

Looking at new ways to manage and measure your Equity Portfolios: Fundamental versus Cap Weighted Benchmarks

Overview of the Issues

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Presentation to the EPFIF, September 20, 2007

Agenda

- Comparing fundamental and capital weighted indexes
- Description of fundamental indexation
- Why fundamental indexation?
- Examples of indexes and products
- Advantages and disadvantages of capital and fundamental weighted indexes
- Empirical considerations
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- Conclusion

Comparing fundamental and capital weighted indexes

Capital weighted index

- Constituents ***weighted by the company's market capitalization***
- Reflects the average market expectations of the fair value and future growth opportunities
- Approximation of the market portfolio (CAPM)
- Capital weighted portfolios automatically rebalance as security prices fluctuate
- No security analysis necessary
- Cheap possibility to participate in the general trend of the market

Fundamental index

- Constituents ***weighted by the company's fundamental factors***
- Weighting mechanism does not depend on market prices/market expectations
- Broadly diversified
- Rebalancing necessary, but low turnover compared to most active asset managers
- No security analysis, but accounting knowledge necessary
- Lower fees than many active asset managers

Description of fundamental indexation

- Index constituents are rather weighted by the company's fundamental factors than by their market capitalization
- Possible fundamental factors are:
 - Income or cash flow
 - Sales or revenues
 - Book value
 - Dividends
 - Composites of the fundamental factors (e.g. equally weighted)
- The target of this procedure is to identify the company's ***fair value*** or ***underlying wealth***.

Why fundamental indexation?

- By definition, if market prices are not efficient, a capital weighted index will overweight overvalued stocks and underweight undervalued stocks
- Capital weighted indexes are subject to market “bubbles”

Examples of indexes and products

- **Examples of indexes:**

- **FTSE RAFI Index Series**

- Created by FTSE Group and Research Affiliates using four fundamental factors: Total cash dividends, free cash flow, total sales and book equity value (e.g. FTSE RAFI US 1000 Index)

- **FTSE Global Wealth Allocation (GWA) Indexes**

- Weights constituents of the FTSE All-Share Index and the FTSE All-World Index according to the constituent's ability to create shareholder wealth measured by net income, cash flow and book value (e.g. FTSE GWA Developed Index)

- **WisdomTree Dividend Indexes:** Dividend weighted indexes

- **Examples of products:**

- **Funds, segregated mandates or ETF's are available** (e.g.: Schwab Fundamental Index Funds, Claymore Fundamental Index ETF's, PIMCO Fundamental IndexPlus Fund, Lyxor ETF, WisdomTree ETF's, ...)

Capital weighted index

Advantages

- + Incorporate the expectations of the market participants (current valuation and growth expectations)
- + Capital weighted portfolios automatically rebalance as security prices fluctuate (very low turnover)
- + Market capitalization is highly correlated with market liquidity, which leads to low transaction costs
- + Very cost efficient way to participate in the broad trend of the markets since many standardized products are available
- + Firms without net earnings or dividends still have a value (option value of the equity)
- + Do not depend on accounting rules
- + Reflect the performance of the average investor (before costs)

Capital weighted index

Disadvantages

- Overvalued stocks are over weighted
- Influenced by market “bubbles”

Fundamental weighted index

Advantages

- + Weak overweighting of overvalued stocks
- + Performance less influenced by market “bubbles”
- + Chance to outperform capital weighted indexes

Fundamental weighted index

Disadvantages

- No clear definition due to the active choice of the fundamental factors
- Take only past accounting data into consideration but not current information (such as lawsuits, research, etc.)
- Do not contain market expectations regarding future growth
- Transaction costs
(due to rebalancing)
- Influenced by differences in accounting standards or changes in accounting rules (e.g. different depreciation and amortization rules)
- It's difficult for the management of a firm to manipulate the market valuation, but it might be easier to manage accounting figures or dividend payments
- Tax inefficiency
(if there are capital gain taxes)

- There is *no doubt that fundamental indexation has outperformed capital weighted indexes during some historical periods (e.g. 2000 – 2005) and also over longer time periods (using back-tested data)*
- The outperformance is different in different markets (e.g. it was not very successful in the Swiss Market: fundamental indexation underperformed the Swiss Market by approx. -0.5%)
- Fundamental indexation tend to :
 - Build portfolios that give more weight to ***small cap stocks with value characteristics*** compared to capital weighted indexes
 - Do well in periods when small cap stocks and value stocks tend to outperform

Sources: Arnott, R.D./Hsu, J./ Moore, Ph.: Fundamental Indexation, FAJ, 2005
Arnott, R.D.: TA, September 19, 2007

- Bernstein showed, that a great part of the excess returns are caused by ***historic market phenomenon's such as the value- and size-effect***. He comes to the conclusion that slightly less than two-thirds of the "excess return" of the RAFI over the S&P is due to naive factor exposure, and slightly more than one-third seems to be inherent to the technique.
 - It is therefore unclear if the „alpha“ of fundamental indexing is significant or simply due to this factor exposure.
- ➔ ***“How much of the excess return of the fundamental indexes is due to factor exposure (small cap and value), and how much return above and beyond this is added by the technique of fundamental indexing?”***

Sources: Bogle, J./ Malkiel, B.: Turn on a Paradigm?, June 27, 2006
Bernstein, W.: Fundamental Indexing and the Three-Factor Model, 2006

Empirical considerations III

- It is often claimed, that fundamental indexing protects from “market bubbles”
- During the “tech bubble” fundamental indexing clearly outperformed the S&P 500
- Since fundamental indexation has a small cap and value tilt, **a “*style benchmark*” might be more appropriate than the S&P 500**
- A custom index consisting of 50% large-value, 15% large-growth and 35% small-value produced approximately the same outperformance during the “tech bubble”

Source: Waid, R.J.: Fundamentally Active, Wilshire, July 2007

Empirical considerations IV

- A further problem is that most ***studies do not consider the higher active management fees, turnover costs*** and capital gains taxes (if applicable) of fundamental indexing compared to capital weighted indexes
- Even if fundamental indexation is able to achieve an excess return, the excess return might be overwhelmed by higher costs
- According to Arnott/Hsu/Moore if, for example, ***year-to-year data is used for the fundamental factors***, this can lead to ***substantial volatility in the index weights*** (turnover)

Points to consider as an investor

Active decisions in fundamental indexation

- Following decisions have to be taken:
 - Which fundamental factors should be used to weight different securities?
If several factors are used, how should they be weighted?
 - How should the fundamental factors be calculated?
(last years value, trailing 5-years value, analyst forecasts, ...)
 - How to cope with different accounting rules and periods?
 - Rebalancing periodicity
 - Consideration of market liquidity
- The investor has to decide on the mentioned factors or has to delegate these decisions to an asset manager. But different asset managers will have different opinions on these factors (e.g. Prof. J. Siegel advocates using dividends as the only fundamental factor)

Points to consider as an investor

Risk premia for small and value stocks I

- The small cap and value effect is often explained by “**size risk**” and “**distress risk**” (a risk premium for bearing the higher risk of distress of small stocks)
- The investor’s **expected return** is basically the same thing as the **the cost of capital of a firm**
- It is not unrealistic, that **investors demand higher returns from smaller stocks**

Points to consider as an investor

Risk premia for small and value stocks II

- The persistent return of value and small cap stocks is documented since a long time ago (e.g. Fama/French in the 1960s). This raises the question if fundamental indexing is to some part “old wine in a new bottle”
- Many **other active asset management strategies which try to exploit the small cap and value risk premia** exist:
 - Active value investors
 - Value and small cap indexes
 - Quantitative asset managers
- Fundamental indexing as an ***active, rule-based and accounting data-based investment strategy*** should be compared with the existing asset management strategies

Points to consider as an investor

Problem of “market bubbles” I

- Fundamental indexation is not the only way to ease the problem of “market bubbles”. There are other approaches as for example:
 - Broad diversification of asset classes
 - Mechanical rebalancing of asset classes
 - Long holding periods
 - Initial investments over a market cycle
 - Value investing

Points to consider as an investor

Problem of “market bubbles” II

- If markets are not efficient, there will be overvalued and undervalued stocks
- Fundamental indexation tries to avoid overweighting of overvalued stocks

→ *That’s exactly the same what all active investors try to do!*

- Active investors try to outperform the benchmark by focusing on undervalued securities
- It’s a strong assumption that using a small set of accounting data, in the long run, will perform better than the combined market intelligence of all participants, using all available information (which the market reflects in security prices)

Points to consider as an investor

The right benchmark

- The market, by definition, is capital weighted, as it is the sum of all holdings
 - All investors as a whole must earn the market return, measured by a capitalization weighted total stock market index
 - ***For every investor outperforming the market, there must be another one who underperformed (before costs!)***
 - Anything other than a capital weighted index is taking active bets against the market
- ***A capital weighted index is the “neutral” position against which any active strategy (and also fundamental indexing) should be measured***

Conclusion

- Fundamental indexing is an interesting ***accounting data-based and rule-based approach of active asset management***
- Fundamental indexes have a ***value- and small cap bias***, which explains a large part of their back-tested performance. They compete with style investors and active, quantitative asset managers
- Time will tell if the “***alpha***” of fundamental indexing will be ***sustainable after deduction of all costs***
- Fundamental indexes are ***not a substitute for capital weighted indexes as a benchmark***. The value added (“alpha”) of fundamental indexing should be measured against capital weighted indexes
- ***Capital-weighted indexes make sense*** - even if market prices are vulnerable to “bubbles” - since they reflect the ***return of the average investor before costs***