*} Others comprise Macau, Mongolia, Pakistan, Sri Lanka, Taiwan, Thailand and Vietnam.



Sector diversity is also notable, with 11 sectors being represented. Like many developed markets, the financial sector makes up the largest share, followed by Technology, Media, Telecommunications (TMT), Utilities and Industrials.

Fig. 6
Asia offers a diverse opportunity set across 11 sectors, although a significant share is concentrated within Financials

Breakdown of the index by sectors

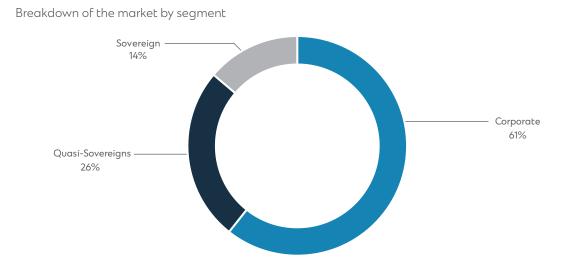


Source: Bloomberg, Standard Chartered



In terms of credit quality, the Asian USD bond market is predominantly investment grade (IG), with IG bonds making up over 80% of the market. The largest share of IG bonds falls within the BBB rated bucket. The high yield (HY) market has shrunk due to lower supply and defaults. Nonetheless, the high concentration of investment-grade bonds underscores the quality of the asset class, particularly when compared to Developed Market peers.

Fig. 7
Strong quality tilt with 40% allocation to Sovereigns and Quasi-Sovereigns



Source: Bloomberg, Standard Chartered Note: Allocations may not add up to 100% due to rounding



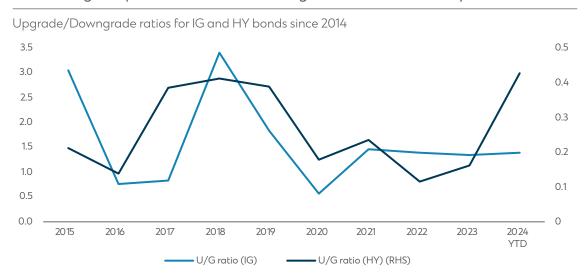
Rating trajectory looking more optimistic

A review of credit rating trend reveals that the ratio of upgrade to downgrade by credit rating agencies peaked in 2018 for both Asia USD IG and HY bonds. However, ratings slipped in 2020 due to the Covid-19 pandemic, with HY bonds – especially in China's real estate sector – being more significantly impacted. Despite recent challenges, particularly in the HY segment, ratings have remained largely stable for IG, while HY ratings have marginally improved as defaulted names have been removed from the asset class.

Default rates have trended higher in the recent few years especially within the HY space. However, it is important to note that prior to the start of the Chinese property sector crisis in 2021, the default rate for Asian HY was relatively benign and had compared well to US HY and EM ex-Asia HY peers. The default rate in 2024 is widely expected to be lower than that of 2023 as we move past the peak of the real estate sector's default cycle in China.

Fig. 8

Rating trajectory looking optimistic for Asian bonds, with upgrade to downgrade ratio seeing an uptick for HY and stabilising for IG bonds in recent years



Attractiveness of Asian bonds

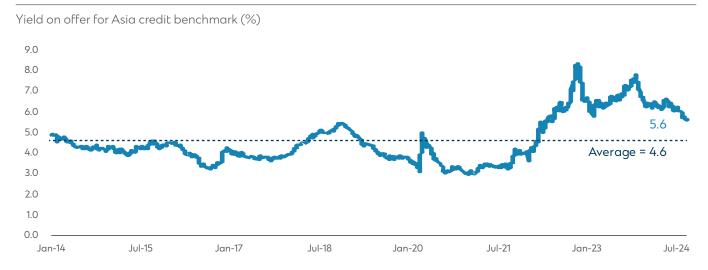


Yields and duration highlight the lower interest rate risk of Asia USD bonds relative to their US and European counterparts

An important feature of fixed income assets is their yield and duration. The former refers to the income that investors receive from investing in bond in the form of periodic coupons, while the latter refers to the interest rate risk as measured by the change in the bond's price given a change in interest rates.

In this section, we compare the yield and duration of Asian USD bonds against US and European alternatives. Standalone, the yield on offer on Asian USD bonds remains not far from its long-term average of approximately 5%, making it attractive from an income perspective.

Fig. 9
Asia USD bond yield remains above its long-term average



Source: Bloomberg, Standard Chartered. Data as of 31 August 2024.

Compared to the US and Europe markets, Asian USD bonds offer higher yields and have shorter duration, suggesting less sensitivity to interest rate changes. Within the HY segment, Asian USD HY duration has been trending lower since mid-2017. The yield per unit of duration for Asian IG and HY bonds are particularly attractive relative to the other markets. This additional "carry" would enable Asian USD bonds to absorb a greater degree of either higher base rates or wider credit spreads.



Asian USD bonds have demonstrated strong absolute and relative performance

Historical performance data can offer another lens to view asset class performance. Our analysis looks at the last 10 years of data – this period covers market events such the outbreak of Covid-19 as well as the China property market crisis in 2021.

Over this period, Asia IG and HY indices have shown solid absolute performance at a time when cash yields were largely very low. On an absolute level, Asian USD bond performance tends to fall between that of US and Euro bonds. However, when looking at risk-adjusted returns, Asia IG bonds stands out with the highest ratio of 0.89.

Asian HY bonds, on the other hand, have lagged US HY corporate bonds. This was due to higher volatility during the Chinese property crisis in 2021.

Fig. 10
Asia IG bonds have displayed the highest risk adjusted returns of 0.89

Annualised risk and returns of Asia, US and Euro IG and HY bonds since 2014

Asset	Asia IG	Asia HY	US IG	US HY	Euro IG	Euro HY
Annualised returns	3.7%	2.9%	3.0%	4.9%	3.4%	5.7%
Annualised volatility	4.1%	9.9%	6.4%	7.4%	5.0%	6.8%
Risk adjusted returns	0.89	0.29	0.46	0.66	0.68	0.83

Source: Bloomberg, Standard Chartered. Data as of 31 August 2024.

From a relative perspective, Asia USD bonds have also delivered returns similar to US and Euro peers. In terms of IG rated bonds, Asia IG bonds have tracked closely to US IG corporates, although it has started to eke out higher returns in recent years. On the flip side, Asia HY bonds saw higher returns from 2014. However, that turned when the China property crisis became a drag on performance in 2021. It is, however, important to note that the performance drag by Chinese property was arguably an idiosyncratic event. Nonetheless, market confidence is slowly returning to this segment and performance has been catching up.

Fig. 11
Asia IG bonds outperformed their US and Euro peers by an average of c.8% since 2014

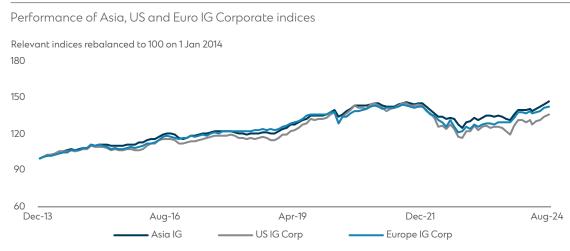
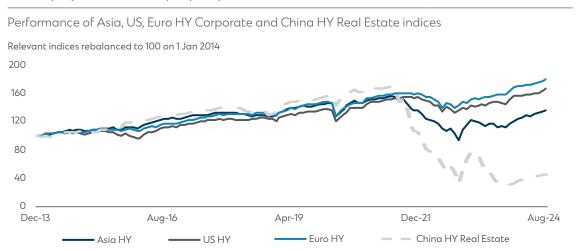


Fig. 12
Asia HY bonds have trailed their DM peers since 2021, but this was driven almost entirely by the Chinese property sector



Source: Bloomberg, Standard Chartered. Data as of 31 August 2024.



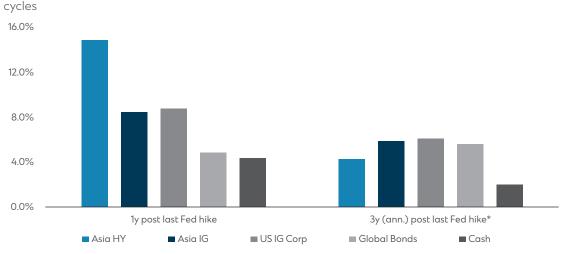
Asia USD bonds have fared well during past Fed policy decisions

There is a common misperception that Asia USD bonds underperform in a rising rate environment. On average, Asia IG bonds have delivered strong returns during the latest 3 rate hike cycles, outperforming Global Bonds. Asia IG bonds also outperformed Euro IG Corporate and Global bonds by c.1-4%, while performing on par with US IG Corporate bonds, on average 1 year after the last Fed hiking cycle.

Asia HY bonds, on the other hand, delivered the highest average returns 1 year after the peak in the Fed fund rate, while performing worse relative to US HY Corporate and Euro HY Corporate when looking at the 3-year annualised returns.

Fig. 13
After the Fed hikes ended, Asia USD IG and HY bonds delivered strong absolute and relative returns

Average performance of selected assets following the final Fed rate hike in the last three rate hiking



Source: Bloomberg, Standard Chartered

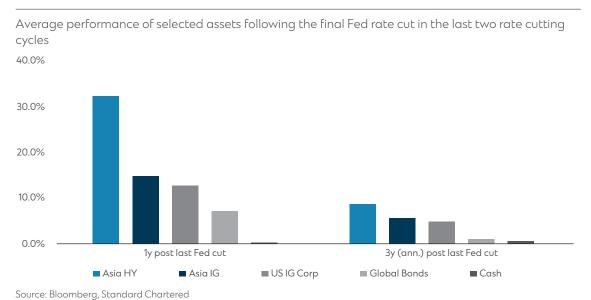
^{*} Accounts for the first 2 rate hikes since 2005 only.

We also reviewed returns during the recent two rate cutting cycles in September 2007 - December 2008 and July 2019 - March 2020. On an absolute basis, Asia HY bonds saw double digit negative average returns of c.-12% while Asia IG delivered slightly negative returns of -1.6%. However, Asia HY beat US and Euro alternatives by over 8% each while Asia IG bonds underperformed US IG bonds by 1% and outperformed Euro IG Corporate bonds by a 2.6% margin.

Post Fed rate cutting cycles, performance across the board saw a pick-up. Asian HY bonds recorded strong average returns one year after the last rate cut, outperforming IG bonds and even global bonds and cash. Within the IG bonds space, Asia IG bonds were the clear outperformer on a 1-year average returns and 3-year average annualized returns basis.

Fig. 14

Asia IG bonds was the clear outperformer within the IG bond space after the last Fed rate cut



Although the history is short and primarily reflects rate hiking and cutting cycles since 2005, it is important to note that this period includes the Global Financial Crisis of 2007-2008, which significantly skewed market performance. As a result, the data may not be fully representative of the future. However, despite these limitations, the analysis still offers a good perspective on how Asian USD bonds are likely to react during future rate hiking and cutting cycles.



Asian credit spreads offer an attractive pickup vs counterparts

Another lens we use to analyse the attractiveness of Asian USD bonds is that of spreads, which is an indication of how much investors are compensated for the risk they are taking over other credits of similar ratings. Both IG and HY bonds have offered an attractive pickup relative to US and Euro peers. Asia IG bonds provide, on average, an excess spread of around 75bps against US IG Corporate bonds, while the average against Euro IG Corporates is slightly lower about 64bps.

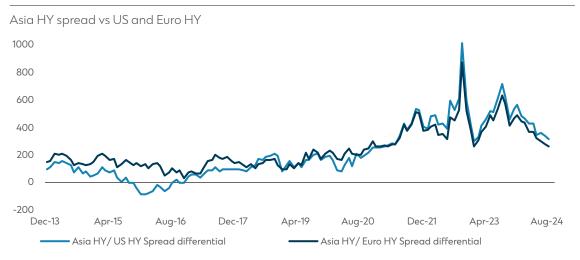
Fig. 15
Asia IG offers a positive yield spread over DM peers



Source: Bloomberg, Standard Chartered. Data as of 31 August 2024.

Since Covid-19, spreads differential between Asia HY and US and EU HY bonds have widened, particularly due to stresses in the China HY property sector, but have since improved. The average spread post Covid-19 between Asia HY against US HY and Euro HY, lies at 485bps and 428bps, respectively.

Fig. 16
Spread differentials between Asia and US/EU HY have narrowed post pandemic



Asian bonds as an attractive addition in portfolios

We analyse the impact of including IG bonds across the different regions to the widely referenced 60/40 Equity/ Bond portfolio.

We also look at the correlations between different asset classes since it provides a perspective on diversification benefits. As a simple guide, if two asset classes are correlated, that would indicate that both assets tend to move in the same direction. As the table in Fig 17 illustrates, the long-term correlation between Asia USD bonds and global bonds and equities has been relatively modest. This suggest there could be good diversification potential adding them to a portfolio of global bonds and equities. In addition, the relatively high correlation with US peers also suggest that Asian bonds can serve as a potential complement for investors who are more focused on US credit to increase their opportunity set and overall yield.

Fig. 17
Low correlations help provide diversification benefits for equity and bond portfolios

Asset correlations using monthly returns since 2014

	Asia USD	Asia IG	Asia HY	US HY	US IG Corp	Euro HY	Euro IG Corp	Global Equities	Global Bonds
Asia USD	1.00								
Asia IG	0.96	1.00							
Asia HY	0.85	0.68	1.00						
US HY	0.67	0.62	0.56	1.00					
US IG Corp	0.87	0.91	0.59	0.72	1.00				
Euro HY	0.67	0.58	0.64	0.90	0.68	1.00			
Euro IG Corp	0.74	0.75	0.51	0.76	0.85	0.81	1.00		
Global Equities	0.55	0.48	0.53	0.84	0.59	0.78	0.62	1.00	
Global Bonds	0.76	0.82	0.49	0.60	0.87	0.48	0.69	0.53	1.00

To determine the impact of including Asian, US and Euro bonds into a portfolio, we allocate 60% into Global Equity, 30% into Global Bonds, and allocating the final 10% into either Asia, US or Euro IG bonds. As illustrated in the table, the allocation to Asia IG bonds has improved the return/risk ratio to 0.69, a step-up from 0.67. Even when we compare against the portfolios with US and Euro IG Corporate bonds, it has demonstrated better risk adjusted returns against both portfolios.

This suggests Asian bonds have the potential to benefit portfolios either through higher returns or reduced risk via lower volatility as compared to other alternatives or even compared to a 60/40 Equity/Bond portfolio.

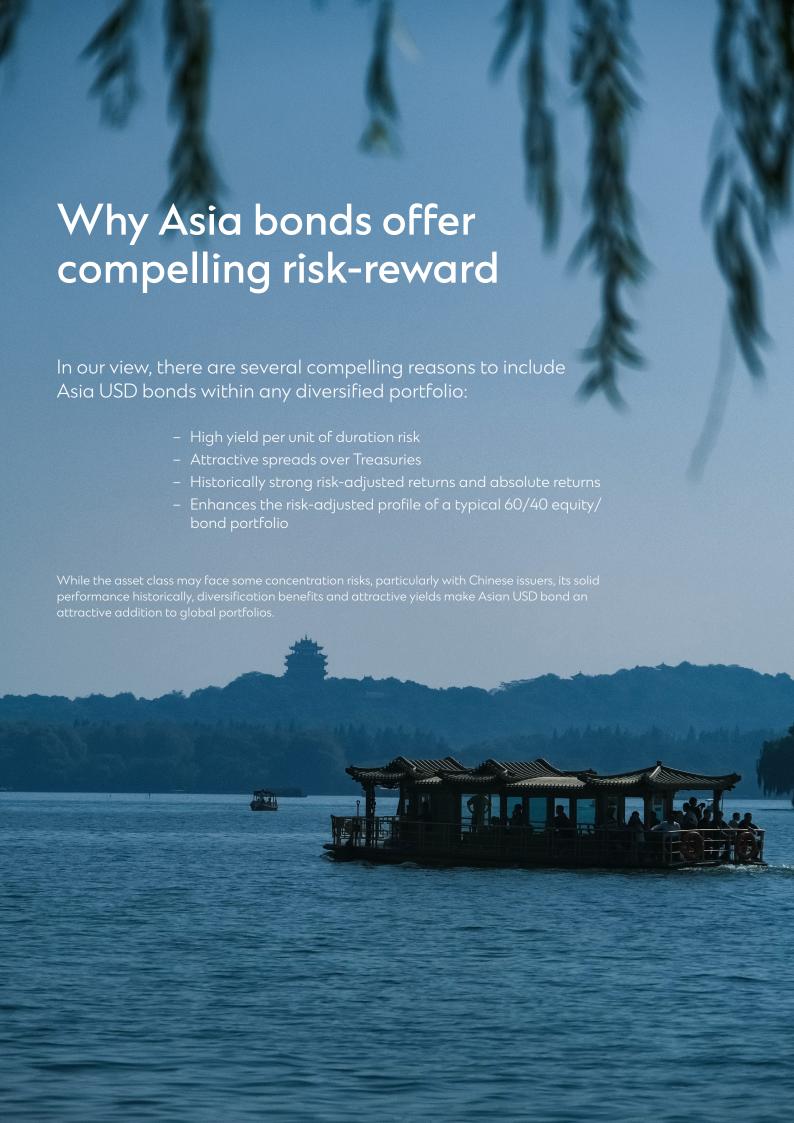
Fig. 18
A 10% allocation to Asia IG bonds to a traditional 60/40 Equity/Bond portfolio has improved risk adjusted returns

Performance of traditional equity/ bond portfolios with 10% allocation to Asia, US or Euro IG bonds using monthly returns since 2014

Portfolio	Return	Volatility	Return/Risk
60/40 Equity/Bond	6.1%	9.1%	0.67
With Asia IG	6.4%	9.2%	0.69
With US IG	6.3%	9.4%	0.66
With Euro IG	6.3%	9.3%	0.68

^{*} Equities uses MSCI ACWI Index and Bonds uses Bloomberg US Treasury Index.





Disclosure

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 © 2024, 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. 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 'Sustainable Investments' 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.

Country/Market Specific Disclosures

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, registered and supervised by Otoritas Jasa Keuangan (Financial Service Authority). 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, a bank duly licensed and regulated by the Central Bank of Nigeria. Standard Chartered 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 <u>clientcare.ng@sc.com</u> 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. Standard Chartered 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, as Standard Chartered 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 \$\$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 \$\$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 Bank 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.