ING Investment Management Market Review

For more information, please contact:

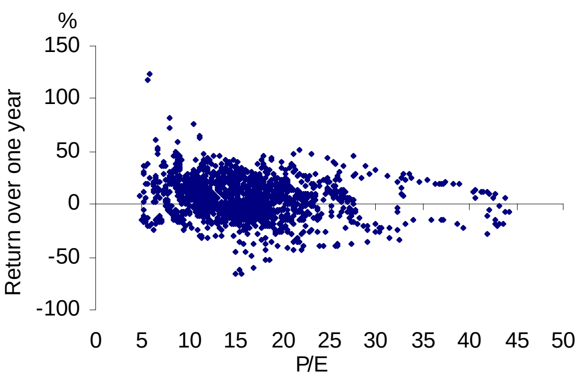
Nora Omarova
Senior Quantitative Analyst
212.309. 6582
Eleonora.omarova@inginvestment.com

Valuation ratios and equity market returns

After a short interlude, the market is trending down once again, with the S&P 500 off 13% year-to-date and down 49% from its October 2007 peak. It very well may be heading to a retest of the November 2008 lows.

It is a complex tactical decision to determine at what level to venture back into the market. Last year, we successfully identified several intermittent bottoms that led to bear-market rallies by using contrarian sentiment indicators. Precipitous drops in sentiment, followed by market-encouraging policy responses by government, were a characteristic pattern of last year's bear-market rallies. Attempting to identify the bottom appears more difficult this year. The market has already declined substantially and valuations are sufficiently appealing at current levels to induce a mini-rally without a huge down-swing in sentiment. By the same token, however, the market might continue to trend down and sideways in the absence of confidence in the effectiveness of the fiscal stimulus package or lack of details on the financial stabilization plan.

Figure 1. One-year S&P 500 returns have no relationship with P/E ratios.

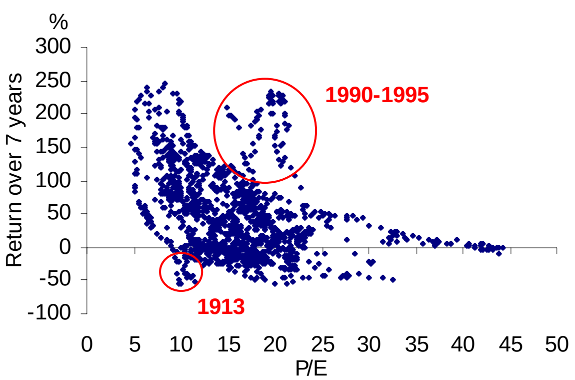


Source: Bloomberg, R. Shiller, ING IM calculations

Are longer-term market returns predictable?

While market direction and returns are unpredictable in the short term (see Figure 1) and thus confirm the random walk hypothesis, there is substantial empirical evidence suggesting that longer-term market returns may be predictable. Robert Shiller and John Campbell[1] showed that dividend-to-price and price-to-earnings ratios are reliable predictors of long-term returns. They argued that certain fundamental aspects of financial market behavior do not change as, for over a century, markets have used corporate earnings and dividends to measure the intrinsic value of companies. There have been periods of extreme economic stress or soaring market exuberance that temporarily distorted valuation ratios but those ratios have always reverted to historical mean. Valuations might overshoot dramatically on both sides but the central tendency's powerful pull has always made extreme values to revert.

Figure 2. A definite relationship exists between seven-year return and P/E ratios.



Source: Bloomberg, R. Shiller, ING IM calculations

Robert Shiller's 1998 "irrational exuberance" warning may have been premature in its timing (the market continued to climb for two more years) but it correctly predicted the subsequent negative ten-year returns, which became painfully apparent in 2008. The unsustainably high P/E ratios and low dividend yields near the top of the technology bubble were precursors of a dismal long-term performance by the stock market.

What do valuation ratios imply now?

I used Shiller's S&P 500 data from 1881 to 2000 and applied his methodology of calculating P/Es as a ratio of real (inflation-adjusted) price levels to real earnings averaged over 10-year spans. The historical P/E thus derived is a measure of price relative to the long-term earning capacity of firms in the index. It is thus more informative than trailing, or forward, P/Es of shorter horizons, where the denominator might be distorted by business cycle gyrations.

Using this methodology, the average historical P/E ratio over more than 100 years is 16. The current ratio is around 14. The average historical dividend yield is 4.5%; the current S&P 500 dividend yield is around 3.4%. According to these measures, the market can't be said to be overvalued. But is it a compelling buy?

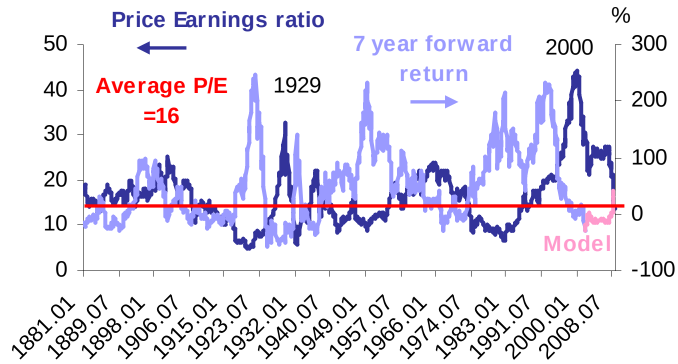
Figure 1 shows that there is no relationship between one-year return and historical P/E ratios. The seven-year forward returns in Figure 2, however, display a definite pattern: higher ratios correspond to lower returns in the following seven years, and vice versa.

Despite this distinct pattern, the data show two anomalies: (1) elevated P/Es in early and mid-1990s were followed by spectacular returns over the next seven years in the run-up of the technology bubble; (2) the 1913-14 episode, when a rather low P/E level of around 10 was followed by negative returns in the early 1920s as markets struggled during and immediately after World War I. These anomalies argue that market irrationality and negative economic circumstances can sometimes persist for longer than seven years. Still, the bulk of this data attests to persistent market behavior: below mean P/E ratios are followed by positive seven-year returns and above mean P/E ratios are followed by negative seven-year returns (see Figure 3).

I fitted a log-linear regression model of historical P/Es as predictors of stock market returns in the following seven years (these returns do not include reinvested dividends)[2].

For the current historical P/E of 14, the model expects a 40% return over the next seven years, or a 5% annualized return. The expected annualized return increases for lower P/E ratios: it is 6% when P/E is 13 and 7% when P/E is 12. The current bear market may start testing these levels soon. For the first time in 10 years, stock market expected returns based on valuation ratios are unambiguously positive over a long-term horizon.

Figure 3. Seven-year returns mirror P/E ratio most of the time.



Source: Bloomberg, R. Shiller, ING IM calculations

The current extreme volatility makes short-term market timing a very dangerous game, especially with so many market participants waiting on the sidelines for an entry point – but also with a quick exit strategy in mind. Buy-and-hold investors, however, might be in a safer position here. Presuming they have nerve and patience, they might start gradually increasing their equity exposure (dollar-averaging) and ride this bear with a long-term perspective in mind. A little patience could pay off handsomely over the next seven years.

[1] Campbell, John and Shiller, Robert, *Valuation Ratios and the Long-Run Stock Market Outlook*, The Journal of Portfolio Management, Winter1998, pp.11-26.

[2] The model is based on 1962-1983 data, explains 70% of returns variation, and is highly statistically significant. In out-of-sample tests, the model predicts quite accurately major episodes of high returns in 1920s and 1930s and is directionally correct most of the time, with the glaring exception of the 1990s technology bubble episode.