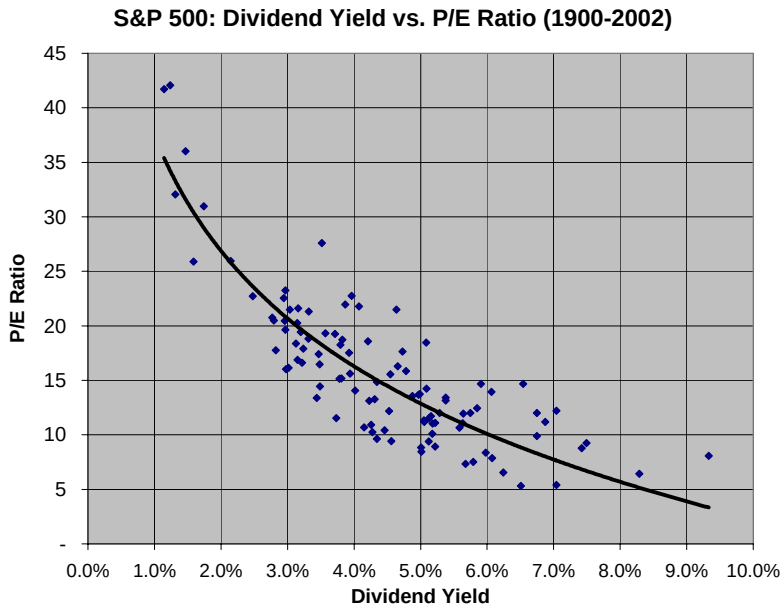
# DISSECTING RETURNS

## THE FORMULA TO FUTURE STOCK MARKET RETURNS




**FINANCIAL PHYSICS AXIOMS (see www.CrestmontResearch.com)**

1) GDP-Real: real growth in the economy has averaged close to 3% for most of the past century, expecially the past 3 decades
**THUS, GDP-R = 3%**

2) GDP-N: nominal growth in the economy includes inflation
**THUS, GDP-N = GDP-R + Inflation**

3) EPS Growth: earnings per share of the larger, public companies in the S&P 500 have been slightly lower than overall GDP-N growth
**THUS, keep this in mind for the chart below**
*[historically GDP-N = 6.5%; EPS = 5.9%; inflation = 3.5%]*

4) P/E Ratio: this measure of stock market valuation is affected by the directional trend and level of inflation
**THUS, if EPS growth is higher due to inflation, P/E ratios will decline to average or below average levels**

5) REALISTIC EXPECTATIONS: Inflation is relatively low and stable; there are many factors currently containing inflation at near price stability
**THUS, if GDP-R grows at historical levels (~3%) and inflation holds at ~1%+, EPS growth may only average 4%**

**TOTAL RETURN = (A) Dividends + (B) Market Price Change**

**(A) Dividends: readily known since its cash in your account**
[Note above that the dividend yield is affected by the level of valuation (P/E). Dividends are paid from earnings, and have generally ranged from 35% to 60% of earnings. When stocks are priced high relative to earnings, the dividend yield will be lower. See the chart above.]

**(B) Market Price Change = (Y) Earnings Change x (Z) P/E Ratio Change**

**(Y) Earnings (of the public companies) have grown at a rate slightly below economic growth (GDP-Nominal)**
[see the Financial Physics presentation posted on the website]

**(Z) P/E Ratios (level of valuation) are driven by inflation**
[see the Financial Physics presentation posted on the website]

THEREFORE, we can develop a matrix of expected stock market returns over the rest of the decade based upon expected economic growth (and thus earnings growth) and expected future P/E ratios. As we know from the Financial Physics axioms, EPS growth will be dependent upon future inflation. As well, from Financial Physics, the P/E ratio depends upon inflation. See the chart to the right to assess the expected returns from stocks. Keep in mind that the average P/E ratio has been close to 15 and the average inflation rate has been near 3.5%.

**GROSS PRE-TAX RETURN FROM THE STOCK MARKET**
*(annual return 2004-2010)*

| EST. DIVIDEND YIELD | 2010 P/E Ratio | EPS GROWTH 0% | 2% | 4% | 6% | 8% | Implied Inflation |
|---|---|---|---|---|---|---|---|
| 1.0% | **40** | 8% | 10% | 12% | 14% | 17% | 1% |
| 1.1% | **37** | 7% | 9% | 11% | 13% | 15% | 1% |
| 1.2% | **35** | 6% | 8% | 10% | 12% | 15% | 1% |
| 1.4% | **33** | 5% | 8% | 10% | 12% | 14% | 1% |
| 1.7% | **30** | 4% | 6% | 8% | 10% | 13% | 1% |
| 2.0% | **27** | 3% | 5% | 7% | 9% | 11% | 1% |
| 2.2% | **25** | 2% | 4% | 6% | 8% | 10% | 1% |
| 2.5% | **23** | 1% | 3% | 5% | 7% | 9% | 1% |
| 3.1% | **20** | 0% | 2% | 4% | 6% | 8% | 1% |
| 3.8% | **17** | -2% | 0% | 2% | 4% | 6% | 2% |
| 4.3% | **15** | -3% | -1% | 1% | 3% | 5% | 4% |
| 5.1% | **13** | -4% | -2% | 0% | 2% | 3% | 7% |
| 6.0% | **10** | -6% | -5% | -3% | -1% | 1% | 12% |
| 7.5% | **7** | -9% | -7% | -6% | -4% | -2% | 15% |
| Implied Inflation | | -3% | -1% | 1% | 3% | 5% | |

NOTE: Current P/E ratio, based upon S&P data and Crestmont's analysis, is 25x;
base S&P 500 Index is 1,150; trailing 2003 'historically consistent' EPS is $46.
Important: transaction costs, fees, bid/ask spreads, etc. cost 2%+ annually