Fundamental Market Indexes

Since market-cap weighted indexes weight companies according to market capitalization, and respectively the stock price, they often reflect the investors' enthusiasm over certain sectors. To remove market exuberance from the indexing process, FTSE, together with its partner Research Affiliates, has developed FTSE RAFI Index Series, a range of indices that are based on fundamental metrics of company size including sales, earnings, book value, cash flow, and dividends.

Q: What are the key features of the fundamental indexation™ methodology of the FTSE RAFI Index Series?

A: The concept of fundamental indexation™ was introduced by Rob Arnott and his team at Research Affiliates, who were looking to create an alternative to market-cap weighted indexes. The idea is that a market-cap weighted index, where stock price is a key variable, reflects a good part of the investor psychology that determines the price, while fundamentally weighted indexes exclude market emotions.

Instead of using market-cap weighting, Rob Arnott used sales, earnings, cash flow, and book value to measure company size. His experiment showed what would happen if each of those weightings replaced market capitalization.

He found that fundamental weighting over a period of time results in improved performance of about 2% to 2.2% per year, which is significant. He observed that trend over a 40-year cycle on an annual basis, but also within different cycles such as bear markets, bull markets, recessions, and inflation periods. In certain markets, such as the period of the Internet bubble, the fundamentally weighted indices actually underperformed, but caught up and outperformed as the bubble started to deflate.

The first FTSE RAFI ETF (NYSE:PRF), launched by PowerShares and based on the FTSE RAFI 1000 index was selected by SmartMoney.com as the Best ETF of 2006. Since then, FTSE has added to the family of FTSE RAFI indexes which includes sectors, global, emerging markets, as well large-cap, mid-cap, and small-cap U.S., European and Asian slices.

Q: When you apply this approach, do you use the GAAP earnings or you use normalized earnings our over a business cycle?

A: We don't adjust earnings; we use the GAAP numbers. What we do is to equally weight each one of the fundamental factors for every company. We don't just use earnings; we even use dividends. But we do use a five-year moving average for each of the fundamental metrics, instead of the most recent results.

Q: Market-cap weighted indices tend to be dominated by the sectors, which are currently doing well. At the same time, fundamental indexes™ are probably stressing the companies with strong earnings

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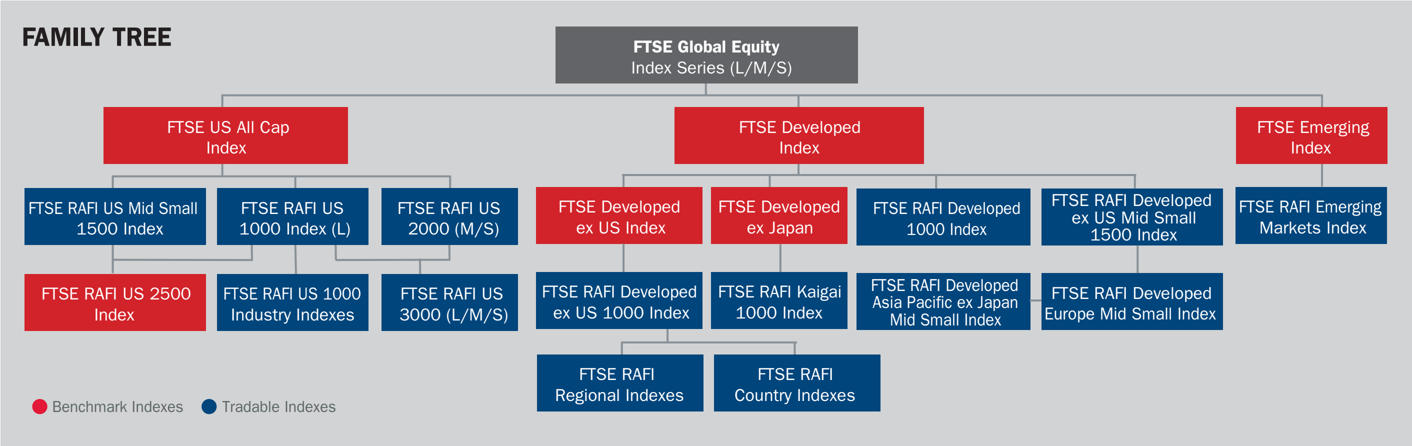
Moskowitz has spent over 30 years working within the financial sector, building extensive experience in financial sales and marketing. He began his career as a portfolio manager at Chase Manhattan Bank and then, moved into the financial services industry holding sales and marketing positions at Standard & Poor's, Moody's and ADP.

Prior to joining FTSE Group in October 2003, Moskowitz was Senior Vice President at Thomson Financial where he was responsible for third party distribution and data acquisition. He earned his MBA with honors in finance from Baruch College.



in the last five years, such as resource or oil companies. How do you reconcile this issue of sector domination?

A: That's an excellent question, so let's consider the technology sector, for example. In the early 1990s, the technology sector represented about 10% or 12% of the U.S. economy, based on the growth of the Internet stocks and the technology boom. The share of the technology sector within the Russell 1000, for example, went up from 12% to almost 25%. The question is, did that sector become twice as important relative to the U.S. economy or was the market driven by the exuberant enthusiasm of investors?

At the same time, a fundamentally weighted index would under-perform during the bubble, because it is based on fundamental data. In that period, the share of technology stocks actually grew only slightly from the 10% to 12% range, but that's because the sales and earnings of these companies were growing.

> **"A traditional market-cap weighted index, where the stock price is a key variable, is a reflection of the investor psychology and sentiment, while the fundamentally weighted index tends to focus on objective business dynamics only."**

Another one of Rob's studies, in which he went back to the 1920s, reinforces the point of removing the investors' psychology from the indices. The study was based on the assumption of buying the ten largest cap-weighted companies each year and following their performance for periods of three to five years relative to the overall market.

The goal was to find if that was a good investment strategy or a bad investment strategy. It turned out to be a bad investment strategy as it underperformed by 15% to 20% over the period because you would be buying the biggest companies and hold them after they've already become the biggest companies. In other words, if you always buy the largest company in terms of the price-sensitive market capitalization, sometimes you end up with companies that are driven up by investors' enthusiasm.

At the same time, energy-oriented stocks maybe deserve to be driven up, because the price of oil has increased and sales are going up. Rob called that phenomenon a 'market-cap pricing drag' because the stock's already way up when you're buying it. The bottom line is that the fundamental approach minimizes the psychological view and, in the long run, catches up and outperforms.

In the rebalancing process of the standard approach, the companies that have done very well in the year, get higher weights, while the companies that have done poorly, get lower weights to reflect the current market. For the index investors, who have invested almost trillions of dollars around the world, the result is that they should be buying more companies that have already gone up and sell some companies that have gone down because the weighting has changed. And it is ironic that even the market cap indexes tend to outperform some of the mutual funds that are active. There seems to be an inherent sluggish build and everybody is cap weighted.

We believe that the fundamental approach towards indexing eliminates some of the psychological pricing and some of the bubble over a period of time. Essentially, this approach tries to capture the companies that are doing performing well in the real world, not just in terms of stock price. The fundamental approach looks only at the business metrics and beyond just earnings. It reflects the fact that you cannot trust any one specific factor, but you have to use a combination of the various measures of company's health in the real world. I believe that this why we have seen huge success with the fundamental approach.

Rob Arnott said the there are two ways to value a company – the Wall Street approach and the Main Street approach. If you were buying the local cleaning store on the corner, you might want to look at its public price, but you would be more concerned about how much cash comes into that cash register every day and how much cash comes out. It may sound simplistic but, at the end of the day, that's what a company's worth is based on. Its economic value is the stream of cash earned over a period o f time discounted to the present value. That's what's captured in the FTSE RAFI indexes.

Q: Could you shed some light on how you actually create the indexes? How the methodology and the process differ from the market-cap weighted indexes?
A: FTSE starts by looking at a total population of about 8,000 companies around the globe. The companies included in our indices have to pass liquidity tests because, ultimately, we want to create indexes which are investable and representative of the respective market.

Every quarter our partner Research Affiliates supplies us with rankings of every company in this universe based on each of the four factors. Then FTSE converts these rankings mathematically so that we can look at all four factors, and we come up with an overall ranking. This number is our fundamental rate ranking, and the top 1,000 companies in the U.S. would be included in the FTSE RAFI US 1000 Index, for example. Every year we bring in the fundamental factors, we rank them, we introduce a mathematical formula, and then we are able to create an index.

There are many ways to create an index but, in this business, it is important how you calculate it in real time, distribute it, and anticipate corporate actions, regardless whether it is a fundamental or a market-cap weighted index.

The top twenty companies in a market-cap weighted index and in a fundamentally weighted index probably wouldn't differ much because they are huge companies, both in terms of market cap, sales, and earnings. So GE, Wal-Mart, and Microsoft would be still there, but will have different rankings. Accumulated over time, these differences become huge and lead to the outperformance of the fundamental indexes™.

Q: It seems that the performance of the fundamentally weighted indices would be much smoother than that of the market-cap weighted ones because the fundamentals are less volatile than the price. Is that correct?
A: I agree; the performance is much smoother. For example, in the period 1990 through 1998, the fundamental approach outperformed the market-cap approach. Since mid-1998 to 2000, the market took off due to the huge growth of the Internet stocks, so the market-cap approach outperformed the fundamental approach. The outperformance for those 18 months offset the entire 8 years of outperformance of the fundamental approach.

So, yes, the FTSE RAFI indices have smoother performance over the long term, missing certain growth spurts in the short term. But by 2000, the fundamental index has not only caught up, but was already far outperforming the market-cap indices because of the crash on the market. So, I believe that for long-term investors, the fundamental approach holds up.

Q: What annual turnover do you anticipate in the fundamentally calculated FTSE RAFI indexes, compared to the turnover in the market-cap weighted indexes?
A: The turnover of the fundamental indexes™ is about 10% to 11%, which is higher than the turnover of the market-cap weighted indexes at 6% to 7%. The higher turnover is mostly due to the earnings volatility of the smaller companies. However, even if you factor in the extra cost for the turnover, the higher rates of return far exceed the slightly higher transaction cost that you incur for the turnover. So it doesn't lead to a material change in the returns that we get on index.

There are no expenses calculated in those numbers, but the trading costs are nominal nowadays. Also, FTSE starts with a liquidity screen before we apply any fundamental factors, so we make sure that even the small companies in the index trade frequently enough and are investable.

Q: Who are the main users of the fundamentally weighted indices? Are you receiving a lot of interest from the large pension funds that seek core long-term investment strategies?
A: Yes, it has been very successful. We are starting to see more traction and interest at the retail investor level. Retail investors have already put several billion USD in the Charles Schwab Fundamental Index™ funds that were launched this past April and based on the FTSE RAFI index series. It was the retail market and the smaller institutions that showed more willingness to accept this approach initially. The large plan sponsors are typically slower to react, but now we are starting to see momentum and interest from very large funds.