

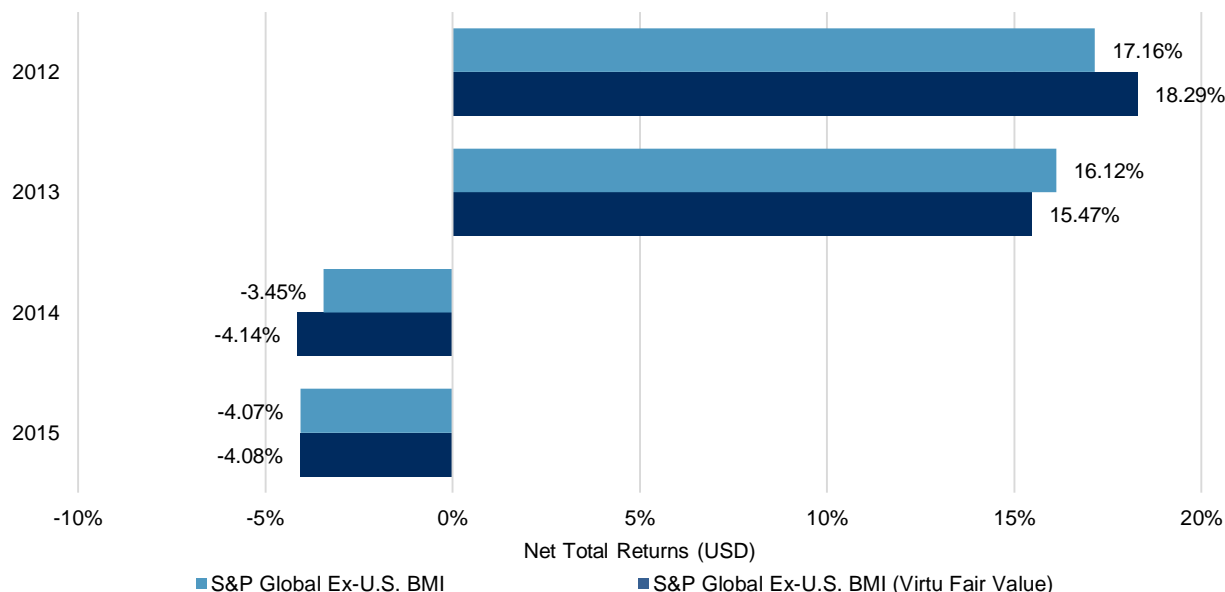
Frequently Asked Questions

S&P Fair Value Indices

U.S.-registered mutual funds with global holdings can more precisely explain artificial tracking error between a benchmark index and fund net asset value (NAV) through use of the S&P Fair Value indices.

- 1. What are the S&P Fair Value Indices?** The S&P Fair Value Indices incorporate adjustments to company share prices based on information available after the close of local exchanges. These fair value adjustments are calculated at the U.S. market close and are then used in the daily calculation of the S&P Fair Value Indices.
- 2. What are some key benefits of using the indices?** U.S. mutual funds that hold foreign securities may have tracking error between benchmark indices and fund valuations, since NAVs include adjustments based on market movement outside of regular local trading hours. The S&P Fair Value Indices offer an explanation of this tracking error by incorporating these market movements into the underlying share prices of the index, and may act as a secondary benchmark for a given fund. As illustrated in Exhibit 1, period returns can vary widely between standard benchmarks and their fair value counterpart.

Exhibit 1: Benchmark Index Returns versus Fair Value Indices



Source: S&P Dow Jones Indices LLC. Data from 2012 to 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

3. **How are the fair value adjustments reflected in the indices?** The indices are calculated using fair value adjustment factors applied on an individual basis to each stock in the index. The price for each stock is multiplied by the fair value adjustment for that stock to arrive at a fair value price measured as of the close of trading on the New York Stock Exchange using the 4:00 p.m. EST WM/Reuters exchange rate.
4. **What is the source of the fair value adjustment factor?** The factors are provided by Virtu Financial, Inc. a pricing service that calculates fair value adjustments. Virtu’s fair value pricing service was previously called ITG Fair Value Model.
5. **Are any other changes made to the indices?** The index uses the composition effective at the next day’s open (i.e., the adjusted close data). The index is then calculated in the same fashion as the underlying index.
6. **What S&P Fair Value Indices are available?** Exhibit 2 includes a sampling of our current S&P Fair Value Indices.

Exhibit 2: Fair Value Indices and Their Underlying Benchmarks	
INDEX NAME	UNDERLYING INDEX
S&P Emerging BMI (Virtu Fair Value) (USD)	S&P Emerging BMI
S&P EPAC BMI (Virtu Fair Value) (USD)	S&P EPAC BMI
S&P Global BMI (Virtu Fair Value) (USD)	S&P Global BMI
S&P Global Ex-U.S. Property (Virtu Fair Value) (USD)	S&P Global Ex-U.S. Property
S&P Global Ex-U.S. BMI (Virtu Fair Value) (USD)	S&P Global Ex-U.S. BMI
S&P Developed Ex-U.S. BMI (Virtu Fair Value) (USD)	S&P Developed Ex-U.S. BMI
S&P EPAC SmallCap (Virtu Fair Value) (USD)	S&P EPAC SmallCap

Source: S&P Dow Jones Indices LLC. Data as of October 2019. Table is provided for illustrative purposes.

S&P Dow Jones Indices can calculate fair value versions of any international equity benchmark based on client needs. For a full list of available indices, please refer to the [S&P Fair Value Indices Parameters document](#).

GENERAL DISCLAIMER

Copyright © 2019 S&P Dow Jones Indices LLC. All rights reserved. STANDARD & POOR'S, S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of Standard & Poor's Financial Services LLC, a division of S&P Global ("S&P"). DOW JONES, DJ, DJIA and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, 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 and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be 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 product or 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 and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or 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.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global 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.