Scenarios for a Stock Market Bottom

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A probability-based forecast for the U.S. stock market between now and 2013 can be constructed using historical relationships between stock prices, earnings and dividends. This yields a matrix of possible outcomes for the S&P 500 Index over the next two years.

No matter how dire the circumstances, U.S. stocks always reach a point where the bargains are too attractive to ignore. The tipping point where sellers retreat and stocks stop going down is ultimately driven by the relationship between stock prices, earnings and dividends. To estimate where the recent downturn in stocks might bottom out, we can contemplate a range of scenarios for earnings and dividends over the next few years and assign historically valid price relationships to each of these scenarios.

The result of this exercise is a matrix of price targets for the stock market. This matrix can serve as a road map for navigating the markets over the next couple of years by providing context for new information as it emerges over time. For example, downside risk in the stock market will be different if the U.S. economy experiences a mild recession, a severe recession or no recession over the next two years. A realistic price target for stocks in all three of these scenarios will engender confidence in our investment decisions as new information emerges that makes any one of these three scenarios more likely.

The table below shows the historical relationship between the price of the S&P 500 Index and the average earnings of its component companies over the past 10 years. This valuation method is frequently called a normalized price-to-earnings ratio (P/E), because it smoothes out the volatility of the business cycle by using a 10-year average for the earnings component of the P/E ratio. The data below is not adjusted for inflation and is based on the post-war period.

Normalized P/E for the S&P 500
1945 – 2011

Average	**21.2**
Lowest Quartile	**9.9 – 15.0**
Second Quartile	**15.0 – 19.9**
Third Quartile	**19.9 – 24.5**
Highest Quartile	**24.5 – 48.6**

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Current (8-19-11) 21.0
Source: Standard & Poor's; Robert J. Shiller; Capital Advisors, Inc.

The good news is that the recent pullback in stocks brought the valuation of the market down to a long-term average of 21.0. Things can surely get worse from here, but there is no longer a valuation argument for lower stock prices from today's starting point. We've already reached the average, from a valuation perspective.

We can also use the normalized P/E ratio to establish a realistic range of possibilities for the stock market based on the current level of normalized earnings for the S&P 500 Index. The table below shows where the index would trade at the midpoint of each valuation quartile for the normalized P/E:

Valuation Scenarios for the S&P 500 Index
Based on Normalized EPS of $53.43
and S&P 500 Value of 1,123.5

Valuation Quartile*	Implied Index Value	% Change From 8-19-11
Lowest (12.5)	667.9	-40.6%
Second (17.5)	935.0	-16.8%
Third (22.2)	1,186.1	+5.6%
Highest (36.6)	1,955.5	+74.1%

*Note: The index targets are derived from the midpoint of each valuation quartile for the normalized P/E ratio
Source: Standard & Poor's; Robert J. Shiller; Capital Advisors, Inc.

The table above warrants a few observations. First, stocks could drop a lot from recent levels and still be well within their historical range of valuation based on normalized earnings. Second, one must assume a very high valuation for the normalized P/E to justify significantly higher stocks prices from here. Although it is not clear from the table above, a normalized P/E greater than 30 has only been achieved once in the 100 years prior to the technology bubble from 1997 to 2000. It was in 1929, just before the Great Depression. Excluding the tech bubble, the upper limit for the normalized P/E has typically been in the high 20s. A final, more hopeful observation is that stocks may be close to bottoming out already if the normalized P/E stays within the fairway of its historical range over the next few years.

Since financial markets look forward, not backward, it is also instructive to project the normalized P/E forward a couple of years based on different scenarios for corporate earnings. At present, there is a risk of recession in the U.S. economy within the next two years based on deteriorating economic data in recent months. The possibility of recession

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justifies a three-part scenario analysis for normalized earnings, including scenarios of mild recession, severe recession and no recession between now and 2013.

Using actual earnings for the S&P 500 Index through August 2011 and projections for the next two years, I came up with the following three estimates for normalized earnings as of December 31, 2013.

Estimated Normalized Earnings in 2013
S&P 500 Index

Economic Scenario	**Estimated Normalized EPS**
No Recession	$69.87
Mild Recession*	$64.53
Severe Recession*	$62.94

*Note: The mild recession scenario assumes a -25% peak-to-trough decline in annual EPS. The severe recession scenario assumes a -40% decline in annual EPS between now and 2013.
Source: Capital Advisors, Inc.

By combining historical valuation metrics with future scenarios for the economy and corporate profits, we can create a matrix of possible outcomes for the stock market over the next couple of years.

Stock Market Scenario Matrix
Target Levels for the S&P 500
as of Year-End 2013

Economic	**Valuation Quartile**			
Scenario	**Lowest**	**Second**	**Third**	**Highest***
No Recession	873.4	1,222.7	1,551.1	2,026.2
Mild Recession	806.6	1,129.3	1,432.6	1,871.4
Severe Recession	786.8	1,101.5	1,397.3	1,825.3

S&P 500 price as of 8-19-11: **1,123.5**

*Note: The highest normalized P/E was capped at 29.0 to reflect the author's opinion that stocks will not experience a bubble by 2013.
Source: Capital Advisors, Inc.

Investors can assign their own probabilities to each of these scenarios. For me, the probabilities for each scenario are shaped by the following considerations:

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- The lowest quartile for the normalized P/E ratio usually coincides with excessive inflation or deflation. Under conditions of low and stable inflation, stocks typically stay within the top three quartiles of valuation. I will assign a low probability to the most pessimistic valuation forecasts in the matrix unless concrete evidence emerges for either excessive inflation or deflation.

- The preconditions for a severe recession are not in place today. Corporations spent the past three years right-sizing for a more challenging economic climate, and there are no obvious pockets of excess in the private sector, like the housing market three years ago, that are capable of dragging the entire economy into a deep recession.

- The highest quartile of valuation has historically coincided with low and stable inflation, steady economic expansion and unusual optimism for the future associated with favorable structural change in the economy. This does not describe the future I envision between now and 2013.

- The long-term growth rate for the overall economy is important to the average valuation level of the stock market. The reduction in the growth trajectory of the U.S. economy over the past 10 years (from 3.0% to 2.0%) implies a material reduction in the expected valuation level for stocks. The average normalized P/E should be closer to 17 in the future, instead of 21 as it was in the past, if the new normal growth rate for the economy is 2.0% instead of 3.0%.

- The Fed's commitment to sustain its zero-interest rate policy through the middle of 2013 should provide yield support for the stock market between now and then. The S&P 500 Index will provide a dividend yield well in excess of 3.0% under any of the most pessimistic valuation forecasts above. It's possible for stocks to drop into the bottom quartile of the valuation range but it is unlikely if competing yields in the bond market are anchored to zero, as they will probably be over the next two years.

A prudent forecast for the S&P 500 over the next two years would assign the highest likelihood to a mild recession and a reduction in the normalized P/E ratio into the second lowest quartile of the historical range. Such a scenario implies a +/- 14% range for the index relative to its current price as of the end of 2013. With dividends, cumulative returns over this time period will range between -8% and +20%.

The economy can avoid a recession altogether over the next two years. I think this is the likeliest scenario after a mild recession. In such a scenario, stocks will provide a cumulative return between +15% and +45% over the next two years, depending on the outlook for the normalized P/E ratio going forward.

A more severe downturn in the economy and/or a more dramatic reduction in the normalized P/E ratio cannot be ruled out. A disorderly unraveling of the European Union between now and 2013 might trigger either scenario. Stocks could fall another 25-35% in

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this scenario. I hope I am not being naïve to assign a low probability to this outcome — low, but not zero.

Finally, there is the case for unbridled optimism. Perhaps the political courage needed to credibly address the unsustainable trajectory of government debt in the U.S. and Europe will emerge in the years to come. I'm not banking on it, but anything is possible.

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