Fixed income exchange-traded funds (ETFs) currently comprise USD 385 billion in assets, globally, 15% of the total ETF universe. Fixed income ETFs recorded USD 26.5 billion of asset inflows year-to-date (YTD) through April 2014, 40% of ETF inflows, worldwide. The increase in assets may be an indication that there is strong investor demand for fixed income ETF products. Similarly, positive inflow YTD was also observed in Asian fixed income ETFs; which currently represent USD 9 billion in assets.

While the current market penetration of Asian fixed income ETFs is relatively low, more expansive product offerings are anticipated. Product diversity is certainly one of the keys to the development of this part of the fixed income universe.

In this paper, we examine the Pan Asian bond market and identify its key characteristics, in order to increase the transparency and investor understanding of the market. The S&P Pan Asia Bond Index measures the performance of local-currency-denominated bond markets in China, Hong Kong, India, Indonesia, Korea, Singapore, Malaysia, Philippines, Taiwan and Thailand. The index is denominated in USD and aggregates the returns of the 10 countries tracked in the region. We first look at the size of the markets the indices track.

Exhibit 1 demonstrates the total market cap (in USD) tracked by the index, which increased nearly 60% since the index was first valued on December 29, 2006. While China doubled its size and continuously maintained its market share dominance during the period, bond markets in Indonesia and the Philippines have expanded more than fourfold and threefold, respectively, over the same time.

Exhibit 1: Market Cap Tracked by the S&P Pan Asia Bond Index

Source: S&P Dow Jones Indices. Data as of May 30, 2014. Charts are provided for illustrative purposes. This chart may reflect hypothetical historical performance. Please see the Performance Disclosures at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Past performance is no guarantee of future results.
Next, we look at the volatilities of the country-level S&P Pan Asia Bond Indices. Exhibit 2 shows the five-year annualized volatility of the 10 country indices in the S&P Pan Asia Bond Index Series, which are denominated in their respective local currencies. Excluding the relatively high volatilities in Indonesia and Philippines, most countries have an annualized volatility around the 2% level.

Exhibit 2: Five-Year Annualized Volatilities

The bond price volatility in Asia is not necessarily higher than other major international bond markets.

Exhibit 3: Comparison of Major Bond Markets’ Annualized Volatility

Source: S&P Dow Jones Indices. Data as of May 30, 2014. Charts are provided for illustrative purposes. This chart may reflect hypothetical historical performance. Please see the Performance Disclosures at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Past performance is no guarantee of future results.

In Exhibit 3, we compare the five-year annualized volatility of the Pan Asia bond market with other major bond markets, such as the U.S. Treasury, U.S. corporate, Eurozone sovereign and Australian bond markets. For this comparison, we use the S&P Pan Asia Bond Index, which is denominated in USD. Of note, the bond price volatility in Asia (even accounting for foreign currency fluctuations) is not necessarily higher than the other major markets.
Exhibit 4 shows the country correlation matrix for the S&P Asia Bond Index countries, which demonstrates that the correlation is generally low among the 10 countries. It is interesting to note that, despite the fact that China contributes a significant weight to the index; the Chinese bond market has a low correlation with the other nine markets in the index.

<table>
<thead>
<tr>
<th>Country</th>
<th>China</th>
<th>Hong Kong</th>
<th>India</th>
<th>Indonesia</th>
<th>Korea</th>
<th>Singapore</th>
<th>Malaysia</th>
<th>Philippines</th>
<th>Taiwan</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1.000</td>
<td>0.115</td>
<td>0.198</td>
<td>0.182</td>
<td>0.191</td>
<td>0.202</td>
<td>0.175</td>
<td>0.234</td>
<td>0.240</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>0.115</td>
<td>1.000</td>
<td>0.371</td>
<td>0.257</td>
<td>0.524</td>
<td>0.698</td>
<td>0.408</td>
<td>0.179</td>
<td>0.380</td>
<td>0.457</td>
</tr>
<tr>
<td>India</td>
<td>0.198</td>
<td>0.371</td>
<td>1.000</td>
<td>0.298</td>
<td>0.287</td>
<td>0.178</td>
<td>0.402</td>
<td>0.110</td>
<td>0.283</td>
<td>0.340</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.182</td>
<td>0.257</td>
<td>0.298</td>
<td>1.000</td>
<td>0.363</td>
<td>0.498</td>
<td>0.577</td>
<td>0.475</td>
<td>0.183</td>
<td>0.189</td>
</tr>
<tr>
<td>Korea</td>
<td>0.191</td>
<td>0.524</td>
<td>0.363</td>
<td>1.000</td>
<td>0.511</td>
<td>0.545</td>
<td>0.376</td>
<td>0.240</td>
<td>0.508</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>0.192</td>
<td>0.698</td>
<td>0.178</td>
<td>0.498</td>
<td>0.511</td>
<td>1.000</td>
<td>0.623</td>
<td>0.337</td>
<td>0.493</td>
<td>0.462</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.202</td>
<td>0.408</td>
<td>0.402</td>
<td>0.577</td>
<td>0.545</td>
<td>0.623</td>
<td>1.000</td>
<td>0.247</td>
<td>0.361</td>
<td>0.529</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.175</td>
<td>0.179</td>
<td>0.110</td>
<td>0.475</td>
<td>0.376</td>
<td>0.337</td>
<td>0.247</td>
<td>1.000</td>
<td>-0.093</td>
<td>0.148</td>
</tr>
<tr>
<td>Taiwan</td>
<td>0.234</td>
<td>0.380</td>
<td>0.283</td>
<td>0.183</td>
<td>0.240</td>
<td>0.493</td>
<td>0.361</td>
<td>-0.093</td>
<td>1.000</td>
<td>0.413</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.240</td>
<td>0.457</td>
<td>0.340</td>
<td>0.189</td>
<td>0.508</td>
<td>0.462</td>
<td>0.529</td>
<td>0.148</td>
<td>0.413</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: S&P Dow Jones Indices. Data as of May 30, 2014. Charts are provided for illustrative purposes. This chart may reflect hypothetical historical performance. Please see the Performance Disclosures at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Past performance is no guarantee of future results.

Finally, we look at the five-year, risk-adjusted returns of the 10 countries in the S&P Pan Asia Bond Index. It is noted that, while the overall index delivered a five-year, risk-adjusted return of 1.258, Korea and Malaysia were clearly the outperformers, with risk-adjusted returns of 3.094 and 3.058, respectively.

While the S&P Pan Asia Bond Index delivered a five-year, risk-adjusted return of 1.258, Korea and Malaysia were clearly the outperformers, with 3.094 and 3.058, respectively.
In conclusion, the S&P Pan Asia Bond Index is designed to provide a broad benchmark for the local-currency-denominated bond market. The local currency bond market has expanded rapidly in recent years, notably in Indonesia and the Philippines. The volatility of the S&P Pan Asia Bond Index is on par with other major bond markets worldwide, even when foreign currency fluctuations are taken into account. The low correlation to China’s bond market among the 10 countries in the Pan Asia fixed income market further provides the value of country diversification. Looking at risk-adjusted returns, the S&P Korea Bond Index and the S&P Malaysia Bond Index have outperformed other countries over a five-year horizon.
PERFORMANCE DISCLOSURES

The S&P Pan Asia Bond Index and country subindices (the “Index”) were launched on March, 12, 2014. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the methodology that was in effect when the index was officially launched. Complete index methodology details are available at www.spdji.com. It is not possible to invest directly in an index.

The S&P/BGCantor U.S. Treasury Bond Index (the “Index”) was launched on March 24, 2010. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Complete index methodology details are available at www.spdji.com. It is not possible to invest directly in an index.

The S&P U.S. Issued Investment Grade Corporate Bond Index (the “Index”) was launched on April 9, 2013. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Complete index methodology details are available at www.spdji.com. It is not possible to invest directly in an index.

The S&P Eurozone Sovereign Bond Index (the “Index”) was launched on Nov. 16, 2009. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Complete index methodology details are available at www.spdji.com. It is not possible to invest directly in an index.

The S&P/ASX Australian Fixed Interest Index (the “Index”) was launched on Dec. 31, 2004. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Complete index methodology details are available at www.spdji.com. It is not possible to invest directly in an index.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency on their products. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data-feed to external parties. For Dow Jones-branded indicators introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).
GENERAL DISCLAIMER

© S&P Dow Jones Indices LLC, a part of McGraw Hill Financial 2014. All rights reserved. Standard & Poor’s and S&P are registered trademarks of Standard & Poor’s Financial Services LLC (“S&P”), a part of McGraw Hill Financial. Dow Jones is a registered trademark of Dow Jones Trademark Holdings LLC (“Dow Jones”). Trademarks have been licensed to S&P Dow Jones Indices LLC. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, Dow Jones, S&P or their respective affiliates (collectively “S&P Dow Jones Indices”) do not have the necessary licenses. All information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties. Past performance of an index is not a guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, model, software or other application or output therefrom) or any part thereof (Content) 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 S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively “S&P Dow Jones Indices Parties”) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN “AS IS” BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT’S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, are generally provided by affiliates of S&P Dow Jones Indices, including but not limited to Standard & Poor’s Financial Services LLC and Capital IQ, Inc. Such analyses and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. Any opinion, analyses and rating acknowledgement decisions (described below) are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Dow Jones Indices does not assume any obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Dow Jones Indices LLC does not act as a fiduciary or an investment advisor. While S&P Dow Jones Indices has obtained information from sources they believe to be reliable, S&P Dow Jones Indices does not perform an audit or undertake any duty of due diligence or independent verification of any information it receives.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P Ratings Services reserves the right to assign, withdraw or suspend such acknowledgement at any time and in its sole discretion. S&P Dow Jones Indices, including S&P Ratings Services disclaim any duty whatsoever arising out of the assignment, withdrawal or suspension of an acknowledgement as well as any liability for any damage alleged to have been suffered on account thereof.

Affiliates of S&P Dow Jones Indices LLC may receive compensation for its ratings and certain credit-related analyses, normally from issuers or underwriters of securities or from obligors. Such affiliates of S&P Dow Jones Indices LLC reserve the right to disseminate its opinions and analyses. Public ratings and analyses from S&P Ratings Services are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P Rating Services publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.

S&P Dow Jones Indices keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P Dow Jones Indices may have information that is not available to other business units. S&P Dow Jones Indices has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.
GENERAL DISCLAIMER (continued)

BGCantor and BGCantor Market Data are trademarks of BGCantor Market Data L.P. or its affiliates and have been licensed for use by Standard & Poor's. None of the financial products based on the S&P/BGCantor U.S. Treasury Indices are sponsored, endorsed, sold or promoted by BGCantor Market Data, L.P. and BGCantor Market Data, L.P. makes no representation regarding the advisability of investing in such products.

CITIGROUP is a registered trademark and service mark of Citigroup Inc. or its affiliates and is used under license for certain purposes by Standard & Poor’s. Reproduction of the Citigroup data and information in any form is prohibited except with the prior written permission of S&P or Citigroup Index LLC (“Citigroup”). Because of the possibility of human or mechanical error, Citigroup does not guarantee the accuracy, adequacy, completeness or availability of any data and information and is not responsible for any errors or omissions or for the results obtained from the use of such data and information. CITIGROUP GIVES NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. In no event shall Citigroup be liable for any direct, indirect, special or consequential damages in connection with any use of the Citigroup data or information.