

THIS MONTH'S HISTORY LESSON (JULY 2006).

INDICATORS AND HISTORY OF THE YEAR 2000 SELL SIGNAL:

1.0 SUMMARY: This month we describe a typical sequence of events that caused our model to switch from a BUY to a SELL signal, using data from the year 2000 as an illustration. This process of switching from a buy to a sell takes many months as the economic conditions gradually deteriorate, and more and more indicators switch states.

We start with a brief description of the indicators, and discuss the state of their current readings. We then present the historical record of how these indicators switched states over the course of the year 2000, culminating in the October SELL signal.

As always, those interested in the bottom line only *should skip to section 3.0*.

2.0 REVIEW OF MARKET INDICATORS: The Predictable Investing model uses 5 indicators that monitor the state of the economy and the markets. Each indicator is “scored” at the beginning of each month and given a positive “+” or negative “-” value. In addition, we use a proprietary Long Term Tracking Signal (LTTS). When the indicators and the LTTS switch direction, the model issues a BUY or SELL signal. Details of this process are described in section 3.0.

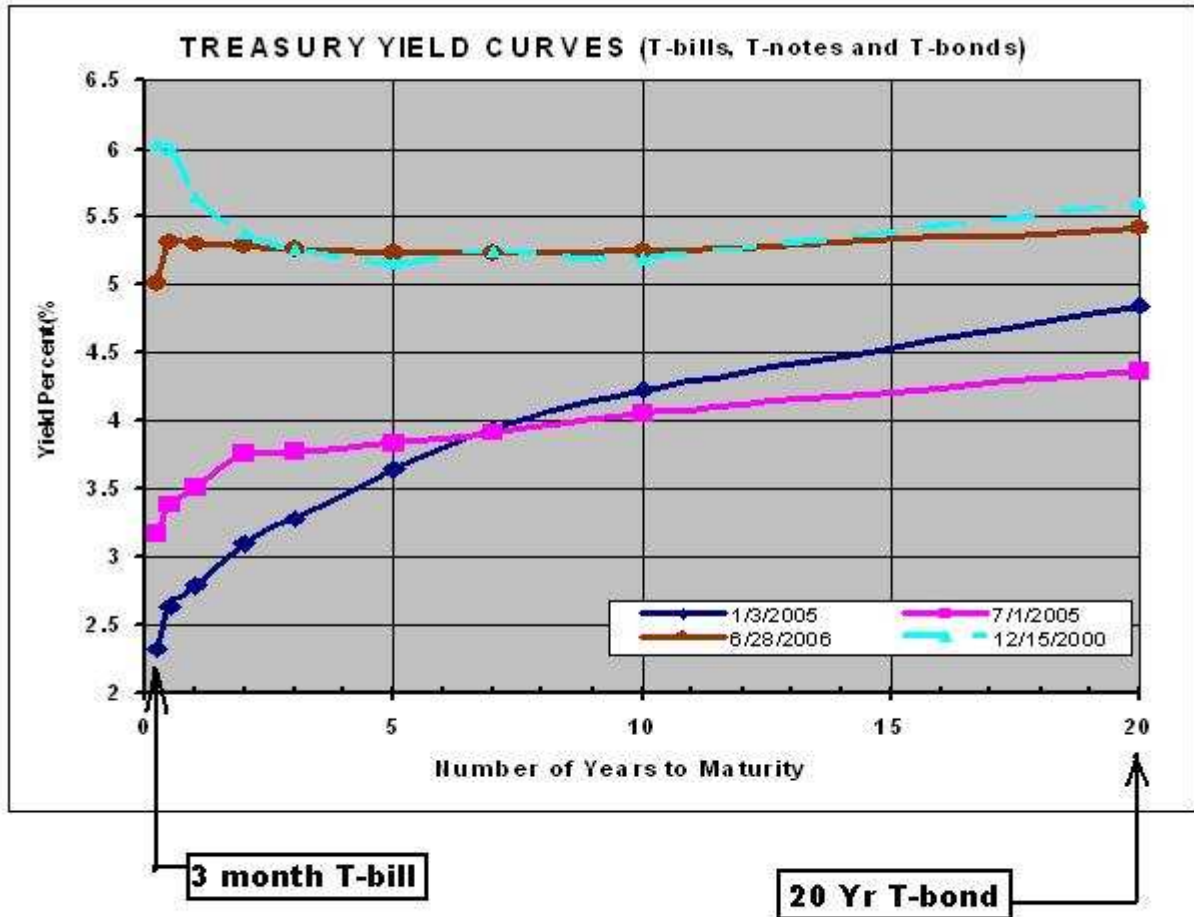
At the beginning of each month a new issue of PI is published on the website. The current indicator values and scores, and the state of the LTTS can be found on the [“Current Outlook>>>”](#) page.

2.1 DESCRIPTION OF INDICATORS:

2.1.1 Slope of the Treasury Yield Curve: This is defined as the interest rate of the 20 year Treasury bond minus the rate of the 3 month Treasury bill. It is one of the strongest predictors of future economic activity, and was discussed in the December 2005 History Lesson (see [Archive page>>>](#)).

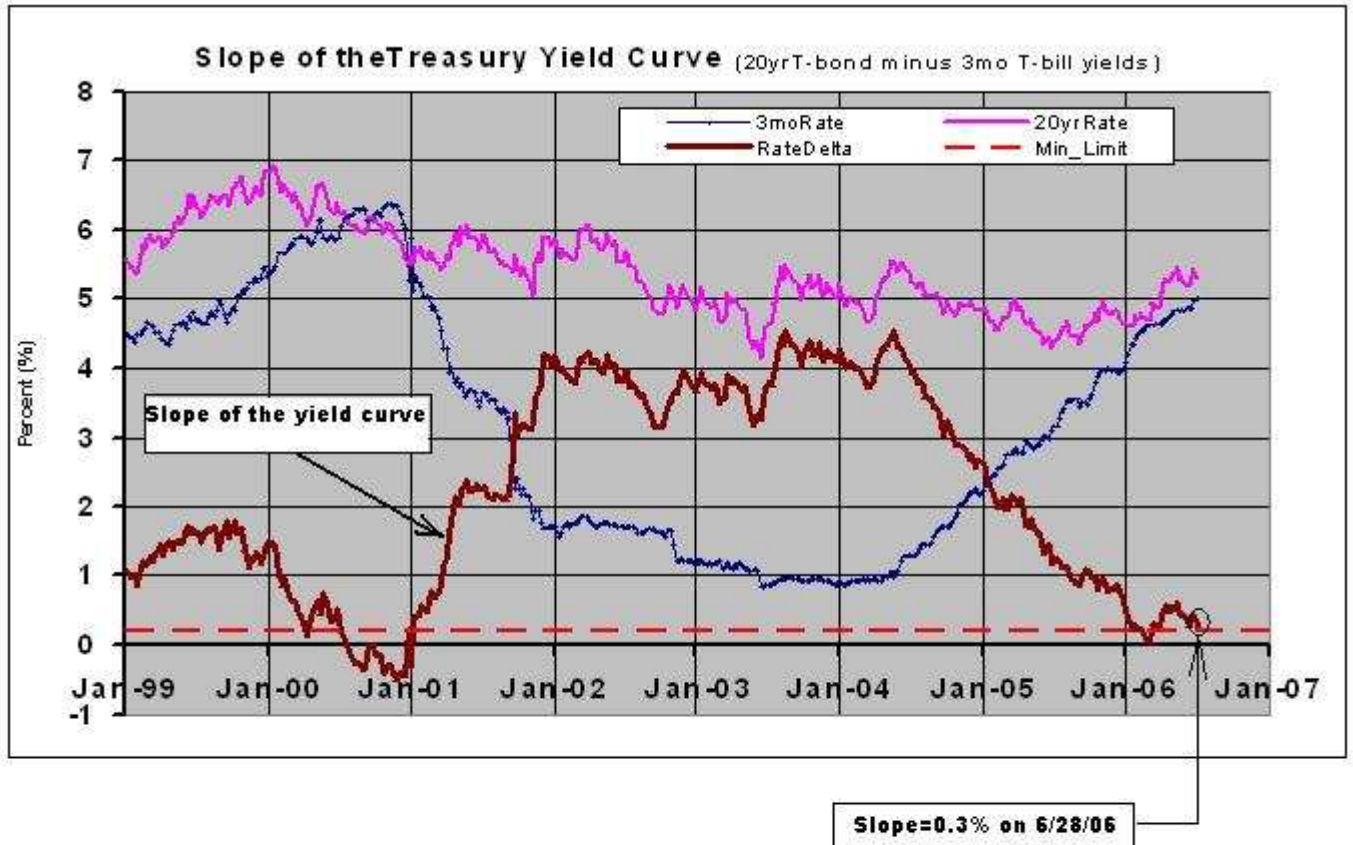
The Fed controls the very short term “discount rate”, at which banks can borrow, which is almost the same as the 3 month T-bill rate. The banks in turn, lend this money for longer-term and of course at higher rates to the public, such as for mortgages, or for business loans. They pocket the difference between the long and short rates, i.e. the slope of the yield curve, as profit.

When the slope of the yield curve is high (greater than about 1%), banks make good profits, and are eager to loan money. This “easy money” encourages consumer spending, increases capital expenditures and encourages hiring. Consequently, a positively sloped yield curve, called a “normal yield curve”, indicates a growing economy, and is shown as the *darkblue curve* in the figure below. The steeper the slope, the more robust future growth is likely to be.



When the slope is very low or zero, called a “flat yield curve”, bank profits are dramatically reduced. They cut back on loans, and raise loan rates. This reduces the availability of money for consumers and businesses, which in turn, will slow down future economic growth.

If the slope becomes negative, called an “inverted yield curve” (*dashed light blue curve*), banks almost stop loans, or further raise the interest rates at which they will lend (“tight money”). The economy almost always goes into a period of negative growth or recession. *The shape of the yield curve therefore tells us a lot about the prospects of future economic growth.*

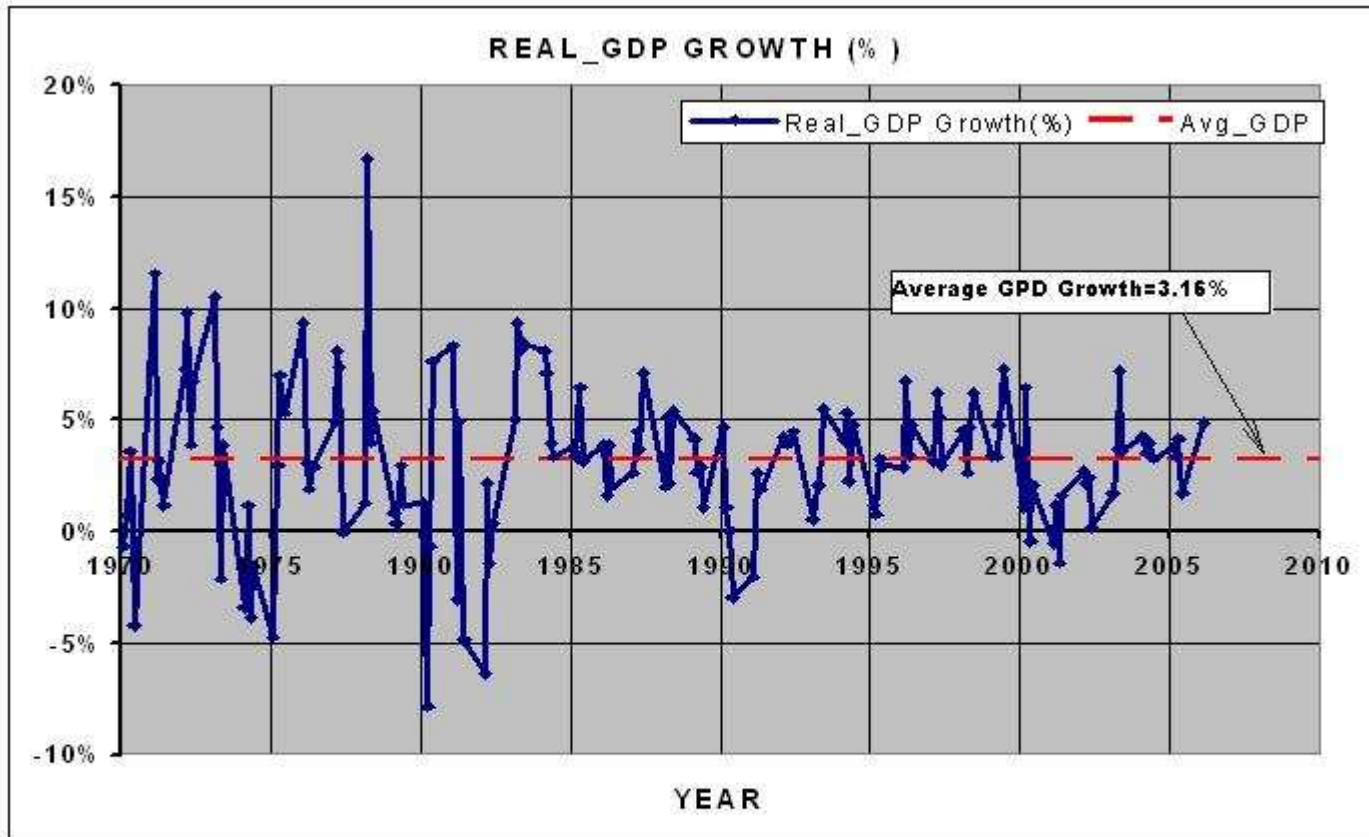


The *pink curve* in the figure above shows that the 20 year yield has not changed much over the last 3.5 years. On the other hand, the 3-month T-bill (*blue curve*) follows the meanderings of the Fed discount rate. It dropped down to around 1% in Jan-03, and steadily risen from mid Jan-04 to the 5% level of today.

The Slope of the Treasury Yield curve (*heavybrown line*) is the difference between the pink and blue curves. The current value is a slightly positive 0.3 % (*marked in black*). This is forecasting an economy that is likely to be slowing down in the future. If the Fed continues raising discount rates even further, there is the likelihood that the slope will invert decisively.

The April 2006 History lesson (*see Archive page*) showed that 86% of the time, a decisive inversion is followed by a recession. Furthermore, the average delay between the start of the inversion and the following recession is 11.6 months. Therefore, the current situation with a positive yield slope of 0.3 is somewhat concerning, but we have not yet reached a tipping point for this business cycle.

2.1.2 Last Quarter GDP Annualized Rate: Gross Domestic Product (GDP), measures the total amount of goods and services produced by the economy. Last quarter's "Real GDP" (the "nominal-measured GDP" minus inflation), is multiplied by 4, which gives us the yearly or "Annualized" rate. This is used as our second indicator.



The goal of the Fed is to achieve a steady Real GDP of around 3.0%, which is believed to be optimal for steady growth with low inflation. The figure above shows that the Real GDP of the US economy has averaged 3.16% over the last 35 years. On the average, the Fed has therefore done a pretty good job.

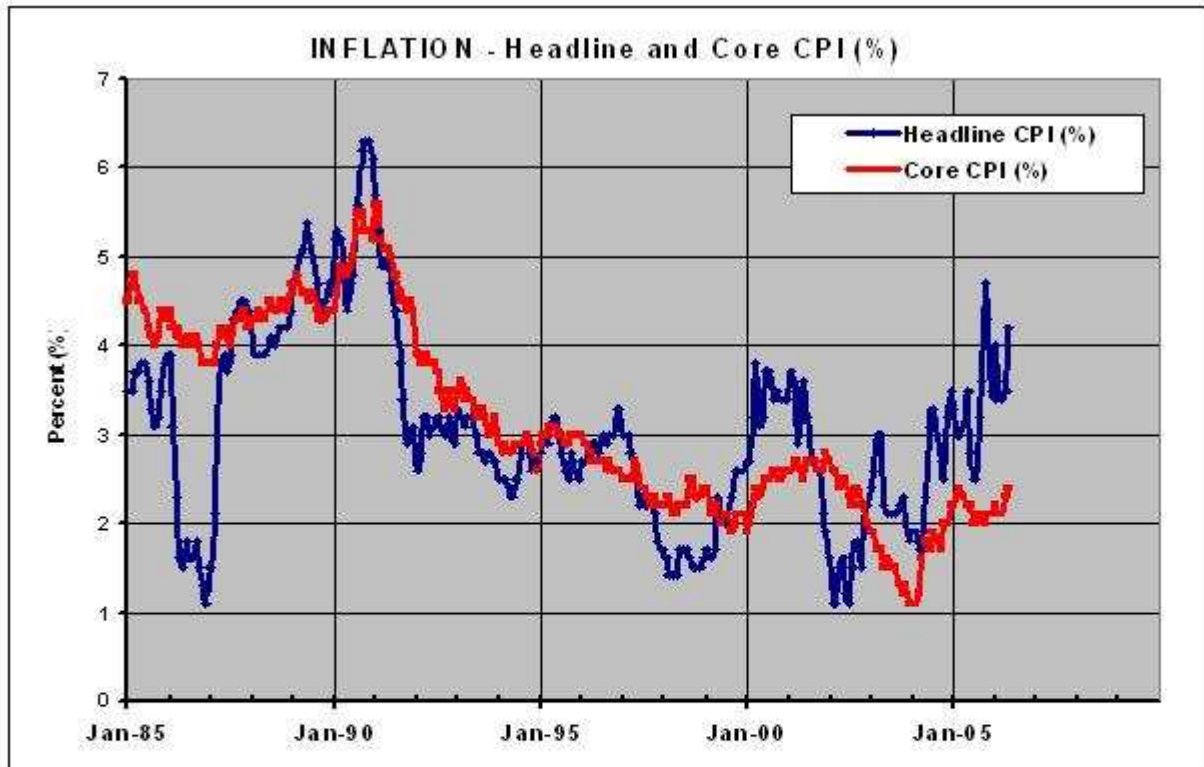
However, the fluctuations in Real GDP are what cause problems. These fluctuations have been reduced considerably in recent years, from the very large swings from 1970 to 1984. But even these smaller excursions of recent years can cause recessions, or excessive growth and overheating of the economy. The Fed varies the discount rate as the primary tool to control both the average and fluctuations in the Real GDP.

The Real GDP number for the first quarter of 2006 was revised upward to at a

very strong annualized growth rate of 5.6%. This number is expected to drop significantly to around 3% over the rest of the year, as the slowing effects of the last 17 rate hikes takes hold. If achieved, a 3% growth rate for the GDP would allow steady growth without inflationary pressure.

2.1.3 Last 12 month Core Inflation Rate: Inflation is measured by the “headline Consumer Price Index (CPI)”, and is the rise in the price of a basket of goods and services (see [7] on the Links page).

The “core inflation rate” (Core CPI) is defined as the “headline CPI” minus the contribution of food and energy. The prices of food and energy fluctuate wildly from month to month, and the core CPI with these volatile components removed, is a much more stable measurement of inflation (see Figure below). Core CPI is used as our 3rd indicator.



The current core inflation rate of 2.4% seems very reasonable by historical standards, especially since it includes the effects of huge increases in energy and commodity prices over the last 9 months. The Fed however seems fixated on trying to lower the core inflation rates to under 2%, and I think they are dead wrong. My fear is that their

“inflation phobia” will drive them to ever increasing interest rates till the economy stagnates, at which point it will be too late to prevent a recession.

In fairness however, we should give the new chairman Bernanke the benefit of the doubt, and hope he does the right thing for the economy. Further dialogue can be found in our discussion forum article entitled “*Is the Fed fighting the last war?*”

2.1.4 Forward 12 month SP500 PE Ratio: This indicator attempts to answer the simple question of whether the market is “undervalued”, meaning likely to go up, or overvalued, i.e. likely to go down, or “fairly valued” and likely to move sideways. We know that earnings (corporate profits) drive stock prices; the higher the earnings, the higher the stock price will be. The Forward PE ratio of the S&P500 estimates the future Price of the index, based on the *estimated earnings for the next year*. This gives us a target value for where the S&P500 could be, one year from now. This topic was covered in detail in the January 2006 History Lesson (see Archive page).

It is calculated as:

Forward PE Ratio = (Current SP500 Index) / (Projected earnings for next 12 months)

Let us now define the “**Fair Value of the PE Ratio**”, as the average historical value of the S&P500 over a long time period. If the forward PE ratio is less than the fair value PE ratio, then the market is undervalued, and is likely to rise. Conversely, if the forward PE ratio is higher than the fair value PE ratio, the market is overvalued, and is likely to fall.

The fair value of the PE ratio, also called the “**PE multiple**” can also change over time. The increase or decrease in the PE multiple, is called “multiple expansion” or “multiple compression”. This can happen in an environment of changing inflation or interest rates. Changes in fair value obviously affect the market perception of over or undervalue, and consequently affect the future price.

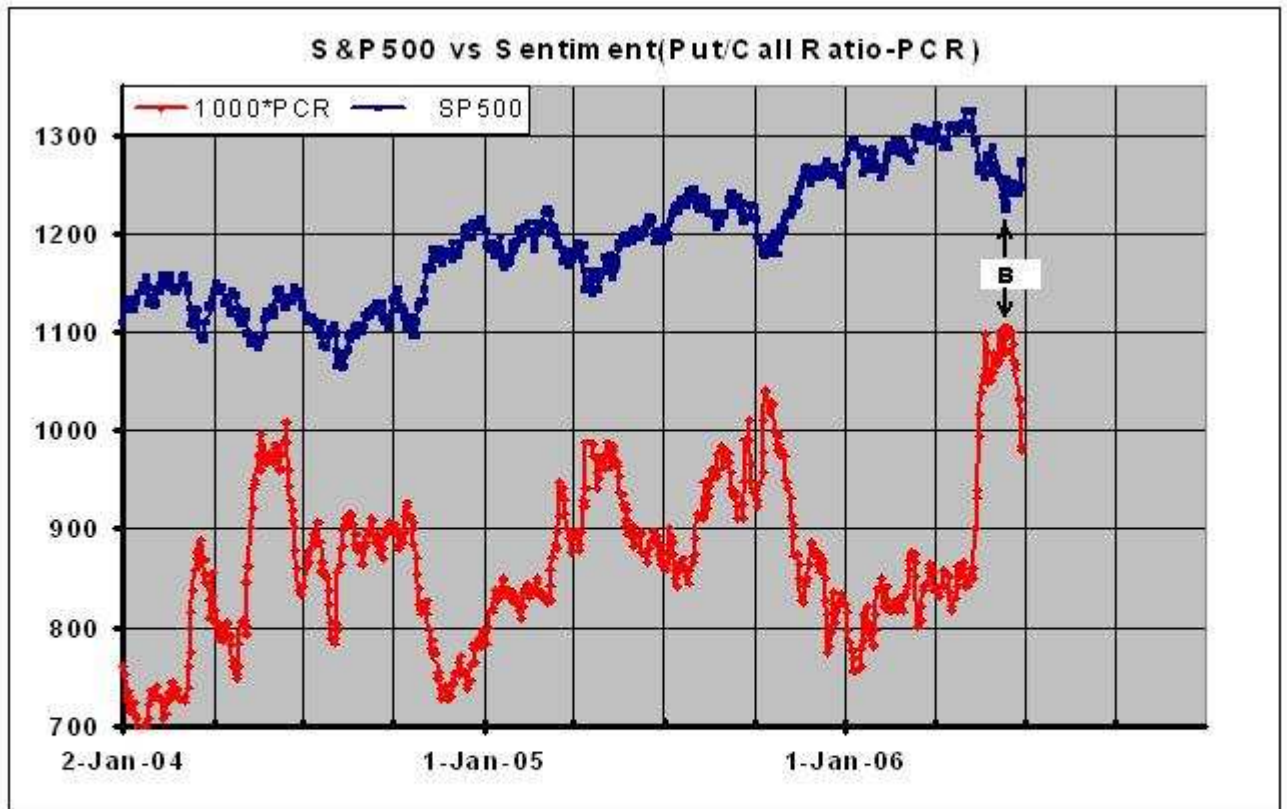
Currently, the S&P500 forward earnings are projected to increase over the next 12 months, and the Forward PE ratio is 15.8. The “fair value” of the PE ratio based on current inflation and interest rates, is between 17 and 18. There is therefore a minimum upside potential of 7.6% (=17/15.8), and the S&P500 could rise to the mid-1300’s or higher over the next 4 quarters.

2.1.5 Put/Call Ratio (investor sentiment): This indicator measures investor sentiment, which simply asks, “are stock market investors bullish or bearish?” When sentiment is extremely negative (bearish), the market is usually forming an important bottom. This is because bearish investors expect the market to go down even further, have already sold all their stock, and there are no sellers left to drive the market lower.

Conversely, when investor sentiment is extremely positive (bullish), the market is usually forming an important top. Bullish investors expect the market to go up further,

have already bought all the stocks they can, and there are no more buyers left to drive the market higher. We count on the fact that investor sentiment is almost always wrong, and therefore this is a contrary indicator.

Sentiment is measured using the Put/Call Ratio (PCR). Puts are stock options that bet that the market is going down (see Ref [5] on the Links page). Calls are options that bet on a rising market. Bullish investors buy Calls, and bearish investors buy Puts. A high volume of Puts relative to Calls (high PCR) indicates extreme bearishness, while a low volume of Puts relative to Calls (low PCR) indicates extreme bullishness.



The figure above shows the S&P500 (blue) and the PCR (red) plotted for the last 2.5 years. Extreme values of the PCR, peaks and valleys, indicate an approaching market top or bottom. One can see that peaks in the PCR, when investors are the most bearish, correspond precisely to bottoms in the S&P500, and vice-versa. The PCR is our “investor sentiment” indicator, *which tells us what the “herd” is doing, and enables us to do the exact opposite.*

The PCR peaked at an extremely high 1.1 last week (marked “B”), and is now falling sharply, indicating that the market established and is moving up from the bottom.

This is a pretty good sign that once again the “herd” of investors was wrong, and that the PCR once again was able to tell us where the bottom of the correction would occur.

3.0 USING INDICATORS TO GENERATE BUY AND SELL SIGNALS: When at least 4 of the 5 indicators switch from positive to negative, the market is on the verge of a SELL signal. The final SELL is issued when the Long-Term Tracking Signal (LTTS) also switches from a BUY to a SELL.

The process works in reverse to generate a BUY signal. When at least 4 out of 5 indicators switch from negative to a positive state, the market is on the verge of a BUY signal. The final BUY is issued when the LTTS also switches from a SELL to a BUY.

4.0 INDICATOR VALUES and SCORES (1999 to 2001): The busy chart below shows the indicator values and scores for the 39 month period Oct-99 to Jan-02. The data are monthly, at the beginning of each month, except for the last 3 columns, for which the data are spaced 3 months apart (see note “2 month gap”).

INDICATOR VALUES													
DATE	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00
S&P500 Index	1336	1370	1417	1441	1387	1395	1516	1433	1457	1479	1472	1495	1495
1 T-slope %	1.69	1.27	1.35	1.44	0.87	0.62	0.14	0.49	0.44	0.19	-0.2	-0.15	-0.15
2 GDP Growth (%)	4.75	4.75	4.75	7.3	7.3	7.3	1.02	1.02	1.02	6.43	6.43	6.43	6.43
3 Core Inflation (%)	2.1	2.1	1.9	2	2.2	2.4	2.3	2.4	2.5	2.5	2.6	2.6	2.6
4 SP500-Fwd-PE	24.23	24.23	24.23	25.55	25.55	25.55	24.46	24.46	24.46	23.07	23.07	23.07	23.07
5 Put/Call Ratio	0.64	0.61	0.50	0.48	0.49	0.46	0.46	0.54	0.54	0.53	0.51	0.51	0.51
INDICATOR SCORES													
1 Treas-Slope %	+	+	+	+	+	+	-	+	+	-	-	-	-
2 LastQ-GDP AnnG	+	+	+	+	+	+	+	+	+	+	+	+	+
3 Core Inflation (%)	+	+	+	+	+	+	+	+	-	-	-	-	-
4 Forward S&P-PE r	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Put/CallRatio (sen	+	+	-	-	-	-	-	-	-	-	-	-	-
Tracking Signal	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY

BEHAVIOR OF INDICATORS NEAR THE YEAR

Focus on the progression of scores, starting in Oct-99 with scores of 4 “+” and 1 “-”, to Oct-00 where all 5 have become “-”. As we move from left to right, we see the

deterioration in the economy reflected in more and more indicators switching from “+” to “-”.

During Jul-00, 4 out of 5 indicators switched to “-”, and we are on the verge of a SELL signal. The LTTS finally switched in Oct-00, and the model issued a SELL signal (marked by the heavy black SELL notation).

Moving further to the right from Oct-00 to Jan-02, we see that some of the indicators recover back to “+”, but the damage is done, and the LTTS maintains the SELL state for the rest of this entire period (except for a blip in Apr-01).

The proprietary LTTS is designed to be a lagging signal, is difficult to switch, and once switched tends to stay in the new mode for a considerable period of time (engineers: note that it has “hysteresis” built-in). It was set up this way to prevent the model from rapidly switching between BUY and SELL signals, since each such signal generates taxes (in a taxable account), and brokerage fees. Frequent transactions are also prohibited at most mutual funds, which restrict the number of buys and sells to just a few each year.

The chart also has a series of table values circled and marked with alphabetical notes, and we discuss them now.

NOTES:

A. The Forward PE ratio was very high during this entire period, varying from 21.4 to 41.66, as compared with the long-term average value of 17.0. These abnormally high readings were during the stock market bubble period, where investors had bid stock prices up to totally unrealistic levels. Consequently this indicator was negative for the entire 39 month period (except for a blip in Apr-01).

B. In spite of these lofty Forward PE valuations, the PCR remained consistently at extremely low levels, around 0.5, indicating that investors were stubbornly bullish all way until Oct-00. These unprecedentedly low PCR readings are hallmarks of a market top.

C. The yield curve inverted in Aug-00, and remained negative till Dec-00. The 0.5% rate hike by the Fed in May-00, delivered the final blow to a stock market that had already started falling, inverting the yield curve, and driving the economy into a recession.

D. The GDP slipped into a negative growth state in Oct-00, signaling the start of a recession that would last for 12 months. The overreaction by the Fed, hiking rates in an economy that was already slowing was undoubtedly the biggest mistake made by former chairman Greenspan during his entire tenure.

5.0 CONCLUSIONS and DISCUSSION:

1. The process of switching from a BUY to a SELL signal takes place over many months as the indicators switch states in response to a deteriorating economy.

2. Some indicators, such as the Forward PE ratio in our example, can switch very early and stay in that state for extended periods of time.

3. The LTTS is the last to switch, and by its design will stay in the new state even if some of the indicators switch back to a “+” score.

4. The current score (see Current Outlook page), is that all 5 indicators are “+”, and the LTTS is in BUY mode. The model is in bullish mode, and indicating that the market is poised to continue to rise.