

# **PREDICTABLE INVESTING**

## **HISTORY LESSON - September 2006**

### **GDP and RECESSIONS:** **(Who's afraid of the big bad recession?)**

#### **INTRODUCTION:**

I am afraid, very afraid of the big bad recession, or even a small one for that matter. That's because recessions are, bar none, the biggest killer of stock market wealth. Our primary job at Predictable Investing is to get us out of equities before a bear market takes hold, and these inevitably happen during recessions. Our model identifies when a recession is imminent, signaling an exit from the stock market before it does much damage to our investment portfolio. This article will expose my unhealthy obsession with recessions, by first describing what they are, their past history, the extent of the damage they have done, and a glimpse at how our indicators monitor for the approach of one.

#### **BUSINESS CYCLES:**

The US economy and those of other industrialized countries, go through significant periodic swings in economic activity. These range from periods of rapid expansion (called economic booms), which are then followed by slowdowns, and negative growth (called an economic bust). The negative growth can last more than two quarters, in which case it is called a recession. This economic "boom-bust" behavior is popularly called the "business cycle", but economists prefer to call it an "economic fluctuation".

Many economists do not believe that a business cycle would exist at all, were it not for government interference in the free economy. They believe that these fluctuations in economic growth are manipulated so that the incumbent political party has the most favorable economy going into the Presidential elections.

Whatever the cause, these large variations in growth hugely influence interest rates, the availability of money, capital investment and corporate employment. During a boom, employment is high, which puts money into the hands of workers and results in an increase in consumer spending. This raises the GDP, since consumer spending is a large portion of it. In turn this affects the level of corporate profits, and therefore the prices of stocks and bonds. An understanding of the business cycle or economic fluctuation is therefore crucial for predicting the likely future environment for stock and bond market prices.

**GROSS DOMESTIC PRODUCT (GDP):** The Gross Domestic Product (GDP) is defined as the sum total of all the economic activity that takes place in the country. GDP is composed of 5 items, shown by the equation below:  
$$\text{GDP} = [\text{Spending by the (Consumer + Investment + Government)}] + [\text{Value of (Exports - Imports)}].$$

**REAL GDP:** is defined as the GDP minus the effects of inflation, i.e.,  
 $\text{Real GDP} = (\text{GDP} - \text{CPI})$ , where CPI (Consumer Price Index) is the annual headline inflation rate.

**RECESSION :** A recession is a period of falling growth that meets certain predefined conditions. There are two definitions of an economic recession.

**Definition #1:** A recession occurs when there are two or more consecutive quarters of negative growth in the Real GDP. This is commonly used by the media, but is quite imprecise.

**Definition #2:** An alternate and more precise definition is provided by the National Bureau of Economic Research (NBER), an independent economic research group. NBER (see links page reference [11]) defines a recession as,

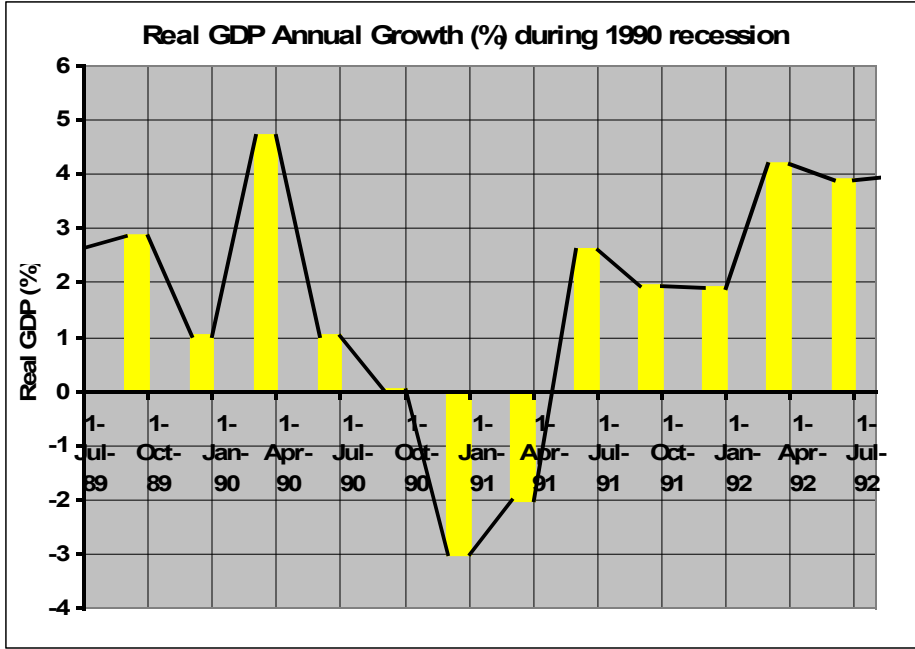
"a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. A recession begins just after the economy reaches a peak of activity and ends as the economy reaches its trough. Between trough and (*the next*) peak, the economy is in an expansion. Expansion is the normal state of the economy; most recessions are brief and they have been rare in recent decades."

Why do we need two definitions? The main reason is that the GDP data is only issued quarterly, so that by definition #1 we have to wait 6 months after a recession has already started, to decide if we are in one. By that time it could very well be over, but we won't know for another 3 months! By contrast, the NBER uses other indicators such as employment, retail and wholesale sales, etc, in addition to the real GDP, to pin down a more precise month for the start and end dates of the recession.

**EXPANSION and RECOVERY:** An economic expansion is a period of growing GDP. The early stages of an expansion after the falling period of growth has bottomed out, is called a recovery.

### **WHAT DOES A RECESSION LOOK LIKE?**

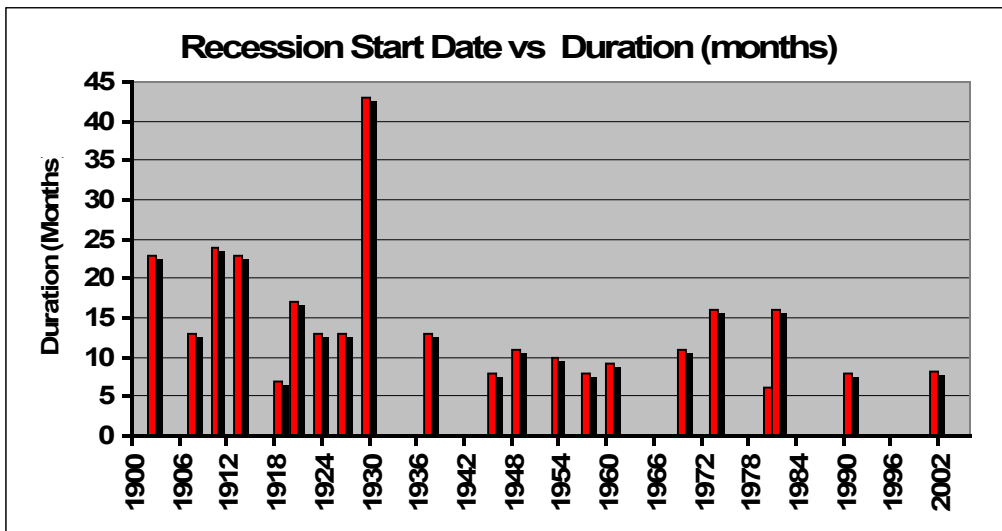
The Figure 1 below shows the behavior of the Real GDP during the recession of 1990.



The peak in Real GDP occurred during the 1<sup>st</sup> quarter of 1990, following which it fell to a trough by the end of the same year. One can see from the quarterly stair-step data how difficult it is to pick a start date of the recession using definition #1 (2 quarters of negative growth). The NBER adds other economic data and marks the start as of the recession in July 1990, and the start of the recovery in March 1991, for a duration of 8 months.

**HISTORY OF US RECESSIONS:**

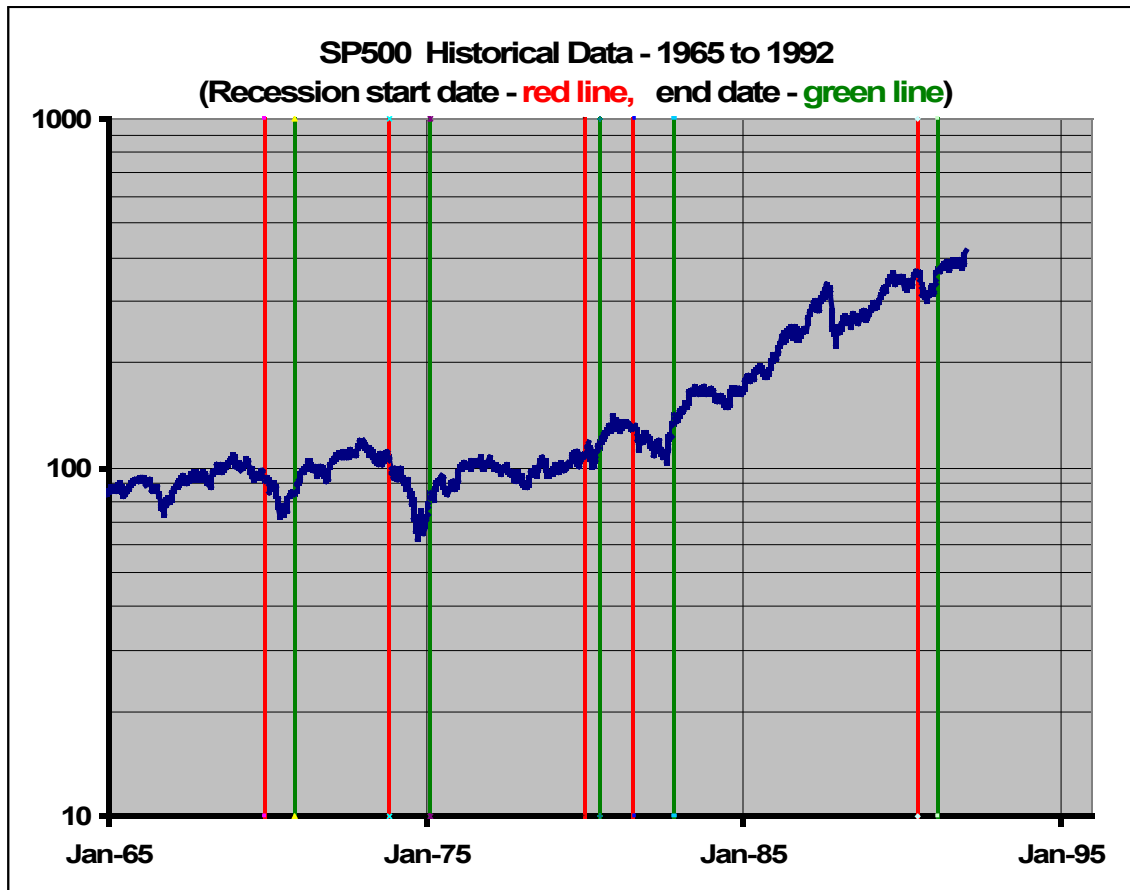
Since 1900 the US economy has gone through 21 recessions, and the history of which is shown below:



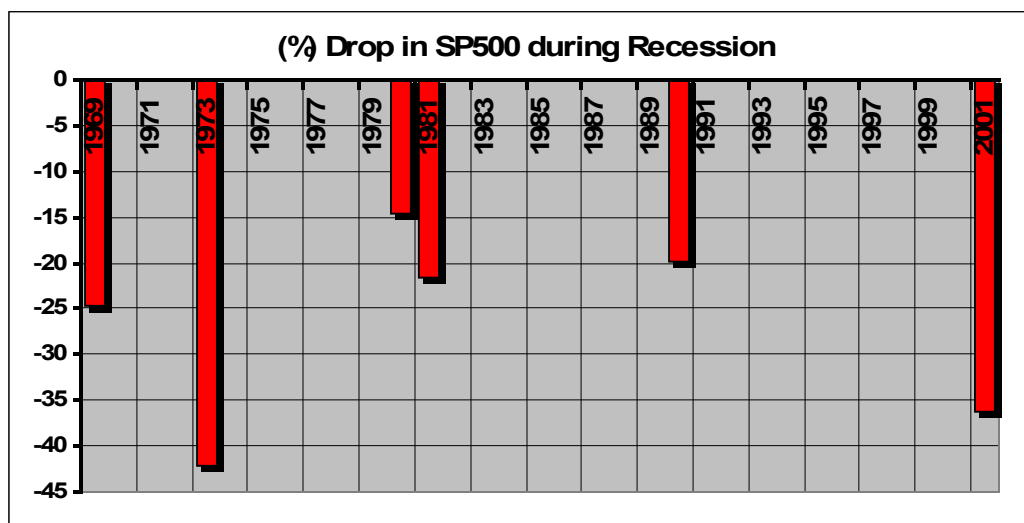
This graph shows that the longest and deepest recession started in August 1929 and lasted for a miserable 42 months. The banking and other reforms that followed the market crash of 1929, have both increased the time between recessions (with the one exception of two back to back ones in January 1980 and July 1981) and considerably reduced the duration. *On the average since 1935, a recession takes place every 5.8 years, and lasts for 10.3 months.*

### MARKET PERFORMANCE DURING RECESSIONS:

As one would expect, the markets drop precipitously during a recession. The value of the S&P500 between 1962 and 1992, a 30 year period where there were 5 recessions is shown below.



The vertical red and green lines denote the start and end of each recession. Note the large drop in the S&P500 (dark blue curve, and please remember this is a logarithmic scale) between each pair of red and green lines that mark a given recession. The amount that the S&P500 dropped during each recession is highlighted in the figure below.

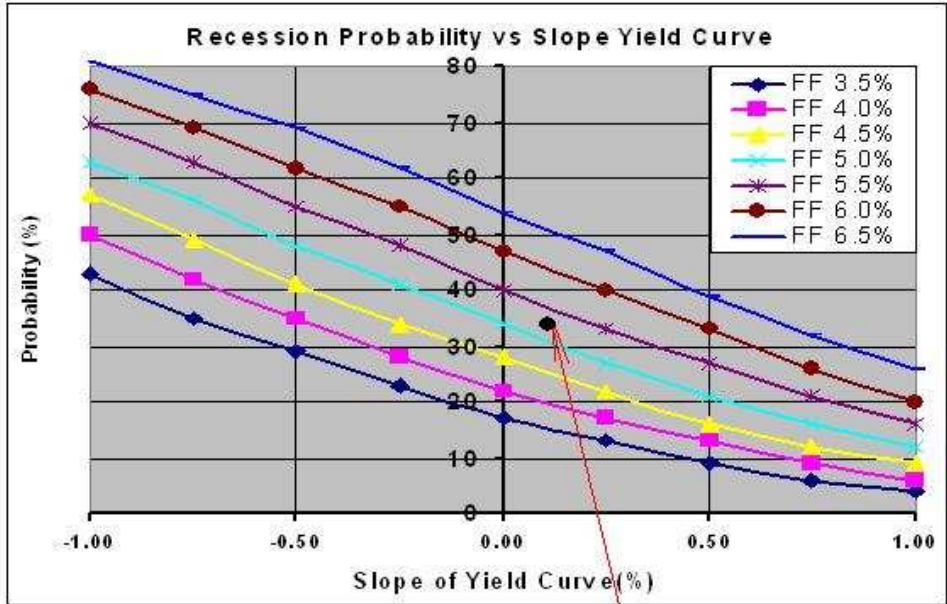


There have been 6 recessions since 1969, during which the S&P500 has dropped between 14.7% and a whopping 42.2%. ***The average drop in the market during a recession over the last 35 years is 26.7%!*** These huge market declines are the reason why our model takes us out of the market when we believe a recession is imminent.

**RECESSION PROBABILITY INDEX:** Is a measure of the probability that a recession is likely to take place within the next 12 months. These results are from a new model by Jonathan Wright, a senior economist at the Fed, (see reference [10]). The history lesson for August entitled "Federal Reserve Policy and Recessions" (see link on Archives page) discussed this topic in detail.

His analysis includes the Fed funds rate as a parameter in addition to the amount of yield slope inversion. He postulates that an inversion that occurs when the Fed funds rate is high is more likely to cause a recession, than one that happens when the Fed funds rate is low. In other words when interest rates are already high, and the curve inverts, it is easier to push the economy into recession than when interest rates are low.

The results from Wright's model are predictions of the probability of a recession occurring 4 quarters in the future, and are plotted below:



**As of 7/31 Recession Probability = 34%**

As of August 31<sup>st</sup>, the Fed Funds rate is 5.25% and the slope of the yield curve is  $-0.10\%$ . The model predicts that the probability of a recession in the next 12 months is 41%. At the end of July, the probability was 34%, so that we are slowly approaching the 50% point, which if reached will be very concerning for the future outlook of the stock market.