Stock Market Earnings Growth and Dividend Yields Determine Long Term Returns

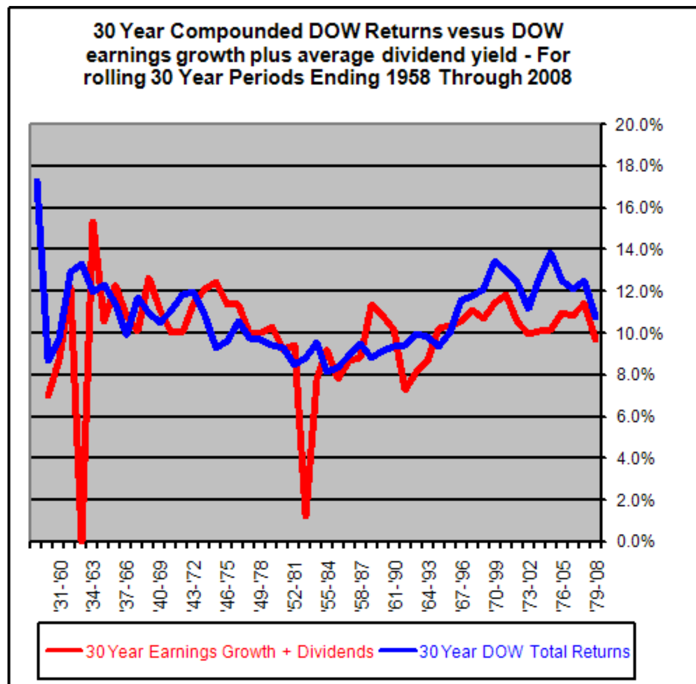
In theory earnings and dividends drive stock market returns in the long run.

For example if a stock pays no dividend then the return is driven by the capital gain. If you buy a stock with a P/E of 15 and sell it ten years later at the same P/E of 15, then your Price rise will be exactly proportional to the earnings rise. If the earnings rise by 10% per year, then your return, in this zero dividend case, will be exactly 10% per year. Again this assumes that the P/E remained constant.

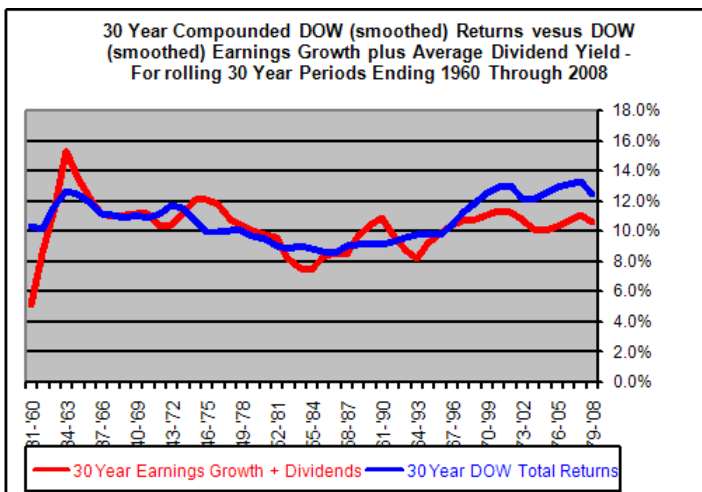
If the above stock pays a 3% dividend yield then your return will equal the earnings growth plus the dividend. In this case a 7% annual earnings growth plus the 3% dividend will yield a 10% annual compounded return.

But has this really been true historically? Have stock market returns not out-paced the earnings growth plus dividends? (Certainly they have in many years, but what about over the long term?)

Over short periods of time, stock market average returns clearly **do not** equal the average earnings growth plus dividend. But over most 30 year periods the theoretical relationship has proven to be correct as the following graph shows.



In the above graph, the earnings growth plus dividends (the red line) is quite choppy due to certain years when earnings drop close to zero. The same data is shown below on a smoothed basis which perhaps better illustrates the trend and relationship.



The blue line shows average compounded total returns (capital gains plus dividends) on the Dow Jones Industrial Average ("DOW") for all rolling 30 year holding periods that ended in years 1960 through 2008. The Dow total Return is smoothed by averaging the level of the DOW total return index over 3 years at the beginning and end points in order to minimize the impact of short term market changes, since this is a long term analysis.

The red line shows the compounded average DOW earnings growth over each 30-year period plus the compounded average dividend yield. The DOW earnings growth was also smoothed by taking the average of 3 years at each end point. This smoothing is necessary in order to prevent distortion caused by temporary large dips in earnings caused by one-time write-offs such as occurred in 1981.

The extent to which the two lines track each other is remarkable. **The earnings growth plus dividend yield drives your total return over long periods of time.**

The **ONLY** time that the returns to shareholders over 30 year periods remains consistently above the earnings plus dividend line for an extended period is the 30-year periods ending in the ten years from 1998 through 2008. (Which may be why we appear to be now experiencing "payback" for that outperformance).

IMPLICATIONS:

Average stock market returns over the long term are about equal to the growth in earnings plus the dividend yield. Currently the dividend yield is about 3%. In order to yield a 8% return going forward, we will need an average 5% growth in corporate earnings. But, most economists predict that the long run rate of growth in North America will be about 5% being about 2% for inflation and about 3% for real growth. (And in recession it will be lower, even negative). However as we emerge from recession we could se a high rate of earnings growth.

Expecting any more than about a 8% long-term average return on stocks seems unrealistic.

This 8% is well below the historical average since 1930. This is because we are in an era of low inflation and relatively low real growth and low nominal growth. Nominal growth is the actual measured growth in dollars, the real growth is lower and deducts the impact of inflation.

OBSERVATION:

Any expectations that the markets will return 15% or even 10% in the long-term are unrealistic. Virtually no economist would predict that average long-term corporate earnings will rise by the 12% or even 7% annual rates that those returns implicitly required - given a 3% dividend yield.

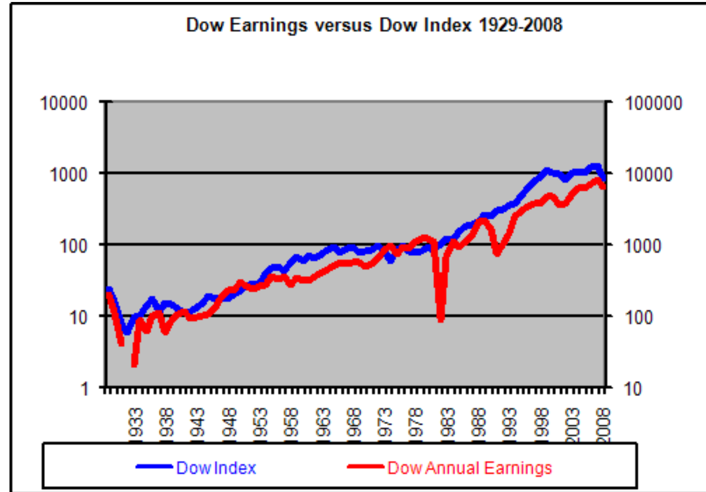
As of December 31, 2008, the 30-year DOW return line remained above the 30-year DOW earnings plus dividends line. Partly this may be due to the fact that the blue return line was below the red earnings line back in the 70's and so in part the abnormally high returns in the 30 year periods that ended recently were due to starting from an undervalued market situation. In part, the high returns in 30 year periods that ended recently are due to higher P/E ratios partly caused by lower interest rates.

It is tempting to suggest that the graph indicates that the DOW return is going to have to decline because it has gotten ahead of the earnings growth. However, keep in mind that the these lines are 30 year compounded returns and they are very much affected both by today's DOW level and DOW earnings **and equally affected** by the starting points for the DOW level and earnings. Actually, both lines will have to decline markedly to eventually show a 30-year rolling return in the range of 8% for 30-year periods that started now or in the past few years. This assumes we remain in a low inflation environment.

The graph does indicate that over 30 year periods it is usual for the total return to reflect the growth in

earnings plus the dividend yield.

Another, perhaps more clear, way to look at this is to graph the growth in the DOW index versus the DOW earnings



This chart shows that the rise in the DOW index is roughly parallel to the rise in the annual DOW earnings. In the 20 years prior to 2000 the (blue) DOW index certainly rose faster than the (red) DOW earnings (the P/E ratio increased). From 2000to 2007 the DOW index declined and then rose back to surpass the 2000 peak while earnings continued to grow, and grew much faster than the DOW over that period (the P/E ratio declined). Then, in 2008 the Dow and the Dow earnings both declined.

The DOW P/E is now about 11.8 after the recent market crash. This is lower than the historical average level of about 15.5 (The average is actually 17.8, but is 15.5 after excluding three high outlier values that were caused by abnormally low earnings). After the current financial crisis is resolved we can forecast the DOW index to once again rise as and when DOW earnings rise. In the longer run the DOW earnings will rise, and will pull the DOW index up, but given the recession looming, DOW earnings may not rise in 2009.

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