A Travesty Of A Mockery Of A Sham?

** For the distressingly large percentage of the readership significantly younger than your loyal correspondent, the title is derived from a scene in Woody Allen's 1972 movie, "Bananas."*

Assessing whether Internet stocks are valued properly has joined baseball, football, and cringing over Donald Trump's political ambitions as a national pastime. It is quite possible, however, the GDP-sized valuations for unprofitable firms in their infancy may not be as illogical as logic would dictate.

A New Paradigm For The New Economy In The New Millennium

The basis of option markets is ownership of a right, but not the obligation. The value of these rights increases as a function of volatility, time, and interest rates, with volatility being the most important factor in the short-term and interest rates being the most important factor in the long-term.

By the late 1980s, option theory was being used in place of standard discounted cash flow (DCF) analysis to value assets such as oil fields; more recently, option theory has been used to value processing margin-based operations such as electric utilities. The principle is always the same: We cannot predict the path and level of the revenue stream from such uncertain businesses, as DCF analysis requires, but we can make educated guesses about their expected returns given volatility and some basic assumptions about growth.

A combination of the efficient market hypothesis and portfolio theory leads us to the conclusion that active fund management is a frustrating exercise at best, and all we can do is diversify, which is akin to tackling the backfield to see who has the ball. This holds true for sectors as well as for the market as a whole: While you're kicking yourself about not buying Microsoft in 1986, consider a diversified software portfolio in 1986 would have included Lotus Development for spreadsheets, Word Perfect for word processing, Ashton-Tate for databases, Borland for programming languages, and Novell for networking -- all to run on your IBM PC-AT. Of course, if you had bought all of these dearly departed, the gains in Microsoft alone would have made the whole venture worthwhile, and the same lesson applies to the Internet stocks of today.

None of this changes the one fundamental truth about equity valuation: At the end of the day, a stock's price is the discounted stream of future dividends. It simply changes the way we arrive at those expectations. Let's take Yahoo! as a case study with a 10-year horizon, if for no other reason than it has actual sales and earnings to go along with its market capitalization 2.43 times that of General Motors, which, we should note in passing, also has sales and earnings.

At the close of the millennium, a 10-year Treasury bond yielded a fixed 6.435% coupon, which would translate to a P/E of (1/.06435), or 15.54. Yahoo! was priced at 983.38 times next year's estimated earnings, whose reciprocal converts to a note-equivalent yield of .1017%. The long-term growth rate of Yahoo! earnings is estimated at 56.06%, and the stock neither pays nor anticipates paying a dividend. Volatility on a 3-month warrant is 70.981%, and volatility on a January at-the-money call is 103.845%.

The dividend discount model for a stock is

$$Stock = \sum_{i=1}^{n} \frac{Dividend_i}{(1+r-g)^t}$$

where r is the discount rate of .06435 and g is the growth rate of .5606. At a ten-year horizon, $(1+.06435-.5606)^{10}$ is .1052%, whose reciprocal converts to a P/E of 950.28, not too far away from where we are trading right now.

So far, so good. But remember, that 56.06% earnings growth rate is pretty exceptional; Microsoft has been able to achieve a 43% growth rate over that long of a period with an, ahem, market-dominant position.

1.5606^{10} implies earnings in 2010 close to 85 times today's levels in constant dollars. That's unlikely to happen unless Yahoo! or any other Internet firm can construct market franchises or barriers to entry, and these are antithetical to the nature of cyberspace.

But the whole premise is not as outlandish as you might think, as we can demonstrate with the range formula from option theory. With 10 years to go and longer-term volatility at 70.981%, the probability of this earnings increase corresponds to

$$Z = \ln\left(\frac{84.68721}{1}\right) \Big/ sqrt(10)*.70981$$

Z, the number of standard deviations, is 1.977605, which corresponds to a probability of 97.60% of earnings growth missing the target implied by the current stock price. Converted to odds, you have 21.6 : 1 odds of winning your bet against Yahoo!.

Now let's revisit another great investment philosopher, Clint Eastwood, and apply the timeless "How lucky do you feel?" test. Construct a portfolio of 21 similarly valued Internet stocks, and you now have an even bet. Ask yourself if you are willing to bet against one of these 21 stocks making its implied earnings growth in the next ten years, and keep in mind the example of software stocks in 1986. If you're not willing to take this bet, then the market has done its job.