

The Stock Market in Long Expansions

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August 2015

This study is a joint effort by Bob Dieli and Erik Conley. Since it will be sent to their respective subscriber lists, we thought it might be helpful for everyone to have a chance to get acquainted.

Bob Dieli is President of RDLB, Inc., an economic research and management consulting firm based in Lombard, Illinois which he founded in 2001.

Bob began his professional career in 1978 as an industrial economist in the Economic Research Division of the Continental Illinois National Bank and Trust Company of Chicago, Illinois where later he became Manager of the Portfolio Analysis Unit of the Credit Risk Evaluation Department.

In 1987 Bob moved to The Northern Trust Company of Chicago as Vice President and Economist in the Economic Research Department. In 1994 he became Vice President and Portfolio Manager in the Northern Advantage unit of the Cash Management Department of the Northern Trust where he ran about \$3.5 billion in discretionary short-term fixed income accounts for high net worth individuals and corporations.

Bob received a Bachelor of Science in Finance, with honors, from Boston College, a Master of Arts in Latin American Studies from the University of Texas at Austin and a Ph.D. in Economics from the University of Texas at Austin.

Erik Conley is president of Conley Investment Group, Inc., advisor to The Zen Investor hedge fund. He also runs the website ZenInvestor.org, an independent, non-profit, investigative research organization that advocates on behalf of consumers of financial advice and investment management services.

After graduating with a finance degree from Marquette University, Erik began his professional career as a hedge fund trader for Kemper Securities in 1977. He became head trader and co-manager of the Kemper Convertible Arbitrage Fund in 1983.

He joined Harris Associates, advisor to The Oakmark Funds, in 1992 as head of derivatives trading.

In 1995 he joined Northern Trust Company as head of the equity trading desk. He left Northern Trust in 2001 to start his own investment firm.

Executive Summary

-) This report explores the relationship of the business cycle to the performance of the stock market. The question we want to answer is, can stock market investors use this relationship to their advantage? Specifically, can an investor improve performance by adjusting equity exposure based on cues from the business cycle? We find that the answer to these two questions is yes, as long as the investor knows what clues to look for, and has the discipline to act.
-) Stock market crashes, corrections and bears cause significant damage to investors who are unprepared to deal with them effectively. But investors who are able to tell the difference between market declines that are linked to a business cycle turning point, and those that are not, have a distinct advantage in the market.
-) In Stocks For The Long Run, Wharton Professor Jeremy Siegel shows that switching out of stocks and into Treasury bills before the onset of recessions, yields a performance bonus of more than 4% over a simple buy-and-hold strategy. And being in Treasury bills during the worst market declines has the additional benefit of reducing overall portfolio volatility.
-) Is there a way to know - ahead of time - that getting out of the way of a market decline is the right move? We find that the answer depends on whether or not the decline is associated with a business cycle turning point.
-) It is almost as hard to forecast the business cycle using the stock market, as it is hard to forecast the stock market using the business cycle. The two are connected, but the lines of causality are blurred, at best. Going through each of the market events that took place during the longest economic expansions will give us important clues about the nature of the connection.

Executive Summary -- Continued

-) The stock market begins to decline several months before the business cycle turns. But the market is also prone to sounding false alarms. Since 1802, there have been 12 instances where the market fell by 10% or more, but no recession followed. Perhaps the most infamous episode was the market crash of 1987. That's one of the key points of this inquiry, and we will attempt to arrive at some conclusions by studying each of the market events that took place during the four longest economic expansions of the last 50 years.
-) If you want to build meaningful wealth as an investor, you're going to need an edge. The Enhanced Aggregate Spread is a navigational tool designed to help you get that edge by establishing the proximity of a business cycle turning point.
-) Our analysis will pivot on two questions: "Where are we and how did we get here"? And: "What did they know and when did they know it?"
-) Our goal is to leave you with some tools and information that will help make your investment decisions more profitable.
-) Please do not hesitate to contact either Bob or Erik with any questions or comments you might have.



Chart 1

Introduction



Recently, we began to examine the behavior of the stock market in long expansions. It quickly became apparent that the topic was going to need more space than was available in the monthly reports. After taking a survey of the readership about topics and formats for the study, it was decided that the work should appear in a Special Report. This is it. The length of the report is the result of both the large number of episodes to review and the information we need to show you to understand what happened and why it happened.

A couple of methodological and formatting notes before we begin. In order to let you know who is “talking”. The text in black was authored by Bob Dieli. Text in blue was authored by Erik Conley. Text in green was jointly authored. In order to keep the statistical reporting on a common basis, we are using the month-end closing value of the S&P500 stock index. Many of you are close students of this topic and have probably seen the starting, ending, and percentage changes of the events we will be reviewing done based on the daily stock data. However, since we are comparing the stock market episodes with data that are reported on a monthly basis we think the format we have adopted is more consistent and more congenial for the project. There are, however, a couple of exceptions. We will note them as we come to them.

Market crashes, corrections, and bears are the bane of every investor - with two exceptions. Skilled short-sellers, and investors who are able to tell the difference between market events that are linked to a business cycle turning point, and those that are not. Investors who were fortunate enough to have missed the last two bear markets (2000 & 2008) have significantly higher portfolio returns than those who remained invested throughout. Since both of these market events were linked to recessions, was there a way to know - ahead of time - that getting out of the way was the right move?

Corrections & Bear Markets - The Facts

A Bear Market is defined by a 20% DECLINE or greater.

A Correction is a decline between -10% and -19%.

Since 1960 there have been 5 bear markets and 6 corrections.

A bear market begins on average every 10 years.

A correction begins about every 4.5 years.

The average duration of a bear market is approximately 17 months.

The average time it takes for the market to fully recover from a bear is approximately 60 months.

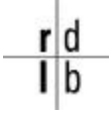


Chart 2 Introduction



In *Stocks For The Long Run*, Wharton professor Jeremy Siegel points out that almost without exception, the stock market tops out prior to business cycle peaks and bottoms out before cycle troughs. Out of the 47 recessions since 1802, 43 (9 out of 10) have been preceded (or accompanied) by declines of 10% or more in the stock market.

Market peaks can happen anywhere from 0 to 13 months before the onset of a recession. The recessions of 1980 and 1990 are the exceptions that prove the rule. In these two cases the market gave no warning of an economic downturn approaching.

The stock market is also prone to sounding false alarms. Since 1802, there have been 12 instances where the market fell by 10% or more, but there was no recession within the next 12 months. Perhaps the most infamous episode was the market crash of 1987, where the decline in stocks was so dramatic and severe that there was a nearly universal belief that a recession would soon follow. Alas, it failed to show up.

The average lead time between a stock market top and a business cycle peak is 5.7 months. The average lead time between a market bottom and a cycle trough is 4.8 months. This brings up an interesting question. If one could anticipate, with even a modicum of accuracy, the onset of a cycle peak, would that help investors to protect their portfolios by "getting out of the way" of the recession?

That's one of the key points of this inquiry, and we will attempt to arrive at some conclusions by studying each of the market events that took place during the four longest economic expansions of the last 50 years.

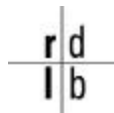
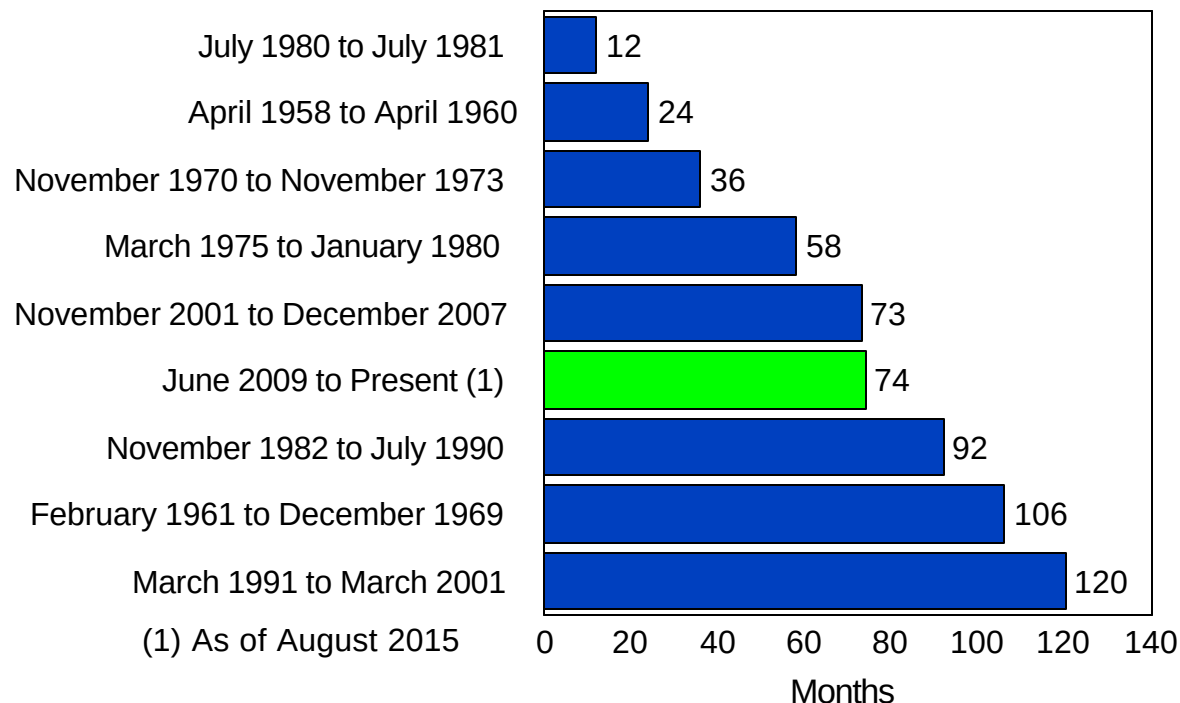


Chart 3

Expansion Periods as Defined by the National Bureau of Economic Research

The research efforts of NoSpinForecast.com are focused on the US business cycle. Our methodology is based on a model that uses widely known and readily available indicators of macroeconomic and financial activity in a transparent and reproducible manner. Our main forecasting tool, the Enhanced Aggregate Spread [EAS] is designed to provide reliable signals of turning points in the business cycle so that our users can make informed decisions on how best to manage their financial and business affairs.



One of the topics of greatest interest to our audience is the relationship of the business cycle to the performance of the stock market. In this report we will look at several aspects of that relationship. But before we begin we must tell you that we not make stock market calls, nor do we provide investment advice. The reasons why we don't make market calls will be explained more fully as we go through the analysis. The reason why we do not provide investment advice is because we are not licensed to do so. You should always consult a licensed advisor on all such matters.

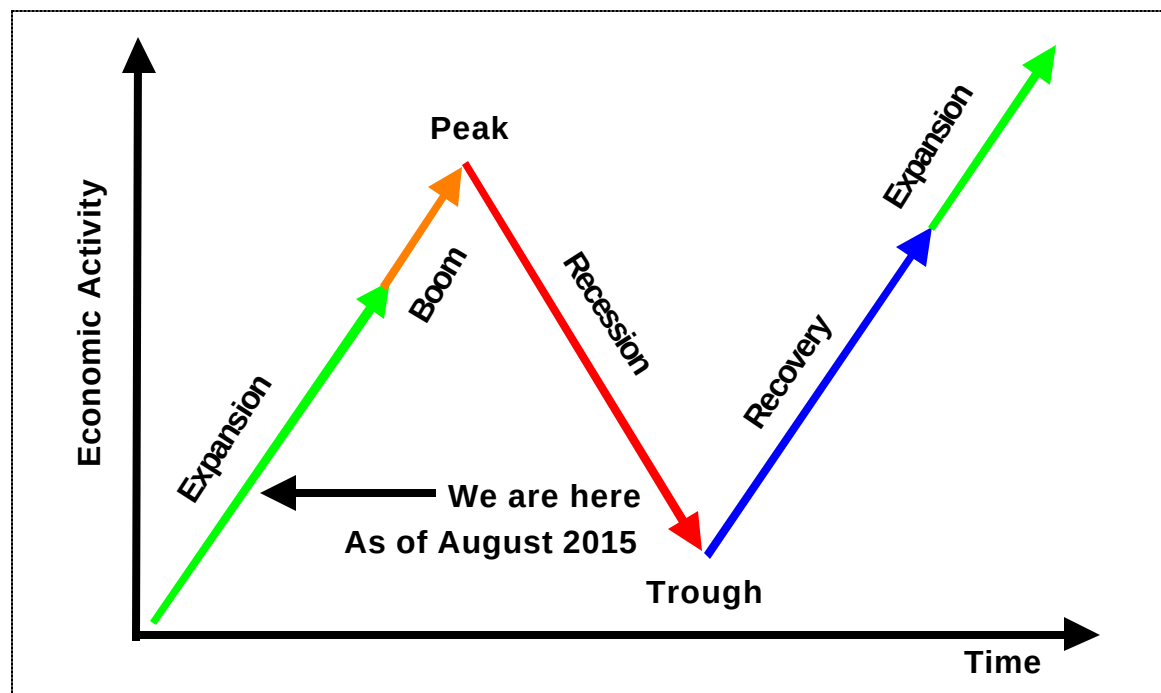
As you can see in the chart above, the current expansion is now tied for the fourth longest on record, and is on track to move into fourth alone. **Because of our current position in the business cycle we will focus on how the stock market has performed in the other four long expansions as we approached the business cycle peak.**

Chart 4

The Phases of the Business Cycle

Regular readers of our work are familiar with this chart. But for those of you who are just joining us, a brief explanation is in order.

The diagram is a schematic representation of the business cycle. It is not drawn to scale. It performs the same function in our analyses as a compass rose does in the navigation process. Once you know where “north” is, the rest of the process becomes more manageable. Similarly, knowing where you are in the business cycle gives you important information about what to expect now and in the months and years ahead.



Which brings us to the first general concept that underlies our research: “where are we and how did we get here?” That knowledge will inform how we interpret information as it becomes known.

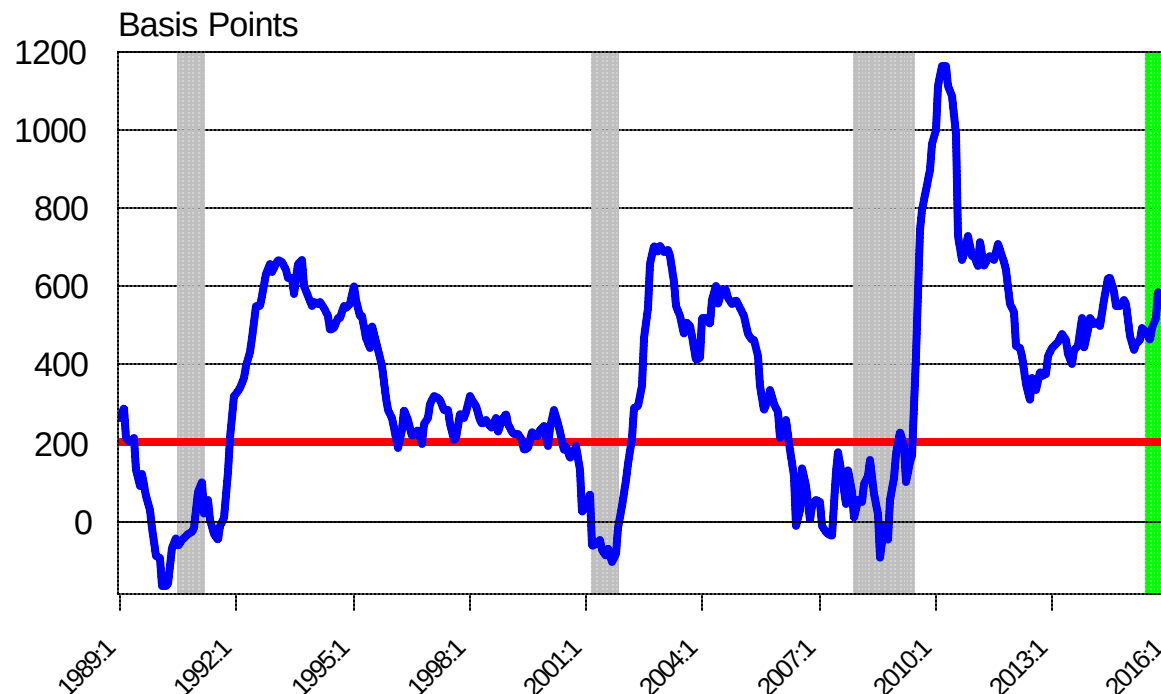
Which brings us to the second general concept that underlies our research: “what did they know and when did they know it?” or WDTK for short.

When doing historical analyses, with the benefit of hindsight, it is often easy to forget that at the time the events were unfolding much of what is known to us now was unknown at the time. This is especially true of the analysis of the interaction between variables. So, as we proceed with our review keep in mind that we will be focusing on what was known then rather than what we know now.

Chart 5 Enhanced Aggregate Spread

Latest = March 2016 = 593

The location of the “we are here” (or in the case of the historical charts “we were here”) arrow on the schematic chart is based on the readings we obtain from this statistic. Plotted here are the values of the Enhanced Aggregate Spread [EAS] with a nine month lead. The area you see in green on this chart is forecast horizon of the EAS. The reason why it is green has to do with the colors of the arrows you saw on the schematic. The gray zones are the official recession periods as designated by the National Bureau of Economic Research.



As you see here, the EAS dipped below the 200 Basis Point level ahead of the onset of the last three recessions. And, as it did so, we moved the arrow on the schematic out of the expansion phase and into the boom phase of business cycle. When and how we did so was based on what we learned from our set of coincident indicators. But the process in every case was the same. First, what did the EAS tell us to expect? Second, when where those expectations confirmed?

As important as it was to know when a recession might start, it was even more important to know when a recession would end. And so, as the EAS moved back above the 200 Basis Point line we changed the location of the arrow on the schematic from the recession phase of the cycle to the recovery phase of the cycle.

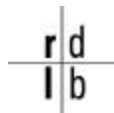


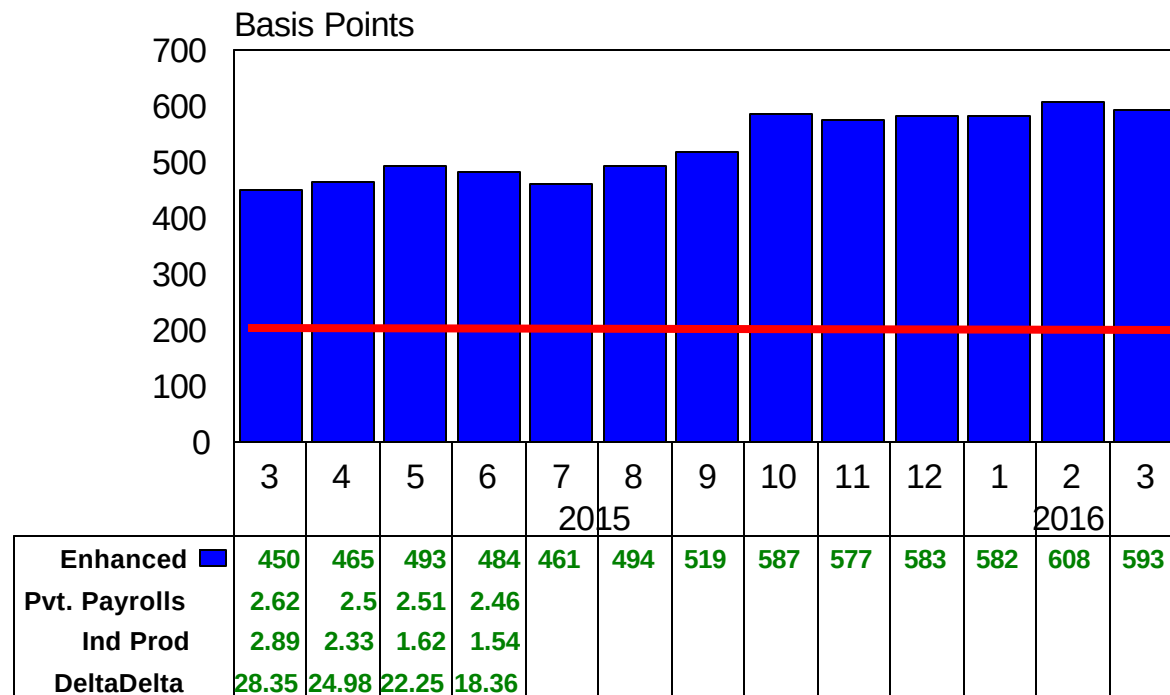
Chart 6 Aggregate Spreads -- Forecast Summary



This chart expands the forecast horizon section of the prior chart to allow us to examine the interaction between the leading indicator and the coincident indicators. The three series you see on the table, along with the values that they take on during recessions provide the evidence we use to move the “we are here” arrow on the schematic.

As of this writing, the EAS is running at a level that suggests that the expansion phase will persist through March of 2016. It is telling us to expect readings from the coincident indicators that will be above their recession associated levels. My shorthand for this configuration is a “green board”.

This is the chart that tells us “where we are”, “how we got here” and “what we know.” We will be using this chart in each of the stock market episodes we will be examining in the rest of this report.



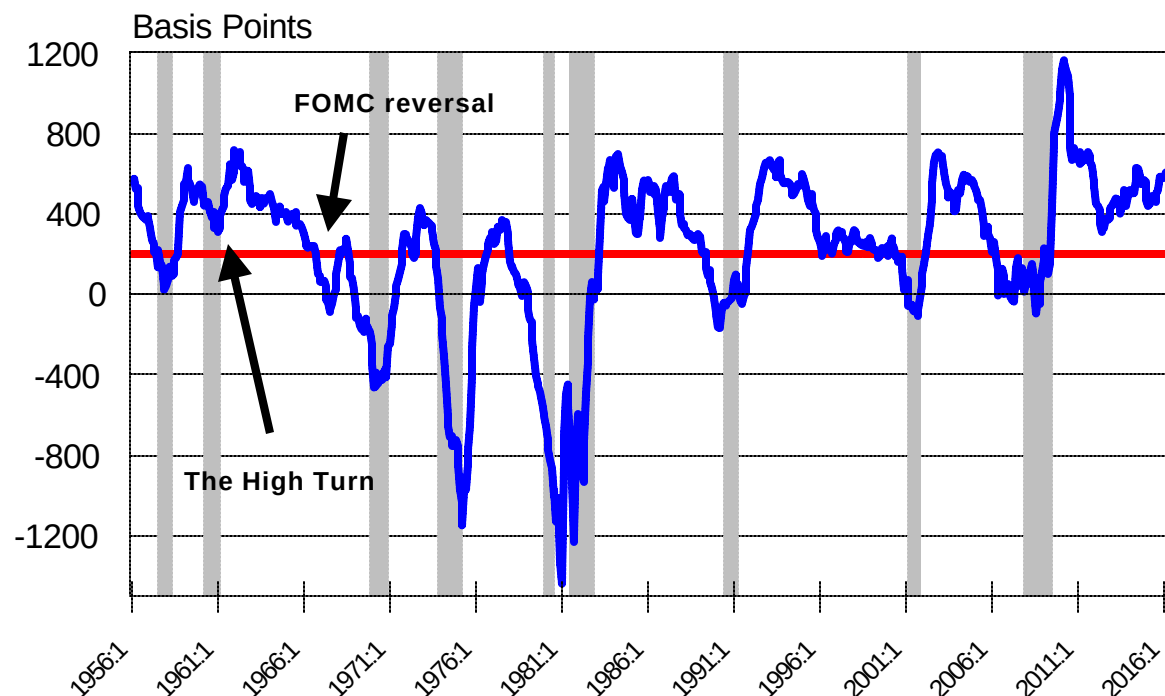
Recession Associated Level
 Private Payrolls <1.00% and falling
 Industrial Production <1.00% and falling
 DeltaDelta <0.0% and falling

Pvt. Payrolls = % Change from year ago in Total Private Nonfarm Payroll Employment.
Ind Prod = %Change from year ago in the Index of Industrial Production.
DeltaDelta = %Change from year ago in S&P500 Stock Index minus % Change from year ago in the Civilian Unemployment Rate.

Chart 7 Enhanced Aggregate Spread

This chart shows all of the forecasts made by the EAS going back to 1956, and it covers all of the recessions since that time. As you can see, with two exceptions, recessions have occurred in the intervals where the reading was below the red line of 200 Basis Points.

The instance you see labeled “the high turn” is associated with the 1960-1961 downturn where the combination of actions by both the fiscal and monetary authorities and a long strike in the steel industry resulted in a recession that was not accompanied by an outbreak of inflation.



The instance you see labeled “FOMC reversal” is associated with the slowdown in economic activity that did not reach recession proportions that accompanied an interval of tight monetary policy that was reversed by the Federal Open Market Committee [FOMC].

Aside from wanting to show you the full forecast record of the model, we also wanted to have a place where you could see the data we will be using with the historical analysis. As was mentioned at the outset, our method is transparent. We are happy to make all of the data we use available to you in a spreadsheet. Just drop us a note.

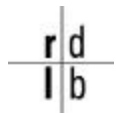


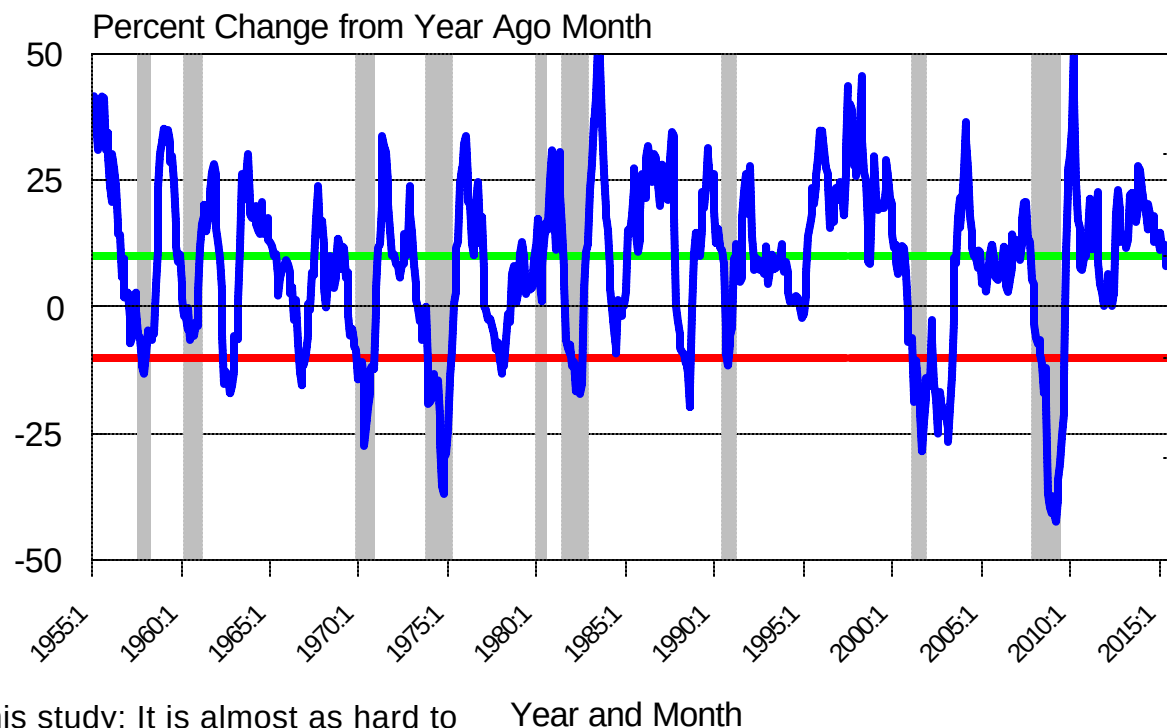
Chart 8 Standard and Poor's 500 Stock Index



The reason why we said we thought it was just as important to know when a recession was ending as it was to know when one was starting is seen on this chart. You can see that during all of the recessions the stock market has suffered significant declines. But, as you can also see, some of the largest gains have occurred in the periods immediately following the end of the economic downturn. In other words, knowing where the boom ends is just as important as knowing where the recovery starts. Another lesson the chart offers the fact that not every decline in the stock market is associated with the onset of a business cycle peak.

Which brings me to the first general conclusion of this study: It is almost as hard to forecast the business cycle using the stock market as it is hard to forecast the stock market using the business cycle. The two are connected, but the lines of causality are blurred, at best.

The red and the green lines on the chart mark the -10% and +10% levels. I call the space between them the Zone of Death. So named because the line tends to traverse the gap fairly quickly in both directions. We will be using the information about the Zone of Death in the charts we will be looking at with each of the stock market episodes.



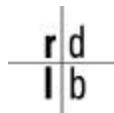


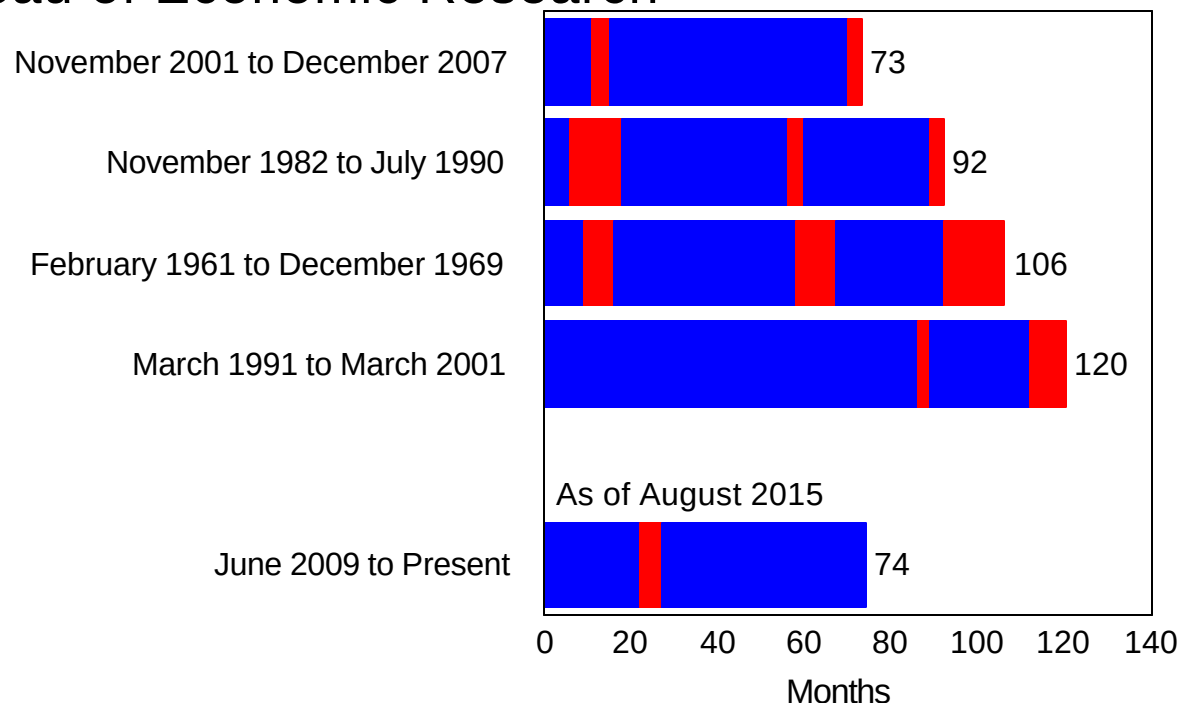
Chart 9

Expansion Periods as Defined by the National Bureau of Economic Research

Before we get into the detailed analysis of the performance of the S&P500 in long expansions, we wanted to take one more moment to provide you with an overview of the movements of the stock index and of our leading indicator within the context of the expansion periods.

This chart takes the information we saw earlier about the length of the expansion periods and focuses on four periods that we will study in detail.

What you see here is when, in each of the expansions, the market declines occurred. And, as you can see, a market decline was in progress in, and around, the business cycle peak. But as you also see, market declines also occur at other times during the expansion.



Red bars are months in which the SP500 was in either a correction or a bear market.

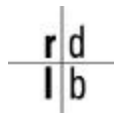


Chart 10

Expansion Periods as Defined by the National Bureau of Economic Research

While the previous chart showed us the location of the stock market corrections and bear markets, this chart shows us when the EAS was giving the signals we associate with changes in the phases of business cycle itself.

You will note that all of the business cycle peaks were signaled well ahead of their onset by the right end of the bars turning red. But, you will also have noticed that there are some red bars on the left side of several of the expansions. This is because the EAS does not make the actual call of the start and end of recessions. What it does is identify the times in which the economy is likely to make a turn. So, at the end of contractions, there will be months in which the EAS says that recession-eligible conditions still prevail.

You will also note that in the expansion that ended in December of 1969 there is an interval of red bars that does end when the expansion ends. This is the period we noted on Chart 5 where the Federal Reserve made an effort to slow the pace of the expansion but did not induce a full-fledged recession.

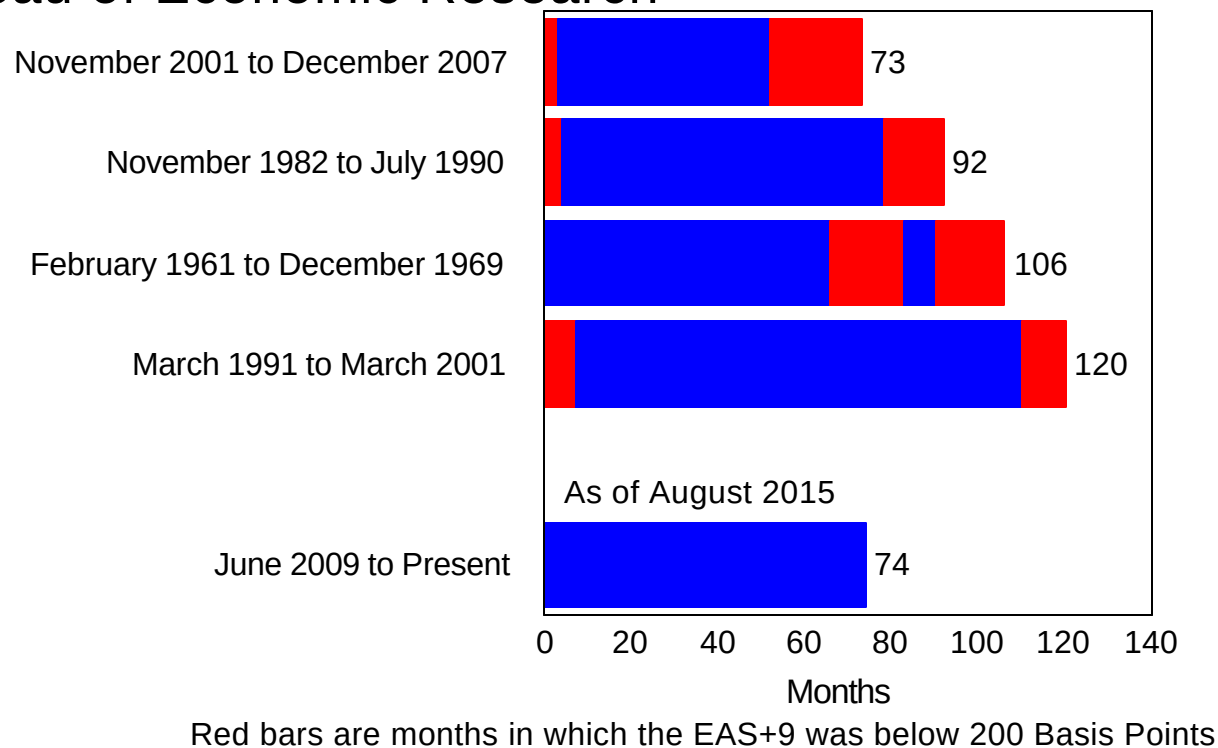


Chart 11

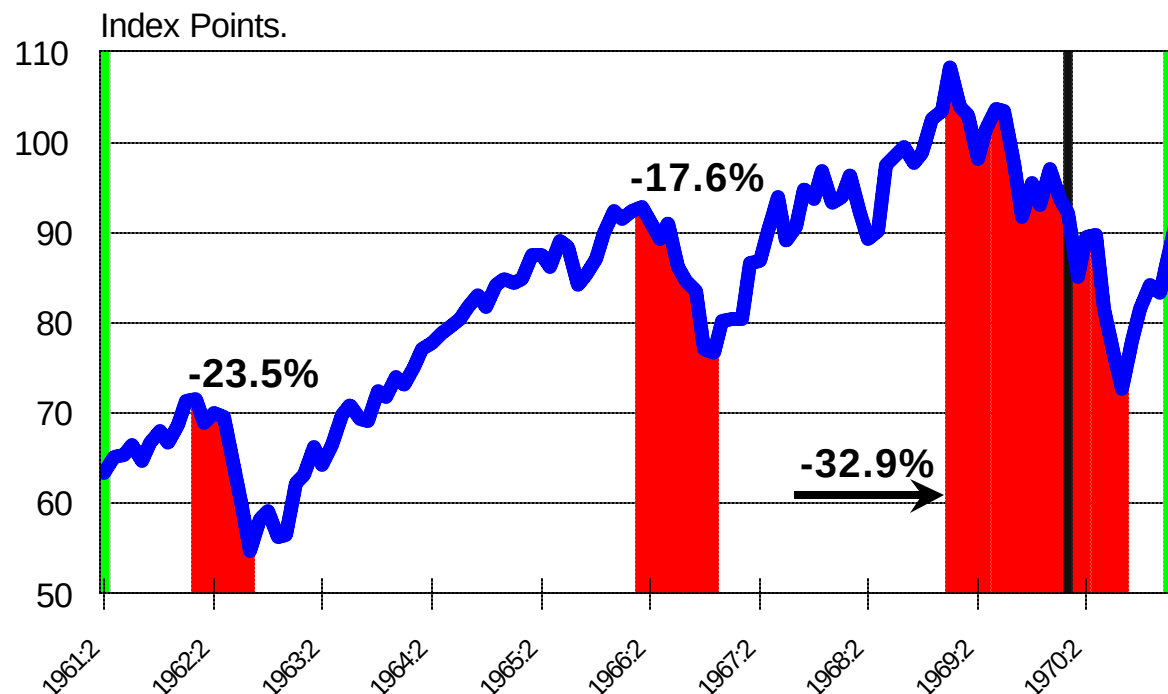
Standard and Poor's 500 Stock Index

106 Month Expansion from February 1961 to December 1969

The “industry standard” for classifying stock market declines is to divide them into two events. The first, called a “correction”, is a decline of at least 10% from the previous high. The second, called a “bear market” is a decline of at least 20% from the previous high. On this chart, you see one correction and two bears.

The calculation of the size of the moves in this presentation is based on the month-end closing price of the Standard & Poor's 500 stock index. Those of you who use daily figures for these calculations could get slightly different results. **If however, we were to use the daily closes, the correction you see in the middle of the chart would actually turn out to be a bear market since the highest high and lowest low occurred inside of the dates we used for the calculation you see.**

What we will do in the next sequence of charts is to focus on each of the events individually.



Start Date	Start Level	End Date	End Level	% Change
1961:Dec	71.55	1962:Jun	54.75	-23.5
1965:Dec	92.43	1966:Sep	76.56	-17.2
1968:Nov	108.37	1970:Jun	72.72	-32.9

Green bars denote business cycle trough dates. Black bar denotes business cycle peak date.

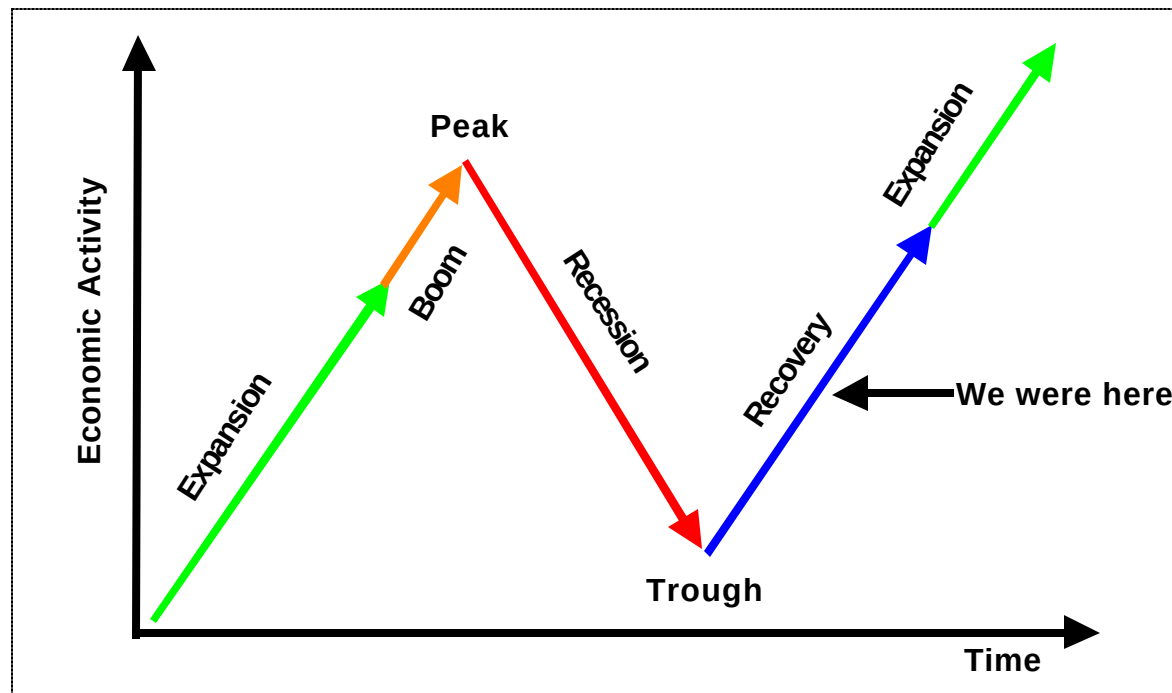
Chart 12

The Phases of the Business Cycle

Bear Market of 1961

Our first task is to establish where we were in the business cycle. To do that we use our knowledge of the actual business cycle peak and trough dates as established by the National Bureau of Economic Research [NBER] and the information we can glean from the level and trend of the Enhanced Aggregate Spread [EAS].

We will open the review of each of the events with this chart. And, as you see in the text that follows, it is here that we will provide you with some of the background of what was going on in the market.



The Kennedy Slide of 1961-1962

From December 1961 to June 1962, the S&P 500 lost 22.5%. This event came to be known as the "Kennedy Slide" because it occurred during President John F. Kennedy's term.

The trouble began after a big run-up in the market that lulled investors into a dangerous state of complacency. After rising 27% between January and December, suddenly - and without warning - the rally "broke." Some historians refer to this event as the "market break of 1962." Pundits at the time blamed the decline on excessively high valuations and earnings warnings from a few high-fliers like Texas Instruments and Polaroid.

Chart 13

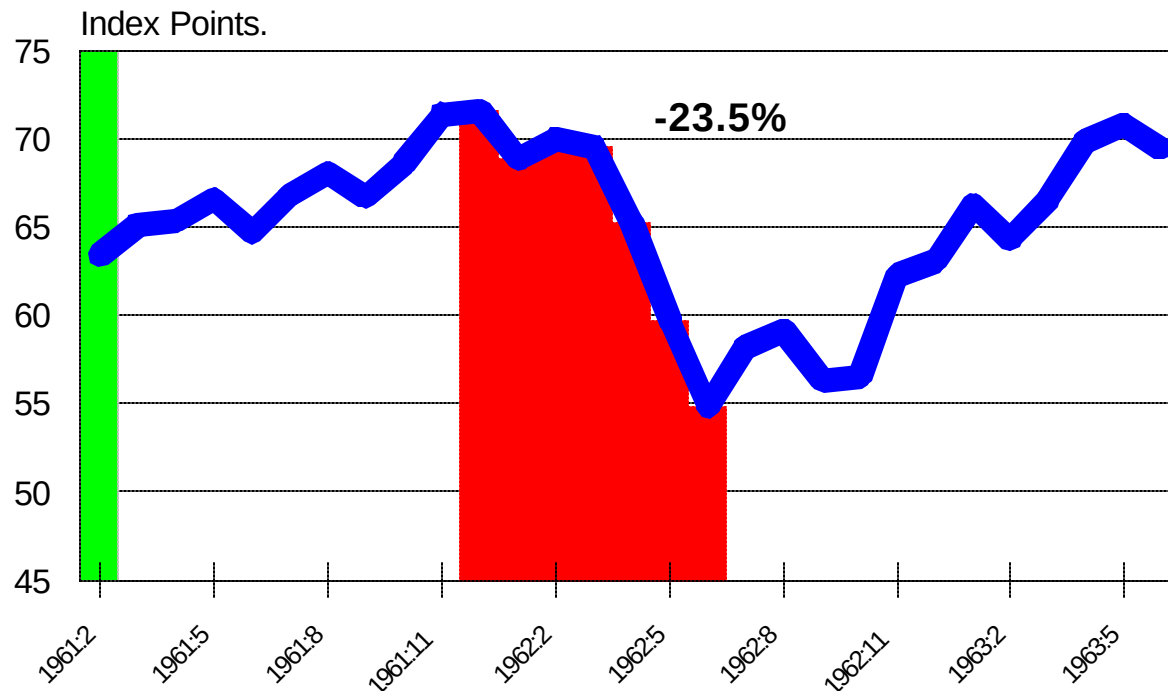
Standard and Poor's 500 Stock Index

Bear Market of 1961

But market historians also point to investor anxiety over the escalating tensions between the U.S. and the Soviet Union. The construction of the Berlin Wall divided East and West Berlin. The wall became a powerful symbol of Soviet military aggression in Europe.

Then in November 1961, President Kennedy initiated the CIA's Operation Mongoose, authorizing covert attempts to overthrow Fidel Castro's communist regime in Cuba. Operation Mongoose was a failure and pushed Castro closer to the Soviet Union. This eventually led to the Cuban Missile Crisis in October 1962.

Fear spread quickly in 1962. Crowds of anxious investors gathered outside of the big brokerage offices, where wall-mounted boards displayed market prices. "It was standing room only at Merrill Lynch, Pierce, Fenner & Smith," reported the Wall Street Journal.



Start Date	Start Level	End Date	End Level	% Change
1961:Dec	71.55	1962:Jun	54.75	-23.5

Green bar denotes business cycle trough date.

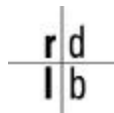


Chart 14

S&P 500 Stock Index and Associated Indicators

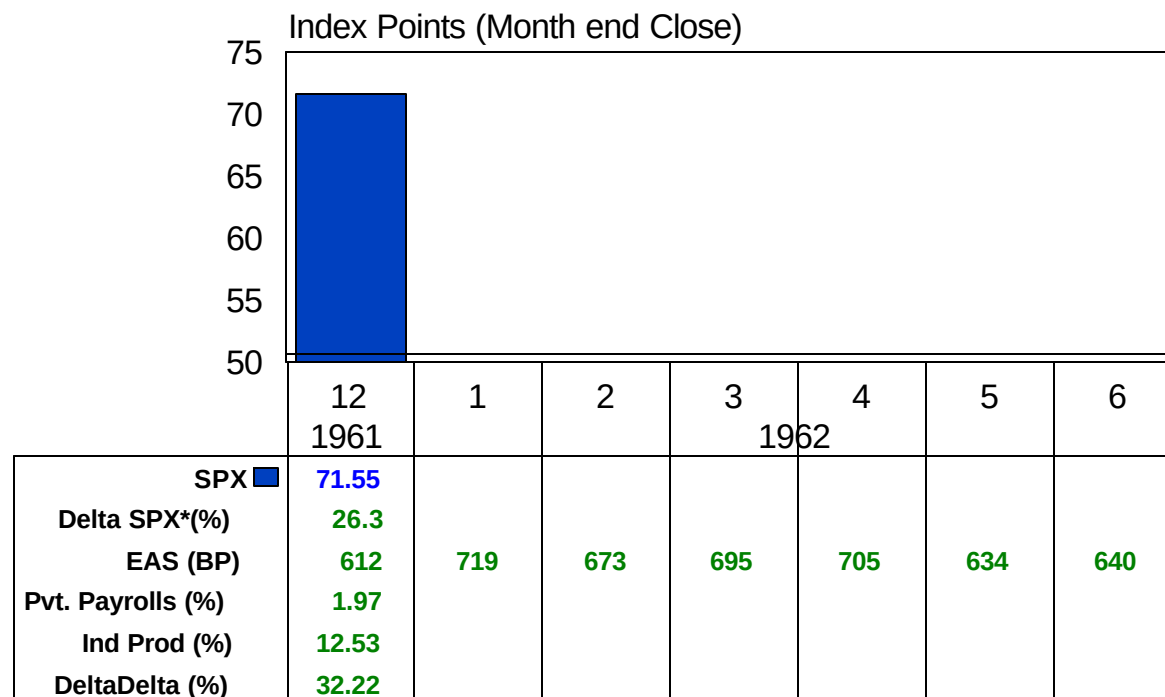
Bear Market of 1961



In December of 1961 we “knew” two things. The first was the level of the S&P500. The second was the level and trend of the EAS for the next nine months. On this chart we are only going out six months, because that was the length of the bear market we are examining.

The key point to keep in mind here, and all the other charts like this one, is that we are always doing the analysis in terms of “what did they know and when did they know it.” WDTK

As we noted earlier, a chart that has this the EAS in this configuration is what we are calling a “green board”.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

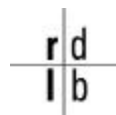


Chart 15

S&P 500 Stock Index and Associated Indicators

Bear Market of 1961

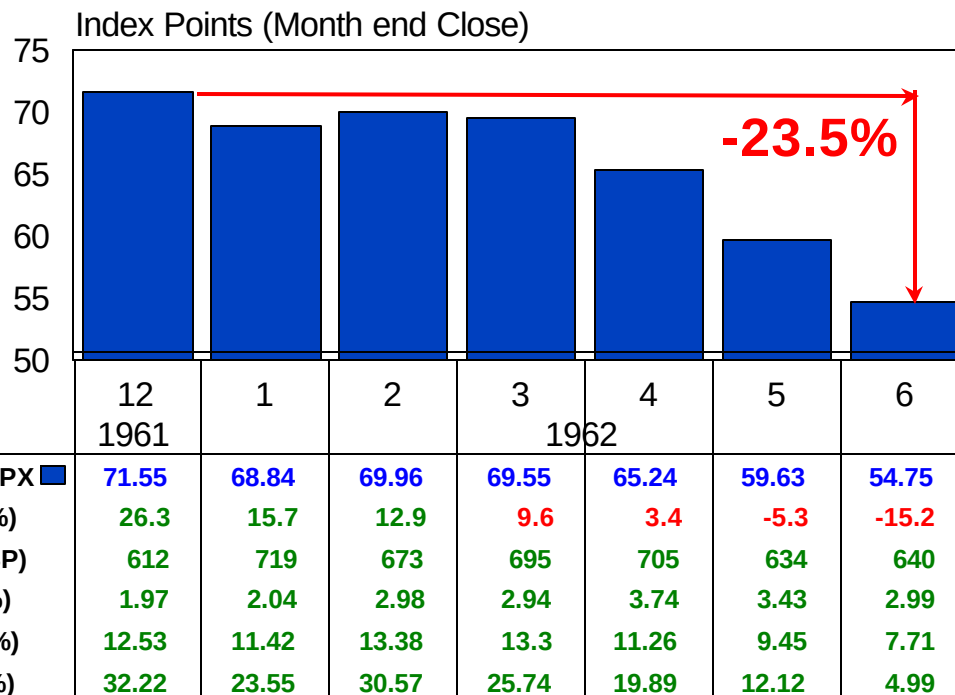


Over the next six months we see the decline in the stock market, and we also see how the rest of associated indicators performed.

During this period we would have learned two things: First, the forecast made by the EAS of more green numbers was completely accurate. So, we know that the stock market move we see here is not associated with a business cycle peak. Second, the strength shown by the employment and production numbers strongly suggest that the economy was gaining steam, which is what we would expect this close to the last cycle trough.

By the end of June 1962, the market decline had run its' course. Stocks began a new multi-year rally.

Conclusion: because we had a green board throughout this stock market event, it turned out to be a buying opportunity.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

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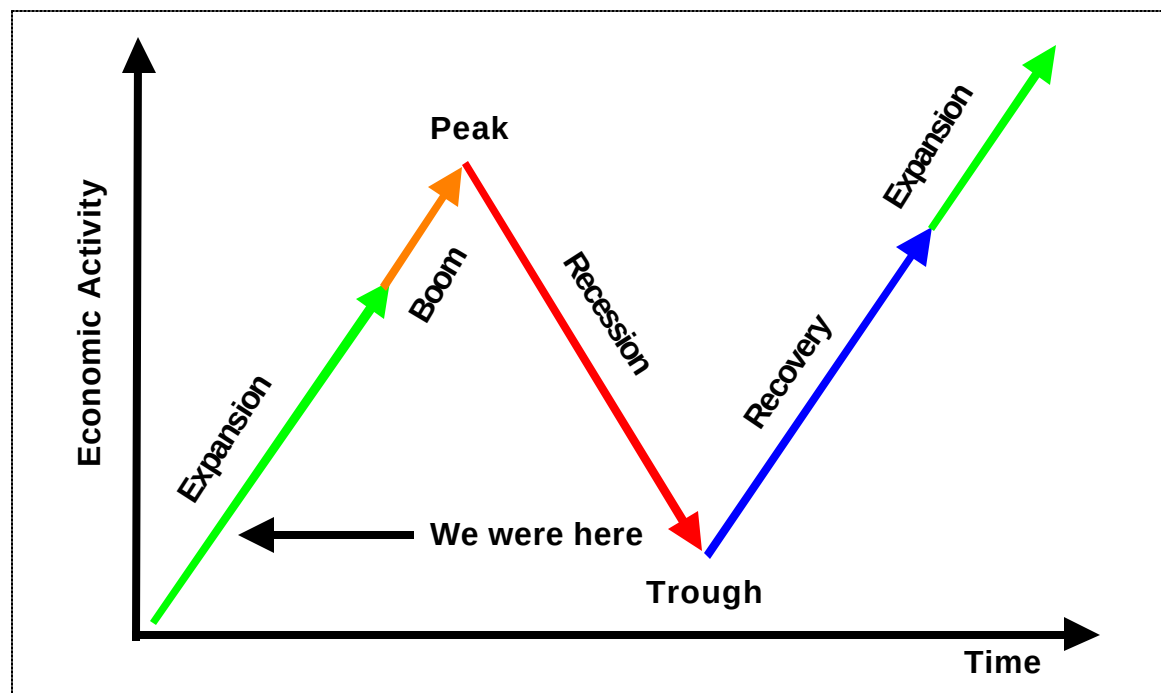
Chart 16

The Phases of the Business Cycle

Bear Market of 1966

We now move ahead 5 years to the correction of 1966. As you might expect, the “we were here” arrow has moved from the Recovery phase we last saw it, into the Expansion phase that precedes the transition to the Boom phase of the cycle. A minor technical note: we use “Boom” to convey a set of conditions that suggest that the economy is showing the signs of stress and instability that can culminate in a business cycle peak.

As was the case with the previous version of this chart, the location of the arrow is based on what we knew about the location of the previous cycle trough and the level and trend of EAS.



Between December 1965 and September 1966, the S&P 500 fell more than 17%. (The actual peak was 94.06 on Feb. 9, 1966. The trough was 73.20 on Oct. 7, 1966. Ergo the max. drawdown was 22.18%) Many economists consider the "credit crush of 1966" to be the first significant postwar financial crisis.

Amid the strong economic expansion of the 1960s, the Federal Reserve proceeded to tighten monetary policy so much that it threatened the profitability of financial institutions. Policy makers had to intervene to save the municipal bond market after a credit crunch ensued and confidence was restored; the S&P 500 Index proceeded to post higher-lows prior to the start of 1967. Once the decline ran its course, the market rallied to even higher highs by early 1968, as the spending-fueled economy drove corporate earnings upward. The 1966 incident did not trigger a recession and never became a factor in the 1966 or 1968 elections. It was soon forgotten.

Chart 17

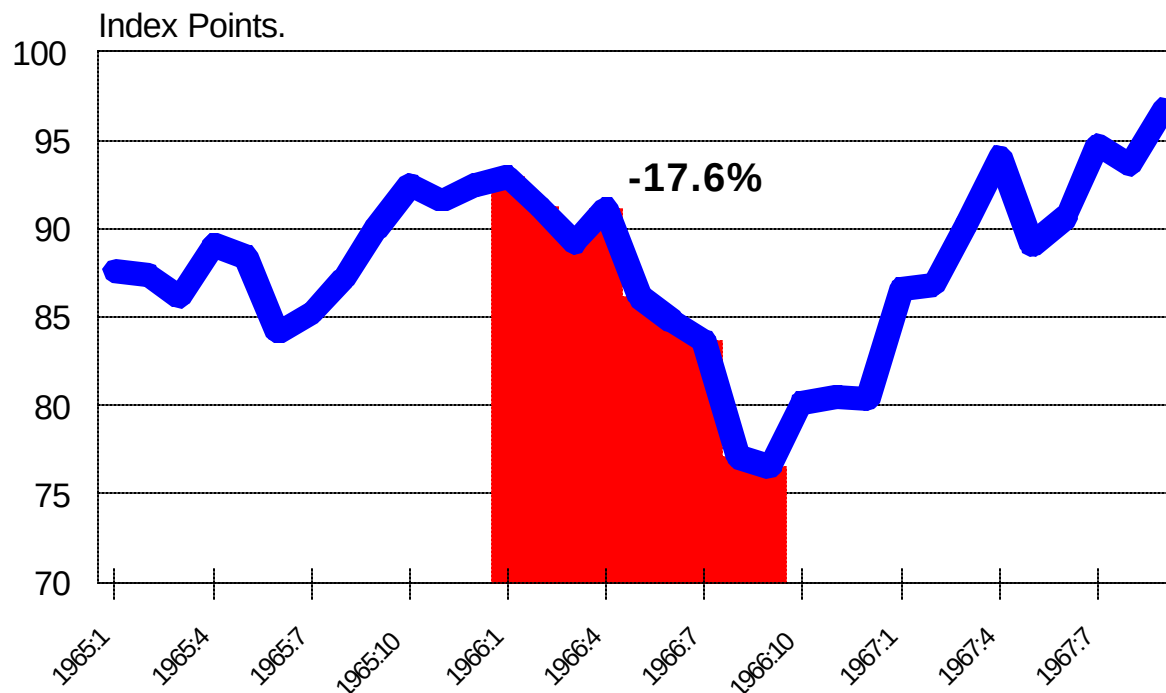
Standard and Poor's 500 Stock Index

Bear Market of 1966

As we did in the first episode, we start with the plot of the stock market over the period under study. And, as we see here the path from the top to the bottom of the move this time was not a continuous decline. Which is something that makes the analyses of these events in real time something of a challenge.

Had the blue line moved above the December 1965 peak value at any time, we would have had to reset the start of the move to the latest peak value. This is a key point. You start the “clock” when the index begins a persistent move down from a high. But, you reset the clock if that high is subsequently taken out.

While those of you who are highly experienced in matters of equity market movements might find that observation superfluous, those who are less versed in the matter need to be let in on some of the finer points of this type of analysis.



(The actual peak was 94.06 on Feb. 9, 1966. The trough was 73.20 on Oct. 7, 1966 for a decline of 22.18%)

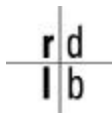


Chart 18

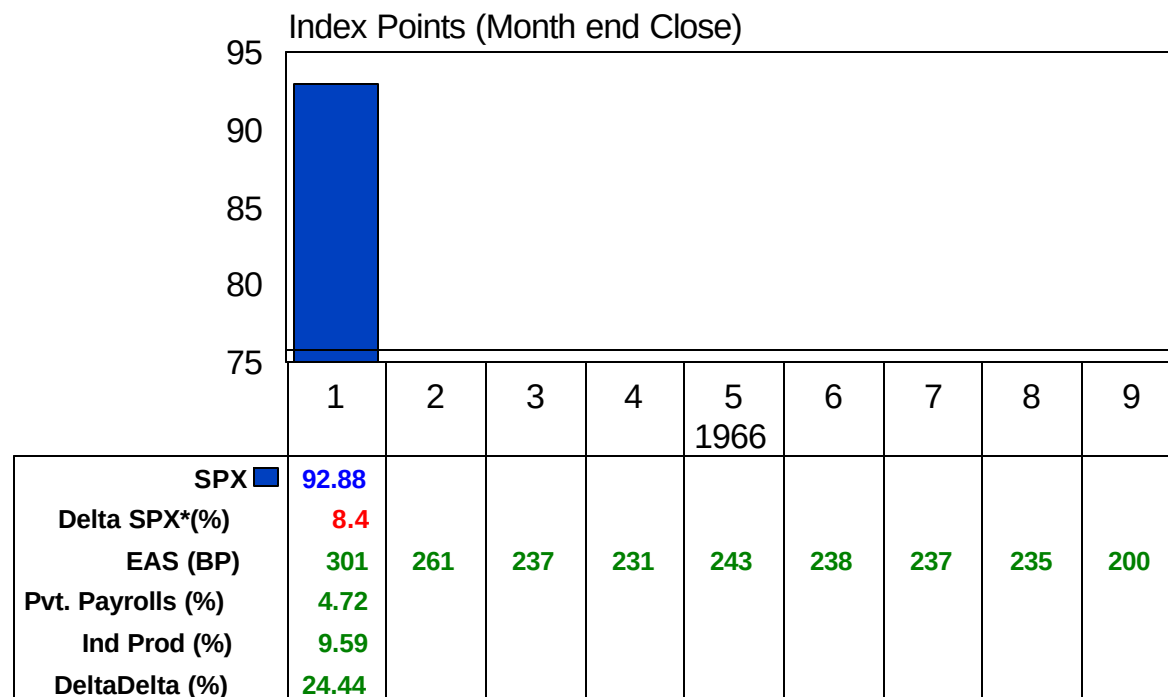
S&P 500 Stock Index and Associated Indicators

Bear Market of 1966



Once again, we start with what we knew when the decline in the stock market got under way. We knew the level of the stock market and the level and trend of the EAS.

As you see here, we have another "green board."



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

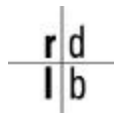


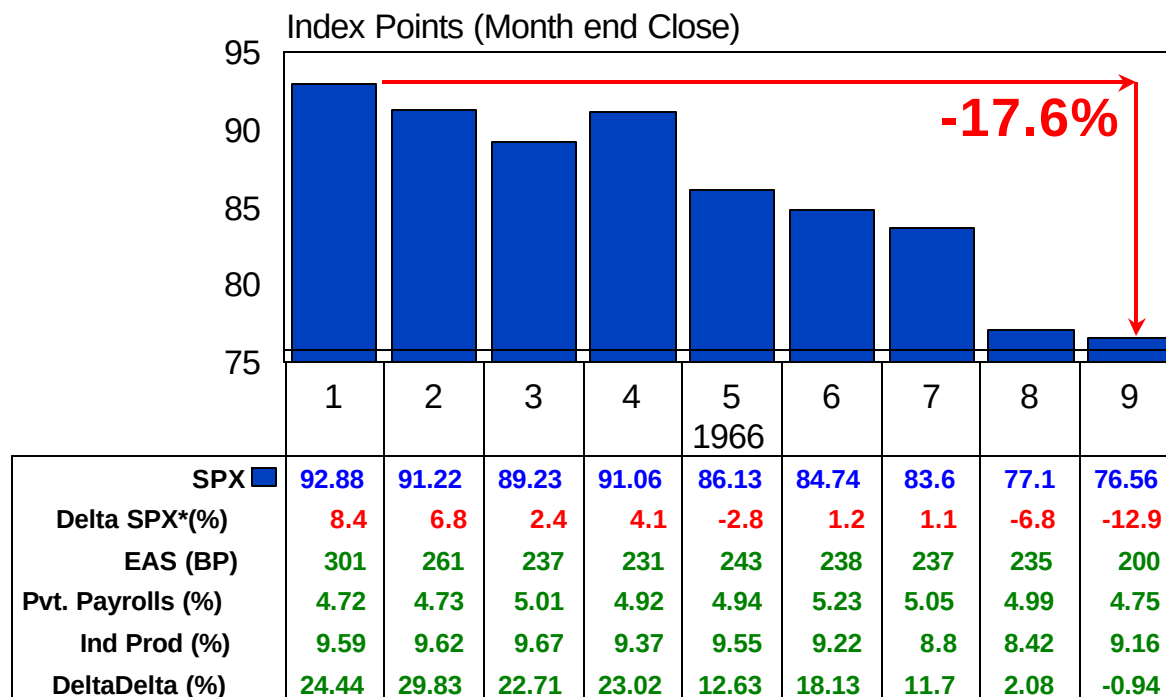
Chart 19

S&P 500 Stock Index and Associated Indicators



Bear Market of 1966

And, as was the case in the prior episode, the forecast made by EAS was confirmed by the associated indicators. Furthermore, as was the case in the prior episode, the level and trend of the employment and production indicators suggested that the pace of growth was fairly robust.



Delta SPX = % Change from Year Ago Month

(The actual peak was 94.06 on Feb. 9, 1966. The trough was 73.20 on Oct. 7, 1966 for a decline of 22.18%)

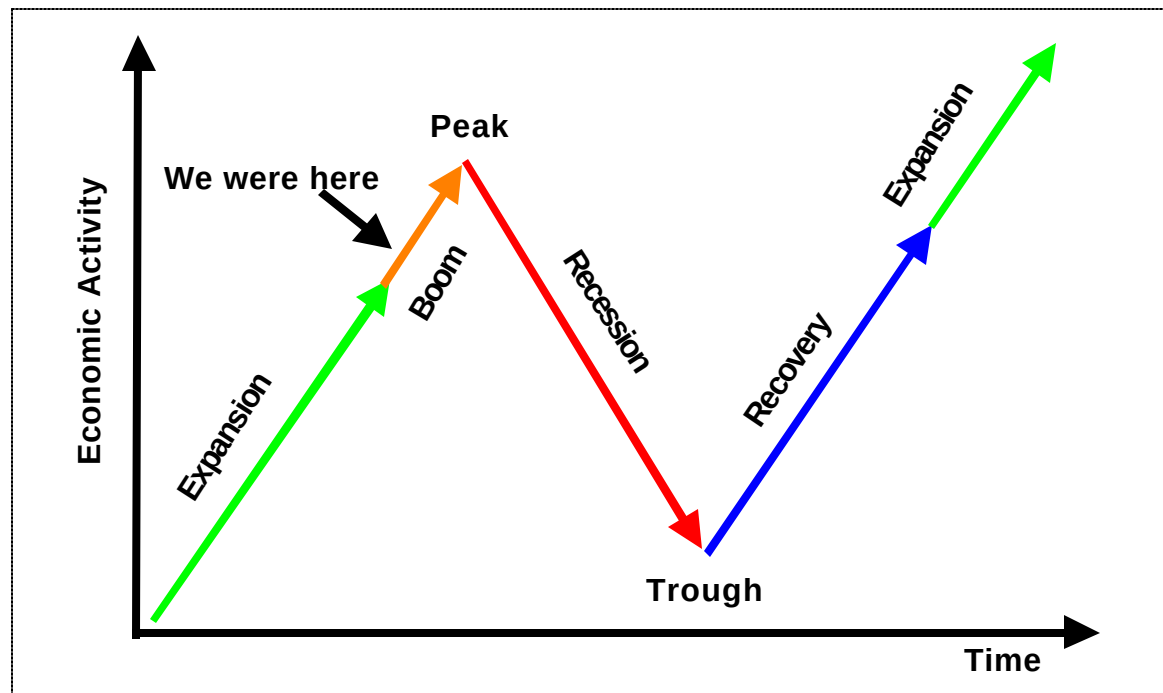
Conclusion: this bear market was a buying opportunity.

Chart 20

The Phases of the Business Cycle

Bear Market of 1968

We now move ahead another two years. And, for reasons that we shall presently explain, we have moved the we were here arrow into the boom phase of the economic cycle.



Rising inflation, increased deficits from the Vietnam War, and monetary tightening sent markets tumbling at the start of 1969. The economic recession of 1970 (which officially began in December 1969) put a further damper on investors' confidence and the S&P 500 endured a nasty losing stretch lasting well over a year and half, shedding nearly 33% over that time frame. The market formed a double-bottom in the first half of 1970 and proceeded to resume its bull run with higher-lows in the months following.

Chart 21

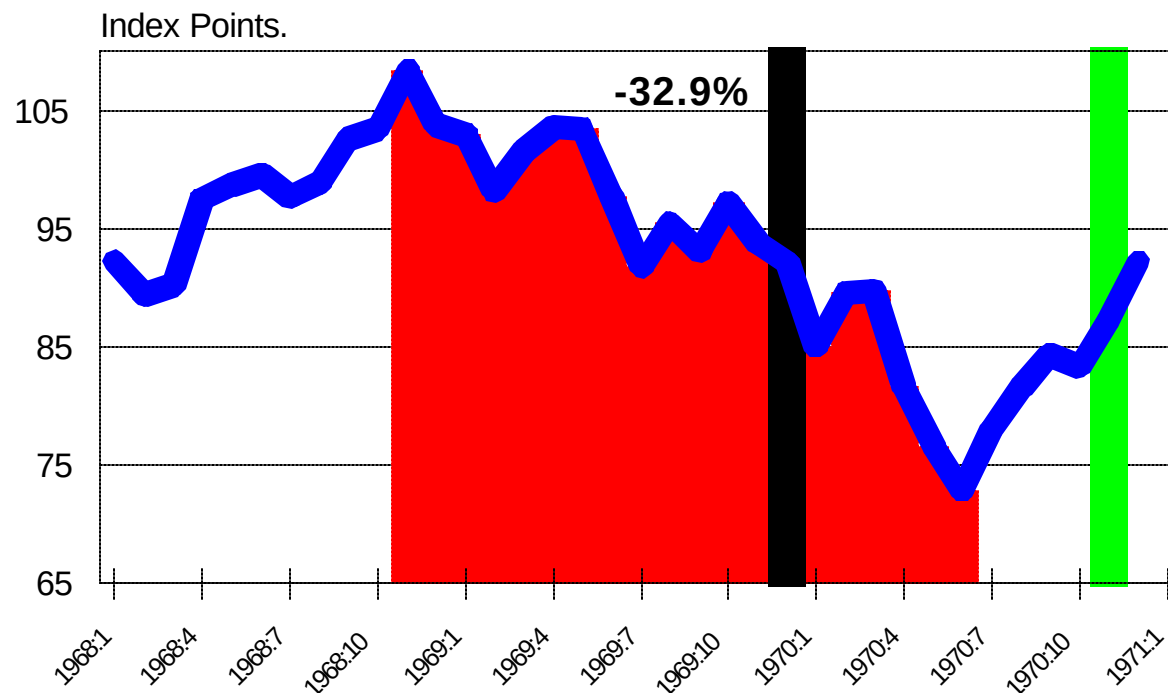
Standard and Poor's 500 Stock Index

Bear Market of 1968

This chart repeats our procedure of showing you the period during which the bear market occurred. But this chart has two items on it that were not on the previous versions of the display. Namely, the locations of the business cycle peak and trough dates.

You will note that the market peak occurred well ahead of the business cycle peak, and the market trough occurred well ahead of the business cycle trough. Those moves have earned the stock market its reputation as a leading indicator of business cycle events. But, as we have already seen, it is possible for the stock market to undergo serious changes in its level and trend without there being a business cycle event.

The other point worth noting here, is that the progress from the market peak to the market trough in this episode was uneven, with occasional periods in which the index rose. But none of those reversals were long enough or large enough to reverse the trend or take out the previous high.



Start Date	Start Level	End Date	End Level	% Change
1968:Nov	108.37	1970:Jun	72.72	-32.9

Green bar denotes business cycle trough dates. Black bar denotes business cycle peak date.

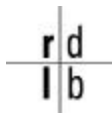


Chart 22

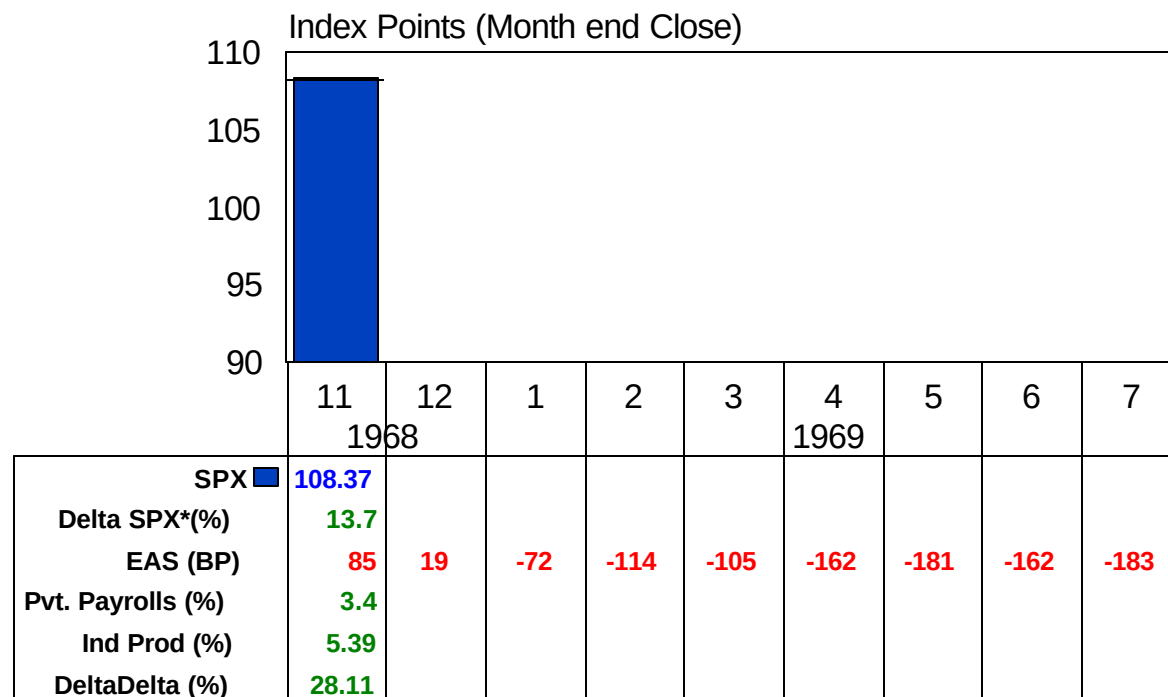
S&P 500 Stock Index and Associated Indicators

Bear Market of 1968 -- Part 1



As you might have already guessed, this chart gives us our first “red board”. In November of 1968, we knew the level of the stock market index, and the level and trend of the EAS. The message from the EAS is that there is a high likelihood of a business cycle peak within the forecast horizon.

And, because the bear market lasted from December 1968 to June of 1970, we are going to break the event down into several segments as to be able to set up charts that will allow you see the movements of the stock market and all of the associated indicators clearly.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

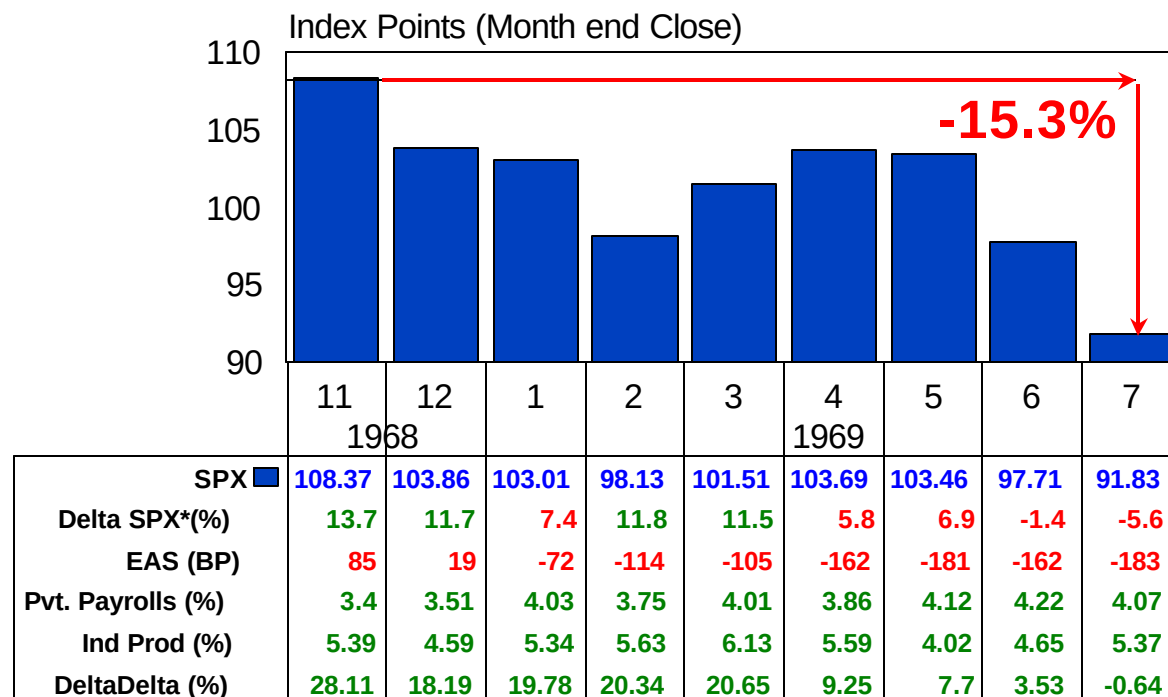
EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

As you see here, during the open phase of the bear market, the SPX moved both lower and higher before moving sharply downward. The message from the coincident indicators was that the conditions associated with a cycle peak had not yet been attained.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

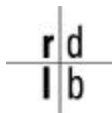


Chart 24

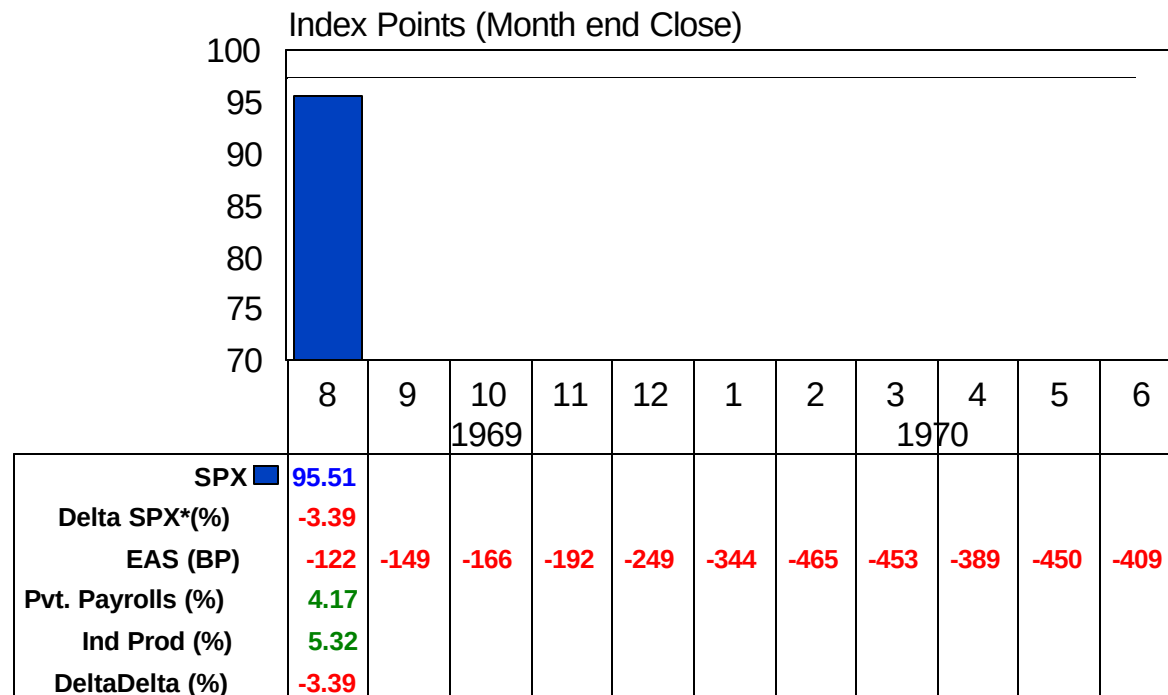
S&P 500 Stock Index and Associated Indicators



Bear Market of 1968 -- Part 2

By August of 1969, we knew several other things. First, we knew that the stock market was down at a pace that already had created the conditions associated with a correction. Second the level and trend of the EAS pointed to further stress in the months ahead. Third, one of our coincident indicators (DeltaDelta) had moved to a level consistent with those displayed during recessions.

In other words, we had another “red board” which you could say was slightly redder than one that preceded it.



Delta SPX = % Change from Year Ago Month

Cross Hatched Months = Recession

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

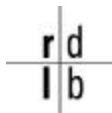


Chart 25

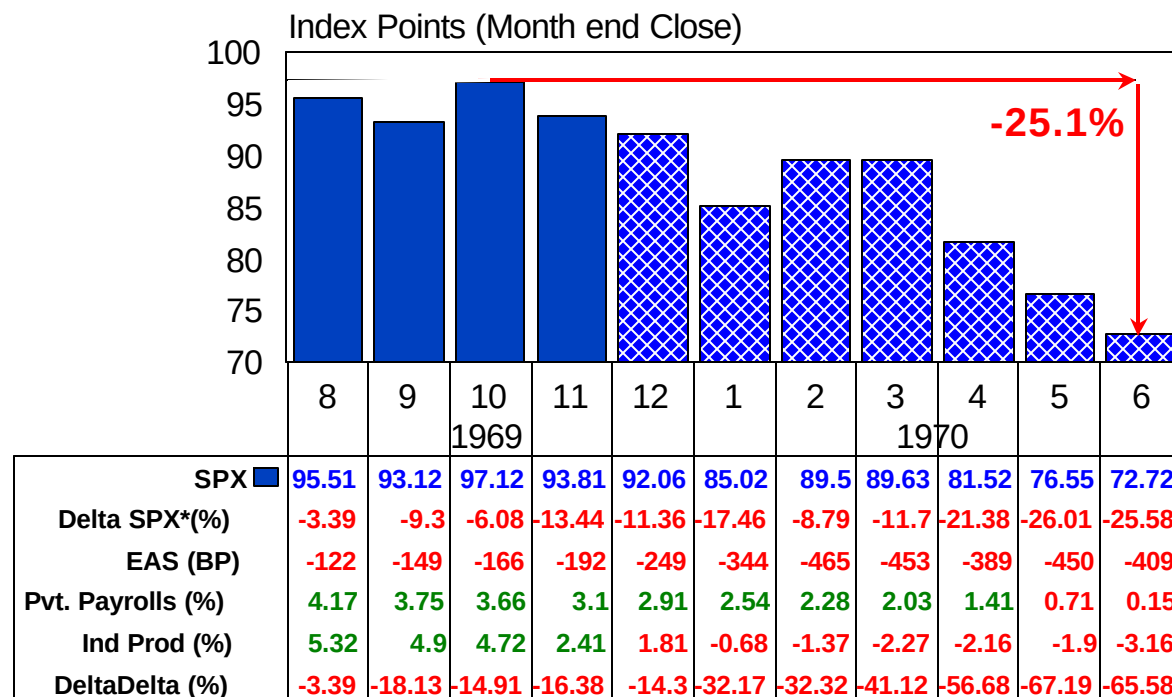
S&P 500 Stock Index and Associated Indicators



Bear Market of 1968 -- Part 2

Here we see the onset of the recession. The NBER put the official peak date in December of 1969. The stock market moved sharply lower over the period we are displaying in detail here. By the end of this interval, all of the variables had turned red.

But, as you can see here, June of 1970 turned out to be the low for the SPX, with the rally associated with the end of the recession, which happened in November of 1970, getting started in June of 1970. But that is a story for another study. For now, all we need to note is that a "red board" presents a different tactical and strategic situation than a "green board".



Delta SPX = % Change from Year Ago Month

Cross Hatched Months = Recession

Conclusion: since we had a red board at the beginning of this period, an investor had the option of taking defensive steps to get out of the way of the recession.

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

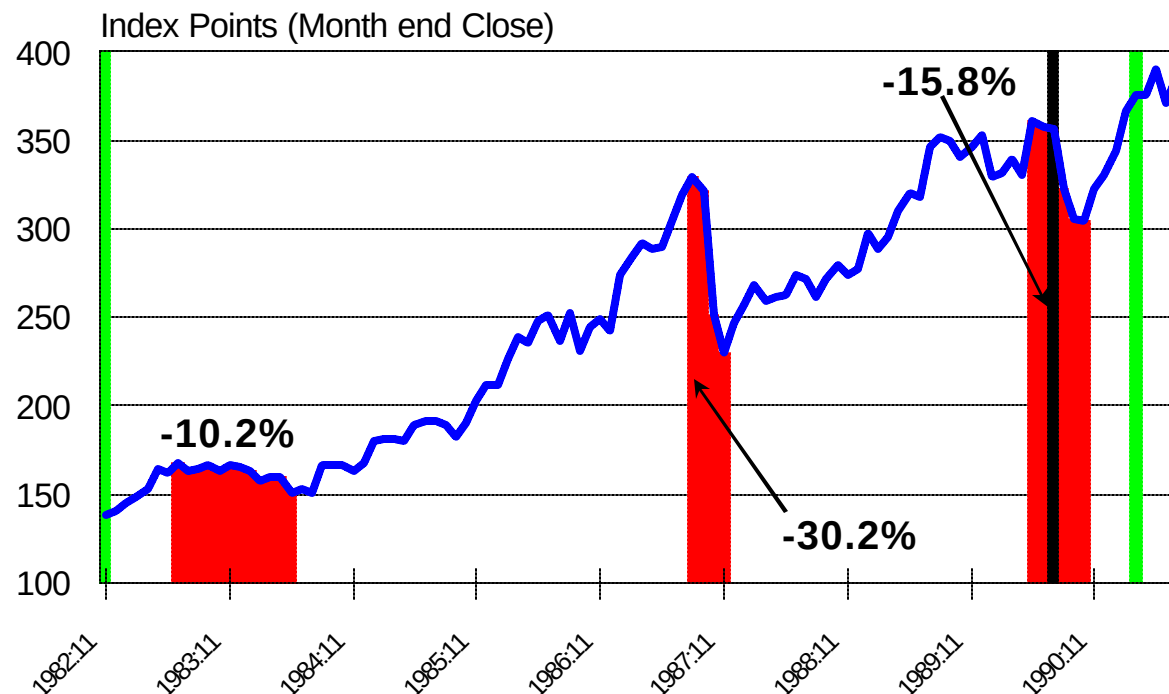
DeltaDelta <0.0% and falling

Chart 26

Standard and Poor's 500 Stock Index

92 Month Expansion from November 1982 to July 1990

We turn now to the next set of episodes, those that occurred in the expansion that ran from November of 1982 to July of 1990. And as we shall see here, the circumstances that can cause significant market moves can be widely different from case to case. But, as we shall also see, the fundamental methodology of “what did they know and when did they know it?” continues to provide a useful framework in which to conduct the analysis.



Start Date	Start Level	End Date	End Level	% Change
1983:Jun	167.64	1984:May	150.55	-10.2
1987:Aug	329.80	1987:Nov	230.30	-30.2
1990:May	361.23	1990:Oct	304.00	-15.8

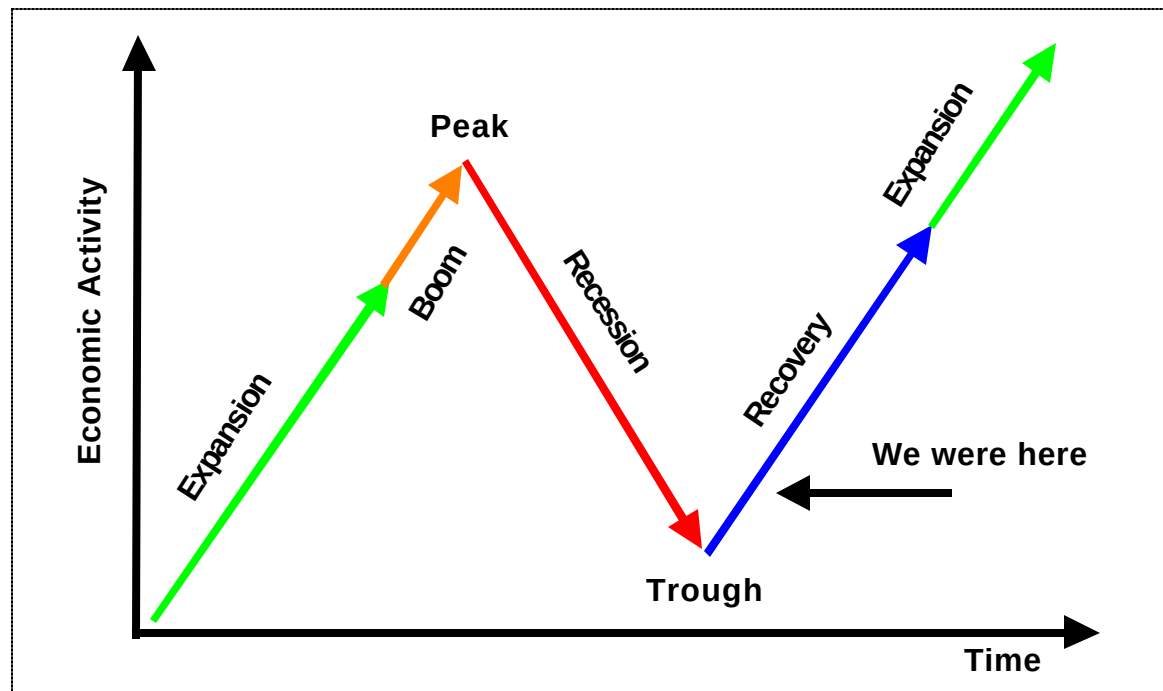
Green bars denote business cycle trough dates. Black bar denotes business cycle peak date.

Chart 27

The Phases of the Business Cycle

Correction of 1983

As we did previously, we base the location of the “we were here” arrow on what we knew of the location of the previous business cycle trough and the level and trend of the EAS.



Rising interest rates returned to haunt the equity market. The bond market held the key to the general erosion of sentiment among stock market participants. Analysts at the time were predicting that long-term Government bonds would trade at prices to yield between 9.5% and 11% during the course of 1983. But by August these bonds changed hands at levels just under 12%.

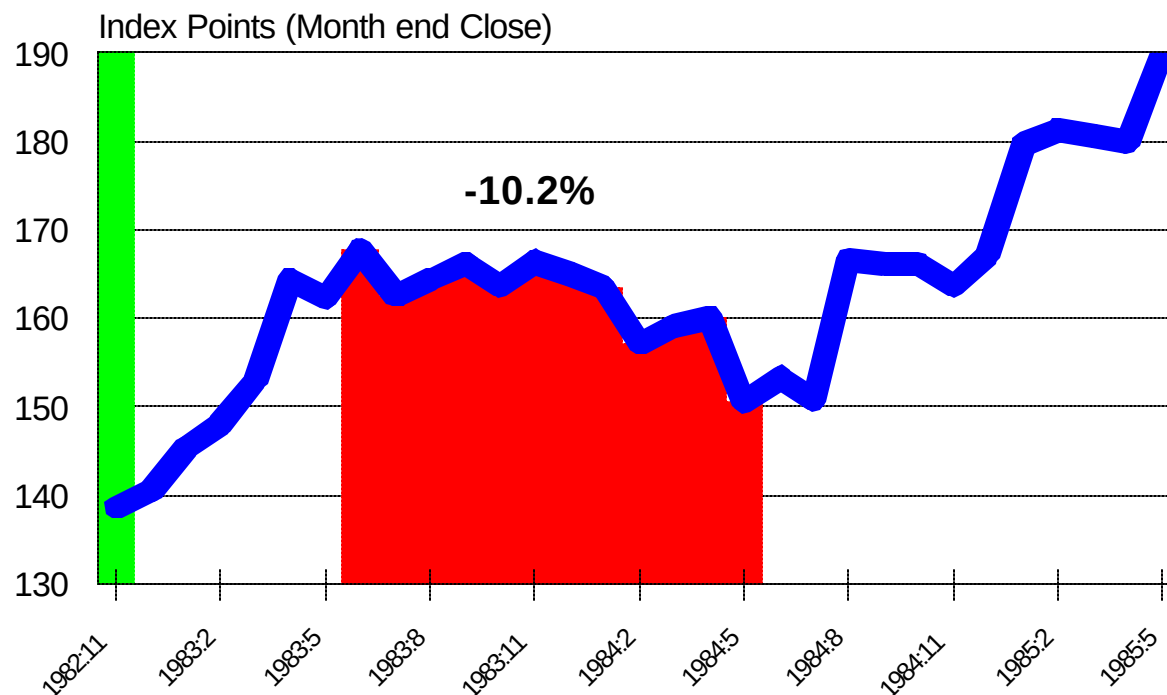
The reasons were not hard to find. The budget deficit loomed ever larger. And the Treasury began to auction a record \$15.75 billion in notes and bonds to help finance the deficit. Lastly, Paul A. Volcker, the chairman of the Federal Reserve Board, warned that corporate credit needs were starting to clash with Treasury borrowings.

Chart 28

Standard and Poor's 500 Stock Index

Correction of 1983

The correction you see here barely qualifies as a correction. But, the numbers are what the numbers are. And, in the context of the “color” you just read on the previous chart, it is as important to review this set of circumstances as it is those with more dramatic outcomes.



Start Date	Start Level	End Date	End Level	% Change
1983:Jun	167.64	1984:May	150.55	-10.2

Green bar denotes business cycle trough date.

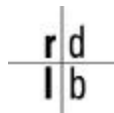


Chart 29

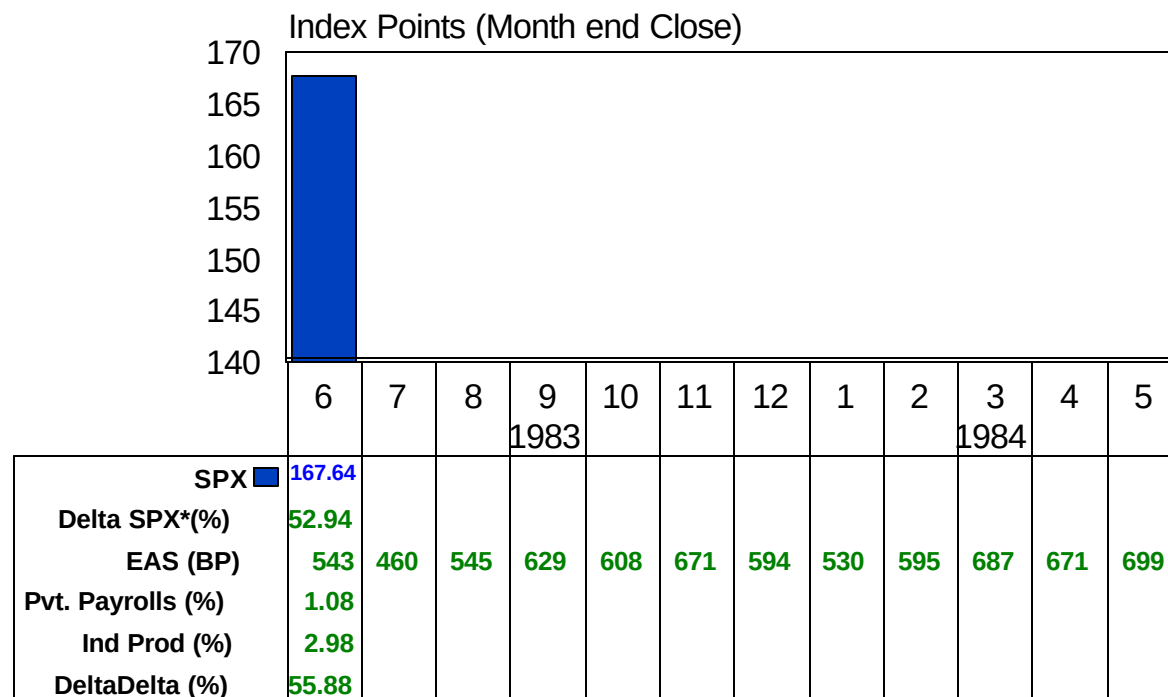
S&P 500 Stock Index and Associated Indicators

Correction of 1983



Once again, we start with a green board.

But, you will notice that Delta SPX is up 52.94%. Meaning that the stock market in June of 1983 was up 52.94% from its level of June 1982. And, gains of that magnitude are going to raise questions about their sustainability. Hence the concern about what the stock market would do next.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

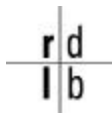


Chart 30

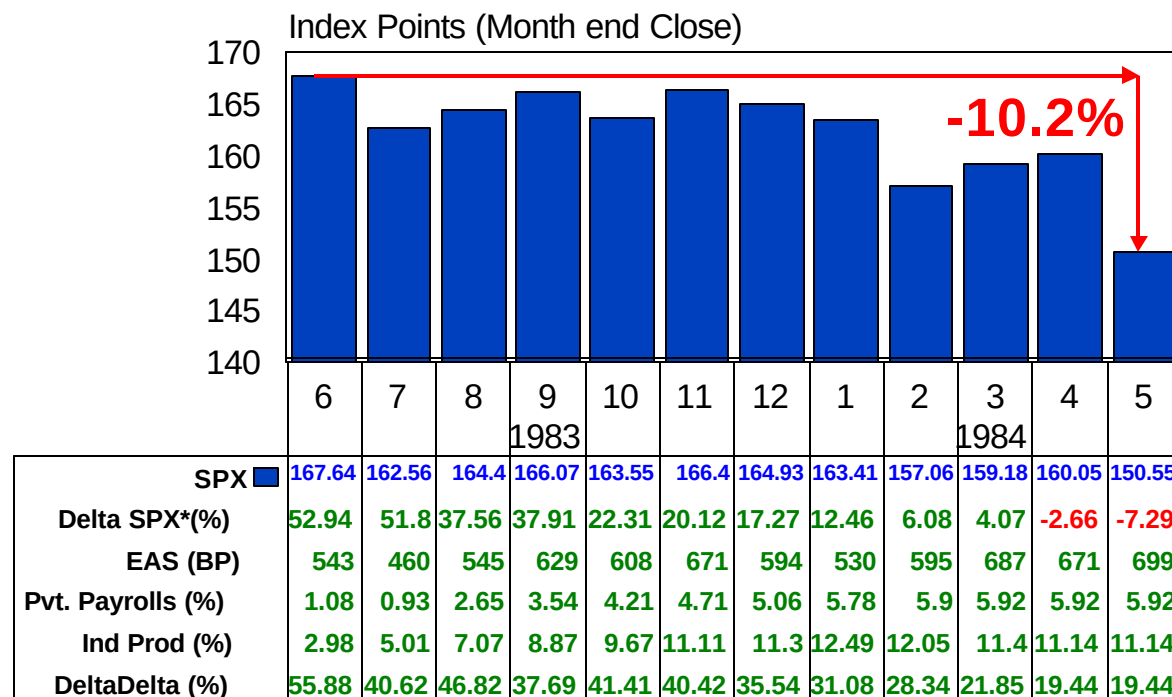
S&P 500 Stock Index and Associated Indicators



Correction of 1983

As you see here, the stock market basically moved sideways over the interval, except for that last sharp downward move in May of 1984.

The “green board” stayed green throughout, with both the production and employment indicators turning in very strong performances.



Delta SPX = % Change from Year Ago Month

Conclusion: the presence of a green board gave encouragement for investors to ride out the storm. This 10% correction turned out to be a buying opportunity.

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

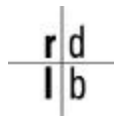


Chart 31

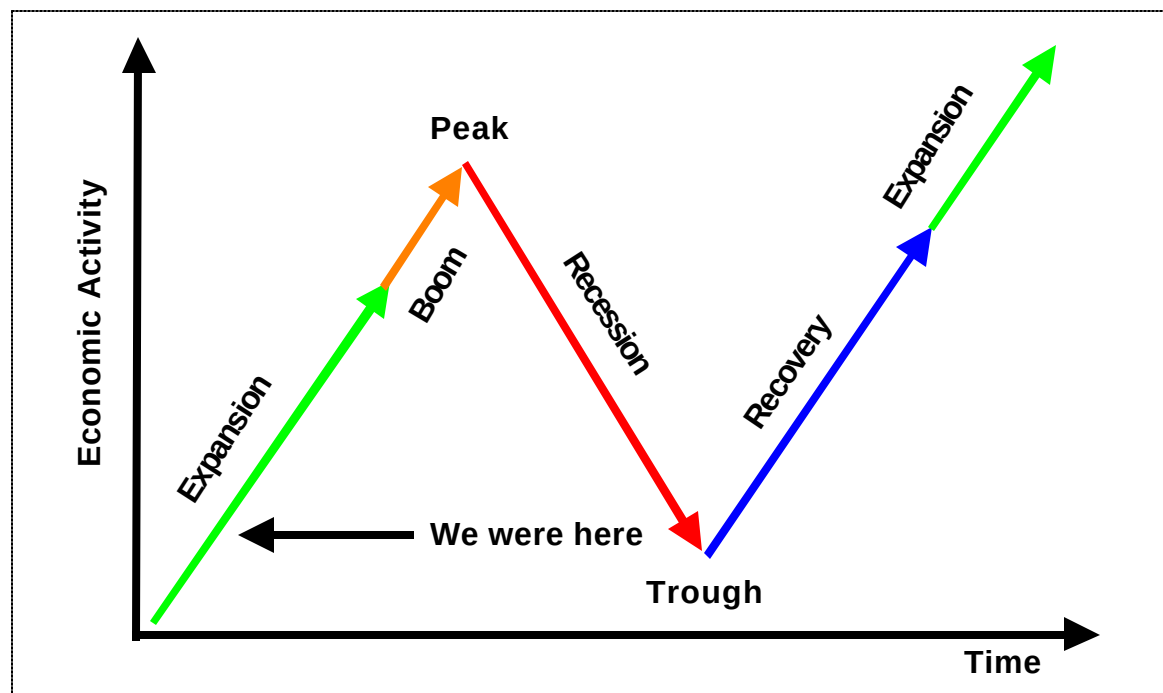
The Phases of the Business Cycle

Bear Market of 1987



We now move ahead four years on the calendar and in so doing we move the “we were here” arrow from the Recovery phase of the cycle to the Expansion phase of the cycle.

As you see below, the episode we are now going to examine is the Crash of 1987.



The Federal Reserve started raising rates in 1986 to combat inflation as equity markets had enjoyed a nice run from 1982 to mid-1987. When they tightened monetary policy, the market reacted with a steep sell-off that became known as 'Black Monday' and led to stock market crashes around the globe, starting in Hong Kong and spreading to Europe.

At the same time, Iran had fired on a U.S. oil-supertanker, which led to a conflict in the Persian Gulf that further deteriorated investors' confidence in the markets. The S&P 500 endured its steepest three-month decline in history and proceeded to resume its bull run by the start of 1988.

Once Black Monday got started, portfolio insurance kicked in, sending stocks into an historic nosedive. Traders reported that nobody was picking up the phones at the NYSE order booths, apparently too afraid to take sell orders that they had no hope of filling.

Chart 32

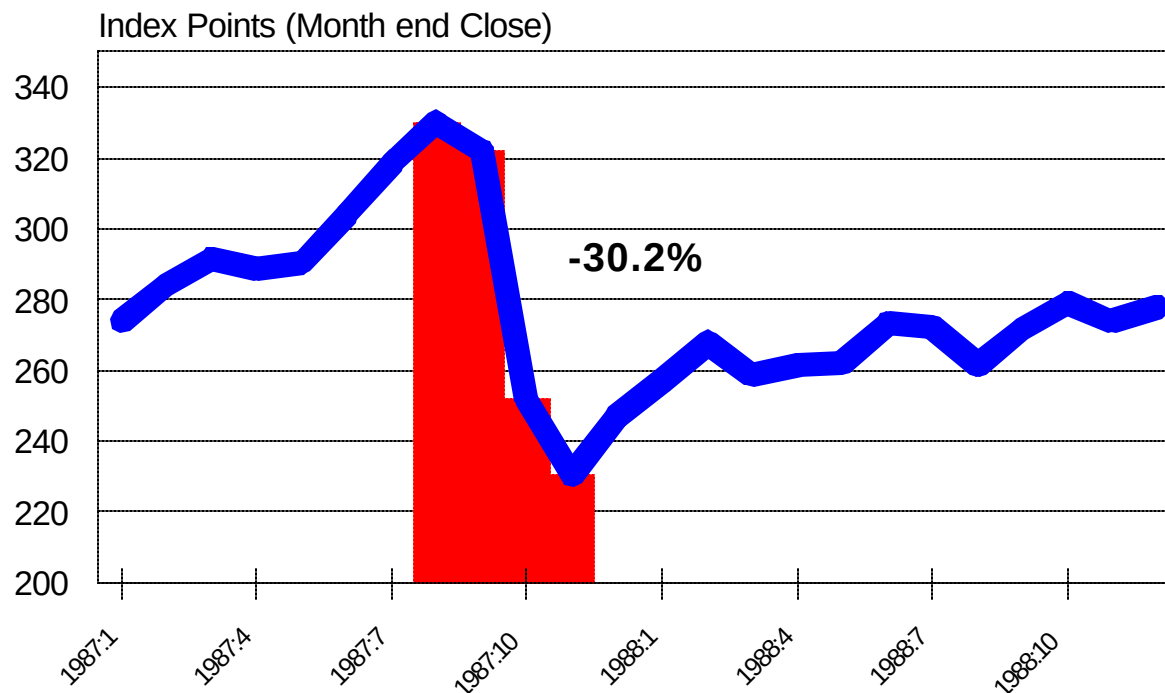
Standard and Poor's 500 Stock Index

Bear Market of 1987

Since it is “elephant in the room” it is probably best to address the question directly: Did the EAS warn us about the Crash of 1987?

No. Because it is not designed to make market calls.

What the EAS did was provide you with the context with which to interpret what the Crash meant both for your portfolio and for the economy.



Start Date	Start Level	End Date	End Level	% Change
1987:Aug	329.8	1987:Nov	230.3	-30.2

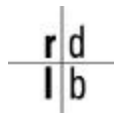


Chart 33

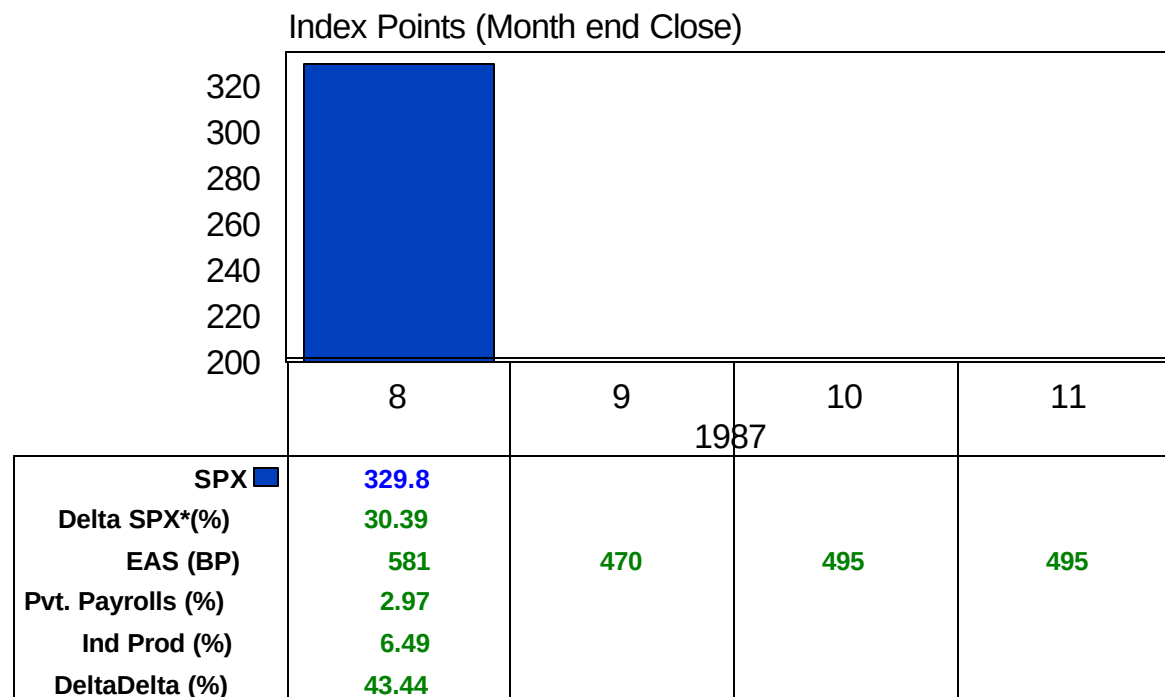
S&P 500 Stock Index and Associated Indicators



Bear Market of 1987

In August of 1987 we knew the level of the SPX and the level and trend of the EAS. And, as had been the case in the correction of 1982, we could see that the year-over-year gain in the SPX was quite large. Namely Delta SPX was up 30,39%. And, as you saw in the color for this episode, there were questions as to whether those gains could be sustained.

But the key aspect was we had a "green board".



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

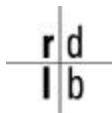


Chart 34

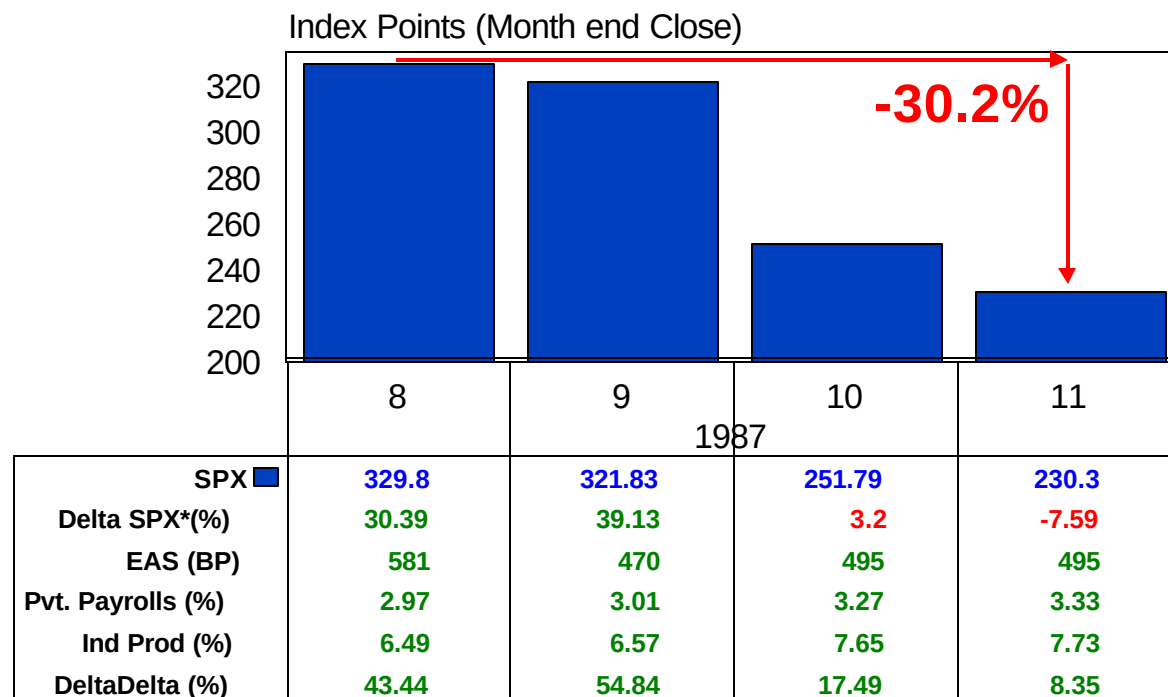
S&P 500 Stock Index and Associated Indicators



Bear Market of 1987

The sudden and severe drop in the SPX set off a frenzy of doomsday forecasts, both about what the stock market would do next and about the “inevitable” recession that would befall the economy in 1988.

Those forecasts were wrong. The stock market went on to recover all of the losses it suffered in the crash by July of 1989. The next business cycle peak, as we shall see in just a moment, did not happen until July of 1990.



Delta SPX = % Change from Year Ago Month

Conclusion: since the board remained green throughout this incident, it should have been another buying opportunity. But we have to admit that it would have taken nerves of steel to step into the abyss that was created by this monster sell-off.

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

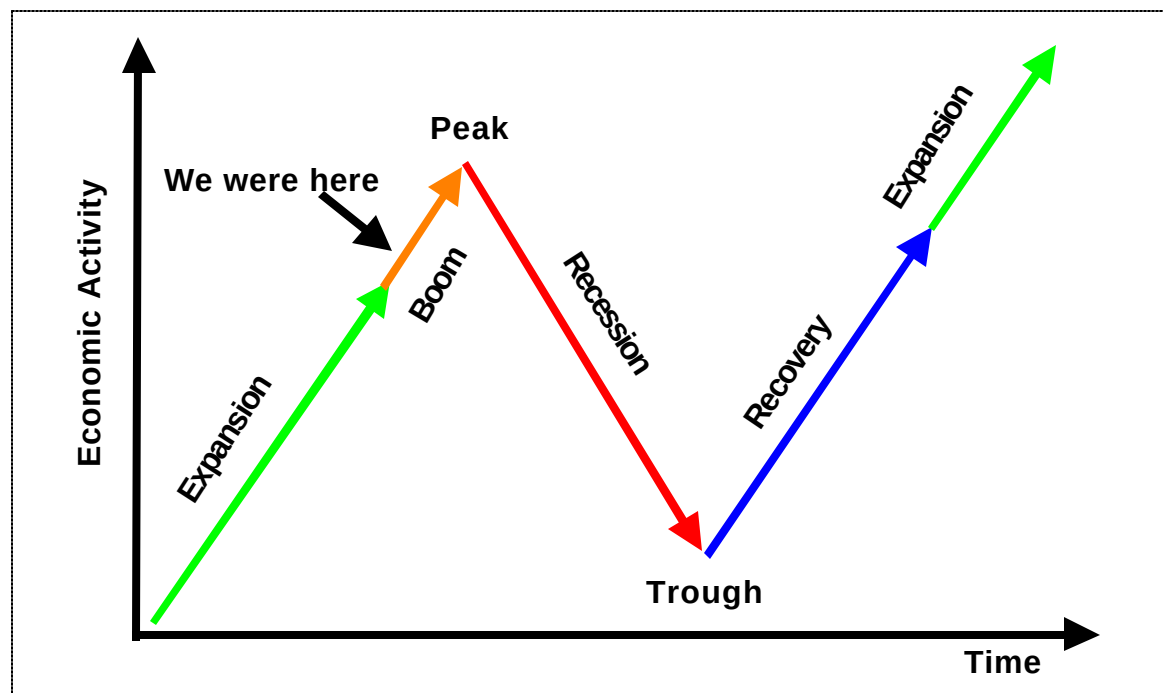
DeltaDelta <0.0% and falling

Chart 35

The Phases of the Business Cycle

Bear Market of 1990

We now move ahead another two and a half years to early 1990. We have moved the “we were arrow” into the Boom phase of the cycle. And, as you shall see in moment, the main reason for doing so was the growing uncertainty about the future of the expansion brought about both by the actions of the Federal Reserve and the increased tensions in the Middle East.



Iraq invaded Kuwait in July 1990, causing oil prices to spike on world markets. The S&P 500 index fell nearly 16% in 5 months. Market participants were worried that oil supplies would be disrupted and prices would remain high for an extended period, thus causing a global economic recession. These concerns turned out to be baseless, as the U.S. military successfully removed Iraq from Kuwait in short order.

But investors at the time had no way of knowing that the military operation would be such a quick and successful undertaking. Coupled with deteriorating economic conditions, many investment firms - including the one I worked for - adopted a "do not like stocks" policy. This turned out, in retrospect, to be a very costly decision unless you were very nimble with your allocations.

Chart 36

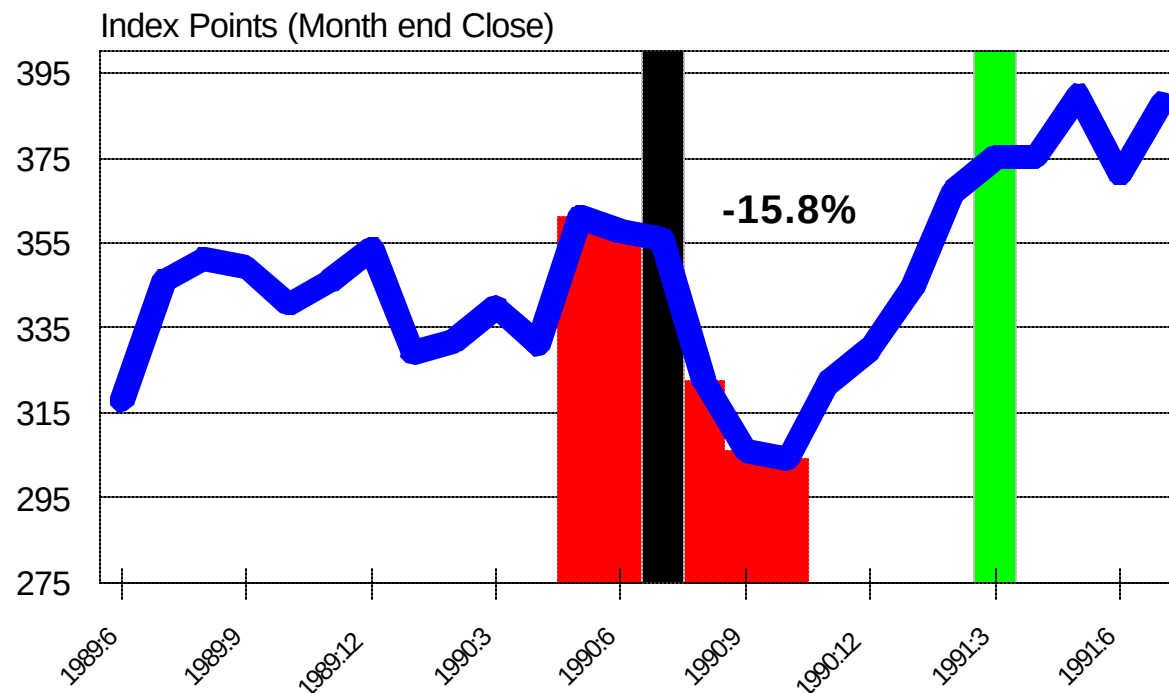
Standard and Poor's 500 Stock Index

Bear Market of 1990

As you see here, after recovering from the Crash of 1987, the SPX went on to set a new cycle high in May of 1990. But, as you also see there, it did so after moving in a fairly narrow range between June of 1989 and May of 1990.

As was the case in 1969, this market move coincides with the dates of a recession. We see the market turn downwards two months before the onset of the recession. The market turned upward five months before the recession ended.

This episode is a point of contention among equity market observers. Half call it a bear, and include it on their list of bears. The other half call it a correction, or a "near-bear". The reason goes to the calculation method. The daily closing prices are 368.95 high, 295.46 low, for a 19.9% decline. But using intraday prices are 369.78 and 294.51, which gets you to 20.4%. The month-end numbers used on the table, get you a "correction."



Start Date	Start Level	End Date	End Level	% Change
1990:May	361.23	1990:Oct	304	-15.8

Green bar denotes business cycle trough date. Black bar denotes business cycle peak date.

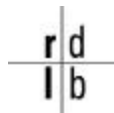


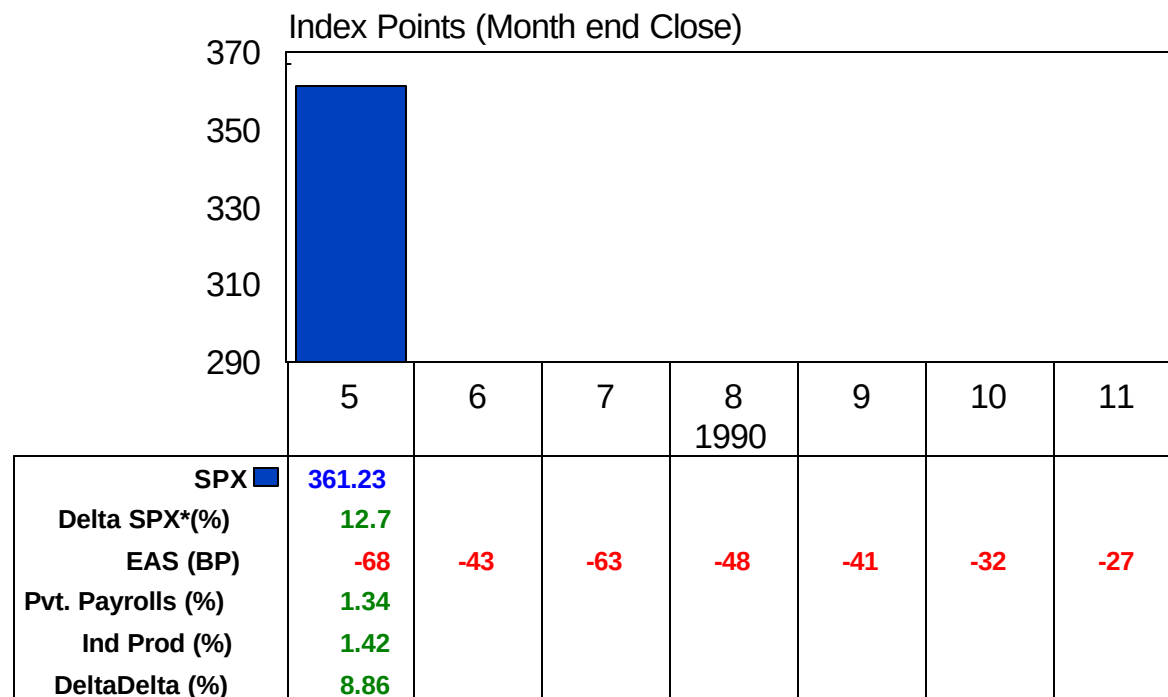
Chart 37

S&P 500 Stock Index and Associated Indicators



Bear Market of 1990

As was the case in 1969, we find ourselves looking at a “red board”. You will also note that the levels of the production and employment variables are already pretty close to the levels we associate with the onset of a recession.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

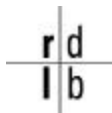


Chart 38

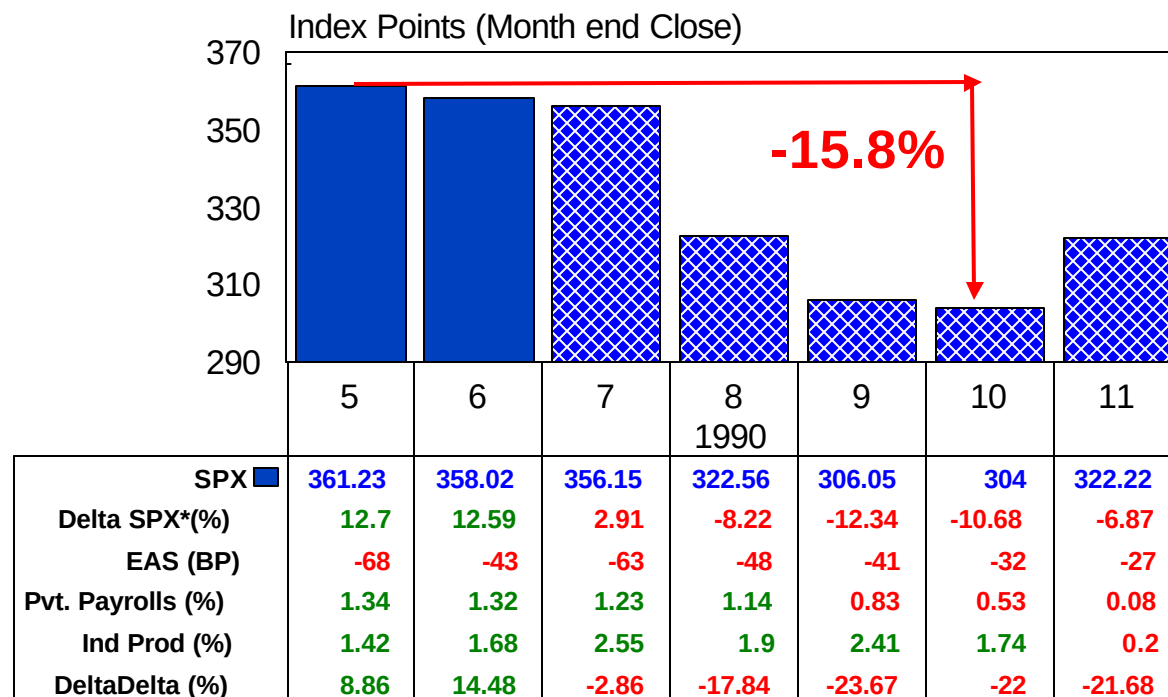
S&P 500 Stock Index and Associated Indicators



Bear Market of 1990

Again, as was the case in 1969, the cycle indicators turned red as we worked our way into the depths of the recession.

This is another case where we would have been well advised to institute whatever protocols we use for managing portfolios across business cycle peaks.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Conclusion: since the board was red at the start of this bear market, we view it as a selling opportunity.

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

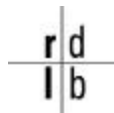
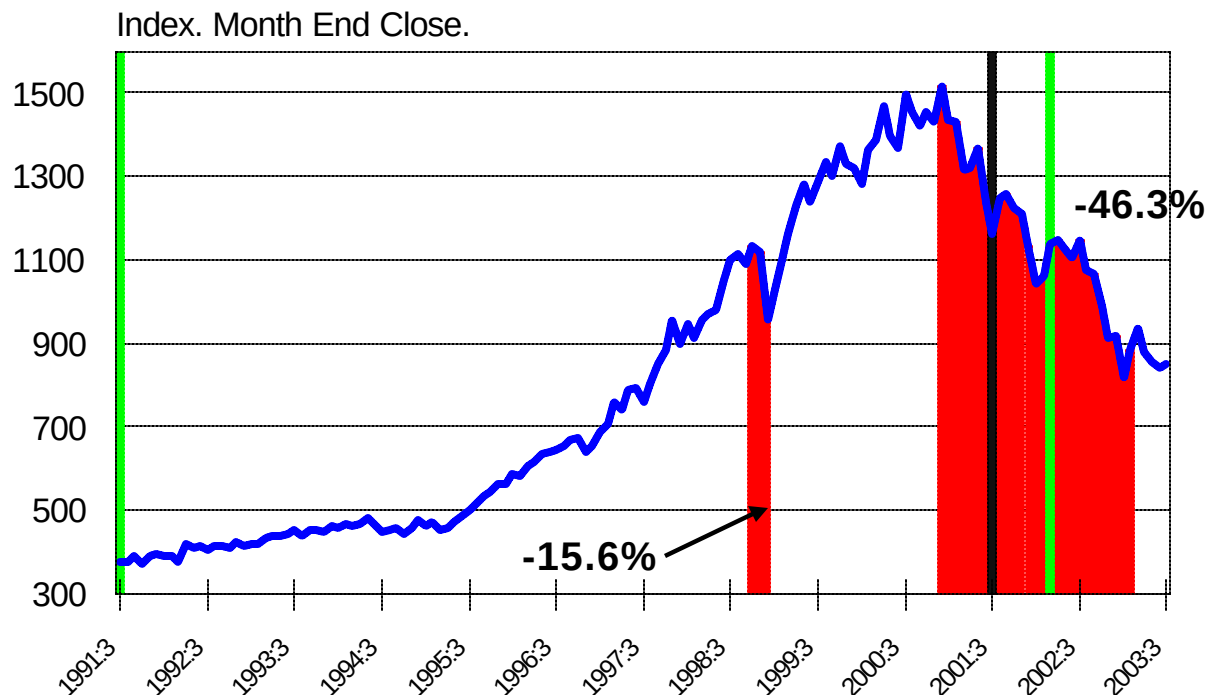


Chart 39 Standard and Poor's 500 Stock Index



120 Month Expansion from March 1991 to March 2001

We come now to the longest expansion on record. One that includes a rally of heretofore unseen dimensions and a bear market of equally significant length and depth. But before we get to that event we have to look at the correction that you see in the middle of this chart.



Green bars denote business cycle trough dates. Black bar denotes business cycle peak date.

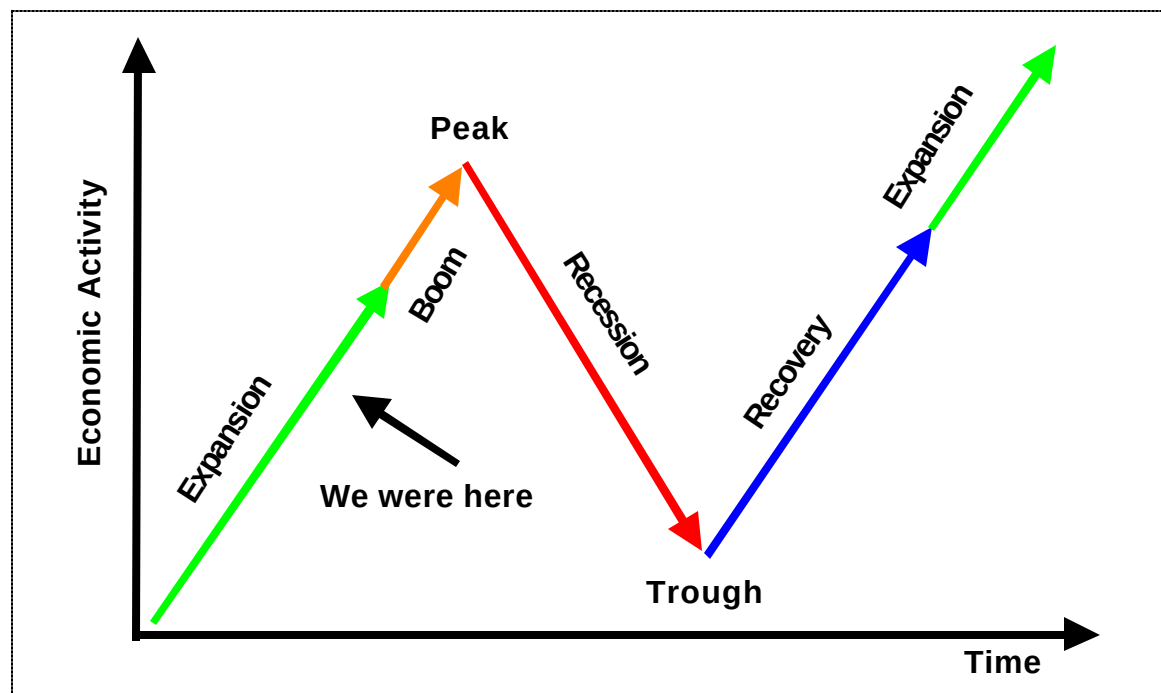
Chart 40

The Phases of the Business Cycle

Correction of 1998

The location of the “we were here” arrow is based, as it always is, on our knowledge of when the previous cycle trough occurred and the level and trend of the EAS. As Erik describes below, this correction was a precursor to what we will examine when we get to the events of 2007 and 2008.

The 1998 market event was actually the culmination of the Asian financial crisis that was triggered in July 1997. For two years, anxiety gripped the global financial markets. What was at first perceived to be a localized currency crisis in Thailand, soon spread to other Southeast Asian countries -- including Malaysia, Indonesia and the Philippines. By the fall of 1997, the contagion had spread to South Korea, Hong Kong and China.



A global financial meltdown had been ignited. In 1998, Russia and Brazil saw their economies enter a free-fall. Stock markets from New York to Tokyo hit record lows as investors' confidence was shaken by the volatility and unpredictability in the world's financial markets.

Then in August, 1998 the Russian government devalued the ruble, defaulted on domestic debt, and declared a moratorium on payments to foreign creditors. Global panic ensued, but the equity markets recovered quickly with no permanent damage outside of the countries who devalued.

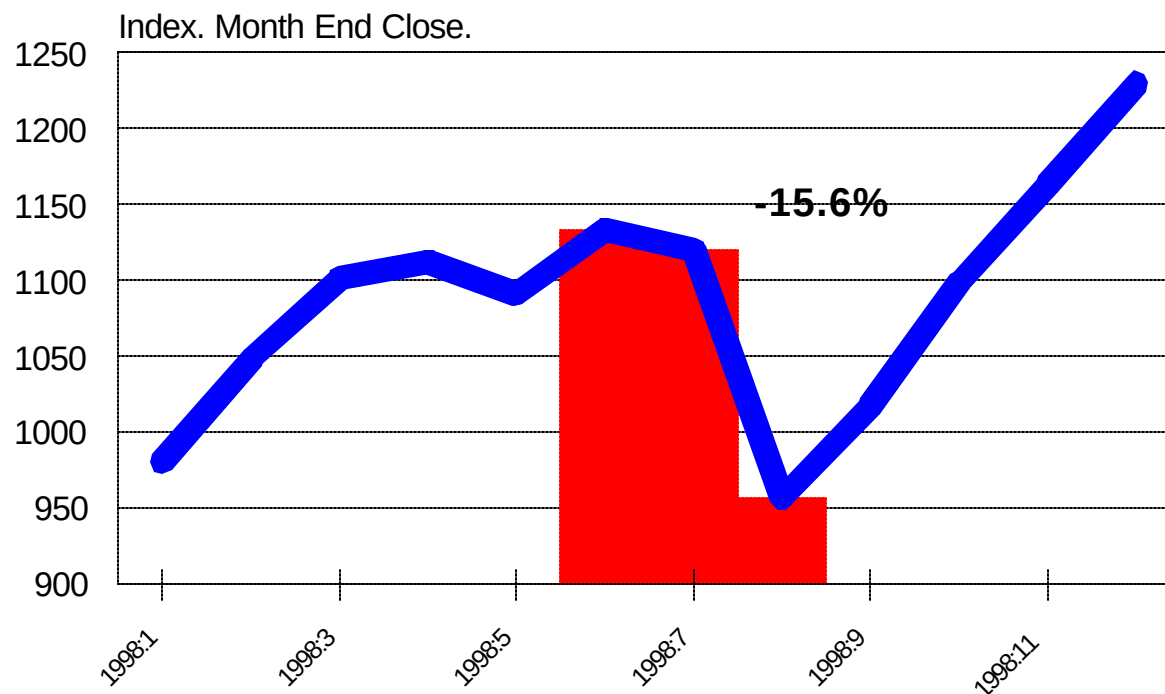
Chart 41

Standard and Poor's 500 Stock Index

Correction of 1998

In September, 1998 Long Term Capital Management (a prominent hedge fund run by Nobel Prize winning "Masters of the Universe") announces that it is essentially insolvent due to massive speculation gone wrong. Pushed by the New York Federal Reserve, a consortium of leading US financial institutions provides a \$3.5 billion bailout to LTCM, fearing that a collapse could worsen the panic in the financial markets.

Stocks on Wall Street and in Europe nosedive amid fears that the losses suffered by the world's largest banks in the Long Term Capital debacle could put the entire banking system at risk.



Start Date	Start Level	End Date	End Level	% Change
1998:Jun	1133.84	1998:Aug	957.28	-15.6

Green bars denote business cycle trough dates. Black bar denotes business cycle peak date.

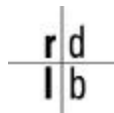


Chart 42

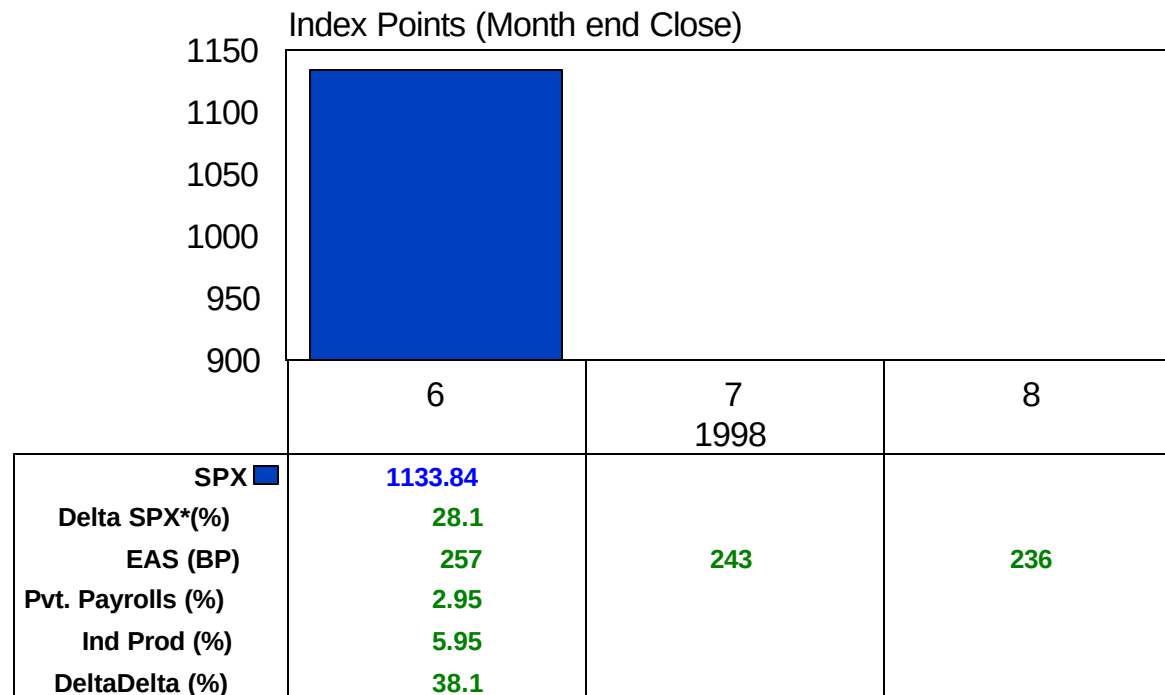
Aggregate Spread and Associated Indicators



Correction of 1998

The brevity of this event almost disqualifies it from being examined with the same analytics that we have been using for all the other exercises. But, we are going to do the same analysis to make one important point: in long expansions the color of the board always matters.

And here we have a “green board”.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Aggregate Spread and Associated Indicators

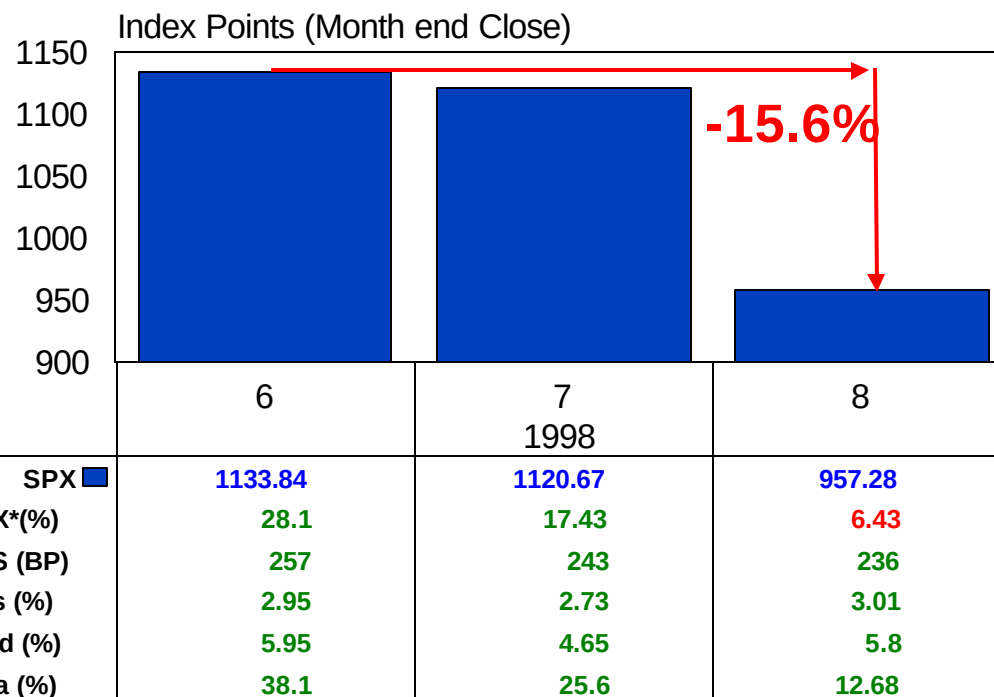
Correction of 1998

As was the case in 1987, this event led to another frenzy of forecasts of the imminent demise of the stock market and the economy. The parts of those forecasts that were correct was that it was possible for the failure of a financial institution to put the entire financial system at risk. Indeed, the term "systemic risk" began to be more widely used after the LTCM debacle.

As Erik points out:

The lesson learned was, whenever the "Masters of The Universe" get into serious trouble, the Fed can be counted on to lend a hand to a) avoid disruption, b) add liquidity, and c) protect Wall Street against catastrophic losses. In hindsight, it looks like the lessons learned were the wrong ones. Can you say Moral Hazard?

Conclusion: the board was green, which makes this correction a buying opportunity.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling
 EAS < 200 Basis Points
 Private Payrolls <1.00% and falling
 Industrial Production <1.00% and falling
 DeltaDelta <0.0% and falling

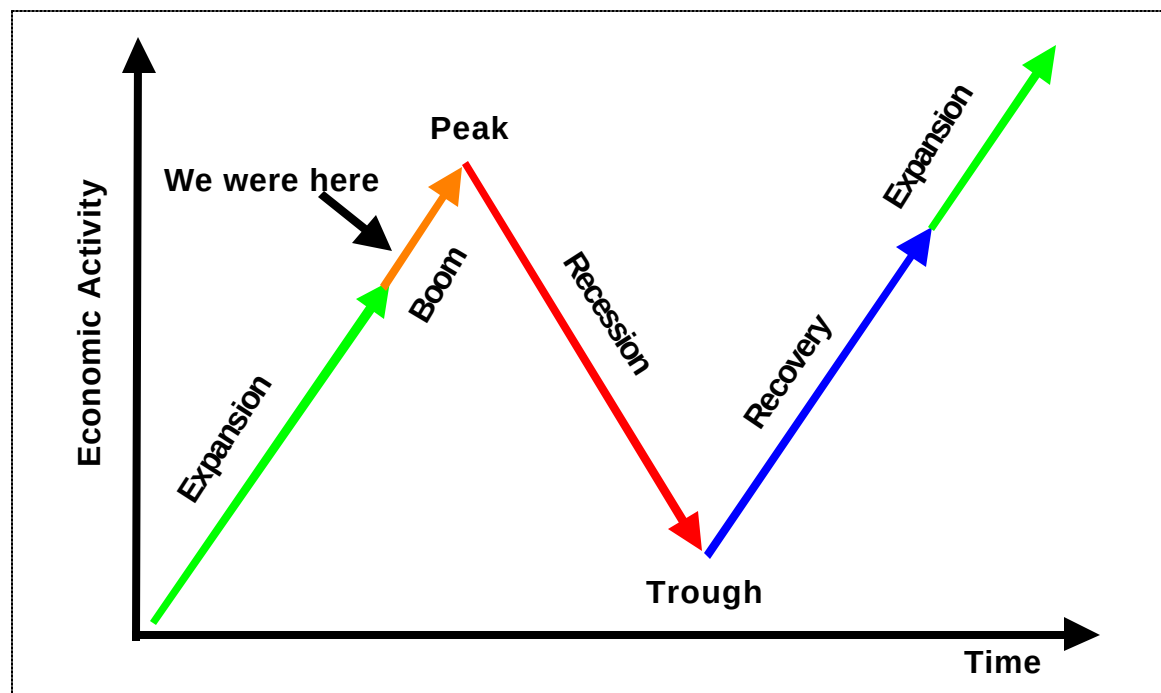
Chart 44

The Phases of the Business Cycle

Bear Market of 2000 -- Part 1

We begin in the Boom phase of the cycle. So, you know what is coming next in terms of what the EAS is going to be telling us.

But, before we get into the details, let's spend another couple of minutes with Erik as he fills us in on what was going on in the market as this episode unfolds.



Overview of 2000 - 2002 Bear Market

The 1990s were characterized by exceptional economic expansion, brought on largely by the rapid growth and consumers' new love affair with anything connected to the Internet. This bear market was, by most measures, the worst since the Great Depression. But a closer look under the surface reveals some surprises.

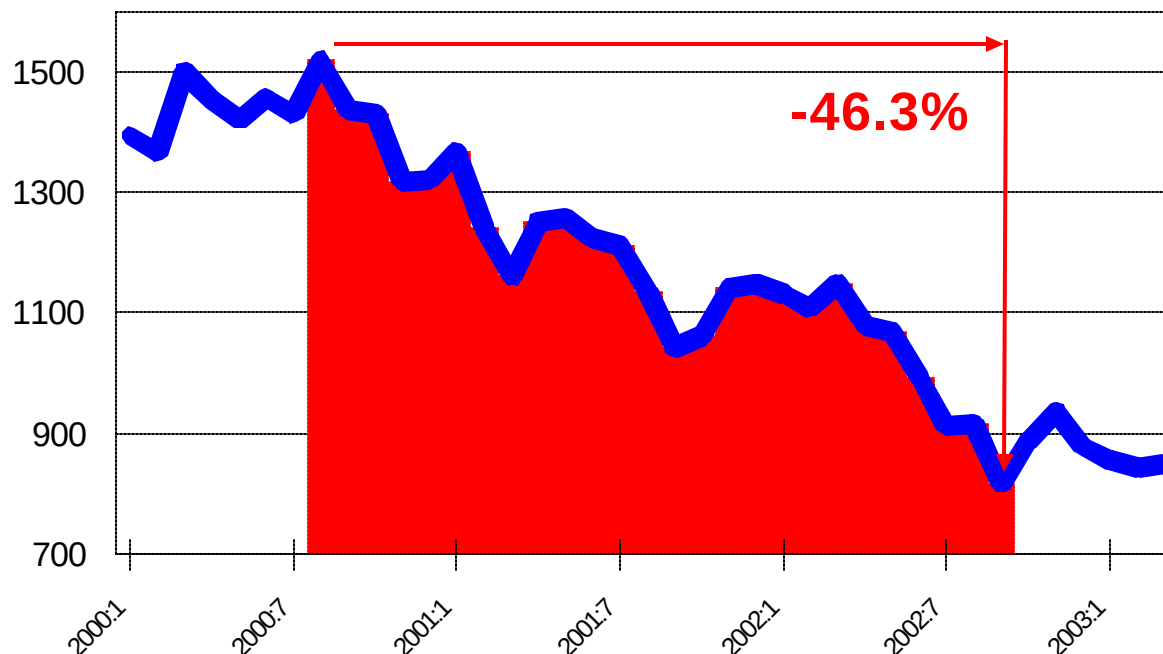
Most investors know that the worst damage to stocks was in the information technology and telecom sectors. Prices in these two sectors were down by 64% and 60%, respectively. Additionally, the stocks of very large companies got pounded as well, mostly as a result of large institutions selling these blue chips in order to raise cash quickly. What isn't widely understood, however, is that the rest of the market held up fairly well during this particular bear market.

Chart 45

Standard and Poor's 500 Stock Index

Bear Market of 2000

Index. Month End Close.



Start Date	Start Level	End Date	End Level	% Change
2000:Aug	1517.68	2003:Sep	815.28	-46.3

Of the 46% decline in the S&P 500, fully 27 percentage points can be attributed to IT and telecom companies. An additional 12 points resulted from the decline of the big blue chip stocks. Only 7 of the 46 points can be linked to the other 378 companies in the index.

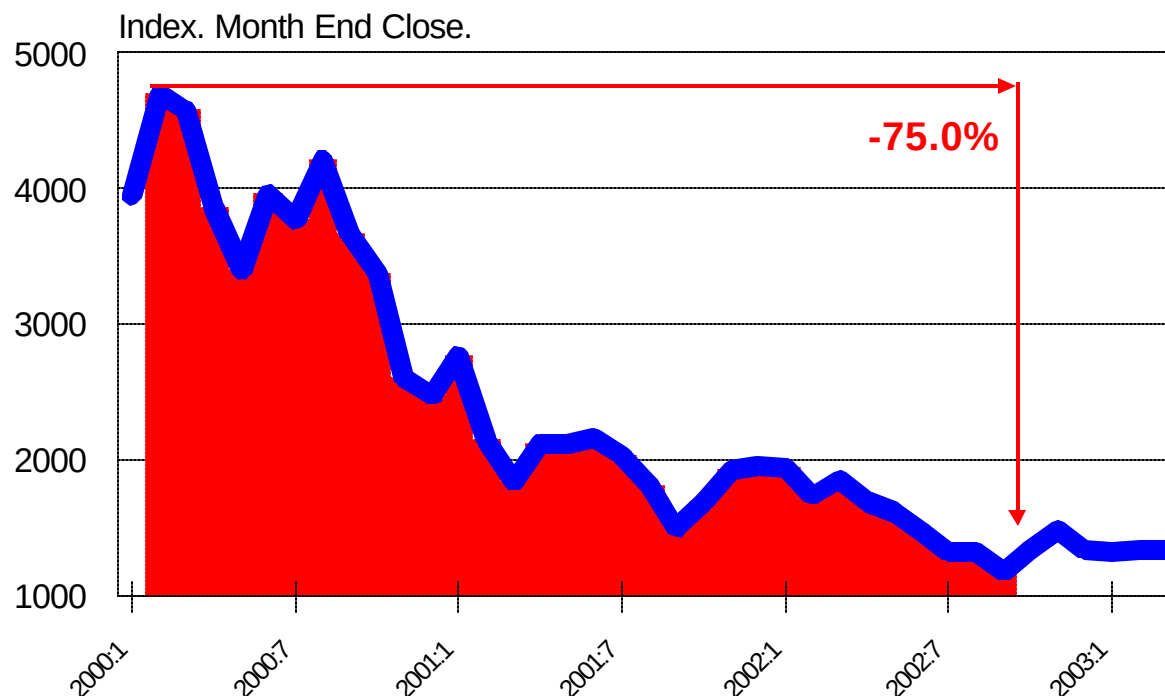
In fact, while the S&P 500 was plunging, the prices of almost two-thirds of the companies that make up the index either rose in value or fell by less than 10% on an annualized basis. There is no denying that investors were hurt, but it is a strange bear market when more than 40% of the stocks in the index manage to increase in value.

In other words, the performance of an equal-weighted S&P500 index from January 2000 through October 2002, had it been in existence at that time, would have been little changed - not down by the actual number of 46%. You might say that this event was more of a sector rotation than a classic bear market.

Chart 46 NASDAQ Stock Index **Bear Market of 2000**

The NASDAQ market.

Since most of the damage was concentrated in stocks of companies that were engaged in one way or another with internet commerce, it's understandable that the home of these types of businesses would bear the brunt of the carnage. The 75% decline in the NASDAQ index was a market event that rivaled the Great Crash of 1929. We were fortunate that this event did not bring about another Great Depression.



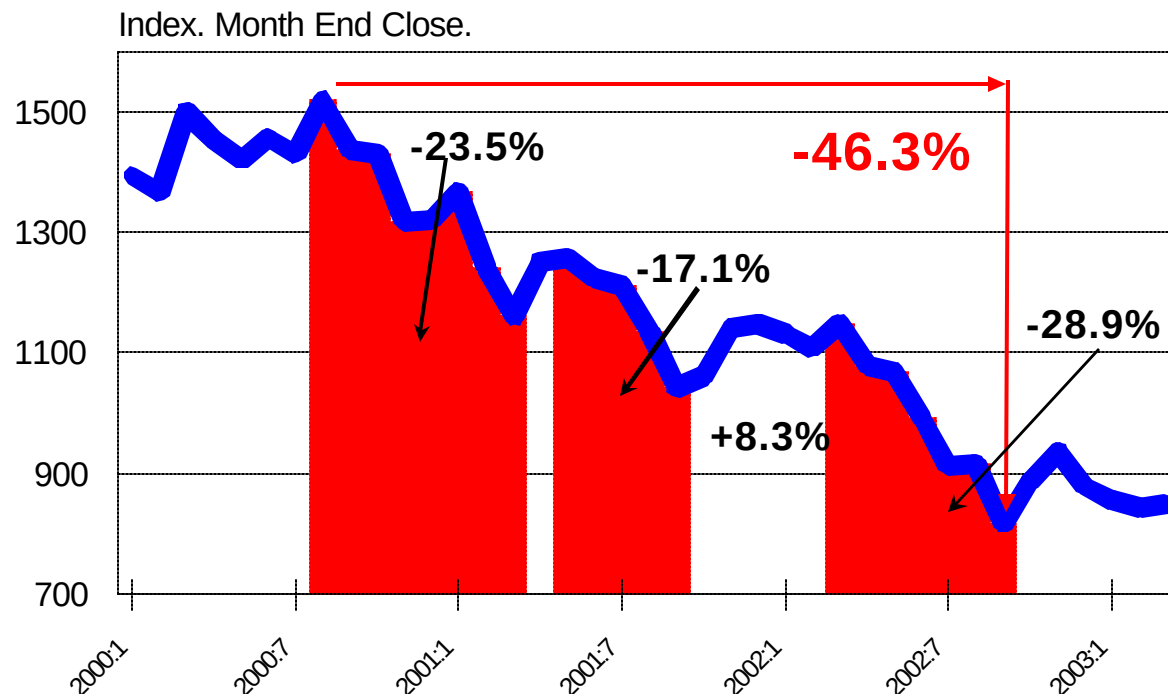
Start Date	Start Level	End Date	End Level	% Change
2000:Feb	4696.69	2002:Sep	1172.06	-75.0

Chart 47

Standard and Poor's 500 Stock Index

Bear Market of 2000

Three major events conspired to bring about the end of the internet bubble and the start of the 3 year bear market. The first was the cooling of speculative fever towards technology and telecom stocks; the second was the turn in the business cycle; and the final blow came on September 11th, 2001.



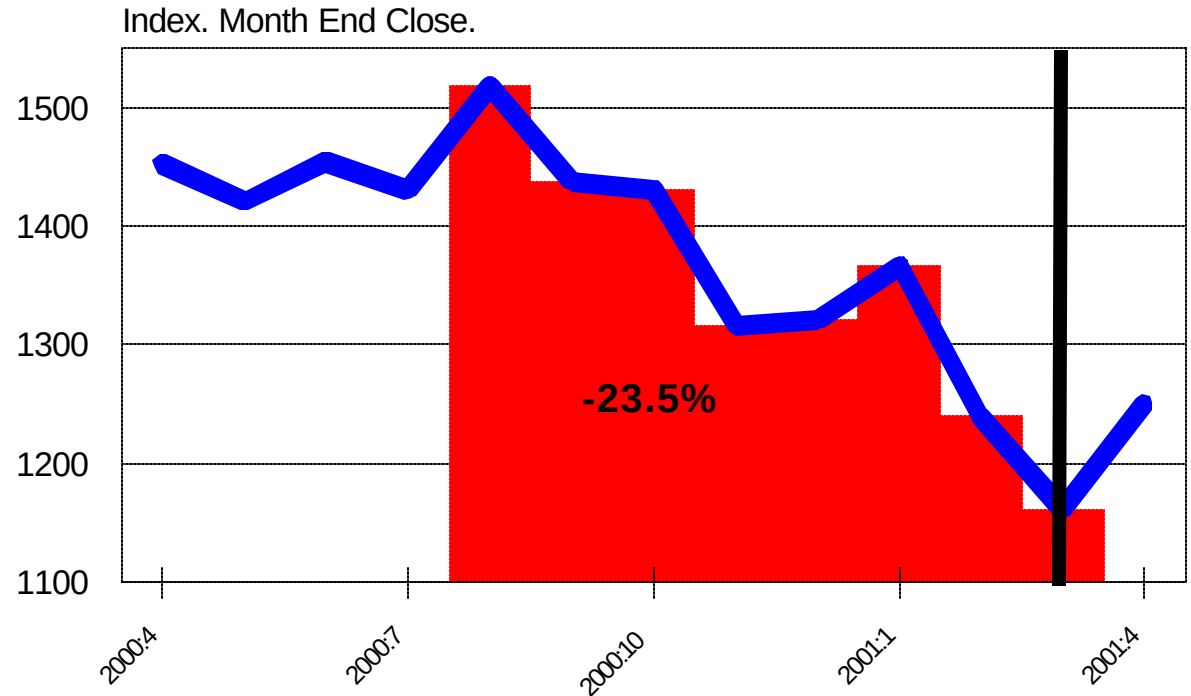
Start Date	Start Level	End Date	End Level	% Change
2000:Aug	1517.68	2001:Mar	1160.33	-23.5
2001:May	1255.82	2001:Sep	1040.94	-17.1
2001:Sep	1040.94	2002:Mar	1147.39	8.3
2002:Mar	1147.39	2003:Sep	815.28	-28.9
2000:Aug	1517.68	2003:Sep	815.28	-46.3

Chart 48

Standard and Poor's 500 Stock Index

Bear Market of 2000

As veteran market analyst Richard Russell has noted, investors often think of a bear market as a continuous, uninterrupted price decline. In fact, however, bear markets can be seen on a smaller scale as a constant process of hope and disappointment, with periods of risk-seeking abruptly punished by fresh waves of selling. This can make it very difficult to live through a bear market day-after-day with a clear sense of the larger picture. Knowing whether a falling market is linked to a business cycle peak is an important piece of the big picture.



Start Date	Start Level	End Date	End Level	% Change
2000:Aug	1517.68	2001:Mar	1160.33	-23.5

Black bar denotes business cycle peak date.

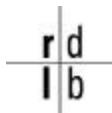


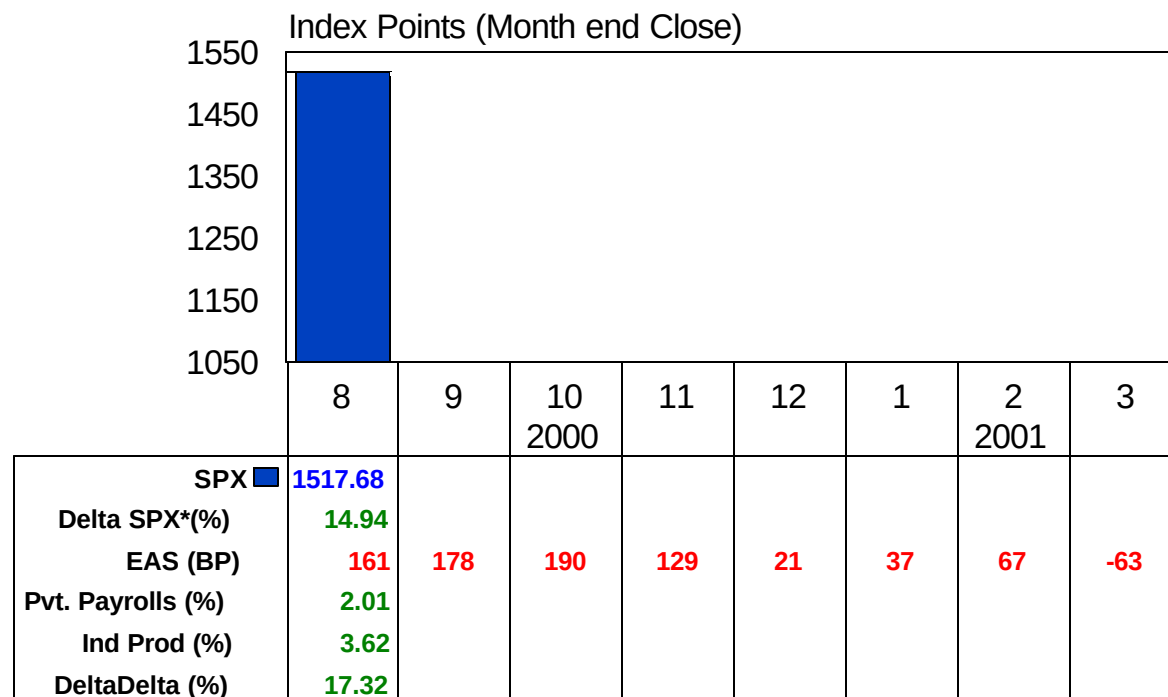
Chart 49

Aggregate Spread and Associated Indicators

Bear Market of 2000 -- Part 1



Meanwhile, the EAS was telling us to be wary of the onset of a recession. We had a "red board".



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

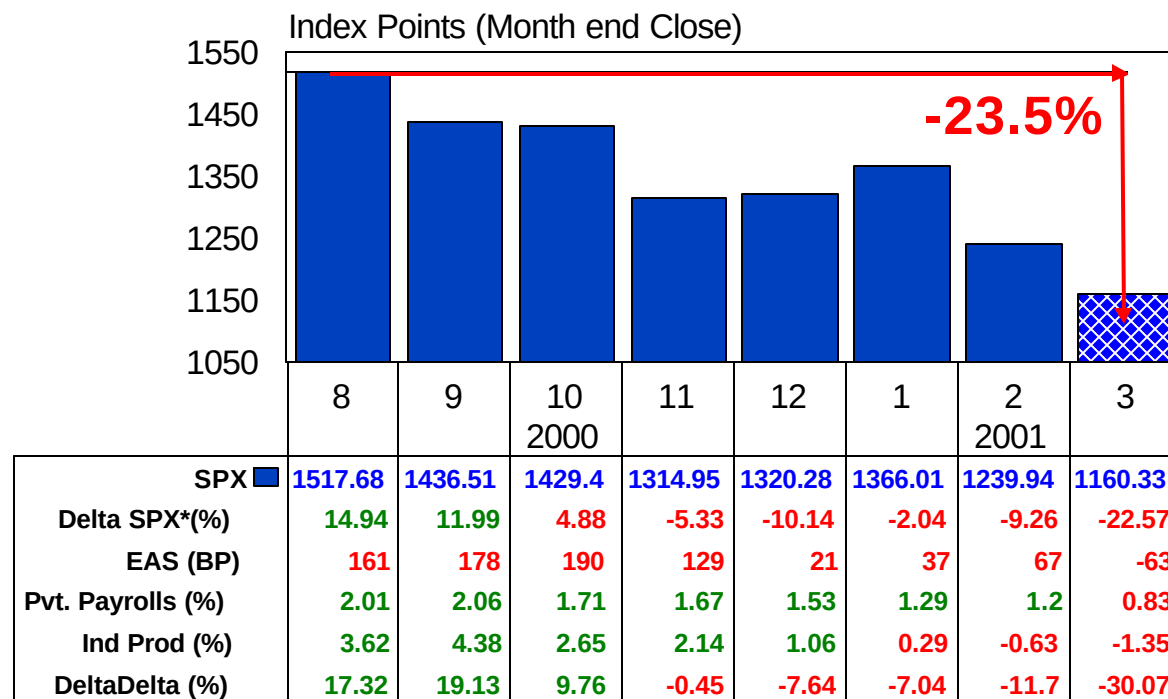
Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Bear Market of 2000 -- Part 1

As you see here, the coincident indicators weakened steadily over the course 2000 and into 2001. The NBER used March of 2001 as the date of the cycle peak.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

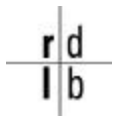


Chart 51

The Phases of the Business Cycle

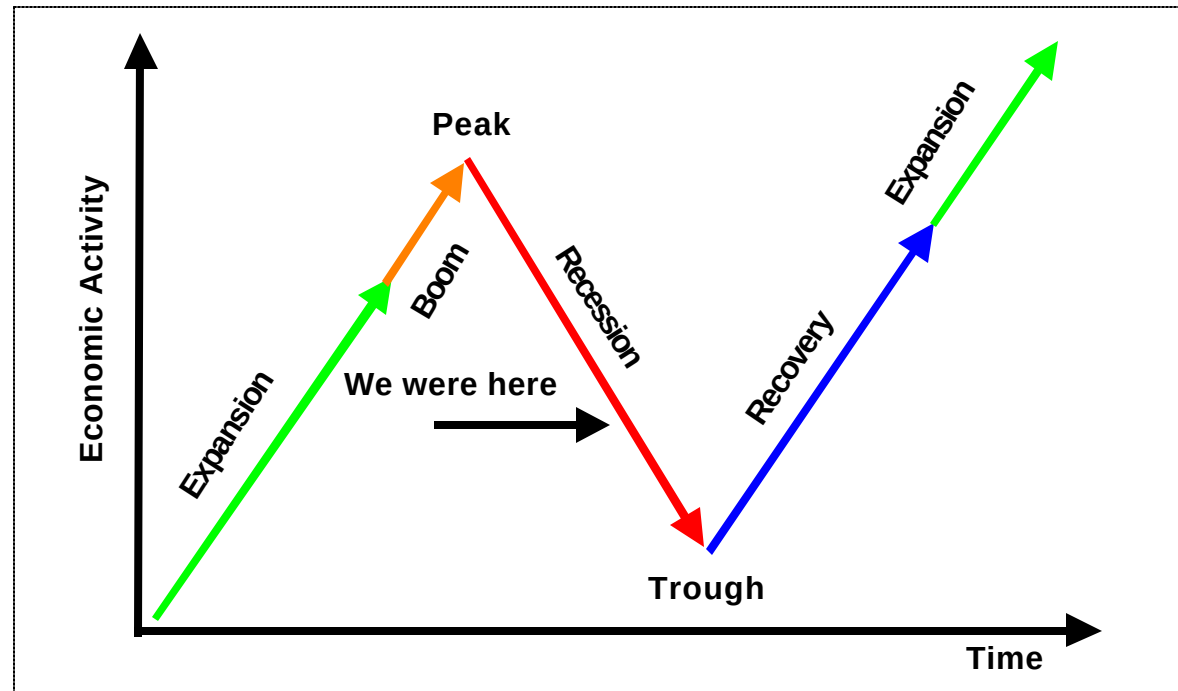
Bear Market of 2000 -- Part 2



As a result of having made the turn into the Recession phase of the cycle, we moved the 'we were here' arrow in to the position you see on the chart.

Erik fills us in on what was going on:

After a weak attempt to shake off the damage caused by the bursting of the tech bubble, the S&P500 began its' second leg down in May 2001. Many mutual funds and other institutional investors were forced to sell their high-quality holdings in order to meet shareholder demands for cash. Given the rampant fear and distrust of the market, bids were scarce. The selling soon turned into a frenzy, and the worst was yet to come.



The terrorist attacks on the United States on Sept. 11, 2001, triggered a global market crash. Investors across the world snapped up traditional safe assets, like gold and bonds, after the attack battered global stocks, shook the U.S. dollar and drove up oil prices. Main U.S. markets were closed after the attacks, and didn't reopen for a full week. After an initial rush to sell when trading resumed, the market found its' footing and managed to rally about 8% over the next few months.

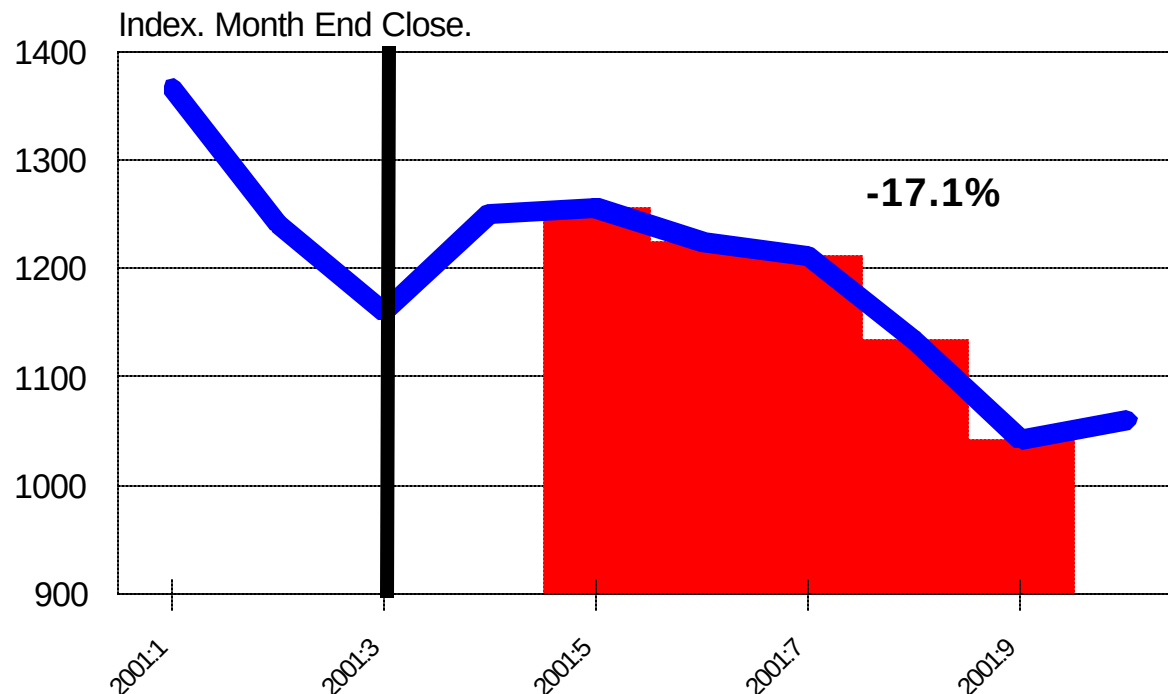
Chart 52

Standard and Poor's 500 Stock Index

Bear Market of 2000

The time periods on this chart and Chart 46 overlap, which I hope will not be confusing. The reason for the overlap is an attempt at continuity.

As you see here, the market rebounded slightly before resuming its downward path. This chart includes September 2001, which, as it turned out, marked the end of the first downward leg of the Bear market.



Start Date	Start Level	End Date	End Level	% Change
2001:May	1255.82	2001:Sep	1040.94	-17.1

Black bar denotes business cycle peak date.

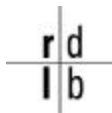


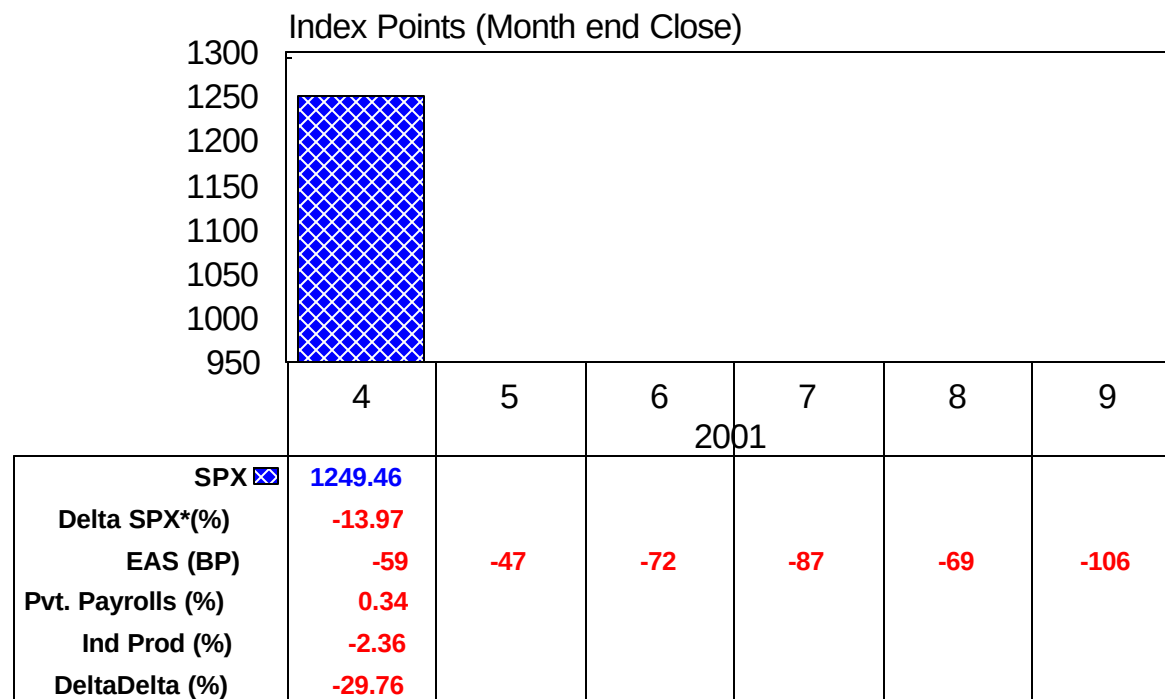
Chart 53

Aggregate Spread and Associated Indicators



Bear Market of 2000 -- Part 2

Our board, meanwhile was still red, with the EAS pointing towards further downward pressure on the economy, and the coincident indicators all in recession configuration.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

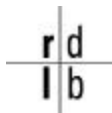


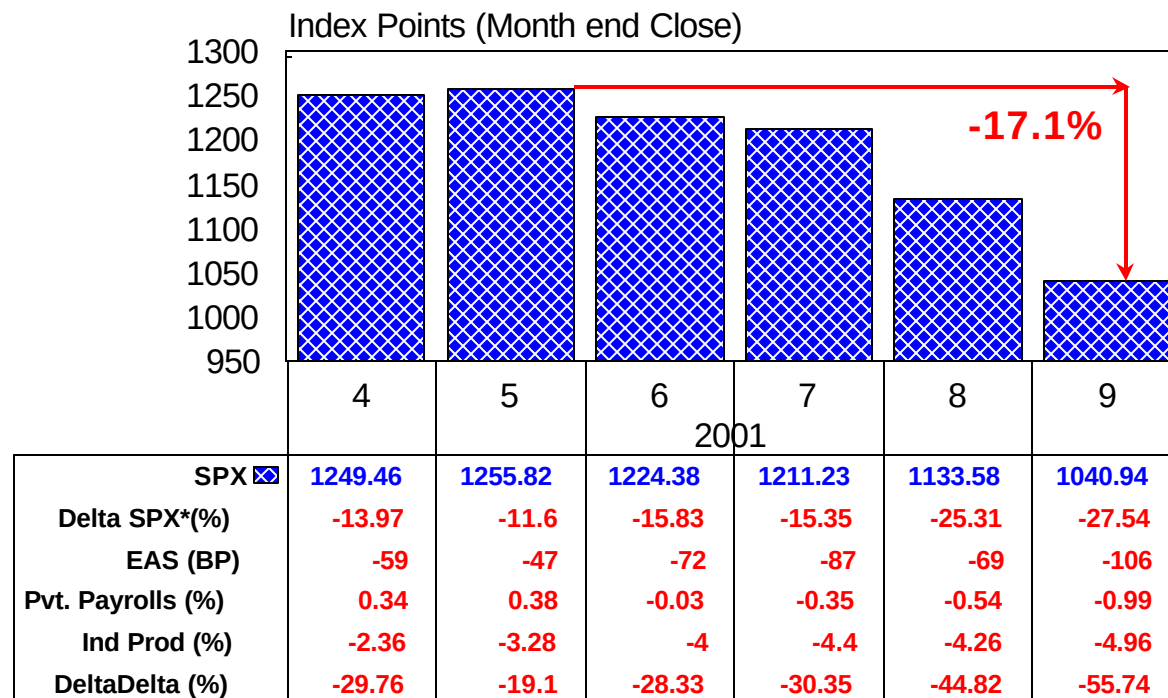
Chart 54

Aggregate Spread and Associated Indicators



Bear Market of 2000 -- Part 2

The “red board” stayed red throughout the entire period. And, on this chart you can see the September 2001 event more clearly.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Chart 55

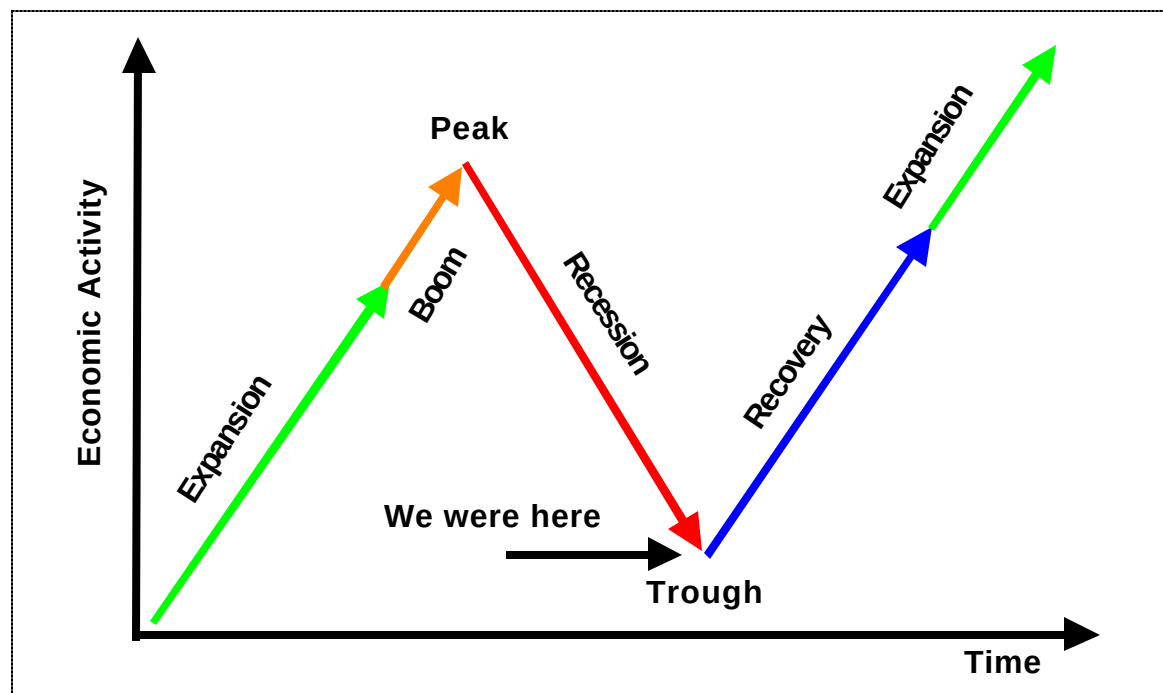
The Phases of the Business Cycle

Bear Market of 2000 -- Part 3

Since we are only moving ahead a few months as we examine the next part of the Bear market, the arrow is still in the Recession phase of the cycle. We do, however, make the turn into the recovery on the next several charts.

Erik will fill you in on market sentiment following the September 11, 2001 event that was followed by a period in which the stock market was closed.

Investors took the release of a pair of better-than-expected numbers as an impetus to rally.



The University of Michigan consumer sentiment index was revised lower for September, but still managed to surpass economists' expectations, while the Chicago Purchasing Management Association index of manufacturing activity showed a rise in September, when economists had expected a fall. The Michigan sentiment number is particularly key in that they are a measure of how confident consumers are about the economy. While the number showed that consumers experienced a rise in confidence just after the attacks in what may be seen as a patriotic gesture, in the following week confidence dropped considerably, implying October and future readings could be notably lower. Separately, the U.S. government said the economy grew a little faster in the second quarter than initially thought. Investors - starved for any hint of good news - took this as yet another reason to rally.

But the rally only lasted six months. As Ralph Wanger, one of the most successful investors of all time, once said... "the only thing faster than the speed of light is a rally in a bear market."

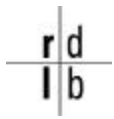


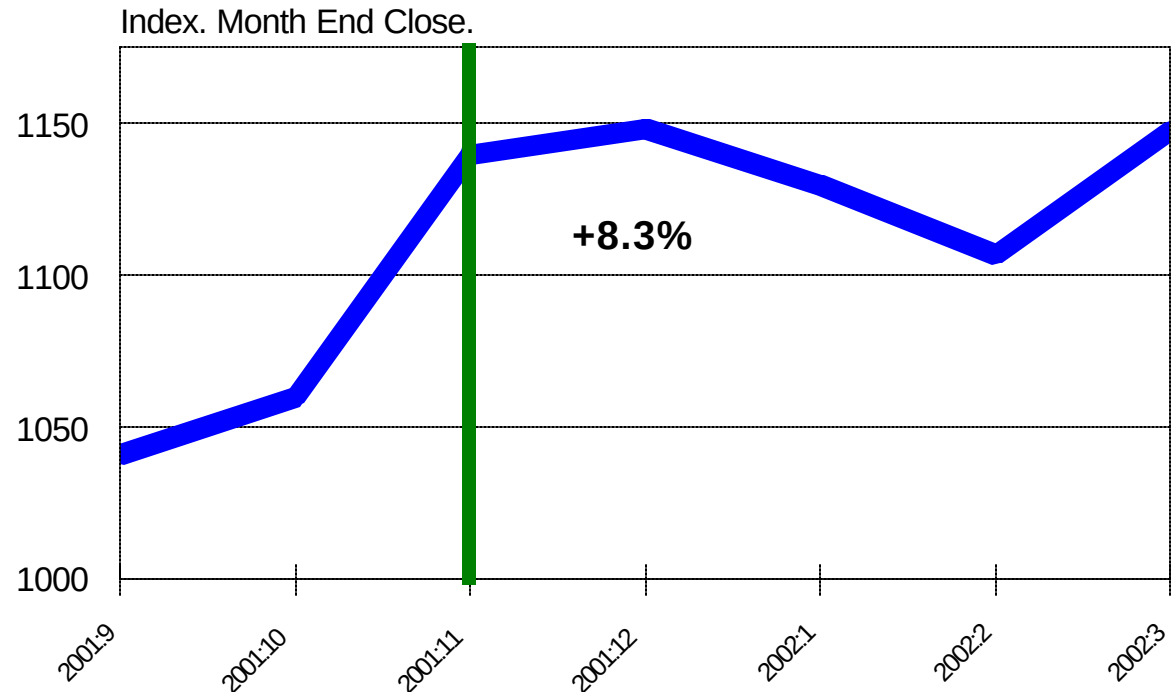
Chart 56

Standard and Poor's 500 Stock Index



Bear Market of 2000 -- Part 3

As you see here, in the immediate aftermath of the reopening of the market, the SPX traded higher for several months. This movement is consistent with what we saw in other recessions where the stock market turned upwards in anticipation of the resumption of economic growth.



Start Date	Start Level	End Date	End Level	% Change
2001:Sep	1040.94	2002:Mar	1147.39	8.3

Green bar denotes business cycle trough date.

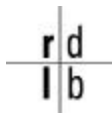


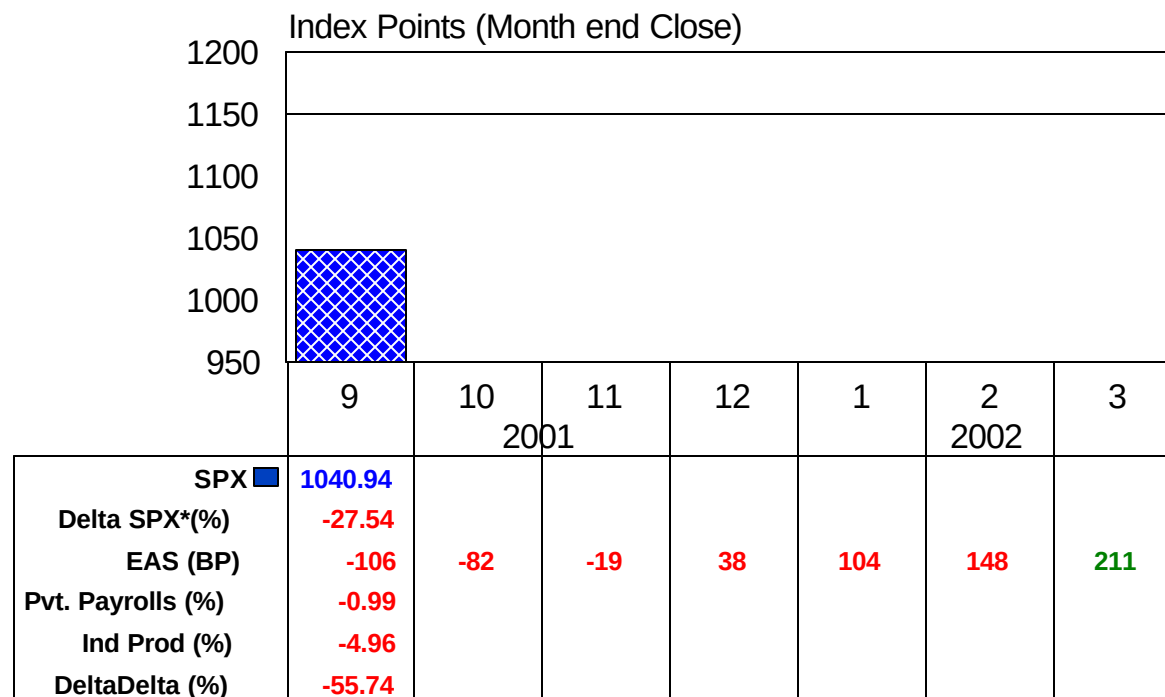
Chart 57

Aggregate Spread and Associated Indicators

Bear Market of 2000 -- Part 3



This is the first time that we have had a look at a board that involved the actual turning point of the cycle. And so it presents us with an interesting piece of information. The board is red through most of the period, which we would take a signal of further distress over that interval. But, the board is green towards the end of interval. Let's see how this played out.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

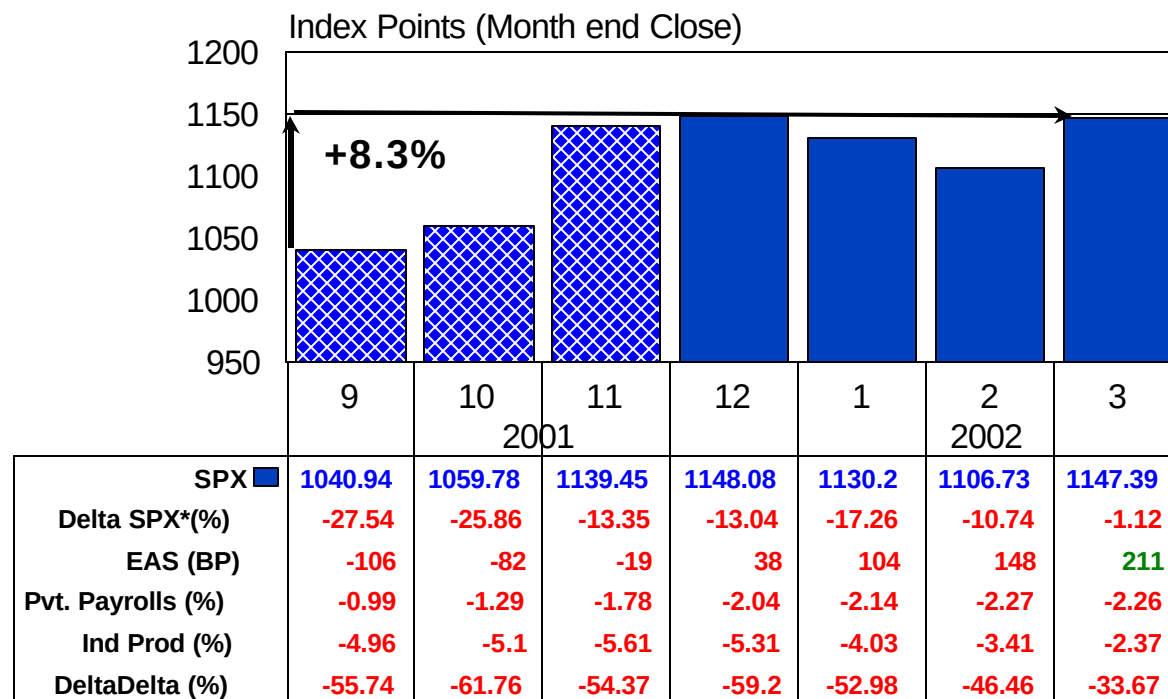
Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Aggregate Spread and Associated Indicators Bear Market of 2000 -- Part 3

The NBER chose November of 2001 as the ending date of the recession. However, as you can see by the configuration of the board the coincident indicators were still running at recession-associated levels. Only the EAS had gone green.

The question then becomes whether we are in a situation typical of the end of recessions, or whether there is something more that we have to take into consideration. After all, there is only one green number on this board. Are we at a market turning point, as well as at a business cycle turning point? How might we be able to tell? The issue, as always, is: "what did they know and when did they know it?"



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

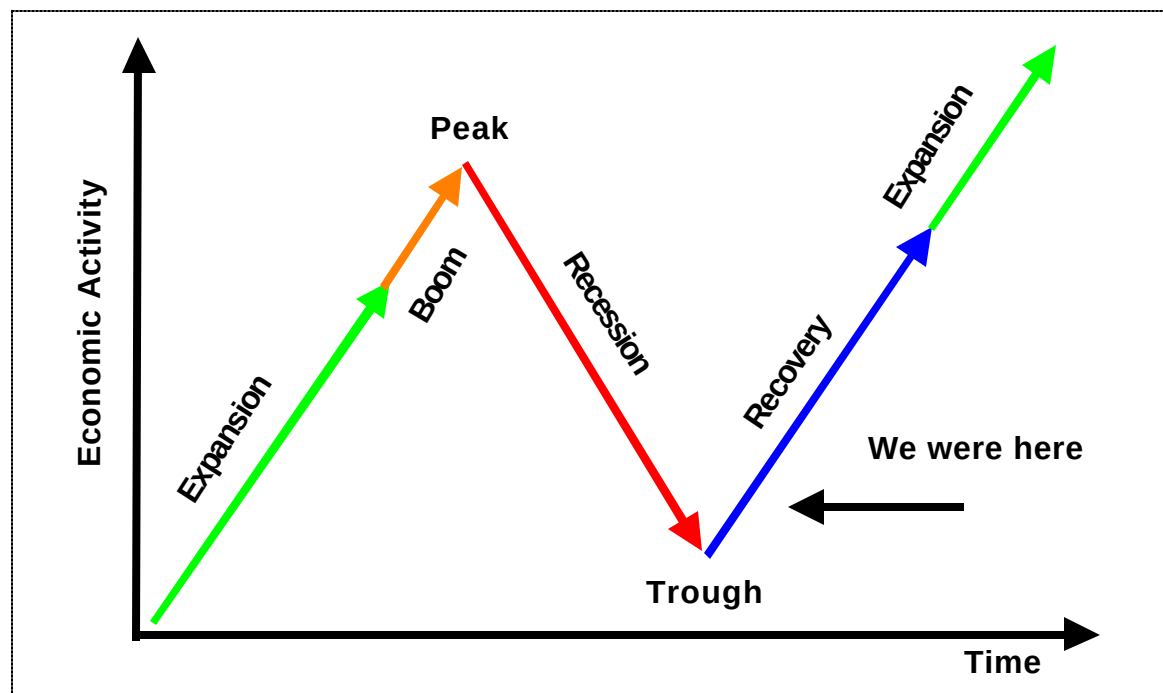
Chart 59

The Phases of the Business Cycle

Bear Market of 2000 -- Part 4

With the EAS having gone back into the range we consider to be indicative of an expanding economy, and with the information that the NBER had chosen November of 2011 as the date of the business cycle trough, we moved the "we were here" arrow into the Recovery phase of the cycle.

Meanwhile, as Erik will tell us, there were several problems brewing, some of which were the result of what had happened before the recession, while others stemmed from events during and immediately after the downturn.



Nov. 28, 2001 Enron admits to massive accounting fraud. The stock soon falls to less than \$1 per share, after changing hands at \$90 just 15 months earlier.

January 2002 Global Crossing files for bankruptcy protection.

June 2002 Adelphia Communications files for bankruptcy protection.

July 21, 2002 Worldcom files for bankruptcy protection.

November 27, 2002, the State of New Jersey files a federal suit against Tyco International, charging the firm and its' management of violating the New Jersey Racketeer Influenced and Corrupt Organizations Act (RICO) statute.

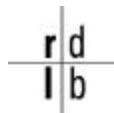


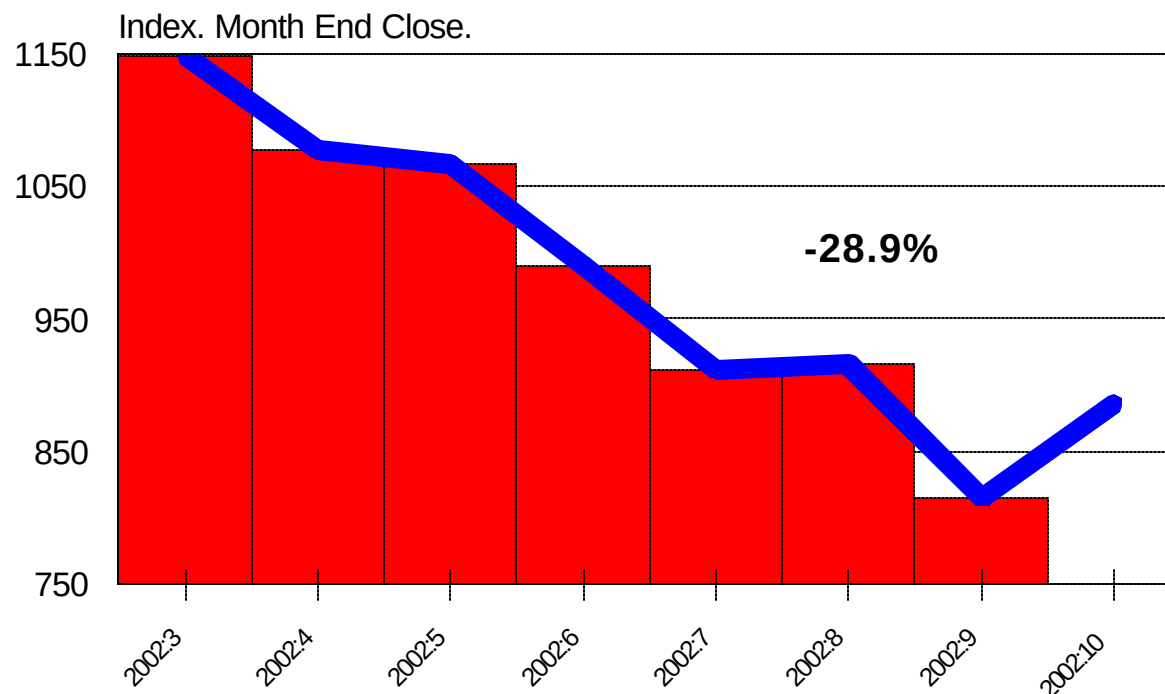
Chart 60

Standard and Poor's 500 Stock Index

Bear Market of 2000 -- Part 4



Thanks in part to the litany of corporate scandals and bankruptcy filings, the market began its third and final leg down. At this point, confidence in the market had been so badly damaged that congress enacted the Sarbanes-Oxley Act of 2002. The law set new or expanded requirements for all U.S. public company boards, management and public accounting firms. The bill adds criminal penalties for certain misconduct, and required the Securities and Exchange Commission to create regulations to define how public corporations are to comply with the law.



Start Date	Start Level	End Date	End Level	% Change
2002:Mar	1147.39	2002:Sep	815.28	-28.9

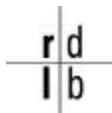


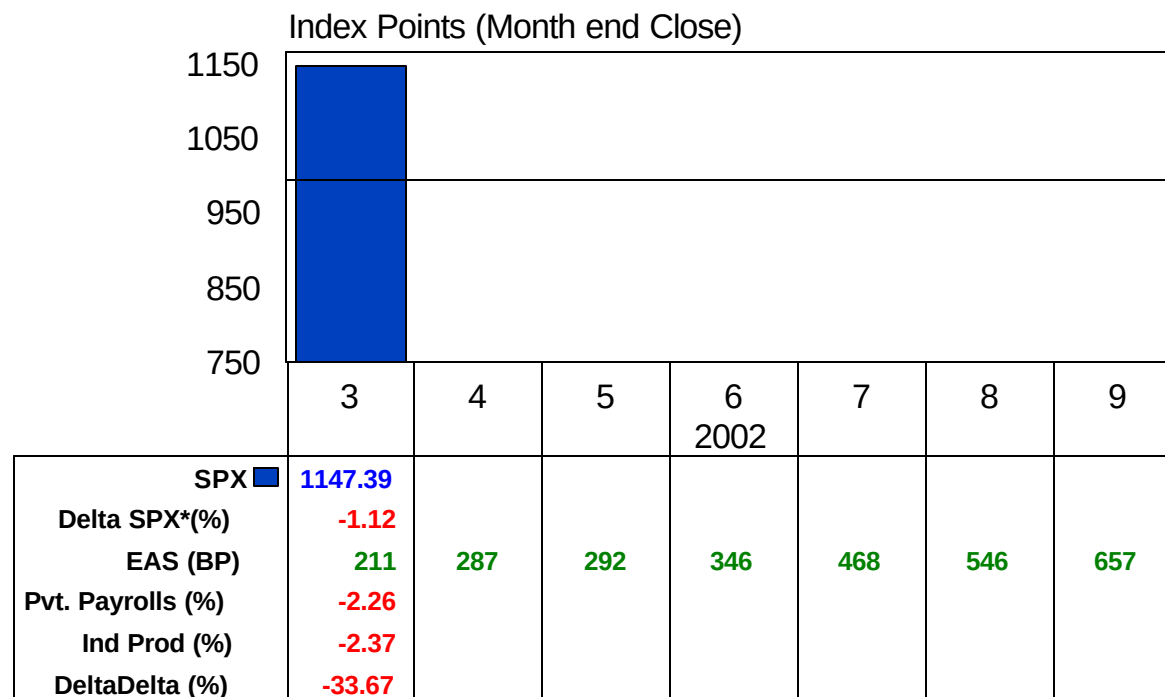
Chart 61

Aggregate Spread and Associated Indicators



Bear Market of 2000 -- Part 4

In the meantime, the EAS continued to trend higher, suggesting that we should start to see “green board” conditions over the interval ahead.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

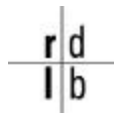


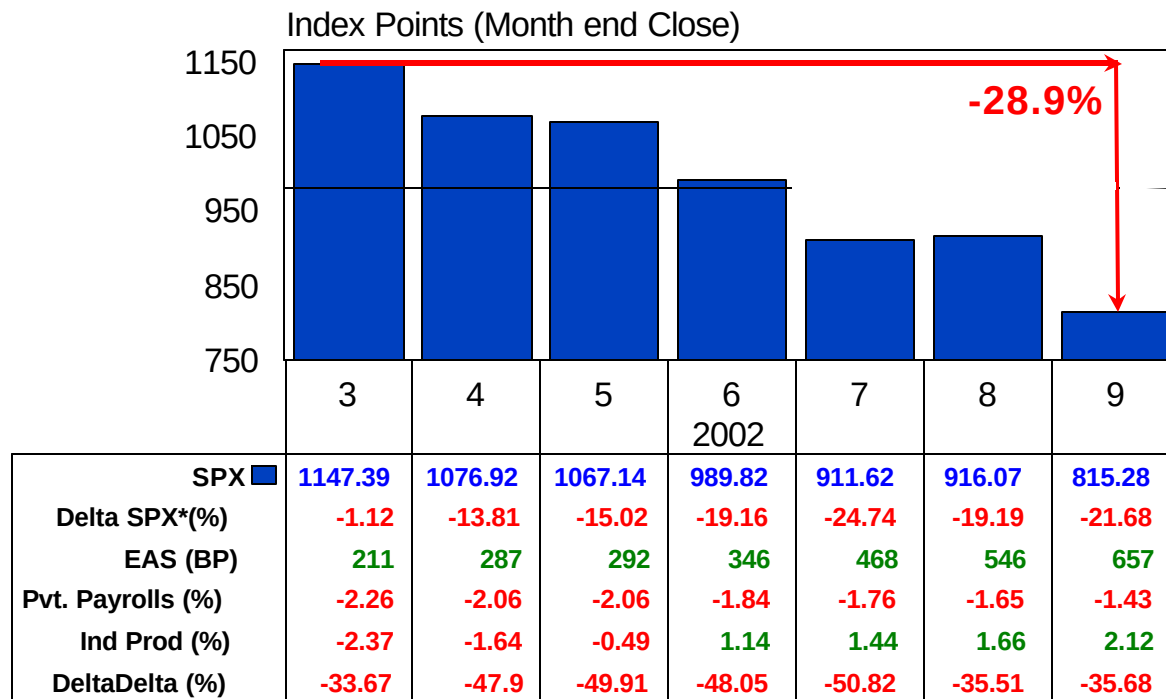
Chart 62

Aggregate Spread and Associated Indicators



Bear Market of 2000 -- Part 4

What we got was mixed bag. Employment growth lagged, and industrial production made only modest forward progress. The term "jobless recovery" came back into circulation. The less than stellar performance of the economy, together with the continued regulatory and reporting issues were among the major reasons why the SPX continued to move lower.



Delta SPX = % Change from Year Ago Month

Conclusion: with a red board throughout this period, and a stock market mania that had taken valuations to never-before-seen heights, this was clearly a selling opportunity. Those who did play defense were richly rewarded. I clearly remember the mantra of the time: "buy and hold is dead."

Recession Associated Level

Delta SPX <10% and falling
EAS < 200 Basis Points
Private Payrolls <1.00% and falling
Industrial Production <1.00% and falling
DeltaDelta <0.0% and falling

Chart 63

Standard and Poor's 500 Stock Index

73 Month Expansion from November 2001 to December 2007

Our final case study is what happened in the expansion that culminated in the Great Recession.

Before we start, a quick note about this chart. As you see on the left side, I have shaded part of the chart in gray. This is to remind you that the previous Bear market extended well into the recovery period associated with the recession of 2001. And, if you recall, this is the only time, as relates to long expansion events, that we saw such an occurrence. That's why we concluded the last segment the way we did: structural change brings new patterns, and new patterns bring the need for new strategies.



Start Date	Start Level	End Date	End Level	% Change
2002:Nov	936.31	2003:Feb	841.15	-10.2
2007:Oct	1549.4	2009:Feb	735.09	-52.6

Green bars denote business cycle trough dates. Black bar denotes business cycle peak date.

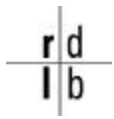


Chart 64

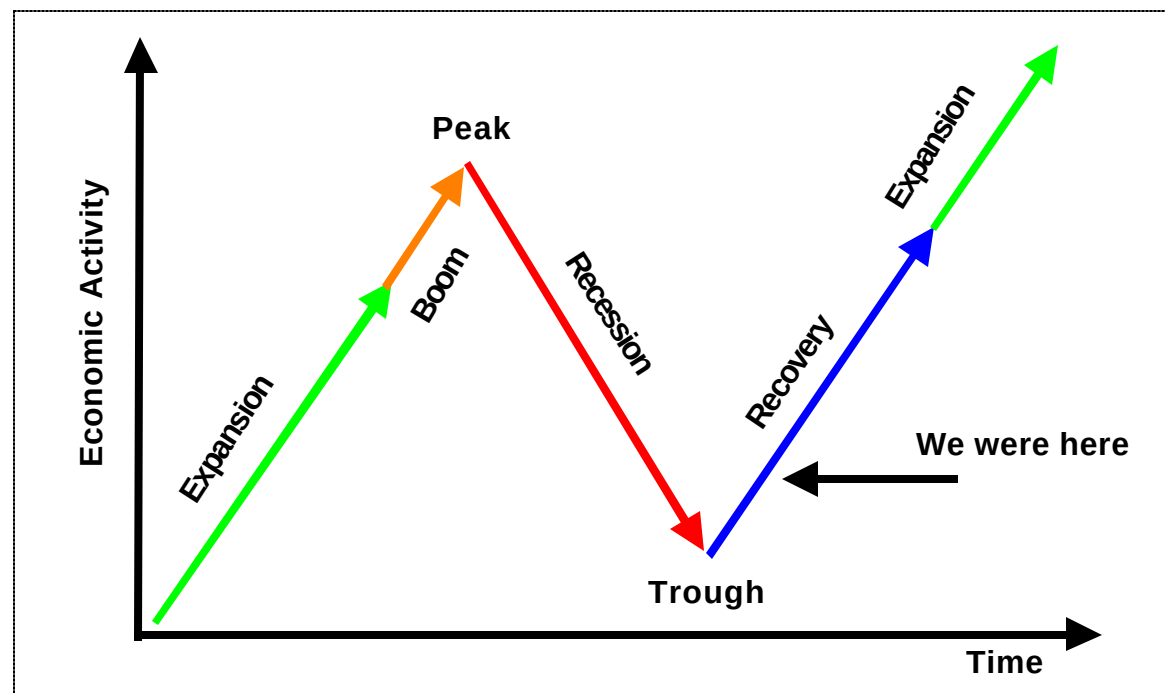
The Phases of the Business Cycle

Correction of 2002



With the NBER having put the cycle trough in November of 2001, and with the EAS in the configuration we associate with expansions, we moved the “we were here” arrow to the early portion of the recovery phase.

And with that, we turn to Erik for some color on what the market was thinking about in late 2002.



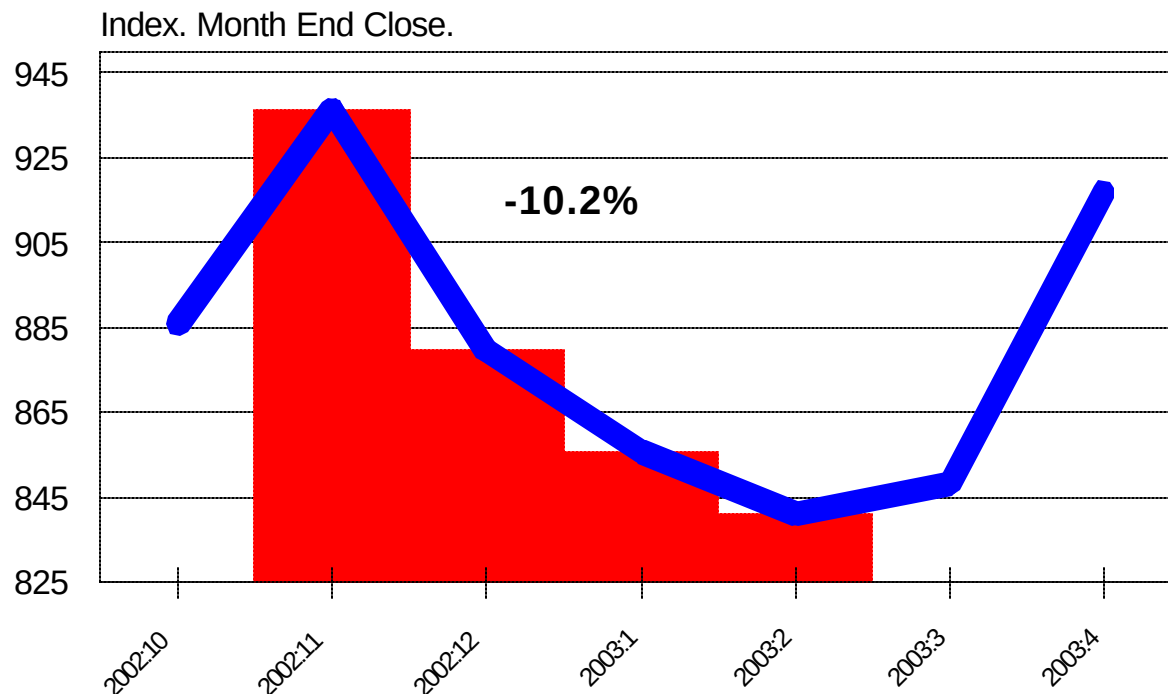
This 10% market decline lasted less than 3 months. Some market historians refer to this as an aftershock from the severe bear market, recession, and terrorist attack that preceded it. In 2002 investors were understandably jumpy. When the market rally that began earlier that year began to sputter, many thought that there was a real possibility that we could take out the previous lows. If that happened, there was no telling how low the market would go, or when the carnage would stop.

Chart 65

Standard and Poor's 500 Stock Index

Correction of 2002

As was the case in 1983, we have a market move that just barely qualifies as a correction. But, as we saw in Erik's comments, the correction was in keeping with the uncertainty that still surrounded the progress of the recovery.



Start Date	Start Level	End Date	End Level	% Change
2002:Nov	936.31	2003:Feb	841.15	-10.2

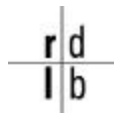
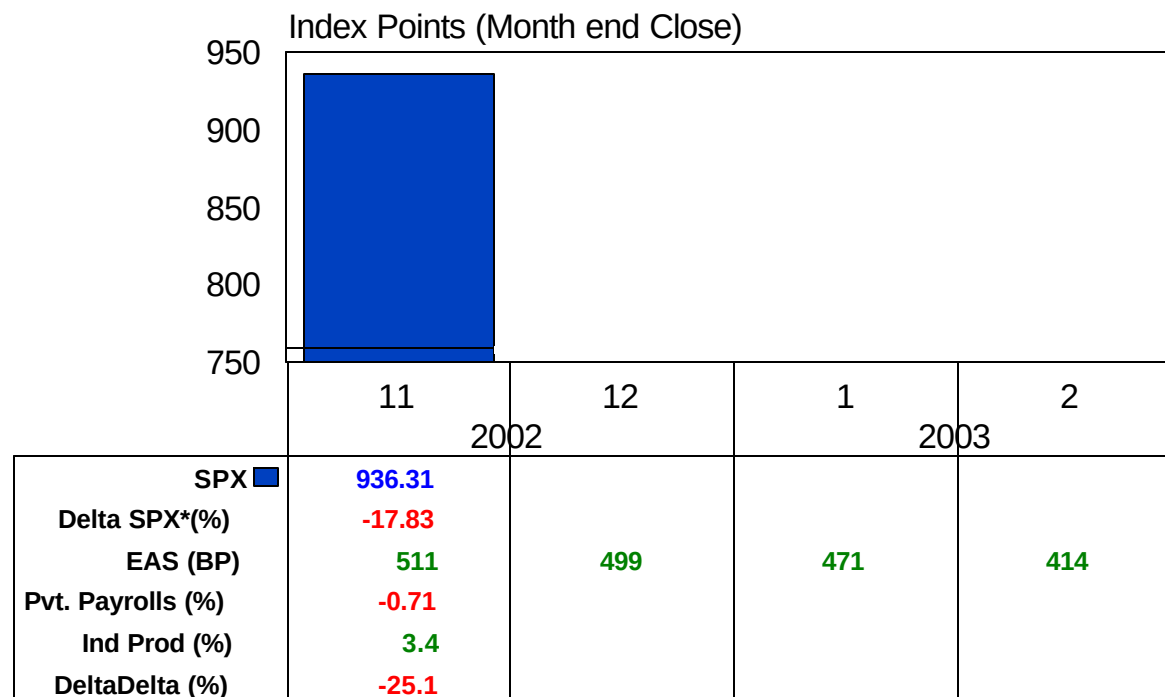


Chart 66 Aggregate Spread and Associated Indicators



Correction of 2002

As you expect, we had a green board as relates to the EAS. But the other associated indicators were still a mixed bag.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

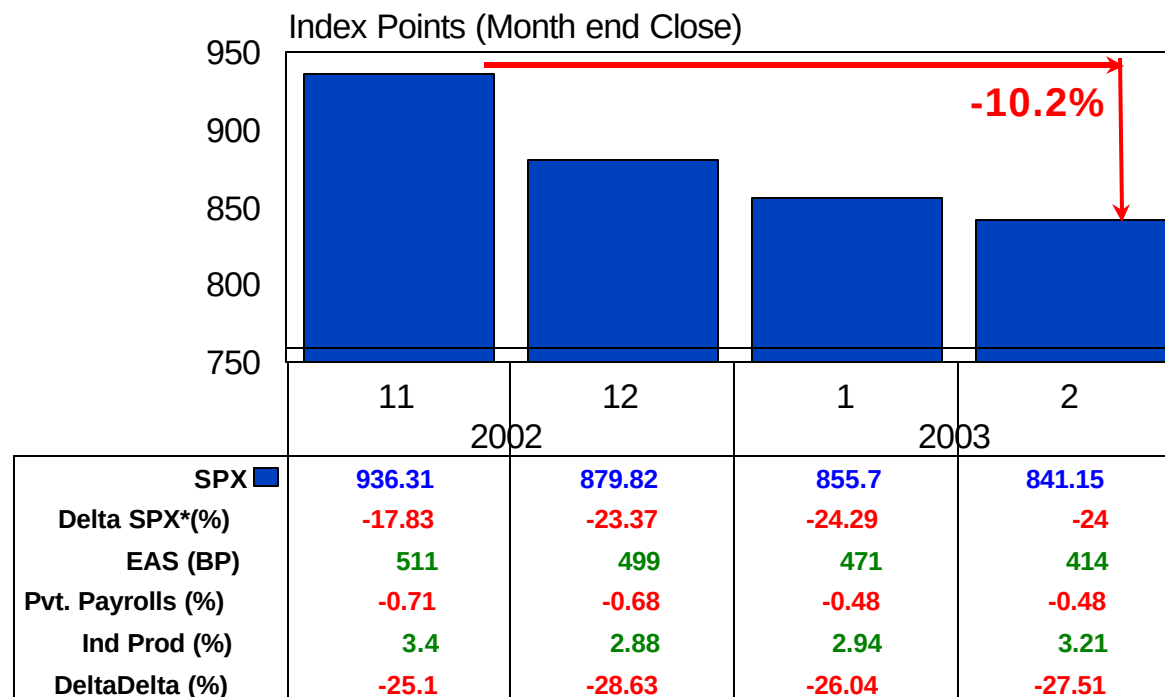
Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Correction of 2002

Which is the pattern that persisted over the relatively brief period that it took to complete this correction.



Delta SPX = % Change from Year Ago Month

Conclusion: since the board was green, there was an opportunity to add to stock holdings if investors had not already done so.

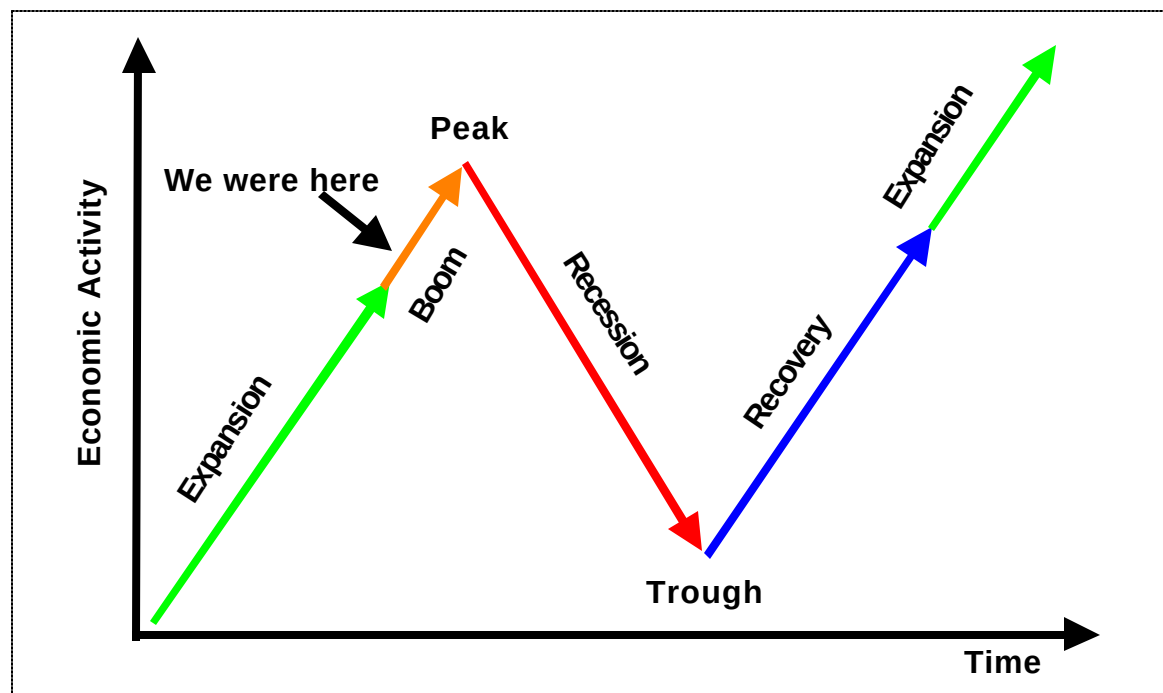
Recession Associated Level

Delta SPX <10% and falling
 EAS < 200 Basis Points
 Private Payrolls <1.00% and falling
 Industrial Production <1.00% and falling
 DeltaDelta <0.0% and falling

Chart 68 The Phases of the Business Cycle

Bear Market of 2007 -- Part 1

We now have arrived at the Bear market of 2007. As we shall see when look at the numbers, the EAS had gone into the configuration we associate with the Boom phase of the cycle. And as Erik tells us, a host of problems were in evidence in the equity market.



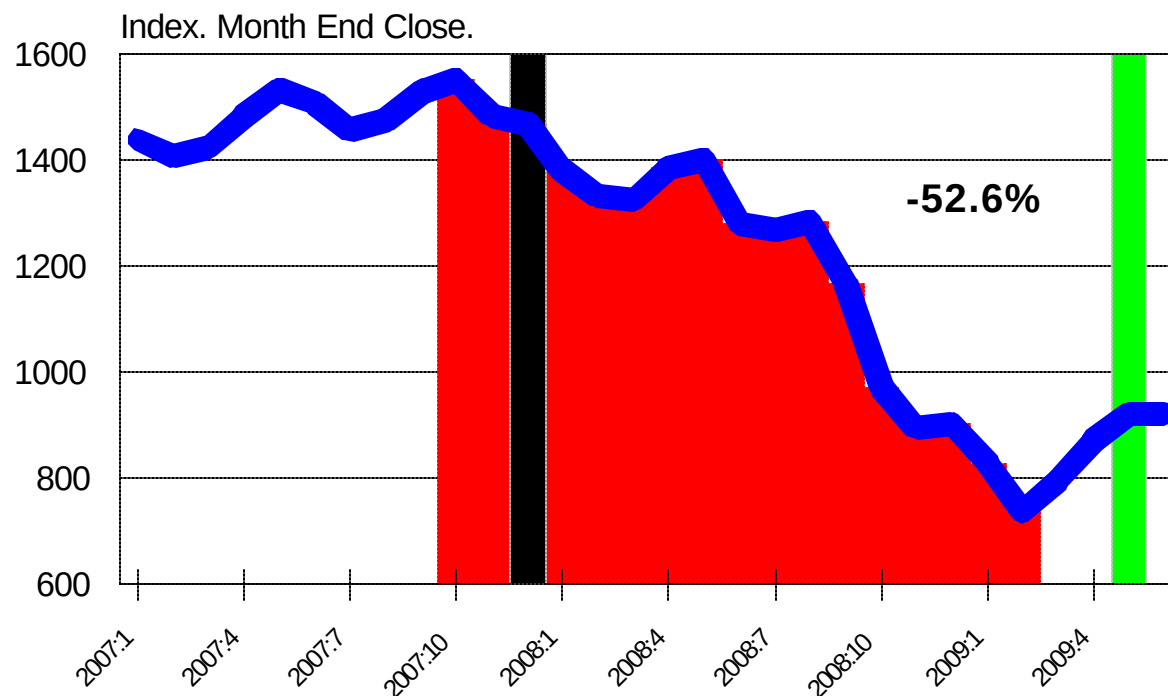
Coming almost 5 years to the day after the dot.com market crash, this bear was just as intense and caused as much damage as its predecessor. Triggered by a collapse in the subprime mortgage market, exacerbated by the meltdown in the housing market, and fueled by an insatiable appetite for yield, this meltdown nearly crashed the global financial system.

Chart 69

Standard and Poor's 500 Stock Index

Bear Market of 2007

While it is possible to show this Bear market on one chart in one move, its length (16 months) and its progression (three parts) require that we break it into segments so that we can review the elements of each move in some detail. This is another case of structural change, and as such it has to be dealt with in segments.



Start Date	Start Level	End Date	End Level	% Change
2007:Oct	1549.4	2009:Feb	735.09	-52.6

Green bar denotes business cycle trough date. Black bar denotes business cycle peak date.

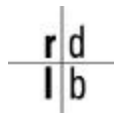


Chart 70

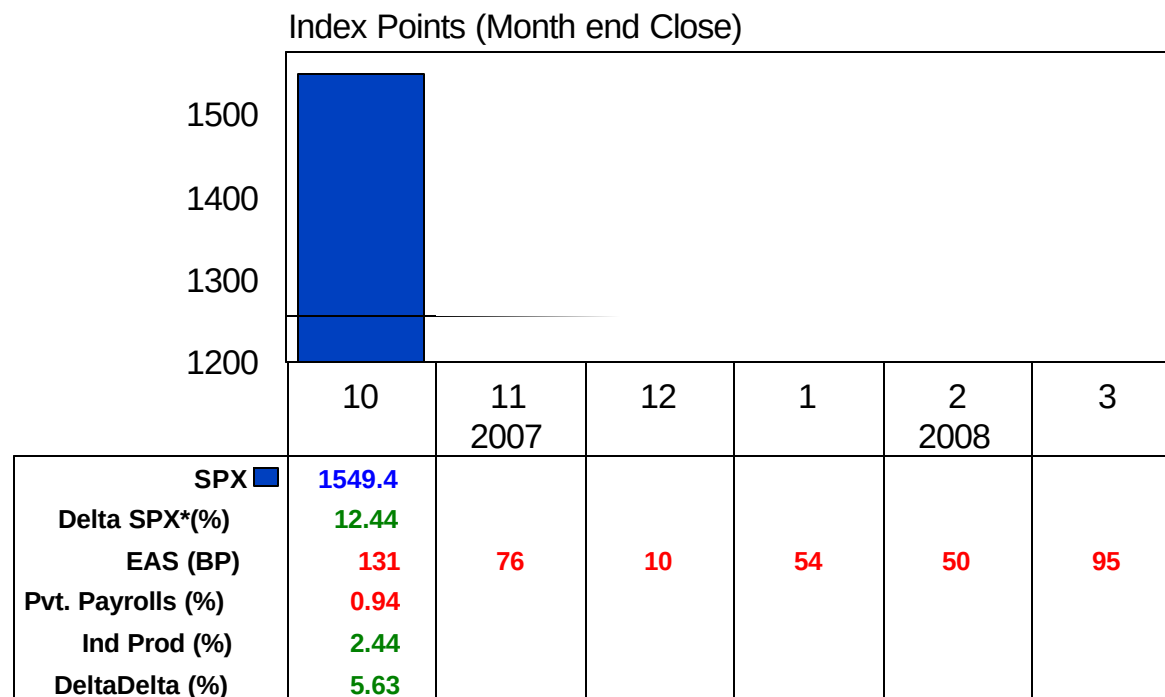
Aggregate Spread and Associated Indicators

Bear Market of 2007 -- Part 1



After giving its first signal that the economy was entering the Boom phase of the cycle in April of 2006, the EAS had been running below 200 Basis Points on a consistent basis. However, during 2006 and early 2007, the coincident indicators had not all turned red. So, while we were in a period from 2006 onward that we would call recession-eligible, we had not met the conditions for calling a cycle peak. And, as such we had advised clients that the economy, and by extension the stock market, was vulnerable.

The track and trend of the EAS on this chart puts us in the “red board” mode.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

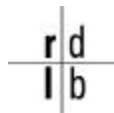


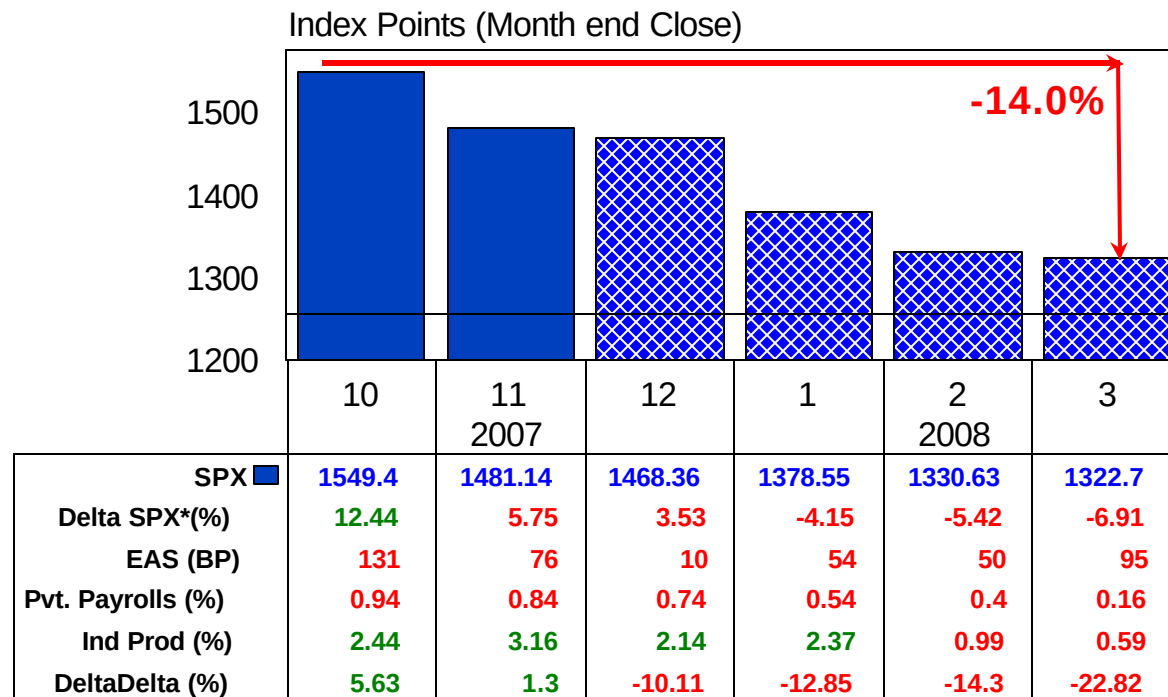
Chart 71

Aggregate Spread and Associated Indicators

Bear Market of 2007 -- Part 1



The NBER chose December of 2007 as the date of cycle peak. And the movements of both the SPX and the rest of the coincident indicators are what we would expect to see as the economy went into recession.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Chart 72

The Phases of the Business Cycle

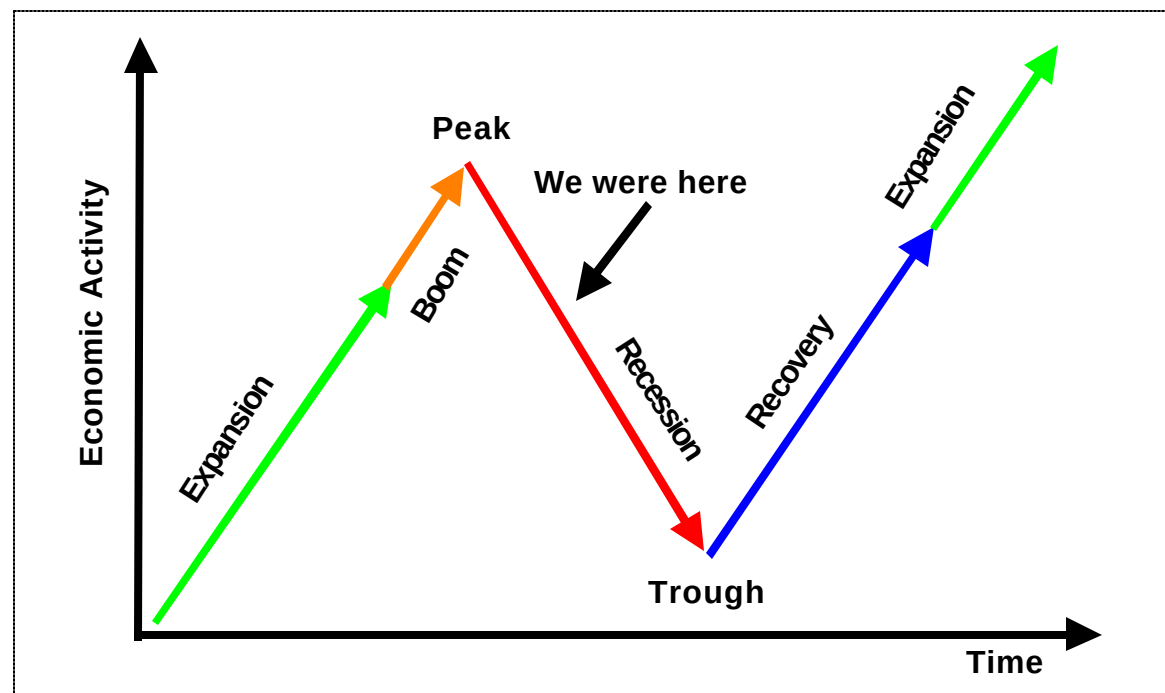
Bear Market of 2007 -- Part 2

By the spring of 2008 several important events had taken place which foreshadowed further difficulties for the economy in general and the financial system in particular. We will let Erik resume that narrative with the collapse of Bear Stearns.

The fall of Lehman Brothers in September 2008 will always be remembered as the single most spectacular event of the entire financial meltdown, and rightly so. But it was the near-collapse of Bear Stearns, six months earlier, that first exposed the fragility of America's mighty investment banks, perched atop mountains of debt and dangerously reliant on short-term funding.

Bear Stearns was brought to its' knees by a massive run on its liquidity, as clients and trading partners fled over just a few days, fearing Bear would be unable to meet its obligations. As one executive said, it was "24 hours from solvent to dead".

Bear had put many of its eggs in one basket-mortgage-backed securities-and these were fast turning rotten, and impossible to sell, as house prices tumbled.



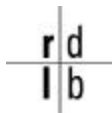


Chart 73

Aggregate Spread and Associated Indicators

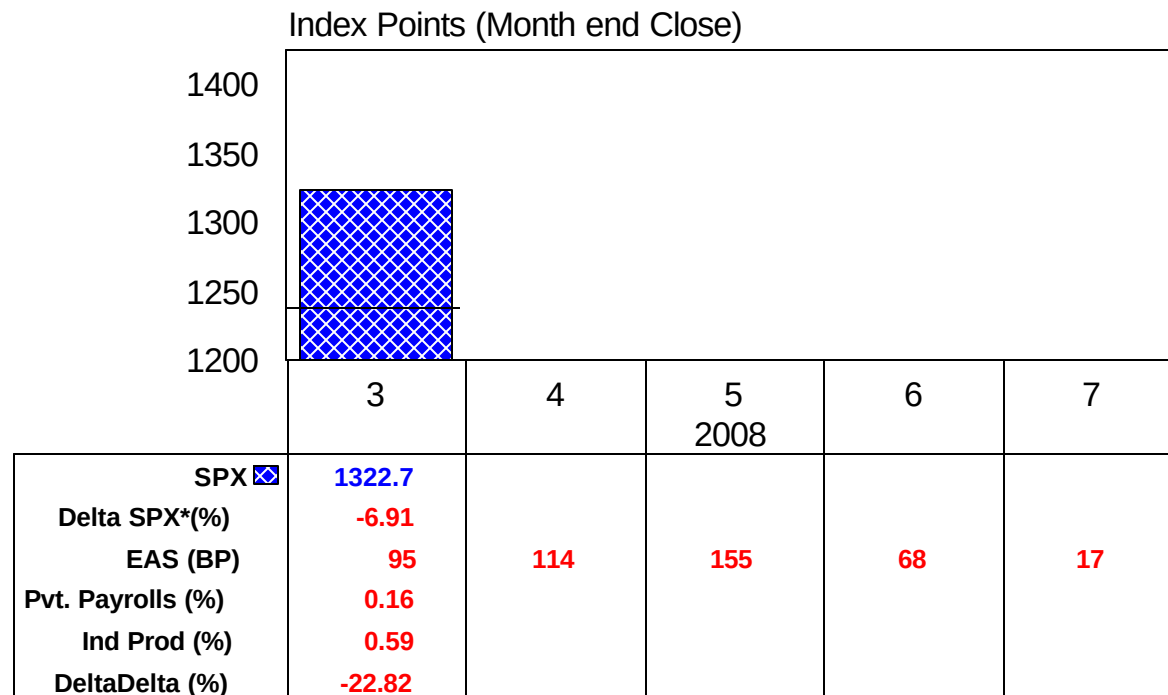


Bear Market of 2007 -- Part 2

Bear was pushed into the arms of JPMorgan Chase on March 16th 2008 after a chaotic weekend of last-minute dealmaking.

Bear had been the only big firm that refused to help out Long Term Capital Management, a hedge fund that came close to the brink in 1998. Some wondered if this was the reason Hank Paulson, then treasury secretary and a former boss of Goldman Sachs, insisted on Bear being sold for a mere \$2 per share. There were certainly many on Wall Street, including a few at the firm itself, who felt Bear had it coming.

Bear's crash marked the moment when a delirious Wall Street was knocked to its senses. As one executive put it at the time: "You can't fly like the eagles and poop like a canary."



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

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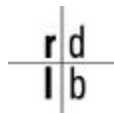


Chart 74

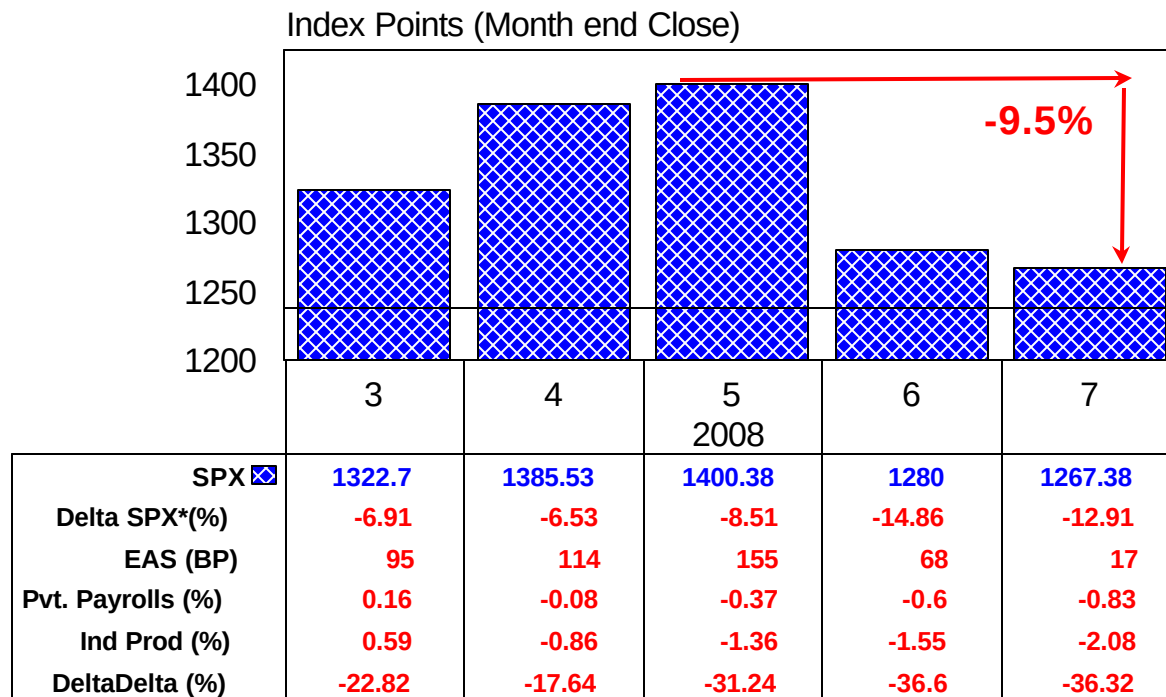
Aggregate Spread and Associated Indicators

Bear Market of 2007 -- Part 2



Although it tends to be forgotten because of what happened later in the downturn, several steps were taken in the Spring of 2008 to try to arrest the slide in economic activity. A tax cut was passed, as were increases in Federal spending. The Federal Reserve continued to loosen monetary policy. And, after the resolution of the Bear Sterns matter some felt that it was possible to think about a recovery in economic activity by the end of the year.

But, as you see on the chart, the “red board” configuration played out pretty much the way the EAS said it would. The brief rally you see in the SPX gave way to further declines.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

Chart 75

The Phases of the Business Cycle

Bear Market of 2007 -- Part 3

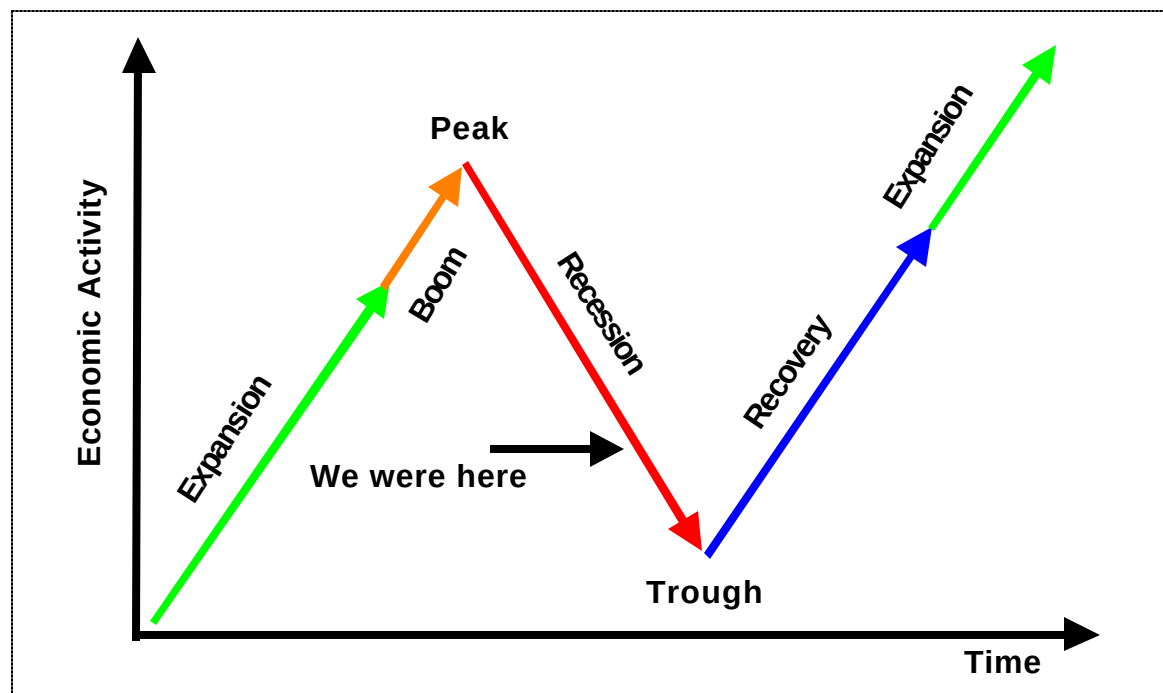
We now approach the final, and climactic phase of the Bear market of 2007. It is August of 2008. Erik is going to need the rest of the space.

On Sept. 15, 2008 Lehman Brothers filed for bankruptcy, due to massive exposure to the subprime loan market. The event soon devolved into a global financial crisis. In Europe, Northern Rock and HBO's - two high profile banks - became insolvent. Stocks and commodities plummeted worldwide.

On Sept. 28, 2008, the Dow dropped 777.68 points, wiping out \$1.2 trillion in market value. It's the biggest single-day point loss in Dow Jones history. The proximate cause of the crash was the U.S. House of Representatives' rejection of the government's \$700 billion bank bailout plan.

News that Wachovia (which was acquired by Wells Fargo in 2008) had to sell its banking assets to Citigroup (NYSE: C) the same day didn't help, nor did the collapse of European banks.

Amidst the subprime crisis, the Dow's second-biggest single-day drop happened six days later on Oct. 15, 2008. This time, recession talk fueled the 7.9% decline. A weak sales report, bleak forecasts from the U.S. Federal Reserve, and sober comments from Fed Chairman Ben Bernanke all contributed to the day's plummet.



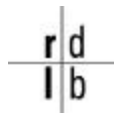


Chart 76

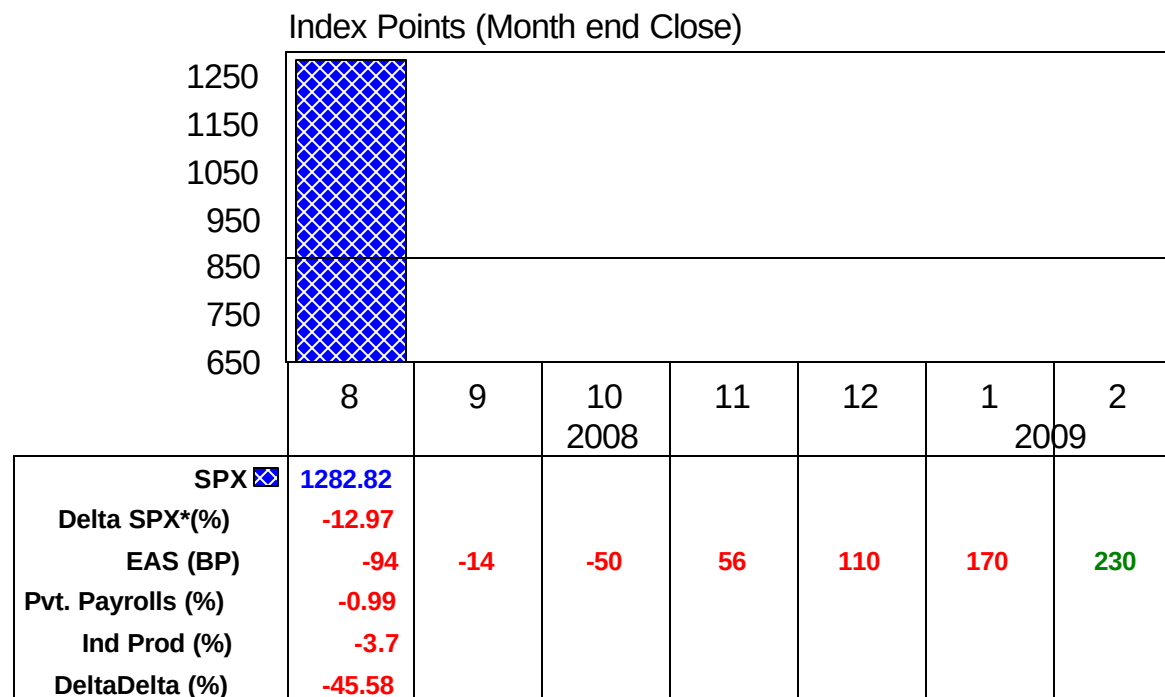
Aggregate Spread and Associated Indicators



Bear Market of 2007 -- Part 3

As we saw in the 2000 episode, we now have a board that has both red and green numbers on it. Being preponderantly red, however, we will call this a red board.

Before we go on to see how this part of the episode played out, we would like to remind you that the EAS does more than forecast cycle peaks. It also forecasts cycle troughs. And, as we mentioned earlier, the study of how the market behaves as the board goes from red to green is every bit as interesting as what happens when the board goes from green to red.



Cross Hatched Months = Recession

Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

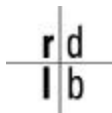


Chart 77

Aggregate Spread and Associated Indicators



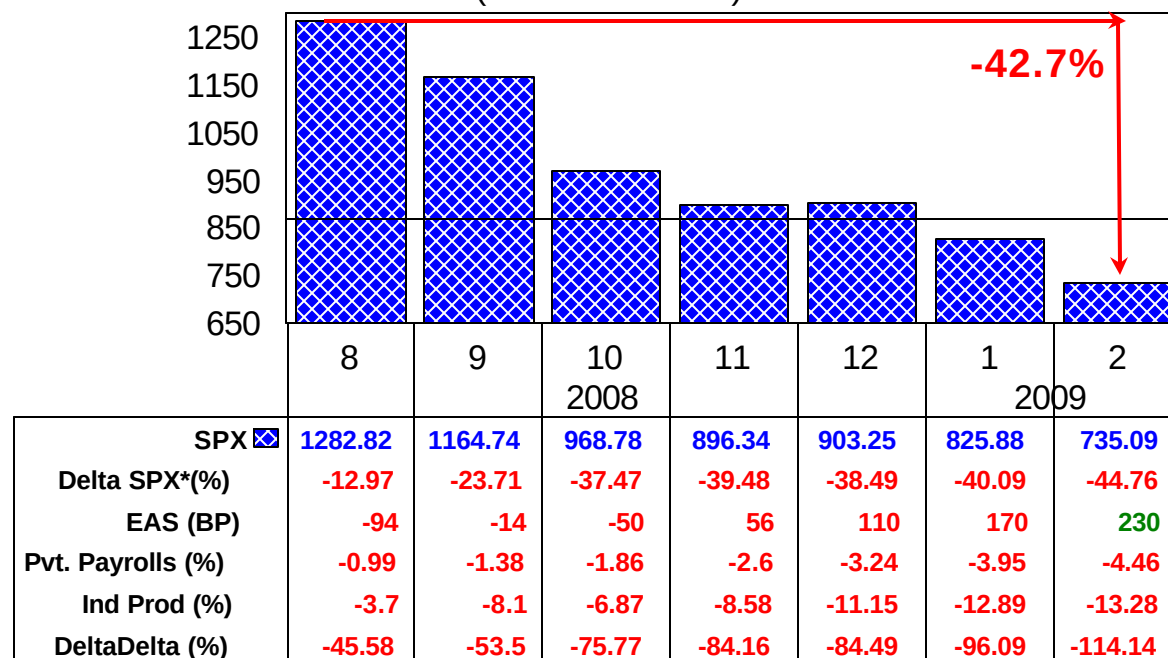
Bear Market of 2007 -- Part 3

The collapse of Lehman has long been considered the domino that led to the tumbling of so many others: Merrill Lynch's hasty sale to Bank of America; the bailout of the American International Group; the breaking of the buck in the money market; the near collapse of Goldman Sachs and Morgan Stanley that led them to become bank holding companies; and the decision by the government to pursue the \$700 billion Troubled Asset Relief Program to bail out the entire banking industry.

While no one suggested Lehman deserved to be saved, the argument has been made that the crisis might have been less severe if it had been bailed out, because Lehman's failure

created remarkable uncertainty in the market as investors became confused about the role of the government and whether it was picking winners and losers. The government had bailed out Bear Stearns and then nationalized Fannie Mae and Freddie Mac, but left Lehman for dead only to turn around and save A.I.G.

Index Points (Month end Close)



Cross Hatched Months = Recession

Conclusion: with a red board throughout the market sell-off, investors had a reason to play defense. Being able to get out of the way of even a portion of the 50% decline would have paid off handsomely.

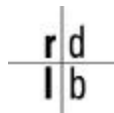


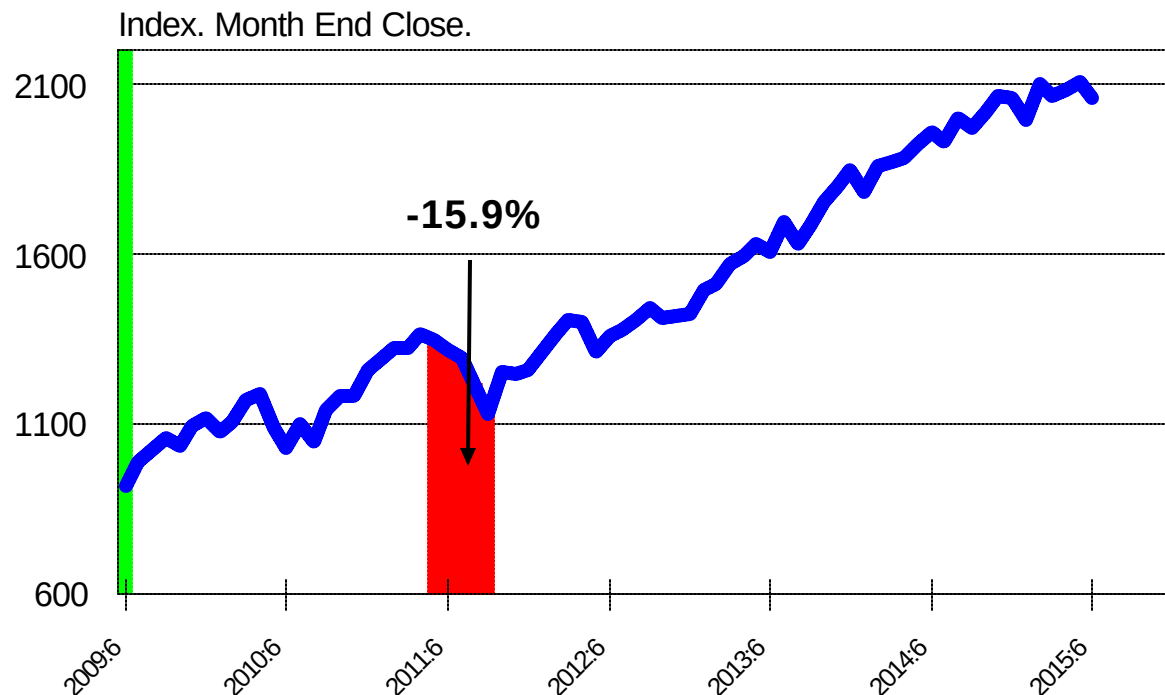
Chart 78

Standard and Poor's 500 Stock Index



Current Expansion, now at 73 Months, From June 2009 to July 2015

All we have left to do is examine the one correction that we have seen so far in the current expansion.



Start Date	Start Level	End Date	End Level	% Change
2011:May	1345.2	2011:Sep	1131.42	-15.9

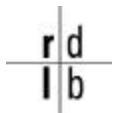


Chart 79

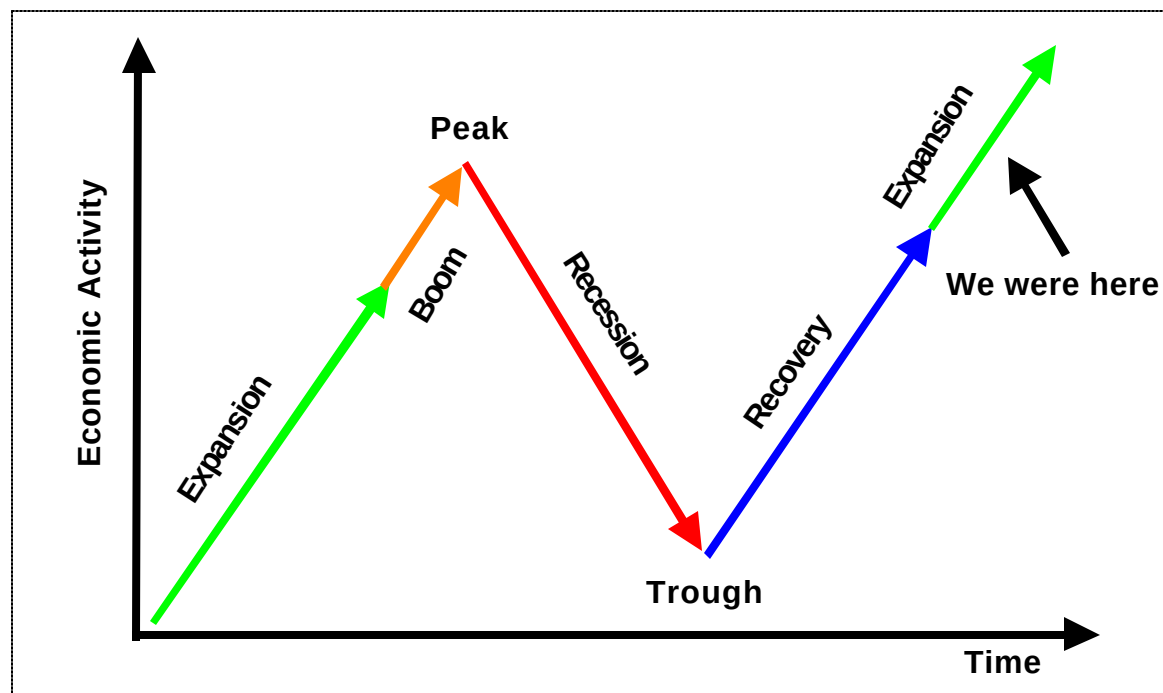
The Phases of the Business Cycle



Correction of 2011

Based on the fact that the NBER has the beginning of the current expansion in June of 2009, and from what we knew about the level and trend of the EAS, we put the “we were here” arrow on the upper right side of the chart.

For those of you have wondered what the difference is between the green segment in the upper right and the green segment in the lower left, the answer is this. In the upper right we are looking backward for confirmation that the recovery is complete and the expansion is firmly in place. On the lower left we are looking forward for signs that the expansion could be developing elements of instability that would transition us into the Boom phase. That said, let's turn it over to Erik for a summary of what was on the equity market's mind.



In early April, 2011 the world was breathing a collective sigh of relief. It was becoming conventional wisdom that a total collapse of the global financial system had been avoided, and things were looking up. When the U.S. market began to decline, it was generally thought that it was just a normal correcting of the "too far, too fast" recovery from the depths of 2009. Then along came August.

Beginning in August 2011, the correction accelerated, with sharp drops across the United States, Middle East, Europe and Asia. Pundits initially blamed the selling on fears of contagion of the European sovereign debt crisis in Spain and Italy, as well as concerns over a possible downgrading of France's AAA sovereign debt rating.

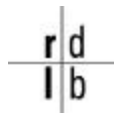


Chart 80 Standard and Poor's 500 Stock Index

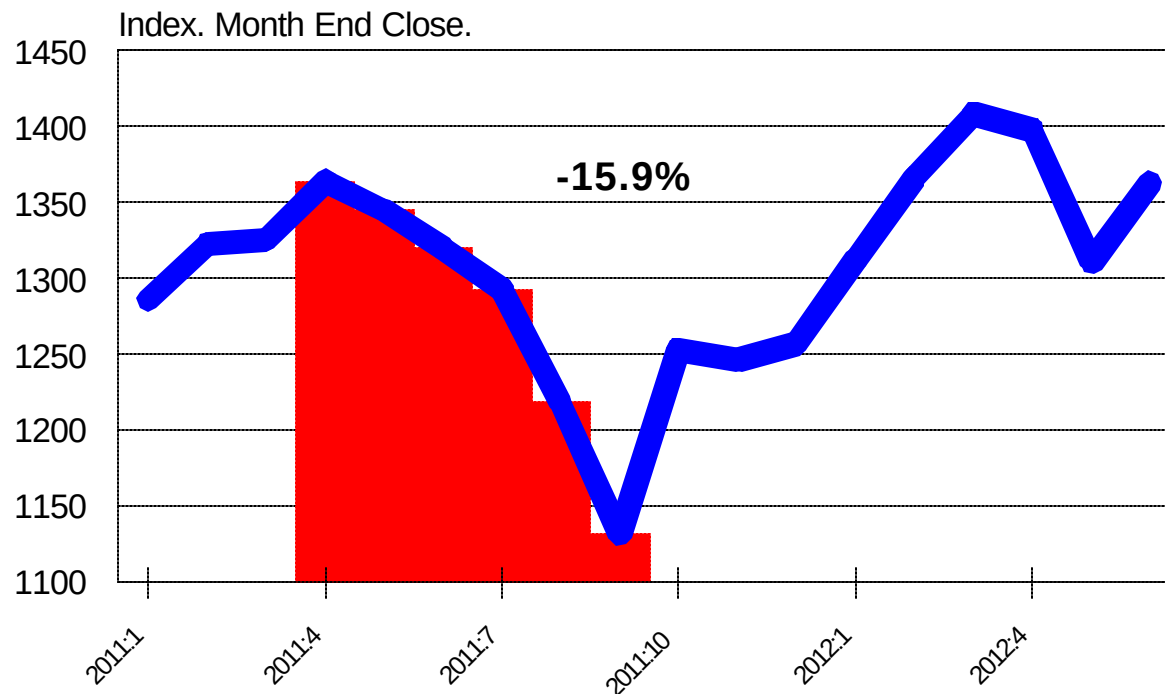


Correction of 2011

As you serious students of the stock market might recall, the SPX made a bottom in March of 2009 at 666. By April of 2011 the index had risen, against many expectations, to the 1,300 level, a near double.

Concerns started to grow over the slow economic growth in the United States, and there were rumors in the market about a possible downgrade of U. S. treasury debt. Volatility spiked in the stock market, and it continued for the rest of the year.

Then, the unthinkable happened. Standard & Poor's downgraded America's credit rating from AAA to AA+ on August 6, 2011. The US had enjoyed a AAA rating since 1941. Standard and Poor's said that it might have to go down further than AA+, and Moody's also warned of a potential downgrade of the U.S. government's credit rating.



Start Date	Start Level	End Date	End Level	% Change
2011:April	1363.61	2011:Sep	1131.42	-15.9

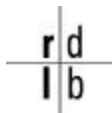


Chart 81

S&P 500 Stock Index and Associated Indicators

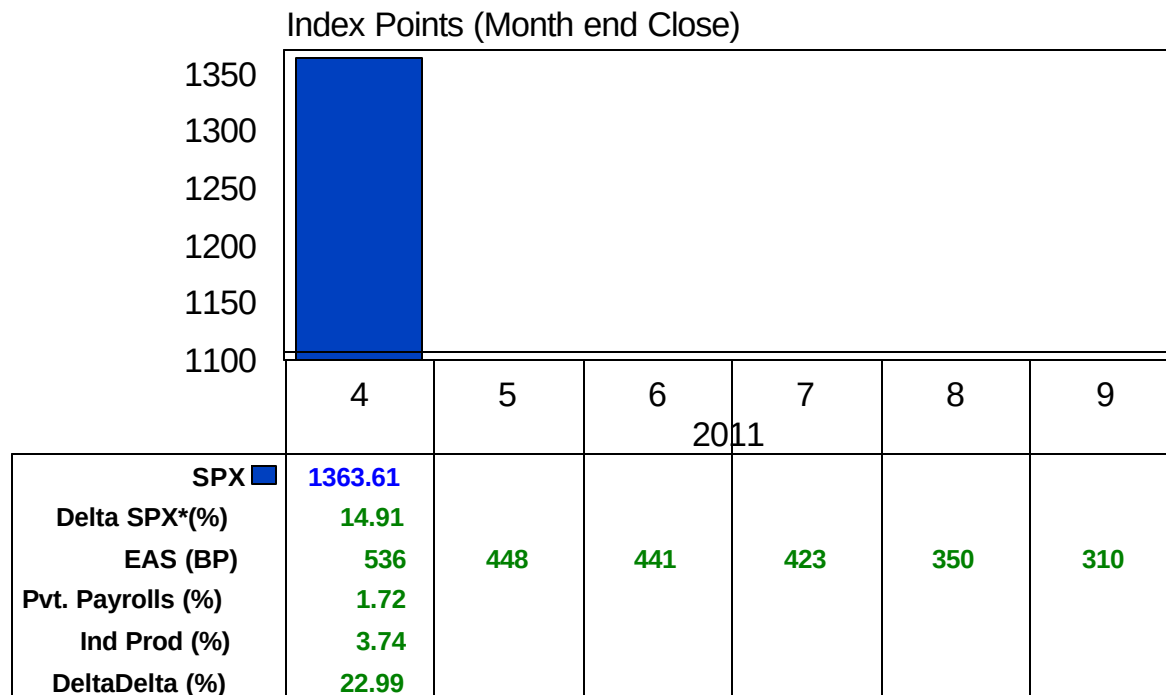


Correction of 2011

The configuration of the EAS at that time gave us a “green board”. Even so, there were still many unresolved issues facing the market.

On August 8, the S&P 500 dropped 6.7% to 1,119.46, with all 500 stocks and all ten industry groups falling. The NASDAQ Composite fell 6.9% to 2,357.69, contributing to an approximate \$2.5 trillion erased from global equity value in a single day. That brought the total damage to \$7.8 trillion since July.

In the ensuing flight to safety, gold increased in value up to \$1750. Gold is typically considered a secure investment in times of economic uncertainty. Investors and traders also flocked to foreign currencies, such as the Swiss franc and Japanese yen, also considered to be safe investments.



Delta SPX = % Change from Year Ago Month

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

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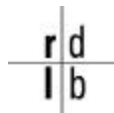


Chart 82

S&P 500 Stock Index and Associated Indicators

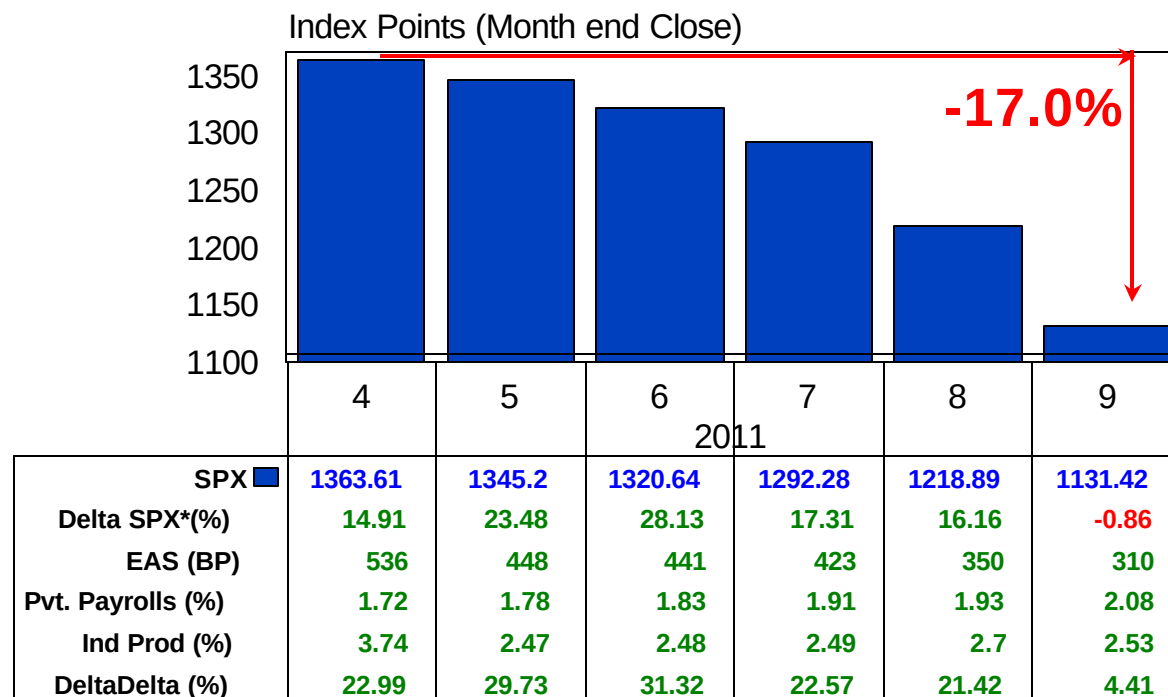


Correction of 2011

And, by the end of the period in which the correction occurred the board was still green.

In Europe, policy makers stepped in to stem the tide of selling. On August 11, Belgium, France, Italy, and Spain, as well as the European financial regulator ESMA, announced a ban on all forms of short selling of banks and other financial stocks. The fear was that European banks were vulnerable to collapse, due to their high exposure to indebted nations such as Greece.

The intervention worked. By the end of September, the crisis was contained and global markets began to recover.



Delta SPX = % Change from Year Ago Month

Conclusion: this correction was a buying opportunity.

Recession Associated Level

Delta SPX <10% and falling

EAS < 200 Basis Points

Private Payrolls <1.00% and falling

Industrial Production <1.00% and falling

DeltaDelta <0.0% and falling

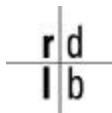


Chart 83

Conclusions -- Part 1



"All I want in life is an unfair advantage." - former AIG chief Maurice R. "Hank" Greenberg

If you want to build meaningful wealth as an investor, you're going to need an edge. For Hank Greenberg, it was an uncanny ability to bend the rules while outmaneuvering the insurance regulators. Warren Buffett has an edge, too - exceptional skill coupled with access to cheap money. While edges like these aren't readily available to most investors, there is something that can provide a significant edge to you, right now: situational awareness.

An investor who is aware of where we are in relation to the business cycle, and who is able to take advantage of this awareness by adjusting his asset allocation accordingly, will have an unfair advantage in the market. The question is how to make the most of it. The answer will be different for every individual.

For someone who is very sensitive to losses - even temporary ones - there is the option of reducing equity exposure at the first sign of a red board. Continue selling until the board turns green, or until equity exposure is zero.

For someone who can tolerate a little pain, the appearance of a red board could be monitored but not acted upon at first. When the market does begin to turn down, and assuming the board stays red, equity exposure could then be adjusted. The best way to use the situational awareness that Mr. Model provides is really a matter of individual risk preference.

The same goes for market downturns that take place with a green board. An aggressive investor might want to load up on equities, but a conservative investor might prefer to nibble around the edges. There is no one-size-fits-all solution. But one thing is certain. Having this awareness will put any investor in a better position to manage risk and boost returns than not having it. In a way, it's like counting cards at the Blackjack table. Knowing when the deck is full of 10s gives the player a distinct advantage over the dealer, who must take a hit until he has at least 17. Or playing high-stakes poker against an opponent who giggles uncontrollably whenever he's bluffing. In both cases, you have a significant information advantage. How you bet depends on who you are as a player.

However you choose to use this edge is up to you. But you might as well capitalize on your unfair advantage.



Chart 84 Conclusions -- Part 2



“You've got be careful if you don't know where you are going 'cause you might not get there.” - Yogi Berra

The Enhanced Aggregate Spread is a navigational tool designed to help us place the “we are here” arrow on the phases of the business of the cycle chart. Armed with that knowledge we gain several important advantages that can help inform investment decisions. What phase of the cycle we are in, and how long it might last provide two reference points upon which to base further analysis.

“You can observe a lot by watching” -- Yogi Berra

Because there is much more to investment decisions than just the position of the economy in the business cycle, a host of additional factors have to be considered. As Erik pointed out, in each episode there were a set of specific conditions that drove the market. That information, along with the context provided by the “green” and “red” boards helps determine what type of strategy is best to follow as the stock market changes direction.

“The future ain't what it used to be.” -- Yogi Berra

The “future” in this case is not the business cycle. It is your investment horizon. When you are 25 you operate under a different set of rules than when you are 65. How you use the information from this analysis will ultimately depend on what you see in your future.

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