

# FTSE EDHEC-RISK EFFICIENT INDEX SERIES

## QUESTIONS & ANSWERS

### Q. What is meant by “Efficient” Indices?

A. The FTSE EDHEC-Risk Efficient Index Series aims at improving the risk/reward efficiency of market capitalisation or cap-weighted indices by applying an optimal weighting scheme to index constituents. Cap-weighted equity indices have a lower reward-to-risk ratio compared to what can be achieved through carefully constructed and well-diversified portfolios that invest in the same constituents.

### Q. What is the Sharpe Ratio?

A. The Sharpe ratio measures the reward of an investment per unit of risk. The reward is measured in terms of the return in excess of the risk-free interest rate. Risk is measured in terms of the volatility of the index. The efficient index series uses modern portfolio construction techniques to find the constituent weightings that would lead to the highest possible Sharpe Ratio.

### Q. What is the Tangency Portfolio?

A. The tangency portfolio is simply the portfolio that obtains the highest Sharpe Ratio. Modern portfolio theory argues that investors should only be interested in this unique portfolio, since it can be combined with an investment in the risk-free interest rate to obtain any desired level of risk exposure. The efficient index series draws on portfolio construction techniques to get as close as possible to this so called tangency portfolio.

### Q. How is this index series different from cap-weighted indices? How is it different from other non cap-weighted indices?

Cap-weighted indices weight stocks by the footprint a company leaves on the stock market as reflected in its market capitalisation. Characteristics-based indices that weight stocks according to company characteristics such as earnings or book value try to obtain a measure of the economic footprint of the company. Both indices have been created to give a representative picture of the stock market or of the general economy.

The efficient index series weights stocks by the “risk/reward footprint” they leave in the investor’s portfolio. The weightings in the index series address investors’ concerns by having higher weights in stocks that contribute most to improving the indices’ Sharpe Ratio and low weights in stocks that contribute less to increasing the Sharpe Ratio.

While cap-weighted and characteristics-based indices are designed to be representative of the economy, the efficient index series is designed to be efficient in the sense of providing a true reflection of the risk/reward trade-off available to investors in the broad stock market.

### Q. What indices are part of the Efficient Index Series?

A. FTSE will be launching an index series called the FTSE EDHEC-Risk Efficient Index Series, of which the initial regional/country indices will cover Developed Asia Pacific ex Japan, Eurobloc, Japan, UK and USA.

These indices are based on the constituents of the corresponding FTSE All World Index Series. FTSE will also use the weighting scheme of the index series on customised versions.

### Q. How often are the indices rebalanced and how is turnover controlled?

A. The index series is rebalanced quarterly in accordance with the review of the underlying FTSE All World Index Series. The turnover incurred by updating the weights through quarterly portfolio optimisation is reduced by applying a rebalancing threshold. Rebalancing will only be carried out if the weights deviate significantly (more than 50%) from the revised optimal weights. Such an approach leads to a significant reduction in turnover while maintaining the improved risk/reward efficiency of the index series.

### Q. What have the results been like on historical data and how consistent have results been?

A. The back history of the index series has shown that the indices outperformed the relevant cap-weighted indices since 2002, by approximately 200 basis points annually, whilst typically lowering volatility. This led to a higher reward-to-risk ratio for investors. Academic research on similar portfolio construction techniques has shown that comparable improvements in efficiency are obtained over long horizons. However, in extreme bull markets, such as during the period from 1996 to 1999, cap-weighted indices tended to obtain higher returns than efficiently weighted indices. Efficiently weighted indices continued to have lower volatility during these market conditions.

### Q. The use of historical data in portfolio optimisation could lead to weightings in the indices that are far from optimal. How is this addressed?

A. The index series implements the fundamental insight of modern portfolio theory that investors should hold the optimum risk/reward portfolio. To implement this portfolio optimisation with success, one requires robust estimates of risk and return parameters. To obtain robust parameter estimates for the stocks’ return comovements, common return drivers are estimated through an equity factor model. To estimate the stocks’ expected returns, risk is measured for each stock. Then, if there is a risk-return trade-off, the stock’s riskiness should be an indicator of its expected returns. In fact, the academic literature has emphasised that there is a link between a stock’s downside risk and the stock’s expected returns. Thus, expected returns are approximated by the level of downside risk of the stock. This together with correlation estimates from a factor model can be expected to yield robust index weightings when used in portfolio optimisation.

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