A Critique on Equating Growth in Market Indices To Returns on Equity Investments

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Why equating the Compounded Annual Growth Rate [CAGR] of market indices, BSE Sensex or NSE CNX Nifty, with returns to an equity investor is a material misstatement, particularly if it is a long period of time?

I have often come across perceivably innocuous statements equating the Compounded Annual Growth Rate [CAGR] of market indices, namely BSE Sensex or NSE CNX Nifty, with the returns to an equity investor. The most recent, I came across is the following statement *"… Anyone who had invested INR 1000 in the Sensex at its inception (in April 1979) would now have over INR 1,48,000 (as on 16 February, 2011); a phenomenal CAGR of 16.9% over 32 years…"* published in "The Chartered Accountant" March, 2013, Vol. 61 No. 9 pg. 135 in an article titled "India Needs Allowance For Equity and Compulsory Dividends too Woo Back Retail Investors" by *Shri* Manish Bhandari.

Market indices are indicators of the STATE OF CAPITAL MARKETS – in absolute terms they, indicates the flow of capital in or out of the markets and the bargaining power of the participant, but they are not and in all likelihood, were never intended to be, determinants of returns to the aggregate of investors in equity markets.

Those tracking, the crests and troughs of the stock markets by the second, may cry foul, for this has been there understanding for years and suddenly someone is saying it to be incorrect. Why, is their question!

Yes, the answer is here:-

Market indices are based on the FREE FLOAT MARKET CAPITALISATION (prior to 2003, in India, BSE Sensex was based on TOTAL MARKET CAPITALISATION) of the constituent companies, selected as per a pre-defined criteria.

Market Capitalisation is the product of Quantity of Shares and Price per share. Therefore, market capitalisation is directly proportional to and influenced by changes in Quantity of Shares, Price per Share.

Quantity of Share – in case of Free Float, refers to the actual number of shares which are available in the market for Trading, by excluding shares with promoters, government, etc.

Effectively, market indices are factor, 3 (three) variable components:-

1. The quantity of Share (whether Free Float or Total issued) ; and
2. The prices of the Equity Shares ; and
3. The constituent companies of the Market Index

each influencing the determination of the state of capital market (and hence the marked index) in its own manner.

To sum up, the computation of market indices involves the following:-

1. Changes into the constituent companies due to a variety of factors such
   a. Corporate Actions such Listing, Delisting, Amalgamation and Merger, Demerger, etc. ; or
   b. Market Action such as Increase / Reduction in Free Float Market Capitalisation vis a vis other companies – the companies from the eligible pool with highest market capitalisation form part of the Market Index.
2. Changes in the Free Float (or Total Float) Quantity of Shares due to
   a. Issue of New Shares in / Buy – back of Shares from the Market ; or
   b. Sale or Purchase of Share by Promoters / Governments, thereby reducing the Free Float.
3. Lastly, the changes in Equity price of the constituent shares.

Without doubt, to equate a compound factor based on multiple variables to a single variable amounts to presuming the other variables as constants. But the silver line is that the presumed constants – quantity and constituent companies – do vary greatly over a long period of time – 32 years in the instant statement.

Consider this, India's largest company by Market Capitalisation, "Reliance Industries Ltd" has seen multiple fresh issues and buy-back of shares, twice amalgamation with another group company "Reliance Petroleum Limited", merger with Indian Petrochemicals Ltd, etc to name a few, a demerger into a set of companies in 2005-06, a few of which formed part of the BSE Sensex replacing other companies and then being replaced by other companies, effectively influencing the market index in quantum never separately computed.

You may visit this link on bseindia.com for a List of Historical Replacements to the BSE Index.

To conclude, in but few words of wisdom, No One Should Equate the Aggregate Returns of Investors with the movement of Market Index, especially if it involves a significant duration of time.

References / Further Reading [Links Outside this WebBlog]

S&P BSE SENSEX - The Barometer of Indian Capital Markets