Stock Valuation and Stock Market Cycles

by
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There's a terrific battle raging on Wall Street. The Bulls are looking for new highs. The Bears are saying the party's over. Both camps are making their point with a plethora of facts, fiction and fluff. How can we cut through the noise and focus on what's really happening?

The Efficient Market Theory states that it is impossible to "beat the market" because share prices always incorporate and reflect all relevant information as soon as it becomes available. Implicit in this theory is the condition that all market participants receive and act on all relevant information at the same time. Of course, this notion is silly and is not true.

The reality is that market participants certainly would like to be among the first to receive all relevant information, but only a few have the wherewithal to do it. The Pros and high frequency traders can do it, but most of us are among the last to hear any market moving news until it's old hat. So, how can we deal with this disadvantage?

We have to focus on the primary forces driving the market and not get bogged down or misdirected by useless headlines. Astute investors know that three powerful forces drive the stock market. They are known to everyone, but are usually misunderstood. They are related, but independent. They are measurable, but controversial. They convey the effects of all that happens and ultimately determine the fate of the market.

When a major event such as a product introduction, an earthquake or assassination occurs, investors instinctively speculate on whether it will help or hurt corporate earnings. If the event seems likely to help earnings, the perception of stock value rises, so prices rise. Conversely, prices fall when the news is perceived to be harmful to earnings. Corporate earnings is the first powerful force driving the stock market.

The bugaboo of a strong economy and the thing that constantly haunts the market, is inflation. Inflation causes raw material, labor and service costs to rise. Unless a company increases productivity and raises prices, profit margins narrow and earnings go down. Rising inflation ultimately pushes stock prices down. Inflation is the second powerful force driving the stock market.

Inflation not only lessens the value of financial assets, it erodes the purchasing power of consumers. Left unchecked, inflation destroys monetary stability and leads to a weak economy. The Federal Reserve Board (The Fed) is charged with the responsibility of maintaining monetary stability. It fulfills this task by controlling the money supply. When the Fed sees inflation increasing, it tightens the money supply and interest rates go up.

Ironically, higher interest rates raise costs. High interest rates stifle investment, weaken the economy, hurt corporate earnings and eventually lead to a Bear market. The third powerful force driving the stock market is interest rates.

In summary:
Stock prices rise when earnings go up. Stock prices fall when inflation and interest rates go up.

While most investors are familiar with these basic observations, the stock valuation formula published in Chapter 3 is the only relationship which ties these powerful forces together. This relationship is shown as follows:

V = 100*(E/(IY+YP))*SQR[((R+G)/2)/((IY+YP)+F)] Eq. (3.7)

Where: V =	Stock Value in $/Share		
E =	Earnings Per Share in $/Share		
IY =	AAA Corp. Bond Rate in Percent		
YP =	Yield Premium		
SQR =	Square Root		
ROTC =	Return on Total Capital in Percent		
R =	(IY+YP*SQR(ROTC/(IY+YP))		Eq. (3.6)
G =	Annual earnings growth rate in %/yr.		
F =	CPI inflation rate in %/yr.		

Equation (3.7) clearly shows that Stock Value increases when Earnings Per Share, Profitability and Earnings Growth Rate increase. Stock Value decreases when Interest rates and CPI inflation increase. Let's see how Eq. (3.7) can help us understand why and how the market cycles.

First, let's calculate the Value of the S&P 500 stock index to see where it stands today. As of February 13, 2015, the following data was available on the S&P 500:

E =	108.43	$/Share	
IY =	2.83	Percent	
YP =	2.34	Percent	
ROTC =	10.0	Percent	
R =	7.19		Eq. (3.6)
G =	9.0	Percent/yr.	
F =	0.80	Percent/yr.	

Substituting these figures into Eq. (3.7) gives:

$$
\begin{aligned}
V &= 100*(108.43/5.17)*SQR[((7.19+9.0)/2)/(5.17+0.80)] \\
&= 100*(20.97)*SQR(8.10/5.97) \\
&= 100*(20.97)*SQR(1.35) \\
&= 100*(20.97)*(1.16) \\
&= 2,441.85
\end{aligned}
$$

The S&P 500 closed at 2,096.99 on February 13, 2015. The hypothetical result, which was 16% above the closing value of the S&P 500 on February 13, 2015, indicates that the S&P 500 was undervalued. The race between higher earnings and higher interest and inflation rates was clearly being won by earnings. Earnings were nearly at all-time highs and inflation and interest rates were at historic lows.

Bull markets are born when the economy is very weak, but there's a hint of hope that better days lie ahead. Consider the most recent cycle. The economic outlook in March of 2009 was dismal and earnings were falling. On the morning of March 10, 2009, however, it was reported that Citigroup made money in the first quarter. This was the kind of news that investors were praying for and it sparked a tremendous rally which continues to this very day, February 13, 2015.

Yes, the economy was still very weak, but the prospect of combining rising earnings, low interest and inflation rates along with very low, beaten down stock prices created the buying opportunity of a lifetime.

The power of lower interest rates can be illustrated by noting that our valuation formula indicates that the S&P 500 index would fall 218.15 points or about 9% if the CPI inflation rate rose by only 1.00 percentage point. Obviously, when both interest and inflation rates were very low, the market had extraordinary lifting power. This is exactly what happened in late 2008 and throughout 2009. It was the interest-sensitive phase of the Bull market. Stocks of all stripes soared.

Helped by a very accommodating Fed, the economy began improving in 2009 and earnings began to rise. Inflation and interest rates continued to stay low and the Bull market was in full swing. Stocks in housing, furniture, appliance, and other associated industries were on fire. It was the best of all worlds. The role of Dr. Ben Bernanke, Chairman of the Federal Reserve, during this critical period must be recognized. In order to avoid a global economic meltdown in the 2008 bear market and nurture the economy back to growth, he lowered interest rates to historic levels and flooded the world with dollars. While the global meltdown was avoided, the strong economic recovery he hoped for was not achieved. Stock prices have recovered to all-time highs, but the game isn't over yet.

The economy will improve eventually, and the Fed will begin to raise interest rates. Many analysts believe the Fed will begin to raise interest rates sometime in mid-2015. The Bull market will continue until stocks become overvalued and high interest rates strangle economic growth. The strong dollar and fallen oil prices have affected earnings growth. This is the first sign of an impending bear market. Sooner or later, a Bear market will come and the cycle will begin anew.