

MSCI INDEXES WITH ITG FAIR VALUE MODEL

When an actively managed mutual fund's Net Asset Value (NAV) is fair value adjusted and its benchmark is calculated on closing prices, this results in an artificial tracking error.

The MSCI Indexes with ITG Fair Value Model help active fund managers, pension plans and consultants explain the artificial tracking error between a fund's fair value adjusted NAV and an MSCI index calculated using closing prices.

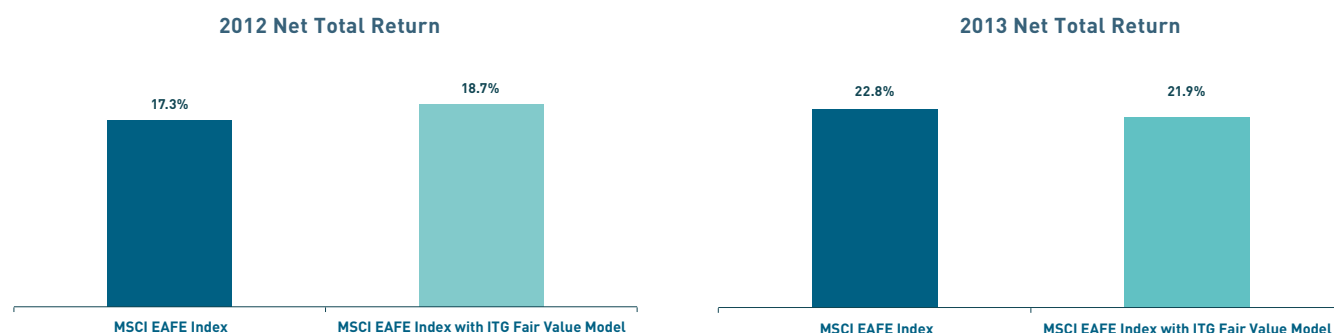
KEY BENEFITS

The MSCI Indexes with ITG Fair Value Model offer the following benefits to active fund managers, pension plans and consultants:

- **Marketing and Reporting** – Explain active mutual fund tracking error to clients
- **Internal Reporting** – Explain return dispersion for active mutual funds to investment boards
- **Fund Evaluation and Research** – Support active mutual fund research process

Figure 1 shows a significant fair value adjustment in 2012 for the MSCI EAFE Index following a rally in the US market on Dec. 31, 2012. A fund using fair value to calculate its NAV and comparing its performance to an index calculated using closing prices would likely have shown significant artificial outperformance. The situation would reverse in 2013. MSCI Indexes with ITG Fair Value Model can help to explain these differences.

FIGURE 1: FAIR VALUE ADJUSTMENT COMPARISON



INDEX METHODOLOGY

The MSCI Indexes with ITG Fair Value Model are calculated using fair value adjustment factors as of the close of the New York Stock Exchange provided by ITG's Portfolio Fair Value Service.

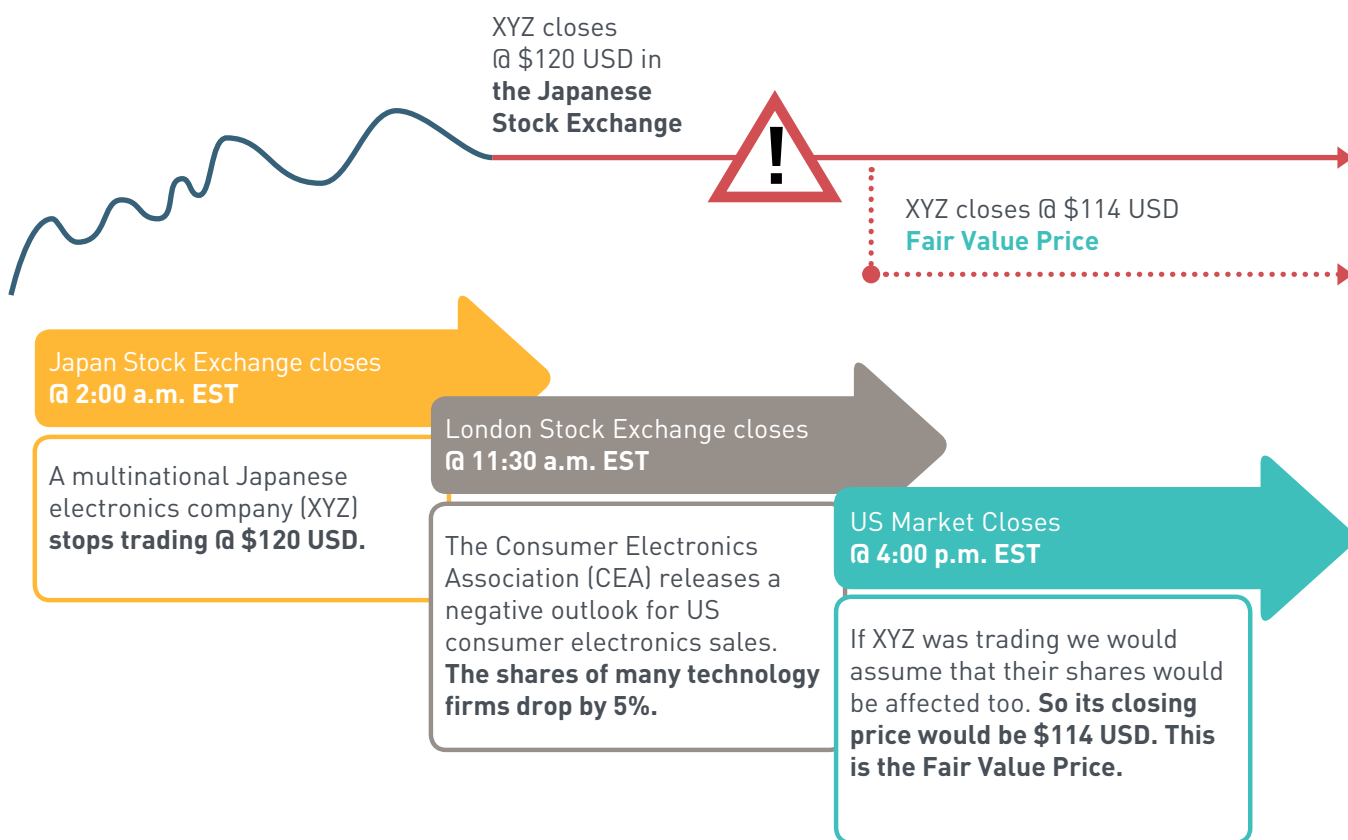
- After the close of the exchanges in Americas (t), the initial security weights for the index for t+1 are calculated
- For each constituent, the Fair Value return is calculated using the FV evaluated adjustment factor from ITG and the 4:00P.M. EST WM/Reuters exchange rate
- The fair value adjusted index return is then calculated as the weighted sum of the constituents' fair value returns

- The fair value adjusted index level is derived by multiplying this fair value adjusted index return with the official USD closing level of the index for day t to derive the fair value adjusted index level.

Figure 2 illustrates the need to Fair Value adjust the price of a Japanese electronics company. The trading price of XYZ Inc. shares closed at \$120 USD on the

Japanese Exchange at 2:00 A.M. EST. Afterwards, there was some negative news that led the global sector to a 5% decrease. By 4:00 P.M. EST – when the U.S. market closes – the value of the Japanese electronics company in international portfolios is adjusted to a \$114 USD Fair Value Price.

FIGURE 2: FAIR VALUE HYPOTHETICAL EXAMPLE



INDEX LICENSING

Ongoing Fair Value Adjusted Index Levels for 129 flagship indexes will be available in the MSCI Index Module with ITG Fair Value Model. Indexes derived from the MSCI ACWI IMI security universe are included.

INDEX DELIVERY

Index and security level data are distributed daily through vendors or via direct delivery (Internet FTP).

INDEX HISTORY

Daily index level history is available back to 2005.

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