



Factor 500 Index

Methodology

October 2014



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Index Description

The Factor 500 Index by Factor Technologies seeks concentrated multifactor exposure within the large-capitalization segment of the U.S. market. The Index is comprised of the 500 largest companies ranked by market capitalization, subject to a minimum market capitalization of US\$ 2000 Million and trailing 6-month average daily turnover of at least US\$ 1 Million. The Index reconstitutes annually on last trading day of June and rebalances quarterly on the last trading days of September, December, and March. Index constituents are Factor Weighted based on the following metrics: sales-to-market ratio; the average of trailing 3-, 6-, and 12-month total returns; trailing 12-month price volatility; gross profitability; change in shares outstanding; and shareholder payout comprising the trailing 12-month total dividends plus net share repurchases. The Index was established with a base value of 1000 as of June 30, 2009.

Creation of Master list

Shortlisting Date

Last trading day of June

Market Capitalization

Minimum market capitalization is set at US\$ 2000 million.

Liquidity

Minimum average daily turnover for 6 months is set at US\$ 1 Million.

Country of Domicile

United States

Portfolio Construction

Portfolio Constituents

Top 500 companies by market cap in the master list would form the final portfolio

Factors

At end of each calendar quarter, following parameters would be calculated for each constituent:-

- STM: Ratio of last fiscal year sales to current market cap
- TR: Average of 3-month, 6-month and 12-month Total Returns

- VOL: Trailing 12 month price standard deviation
- GPOA: Ratio of last fiscal year gross profit to average of total assets for last two fiscal years
- CSO: % change in share outstanding over last two fiscal years.
- SP: Last fiscal year dividends + net share repurchases. In case, SP is not available, current market cap would be used as substitute.

Weighing

- For each security, using each of the first five factor metrics listed above, first calculate a percentile, raise the percentile to a power of nine, and then average the resulting figure of each percentile-power transformation to produce an Interim Weighting Value.
 - The highest percentile will go to the stock with the highest STM, the highest TR, the lowest VOL, the highest GPOA, and those with the biggest reduction in CSO.
 - In cases where a metric is unavailable for a certain security, exclude that metric in the calculation of the Interim Weighting Value for that security.
 - In cases where no metrics are available for a certain security, exclude that security from the index and select next security from master list.
- For each stock, each Interim Weighting Value undergoes the same percentile-power transformation again to produce Weighting Value A.
- Each security is then evaluated by SP, which also undergoes a single percentile rank and power transformation; the power applied in this instance is four, producing Weighting Value B for every security.
- Finally, multiply Weighting Value A and Weighting Value B to produce a Final Security Weighting Value.
- Divide each Final Security Weighting Value by the sum the Final Security Weighting Values for all index members to produce the weight of each security in the index.

Reconstruction and Rebalancing Rules

- Index would be reconstituted on annual basis on last trading day of June.
- Index would be rebalanced on quarterly basis on the last trading days of following September, December and March.

Corporate Actions

Corporate actions (such as stock splits, dividends, spin-offs and rights offerings) are applied on the ex-date. The impact and adjustment of various corporate actions are discussed below.

Dividends

Meaning

Dividends are payments made by a corporation to its shareholder members. It is the portion of corporate profits paid out to stockholders. When a corporation earns a profit or surplus, that money can be put to two uses: it can either be re-invested in the business (called retained earnings), or it can be paid to the shareholders as a dividend. Many corporations retain a portion of their earnings and pay the remainder as a dividend.

Dividends must be "declared" (approved) by a company's Board of Directors each time they are paid. For public companies, there are four important dates to remember regarding dividends.

1. **Declaration Date:** Is the day the Board of Directors announces its intention to pay a dividend. On the declaration date, the Board will also announce Date of Record and Payment Date.
2. **In-dividend Date:** Is the last day, which is one trading day before the ex-dividend date, where the stock is said to be cum dividend ('with dividend').
3. **Ex-dividend Date:** Is the day on which all shares bought and sold no longer come attached with the right to be paid the most recently declared dividend. Typically, its 2 trading days before the record date for U.S. securities.
4. **Payment Date:** Is the day when the dividend checks will actually be mailed to the shareholders of a company or credited to brokerage accounts.

Impact on Index

Dividends payments impact the total return index calculation. The price return index calculations as well as the number of shares remain unaffected.

Adjustment in the Index

All dividend payments will be reinvested in the total return index on the ex-dividend date.

Stock Split

Meaning

All publicly-traded companies have a set number of shares that are outstanding on the stock market. A stock split is a decision by the company's board of directors to increase the number of shares that are outstanding by issuing more shares to current shareholders. For example, in a 2-for-1 stock split, every shareholder with one stock is given an additional share. So, if a company had 10 million shares outstanding before the split, it will have 20 million shares outstanding after a 2-for-1 split.

A stock's price is also affected by a stock split. After a split, the stock price will be reduced since the number of shares outstanding has increased. In the example of a 2-for-1 split, the share price will be halved. Thus, although the number of outstanding shares and the stock price change, the market capitalization remains constant. A stock split is usually done by companies that have seen their share price increase to levels that are either too high or are beyond the price levels of similar companies in their sector. The primary motive is to make shares seem more affordable to small investors even though the underlying value of the company has not changed.

Impact on Index

Stock splits impact the number of shares in both the total and price return indices. There is no impact on the index divisor.

Adjustment in the Index

Stock splits will be adjusted for in the total and price return indices on the ex- date. The number of shares will increase times the adjustment factor for the split. For example if a company has announced a 2-for-1 stock split, the adjustment factor for the same will be $2/1=2$. The number of shares in this case will be multiplied by 2.

Bonus Issue of Shares

Meaning

A bonus share is a free share of stock given to current/existing shareholders in a company, based upon the number of shares that the shareholder already owns at the time of announcement of the bonus. While the issue of bonus shares increases the total number of shares issued and owned, it does not increase the value of the company. Although the total number of issued shares increases, the ratio of number of shares held by each shareholder remains constant. New shares are issued to shareholders in proportion to their holdings. For example, the company may give one bonus share for every five shares held.

Impact on Index

Bonus issue of shares impacts the number of shares in both the total and price return indices. There is no impact on the index divisor.

Adjustment in the Index

Bonus issue of shares will be adjusted for in the total and price return indices on the ex- date. The number of shares will increase times the adjustment factor for the bonus issue. For example if a company has announced a 100% bonus, the adjustment factor for the same will be 2 i.e. one bonus share for every one share held. The number of shares in this case will be multiplied by 2.

Rights Issue

Meaning

Rights issue is an invitation to existing shareholders to purchase additional new shares in the company. More specifically, this type of issue gives existing shareholders securities called "rights", which, will, give the shareholders the right to purchase new shares at a discount to the market price on a stated future date. The company is giving shareholders a chance to increase their exposure to the stock at a discount price. But until the date at which the new shares can be purchased, shareholders may trade the rights on the market the same way they would trade ordinary shares. The rights issued to a shareholder have a value, thus compensating current shareholders for the future dilution of their existing shares' value.

Impact on Index

Rights issue impacts the number of shares in both the total and price return indices. There will be an impact on the divisors in both the total and price return indices.

Adjustment in the Index

Rights issue will be adjusted for in the total and price return indices on the ex- date. However the adjustment for rights issue will take place only when the subscription price is less than the stock price on ex-date. The subscription price is the price at which the company gives its existing shareholders the right to purchase new shares.

Spin Off

Meaning

Spin off is the creation of an independent company through the sale or distribution of new shares of an existing business/division of a parent company. A spinoff is a type of divestiture. Businesses wishing to 'streamline' their operations often sell less productive or unrelated subsidiary businesses as spinoffs. The spun-off companies are expected to be worth more as independent entities than as parts of a larger business.

In most cases, the parent company or organization offers support doing one or more of the following:

- Investing equity in the new firm,
- Being the first customer of the spin-out (helps to create cash flow),
- Providing incubation space (desk, chairs, phones, internet access, etc.) or
- Providing services such as legal, finance, technology, etc.

Impact on Index

Spin off impacts both the total and price return indices.

Adjustment in the Index

The adjustment for spin off is done on a case to case basis. The Index Committee will decide on one of the following options based on internal research:

- Only parent company remains in the index
- The parent company remains in the index and the spun off entity is also deemed eligible for inclusion
- The parent company remains in the index and the spun off entity is deemed ineligible for inclusion
- The parent company is deemed ineligible to remain in the index however, the spun off entity is deemed eligible for inclusion
- Neither the parent company nor the spun off entity are eligible to be in the index. In this case the Index Committee will decide whether to liquidate the parent company in the index or replace it with the next best constituent according to the index methodology

Delisting

Meaning

Delisting refers to the practice of removing the stock of a company from a stock exchange so that investors can no longer trade shares of the stock on that exchange. This typically occurs when a company goes out of business, declares bankruptcy, no longer satisfies the listing rules of stock exchange, or has become a private company after a merger or acquisition, or wants to reduce regulatory reporting complexities and overhead, or if the stock volumes on the exchange from which it wishes to delist are not significant.

Impact on Index

Delisting of a security impacts both the total and price return indices.

Adjustment in the Index

In the event a company is de-listed from the listed exchange in middle of the quarter, investment amount in the stock would be retained as cash till end of the quarter. At time of quarterly rebalancing, delisted stock would be replaced by next largest security in original master list created as of last reconstitution date.

Acquisition

Meaning

A corporate action in which a company buys most, if not all, of the target company's ownership stakes in order to assume control of the target firm. Acquisitions are often made as part of a company's growth strategy whereby it is more beneficial to take over an existing firm's operations and niche compared to expanding on its own. Acquisitions are often paid in cash, the acquiring company's stock or a combination of both. Acquisitions can be either friendly or hostile.

Impact on Index

Acquisition of a security impacts the divisors in both the total and price return indices.

Adjustment in the Index

In the event a company is acquired in middle of the quarter, investment amount in the stock would be retained as cash till end of the quarter. At time of quarterly rebalancing, acquired stock would be replaced by next largest security in original master list created as of last reconstitution date.

Merger

Meaning

Merger is when two companies combine together to form a new company altogether. In other words, it is the combination of two or more companies, generally by offering the stockholders of one company securities in the acquiring company in exchange for the surrender of their stock.

Impact on Index

Merger impacts both the total and price return indices.

Adjustment in the Index

In the event a company is merged in middle of the quarter, investment amount in the stock would be retained as cash till end of the quarter. At time of quarterly rebalancing, acquired stock would be replaced by next largest security in original master list created as of last reconstitution date.

Bankruptcy

Meaning

Bankruptcy is a legal proceeding involving a person or business that is unable to repay outstanding debts. The bankruptcy process begins with a petition filed by the debtor (most common) or on behalf of creditors (less common). All of the debtor's assets are measured and evaluated, whereupon the assets are used to repay a portion of outstanding debt. Upon the successful completion of bankruptcy proceedings, the debtor is relieved of the debt obligations incurred prior to filing for bankruptcy.

Impact on Index

Bankruptcy of a security impacts both the total and price return indices.

Adjustment in the Index

In the event a company has undergone bankruptcy in middle of the quarter, investment amount in the stock would be retained as cash till end of the quarter. At time of quarterly rebalancing, acquired stock would be replaced by next largest security in original master list created as of last reconstitution date.

Temporary Delisting/Prolonged Trading Suspension

Meaning

A temporary delisting/trading suspension occurs when a security stops trading on the stock exchange for a certain time period. This usually occurs when a publicly-traded company is going to release significant news about itself. The suspension in trading for the affected security gives investors time to review the news and assess its impact.

Impact on Index

A temporary delisting/trading suspension of a security impacts the both the total and price return indices.

Adjustment in the Index

In the event a company is acquired in middle of the quarter, investment amount in the stock would be retained as cash till end of the quarter. At time of quarterly rebalancing, acquired stock would be replaced by next largest security in original master list created as of last reconstitution date.

Index Data

Total Return Index

Ordinary cash dividends are applied on the ex-date for calculating the total return index.

Price Return Index

No dividends are applied to calculate the price return index.