S&P Dow Jones Indices

A Division of S&P Global

TalkingPoints

iBoxx ABF Celebrates 20 Years

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The iBoxx Asian Bond Fund (ABF) indices are designed to reflect the performance of local currency denominated sovereign and sub-sovereign debt from eight Asian territories, including Mainland China, Hong Kong SAR, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand, while upholding minimum standards of investability and liquidity. The indices are an integral part of the global iBoxx index offerings, which provide the market with accurate and objective benchmarks by which to assess the performance of bond markets and investments.

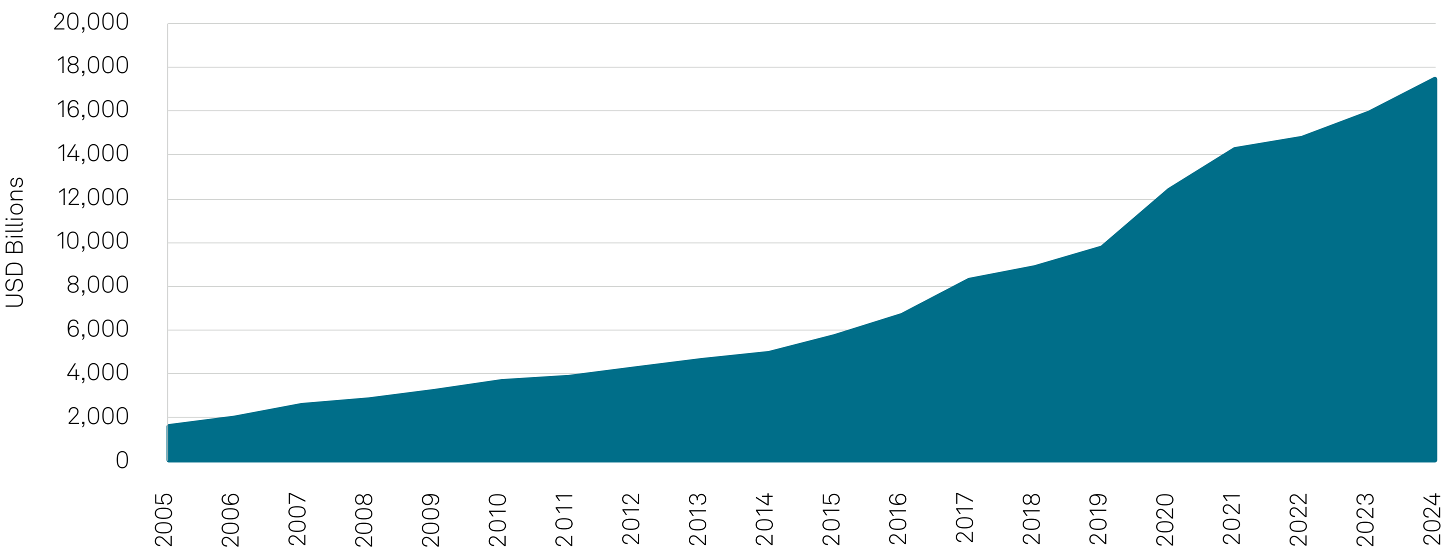
1 . The iBoxx ABF Pan-Asia index was launched 20 years ago. How has the index adapted over the years in the changing market environment? (S&P DJI)

Established in 2005, the iBoxx ABF Pan-Asia index serves as the official benchmark for the Asian Bond Fund 2 (ABF2) initiative led by the member central banks of the Executives' Meeting of East Asia-Pacific (EMEAP). This initiative was created to enhance and expand the development of Asian bond markets. As part of this effort, a portion of their foreign reserves was designated for collective investments in local currency bonds through nine passive local currency bond funds. The index covers eight markets (Mainland China, Hong Kong SAR, Indonesia, Malaysia, Singapore, South Korea, Thailand, and the Philippines.

In 2005, the Asian domestic bond market was quite different from what it is today. On Dec. 31, 2005, the total market size for government and central bank issuances across the iBoxx ABF underlying markets stood at USD 1,565 billion. Over the years spanning a period that includes significant global events, such as the Global Financial Crisis in 2008 and the COVID-19 pandemic, the data reflects a consistent upward trend in the total market size year-over-year, with only minor fluctuations. This suggests a stable growth trajectory for the bond markets in the region. By Sept. 30, 2024, this figure had surged to USD 17,457 billion, reflecting a compound annual growth rate (CAGR) of 13.47% and an elevenfold increase in approximately 20 years.

The speed of development of the underlying market varied, with some experiencing more rapid growth than others in both total market size as well as underlying liquidity. As illustrated in Exhibit 2, the weights of the underlying market have changed significantly over the past 20 years. For instance, the allocation for Mainland China has increased from 11.24% to 25.00% (capped at 25% as per the index methodology), while Indonesia's weight has risen from 5.99% to 8.39%. In contrast, Hong Kong SAR's allocation has declined from 18.30% to 8.19%, and South Korea has seen a reduction in its weight from 20.67% to 15.42%. The changes are all in relative terms, compared with the other eligible markets in the iBoxx ABF Pan-Asia index.

Exhibit 1: Total Market Size Growth of Government and Central Bank Issuances



Source: Asian Development Bank. Data as of Sept. 30, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Exhibit 2: Underlying Market Weights Then and Now

Underlying Market Weight	September 30, 2005	October 31, 2024
China	11.24%	25.00%
Hong Kong SAR	18.30%	8.19%
Indonesia	5.99%	8.39%
South Korea	20.67%	15.42%
Malaysia	10.70%	11.44%
Philippines	4.96%	6.14%
Singapore	18.22%	16.07%
Thailand	9.92%	9.35%

Source: S&P Dow Jones Indices LLC. Data as of Oct. 31, 2024; this date was chosen because it marks the most recent change in the underlying market weights. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Over the past 20 years, the index has undergone several modifications to remain pertinent to the continuously evolving regional bond markets. The Exhibit 3 highlights the key changes applied. The index methodology and a history of the methodology changes can be found in the iBoxx ABF Index Methodology.

Exhibit 3: Key Index Methodology Changes

Date	Change
October 31, 2010	Change in maximum permissible weight from 30% to 25%.
October 31, 2012	Introduction of GEMLOC Investability Indicator.
October 31, 2016	Introduction of reduced baseline weight for small markets.
March 31, 2022	Change in limits on exposure to sub-sovereign issuers Reduction of minimum notional required for sub-sovereign issued green bonds.

Source: S&P Dow Jones Indices LLC. Data as of Jan. 31, 2025. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

In October 2010, in anticipation of differing paces of underlying market development and to ensure further diversification across the eight markets, the maximum permissible weight per market was updated from 30% to 25%. Additionally, in October 2012, iBoxx introduced the GEMLOC Investability Indicator as an input to our Asian local currency indices, including the iBoxx ABF index. The GEMLOC score is an assessment of each country based on six broad economic indicators primarily obtained from publicly available sources, namely:

- Capital controls;
- Market liquidity;
- Regulatory quality and creditor rights;
- Market infrastructure;
- Taxation; and
- Domestic investor base.

The incorporation of the GEMLOC scores has introduced a more consistent method for evaluating the accessibility and liquidity of the underlying bond markets, offering greater transparency and depth in various economic aspects relevant to the markets.

Before October 2016, each of the eight markets in the index was assigned an equal baseline weight of 12.5%, irrespective of their underlying local market sizes. However, concerns were raised about whether this method accurately represented the underlying markets, which exhibit significant differences in size and depth. For instance, the market sizes of China, South Korea, Hong Kong SAR, and the Philippines vary greatly. To tackle this issue, in October 2016, iBoxx introduced the concept of reduced baseline weights for markets with smaller government bond markets to address potential capacity issues arising from the baseline weights. For more technical details, please refer to section 4.2 of the index methodology.

The most recent change, in March 2022, saw two methodology updates.

A. Change in Limits on Exposure to Sub-Sovereign Issuers

Before March 2022, a maximum of five bonds from each eligible sub-sovereign issuer were permitted for index inclusion, with eligibility determined by a z-score that assessed the relative liquidity of a bond compared to other bonds from the same issuer. However, in parallel to the development of the previously mentioned government bond market, improvements in the Asian bond markets also enhanced the underlying liquidity and issuance sizes of sub-sovereign bonds. Consequently, while limiting the inclusion to five bonds per sub-sovereign issuer was sensible for market representation and liquidity nearly two decades ago, it may not accurately reflect the landscape today. For example, as of Jan. 31, 2025, bonds issued by Chinese policy banks accounted for approximately 45% of the iBoxx ALBI China Onshore index, with Chinese Government Bonds representing the remaining 55%. Therefore, the rule change in March 2022 permitted all sub-sovereign bonds to be included in the iBoxx ABF index, subject to a cap of 10% per issuer in their respective domestic markets to better reflect each market's issuance profile.

B. Reduction of Minimum Notional Required for Sub-Sovereign Issued Green Bonds

In July 2021, the EMEAP announced the agreement to promote investment in green bonds through the ABF.[1] This initiative is designed to encourage the growth of local currency-denominated green bonds in the region. As a result, to facilitate the broader inclusion of green bonds in the index, a lower minimum cutoff for sub-sovereign green bonds compared to regular sub-sovereign issuances was established.

[1] Source: EMEAP — https://www.emeap.org/wp-content/uploads/2021/07/Press-Statement-on-Green-Bond-July-2021.pdf.

Exhibit 4: Minimum Notional Requirement for Sub-Sovereign Bonds in iBoxx ABF

Market	Regular Sub-Sovereign Bond (USD Billions)	Green Sub-Sovereign Bond (USD Billions)
China Onshore	10	1.5
Hong Kong SAR	0.5	0.3
Indonesia	1,000	750
South Korea	100	100
Malaysia	0.5	0.25
Philippines	3	2.5
Singapore	0.2	0.15
Thailand	2	1.5

Source: S&P Dow Jones Indices LLC. Data as of March 31, 2025. Table is provided for illustrative purposes.

To mitigate the risk of greenwashing, more stringent criteria have been established to evaluate a bond's eligibility as a green bond. For instance, a self-designated green bond will not be recognized as a green bond within the iBoxx ABF index unless it satisfies one of the following requirements:

- It is certified as green by the Climate Bonds Initiative (CBI); or
- It adheres to the International Capital Market Association (ICMA) Green Bonds Principles as a self-labeled green bond and has obtained a Second Party Opinion.

On March 31, 2022, when the required minimum notional of sub-sovereign green bonds qualifying for the index was lowered, there were 13 green bonds collectively accounting for 0.20% of the overall index. By Jan. 31, 2025, the proportion of green bonds had increased to 1.72%, with a total of 39 green bonds included in the index. This shift reflects a consistent uptick in issuances and a growing representation of green bonds within the iBoxx ABF index following the revision of the index criteria.

2. From an ETF standpoint, what is the key to maintaining relevance to the market environment and investor base? (State Street Global Advisors)

At State Street Global Advisors, we have managed ETF portfolios for more than 30 years and understand the imperative of maintaining the value proposition of an ETF to investors. There are many investment products that give investors access to Asian bond markets, many of which are actively managed and have flexible mandates that may span across local currency and USD-denominated Asian bonds, and in some cases exposures outside of Asia may be allowed. In contrast to these types of exposures, an indexed ETF with a clear mandate to invest solely in local currency sovereign and quasi-sovereign bonds gives investors a level of certainty about their investment profile and can help to keep the fees and costs of running the fund relatively low.

However, the level of management costs and fund expenses are not the only potential barriers to entry for investors. For many, the liquidity of an ETF is an important consideration. We work with a range of providers in the ETF ecosystem, including the exchanges, market makers and authorized participants, to ensure that the funds we manage operate with reference to best practice and to ultimately improve the investment experience of the investor. For example, in 2024 we implemented a number of enhancements targeted at improving the investor experience when trading on exchange.

In an environment of increasing adoption and sophistication of technological tools, investors expect a level of transparency and data provision to facilitate due diligence and informed decision-making. The availability of indicative net asset values (iNAV) gives investors an estimated value of an ETF based on intraday index movements. Daily net asset value, shares outstanding, yield and holdings information is also made broadly available for most ETFs. Finally, continued engagement and dialogue with existing and potential investors are opportunities to understand their evolving needs, an important market feedback mechanism.

3. Since the inception of the ABF2 initiative, how have the underlying bond markets evolved? (State Street Global Advisors)

First, the underlying bond markets have grown in size and market activity. An average growth rate of 14% a year in the total amount outstanding was achieved during this time. Market activity, as indicated by secondary market bond trading volumes in USD, has grown commensurately, at around 14% a year.[2]

In addition to impressive growth in size and transaction volumes, they are also improving in quality as a group and becoming more established over time. The average rating of local currency government bonds across the eight markets has improved from A-/A in June 2005 to A/A+ in December 2024, with the most significant improvement observed in Indonesia, moving up 4 notches from BB- to BBB. Foreign investor participation in local currency Asian bond markets has also increased over the last 20 years, from a negligible amount to an average of 13% across the eight markets. This might be interpreted as a vote of confidence for the resilience of the bond markets that have certainly been tested over this time. Issuers are also signaling increasing confidence, bringing bonds with much longer maturities to the market. Looking ahead, the digitization of bond markets can further facilitate their evolution by improving efficiency and transparency.

4. From a portfolio manager's perspective, how has your approach to managing portfolios of bonds from this region changed over the past 20 years? (State Street Global Advisors)

While our approach to managing portfolios in the region has involved incremental changes and enhancements, our overall focus has remained unchanged, which in the indexed fixed income space is to provide access to low-cost, low-tracking-error indexed investments. It is a priority that has not shifted over the past 20 years, along with a strong governance framework over the broader ETF ecosystem.

Portfolio trading introduces costs that are not all factored into the calculation of index performance, so on the one hand, there is a need to focus on maintaining the integrity and performance against the index that we are tracking, while on the other hand aiming to keep trading costs as low as possible. One of the ways in which we aim to achieve this, rather than full replication of the index, is to take a stratified sampling approach, where we may not own all of the bonds in the index, but the sector allocations, quality and maturity bands are in line with that of the index. Our extensive experience in indexed investing allows us to effectively balance tracking error and portfolio performance.

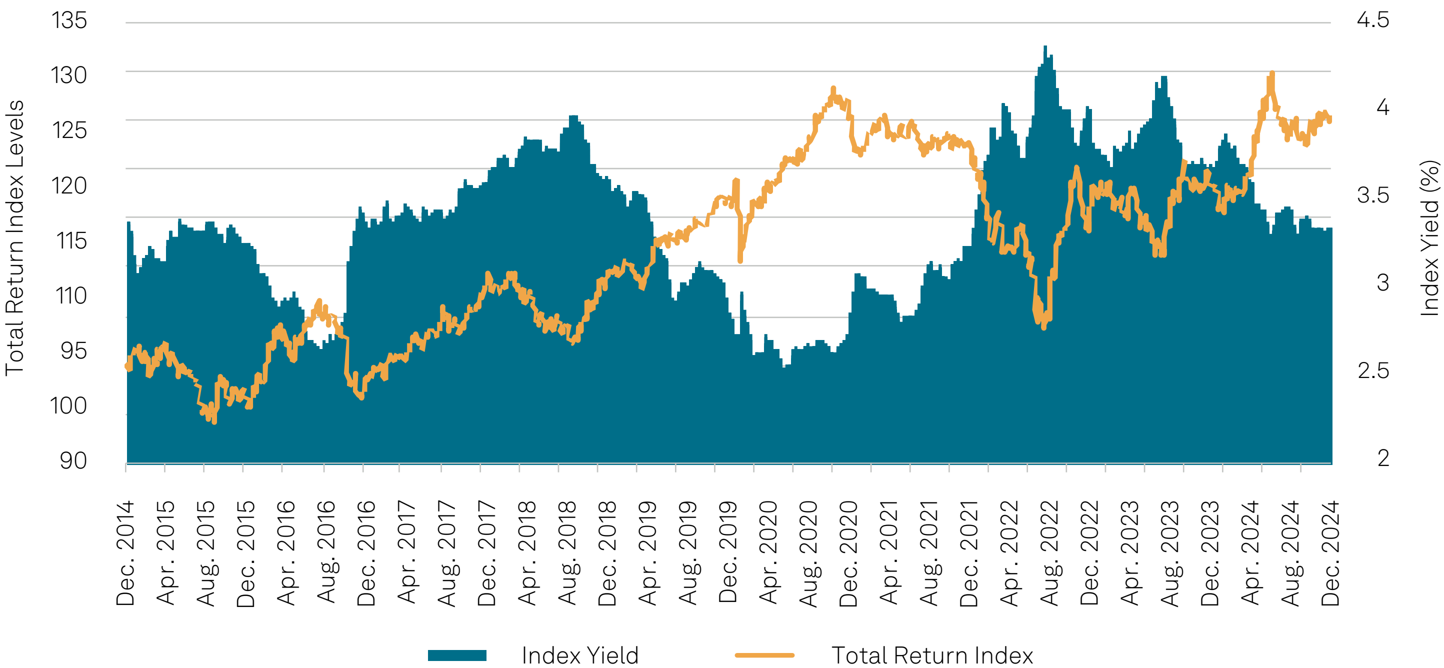
As local bond issuance picked up over time with more issuers tapping the fixed income market for financing, portfolio managers have been proactively involved in primary market issuances, new issues and bond exchanges. In addition, we have been working closely with dealers to source bonds in the secondary market from dealers with bond axes in their inventory and leveraging the strong dealer relationship built up over years to achieve good execution. More generally, portfolio management teams have increasingly adopted electronic trading platforms in the execution process to achieve efficient and better execution outcomes.

5. A lot of investors focus on yield for their bond investments, since all else equal, it can be a good indicator of total return. However, when interest rate regimes change, as they did in recent years, there was a disconnect between expected returns and actual investor experience. What can be learned from this? (S&P DJI)

The relationship between yield and total return in bonds is a crucial aspect for market participants to understand. While yield represents the income generated from a bond, typically expressed as a percentage of its market value, total return encompasses both yield and any capital gains or losses realized during the investment period. In a declining interest rate environment, bond prices generally rise, potentially leading to significant capital gains. Therefore, relying solely on yield can be misleading; it is essential to consider the total return, which includes these capital gains, as they can significantly enhance overall performance. This holistic approach enables market participants to make more informed decisions, particularly in a market characterized by falling interest rates, where the potential for price appreciation can outweigh the yield alone.

[2] Source: Asia Development Bank, Asian Bonds Online, as of Sept. 30, 2024, and June 30, 2024, respectively.

Exhibit 5: iBoxx ABF Pan-Asia Index Yield and Performance



Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2014, to March 31, 2025. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Exhibit 6: Yield Range versus Total Return

Period	Yield Range (%)	Total Return (%)	Yield Relative to Adjacent Period
Oct. 31, 2022 to Oct. 31, 2023	4.16–4.27	6.55%	High
Oct. 31, 2023 to Sept. 30, 2024	3.31–4.16	16.02%	Declining
Oct. 31, 2017 to Oct. 31, 2018	3.55–3.91	-0.99%	High
Oct. 31, 2018 to Oct. 31, 2019	3.09–3.91	11.34%	Declining

Source: S&P Dow Jones Indices LLC. Data from Oct. 31, 2017, to March 31, 2025. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Looking at certain periods in the past 10 years for instance, Exhibit 6 demonstrates that a relatively higher yield does not automatically equate to higher total returns. In fact, an increase in yield compared to previous periods may indicate heightened credit risk associated with the economy or the issuer. Therefore, market participants may want to focus on assessing the overall potential performance of the index and its underlying holdings, including the issuers, while taking into account macroeconomic factors and the economic outlook of the relevant economies, rather than solely concentrating on yield.

This consideration is especially relevant for the underlying bonds in the iBoxx ABF Pan-Asia index, which consists of government bonds and sub-sovereign bonds that are closely linked to central governments. Any alterations in government policies or key interest rates could have a direct impact on the returns of these bonds.

In addition, FX movements are also key in driving the total return of the aggregate iBoxx ABF Pan-Asia index whose performance is denominated in U.S. dollars.

Exhibit 7: FX Movements of Local Currencies against the U.S. Dollar

Currency Pair	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
USD/CNY	2.88	14.50	4.78	17.72
USD/HKD	-0.63	-0.42	-0.30	0.10
USD/KRW	14.30	23.83	27.29	33.92
USD/SGD	3.09	0.66	0.97	2.79
USD/IDR	4.51	12.91	16.09	29.76
USD/MYR	-2.49	7.27	9.29	27.93
USD/PHP	4.48	13.47	14.23	29.32
USD/THB	-0.10	2.07	13.83	3.65

Source: WM Refinitiv. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

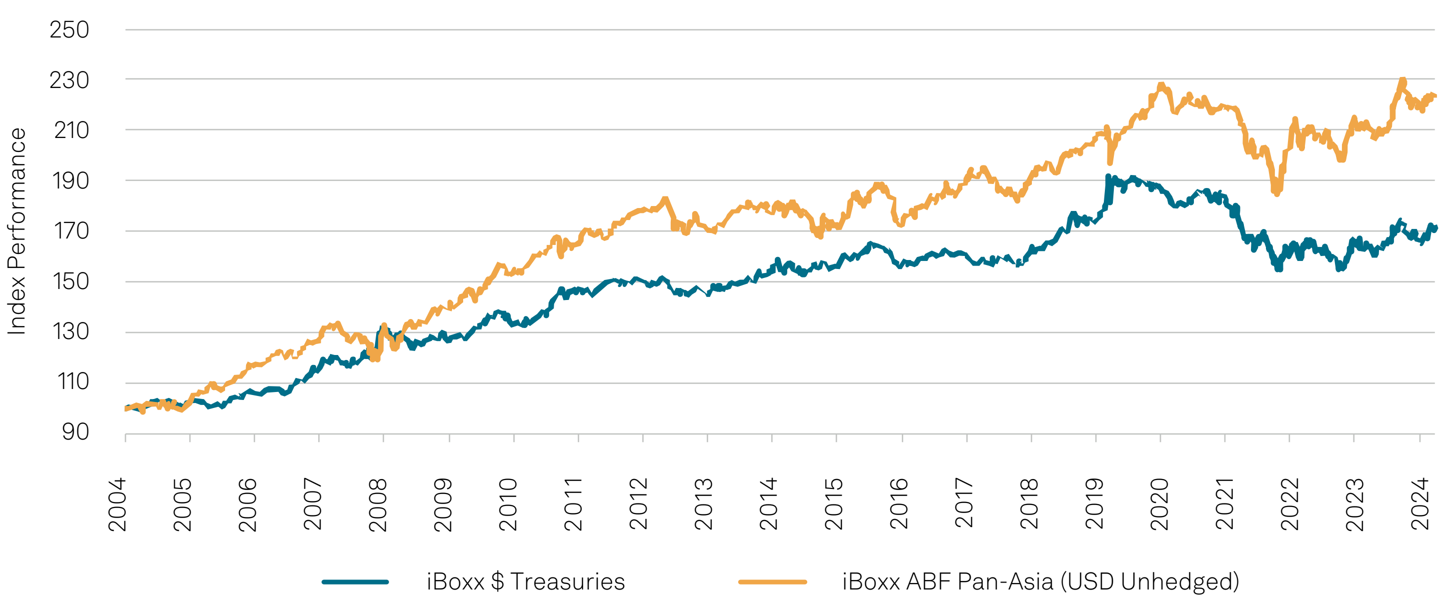
Since the index is denominated in U.S. dollars, fluctuations in the underlying Asian currencies against the dollar play a crucial role in influencing the overall index's gains or losses. This factor is particularly important because even during months where the local currency bonds experience gains or losses, the aggregate index performance can still move in the opposite direction due to FX dynamics. As illustrated in Exhibit 7, the U.S. dollar has appreciated significantly over the past 10 years — by over 25% — against currencies such as the Korean won, Indonesian rupiah, Philippine peso, and Malaysian ringgit. In contrast, the Hong Kong dollar has remained relatively stable against the U.S. dollar, owing to its peg to the greenback.

Therefore, when investing in Asian local currency bonds, it is essential to consider FX movements, as they can substantially affect investment returns. Currency fluctuations can either enhance or erode returns from local bonds, making it crucial for market participants to assess the potential risks and rewards associated with the currency exposure.

6. What role can Asian local currency fixed income play in a global strategy? (S&P DJI)

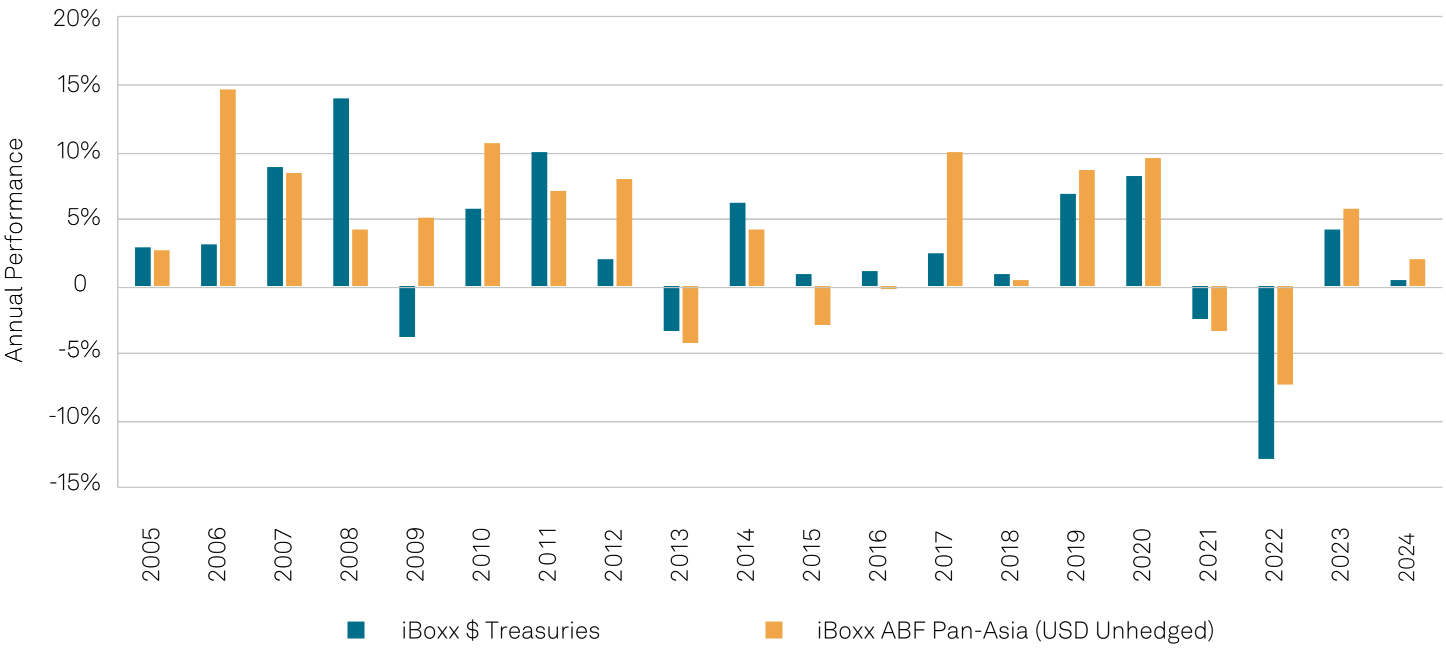
Asian local currency bonds, when compared to U.S. Treasuries, demonstrate the following performance characteristics:

Exhibit 8: iBoxx USD Treasuries and iBoxx ABF Pan-Asia Performance



Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2014, to March 31, 2025. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Exhibit 9: Historical Annual Performance of iBoxx USD Treasuries and the iBoxx ABF Pan-Asia



Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2014, to Dec. 31, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Examining the historical annual performance of both indices reveals that the extent of their differences varies from year to year. Over the past two decades:

- The iBoxx ABF Pan-Asia (USD Unhedged) index outperformed iBoxx $ Treasuries in 11 of the 20 years;
- In 6 of those years, the annual performance differences exceeded 5%; and
- There were only 5 years where differences in annual performance were within 1%.

The diversification potential of including Asian local currency bonds in a global fixed income strategy can be significant, in that they could potentially mitigate risks associated with economic fluctuations in other regions. The unique performance patterns of Asian local currency bonds could potentially enhance strategy stability, as they frequently respond differently to global market dynamics.

7. What does the next chapter for local currency bonds in this region look like? (State Street Global Advisors)

Asia's vibrant economies and resilient financial systems have sustained the performance of their local currency bond markets through a range of challenges. The inclusion of select Asian bond markets in major bond indices signals the growing clout of Asian bonds in long-term investors' asset allocation. There have been developments in the area of sustainability, driven by bond issuer initiatives to take climate action and/or due to investor demand. Green bonds, and other types of sustainability-related issuances, will likely see more growth on the horizon. Meanwhile, demand for infrastructure and other investments to support dynamic and growing economies likely translates into continued growth in bond supply more generally.

On the demand side, there is a large savings pool in Asia to tap into, as well as investors further afield. Local currency bonds are seen as a source of reliable income for investors in the region, exhibiting good risk-adjusted returns that are comparable with that of developed market government bonds. The introduction of ETFs gave investors choice and access, while also furthering the transformation in the underlying bond markets. Concurrent digitization of bond markets means better efficiency and transparency ahead, which is why we believe the future is bright for Asian local currency bonds.

8. From an indexing standpoint, how does S&P DJI ensure that the index will remain relevant to the Asian market for the next 20 years and beyond? (S&P DJI)

At S&P Dow Jones Indices (S&P DJI), we continuously strive to gather feedback from the market to ensure our indices reflect current market trends and accurately represent the sectors they cover. Our robust internal governance process includes an annual benchmark review of all indices, confirming their continued relevance and alignment with market conditions.

Each year, we also undertake an index review process, which typically involves a series of meetings with key clients across various regions globally. This direct interaction allows us to gather insights from users on the ground, helping us to identify significant trends or gaps in the market that may necessitate adjustments to our indices. Before any methodology changes are enacted, our proposals are presented to the index committee, led by our governance team, and if deemed appropriate, a public consultation will be conducted to gather additional feedback from the market prior to finalizing any modifications.

Over the past two decades, the iBoxx ABF Pan-Asia index has experienced several adjustments to maintain its relevance within Asian markets. As these markets continue to evolve, our dedicated team at S&P DJI remains committed to responding to these changes proactively.

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