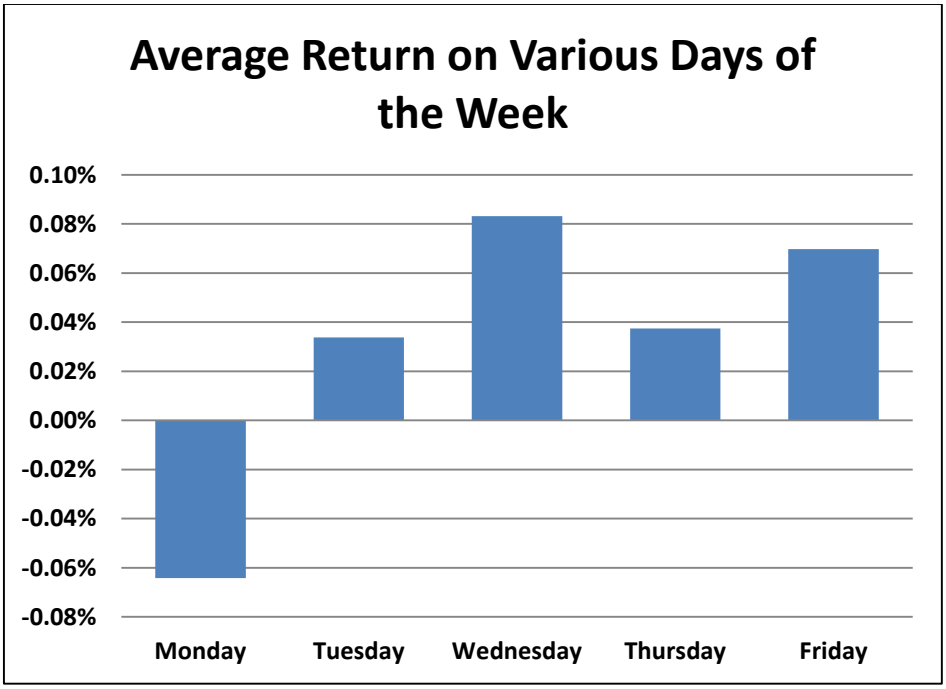
Ruminations on Calendar Effects on Stock Returns

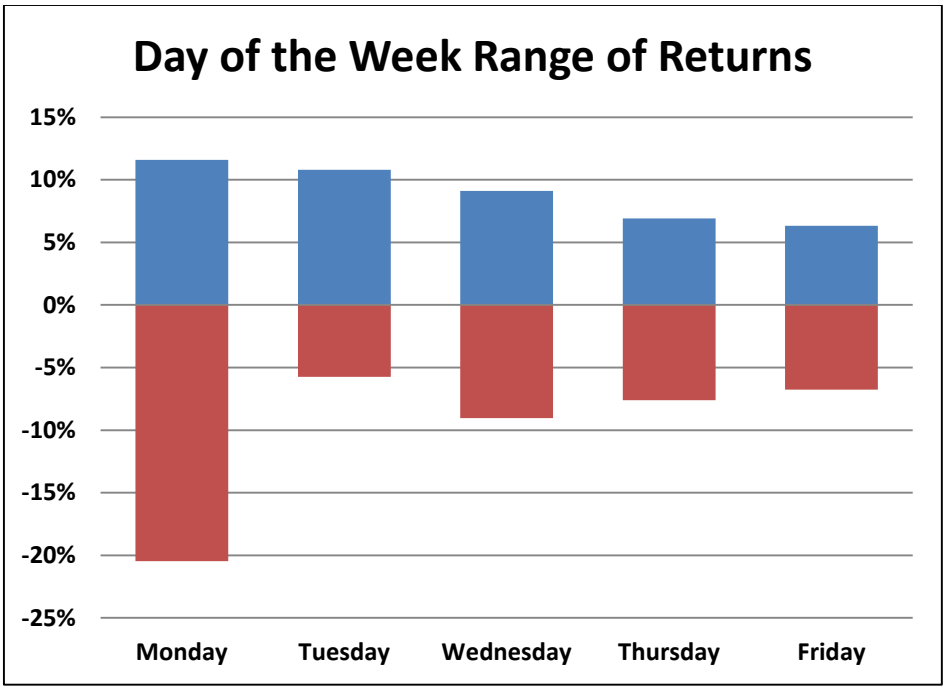
In general we believe in semi-strong form market efficiency, which is a technical way of saying that due to many investors attempting to find attractive investments, those investments tend to be priced correctly. If they weren't, the proverbial "free lunch" would be available. There do appear to be some exceptions to the general rule however. The most familiar (and best documented) ones are the value premium (value stocks beat growth stocks), the size premium (small company stocks outperform large company stocks), and momentum (a good or bad daily return tends to be followed by the opposite on the next day, while a good or bad quarter or year is followed by additional movement in the same direction).

There are also a number of calendar effects that have been documented. Those are the ones we are going to explore here, taking them in order from the shortest time period to the longest.

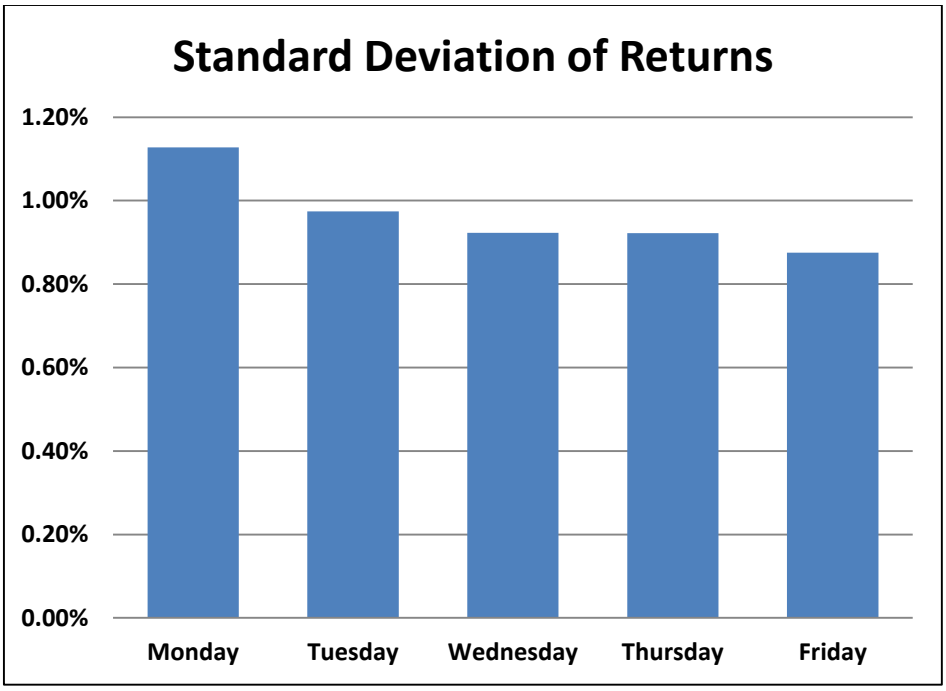
Day of the week effect. There is no reason investors should receive higher returns on some days and lower returns on other days. And, since most stock markets are open five days a week and thus no trades over the weekend, the return (as measured from Friday's close to Monday's close) should be three times the "normal" return on Mondays. That isn't what we find at all. Here is the average return of the S&P 500 by day of the week from 1950 through 2010 inclusive:



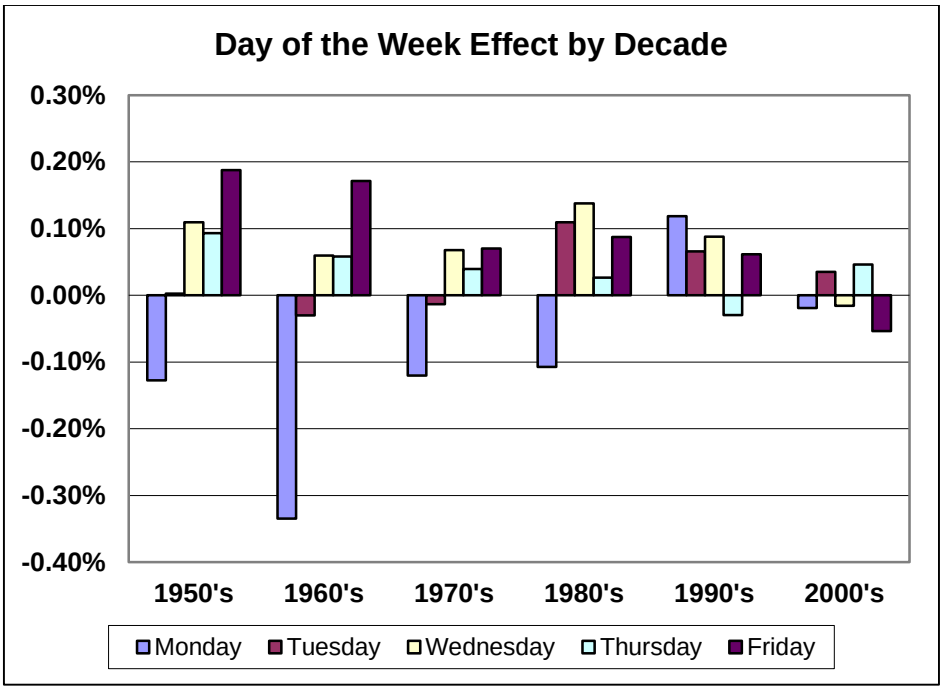
As you can see, not only do Mondays not have three times the return of the other days, but are actually *negative*. The differences from average are sizable for Mondays, Wednesdays, and Fridays, but Mondays have a further distinction. Since much of the time extreme news is released over the weekend, Monday might also have an abnormally large range of returns. Here is a graph of the best and worst days over our 61 year period by day of the week:



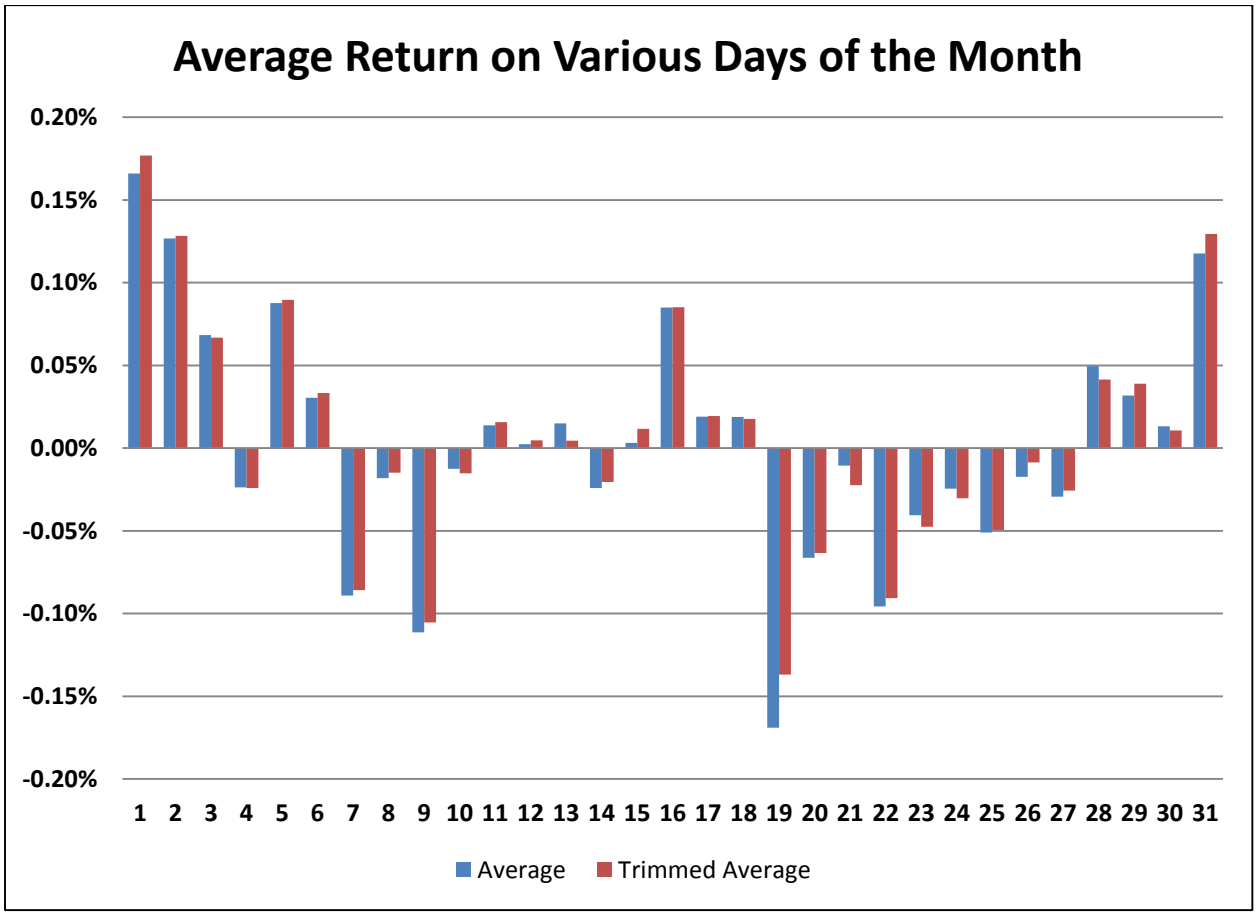
As you can see, Monday seems much more volatile, but that is entirely due to October 19th, 1987. Without that data point, Monday's downside would be just slightly less than Wednesday's though its standard deviation remains slightly higher than the other days:



While the abnormal returns on Mondays, Wednesdays, and Fridays are interesting (and statistically significant at the 95% level) the picture changes if we look at the effect decade by decade. Over the last 20 years the effect has disappeared and over the past 10 years the Wednesday and Friday outperformance has turned into underperformance.

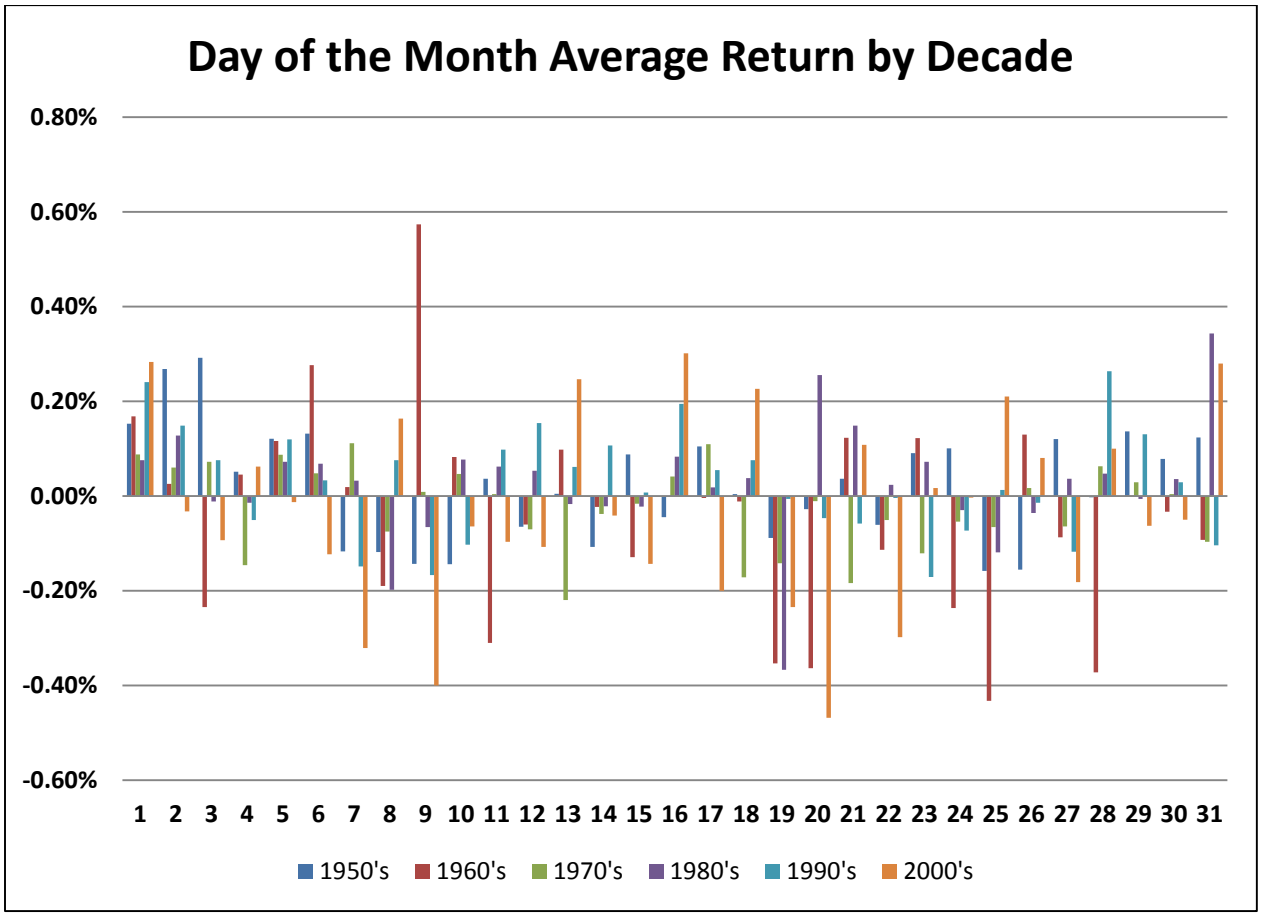


Day of the month effect. Similar to the previous anomaly, there appear to be abnormal returns near the turn of the month. This graph uses the same S&P 500 data as earlier:



The average is the mean, while the trimmed average has both the best and worst days removed (to show outliers didn't significantly affect the results). While the 31st, 1st, and 2nd have excellent returns, some other days are notable as well. A day with an absolute value greater than about 0.085% (it varies slightly due to differing numbers of observations) is significant at the 95% level.

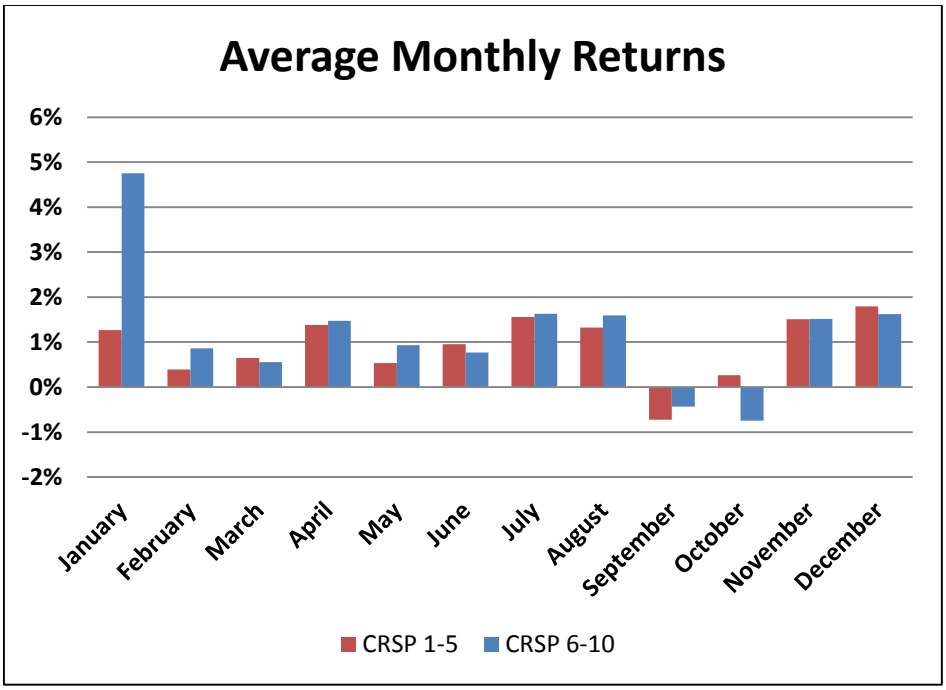
Here is the same graph with the data by decade:



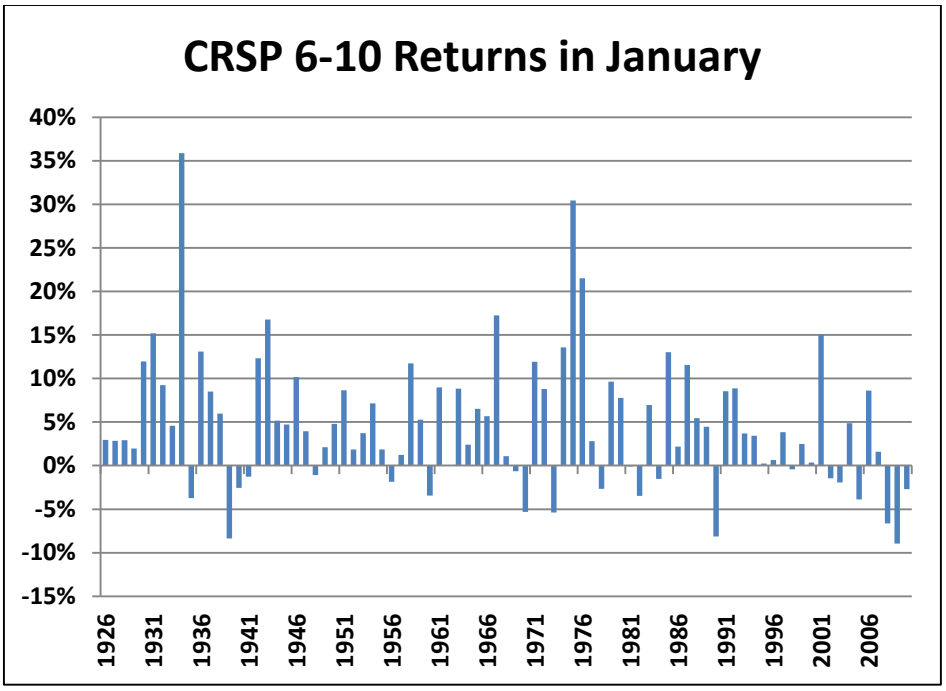
As you can see, there doesn't appear to be nearly as large an effect when viewed this way.

January and September effects. The conventional wisdom has long held that summer has particularly low returns. October is also considered risky, and this belief is attributed to the 1929 and 1987 plunges (and validated perhaps in 2008). It is interesting that October apparently had a bad reputation well before 1929 though. In 1894 Mark Twain observed, "October: This is one of the peculiarly dangerous months to speculate in stocks. The others are July, January, September, April, November, May, March, June, December, August and February."

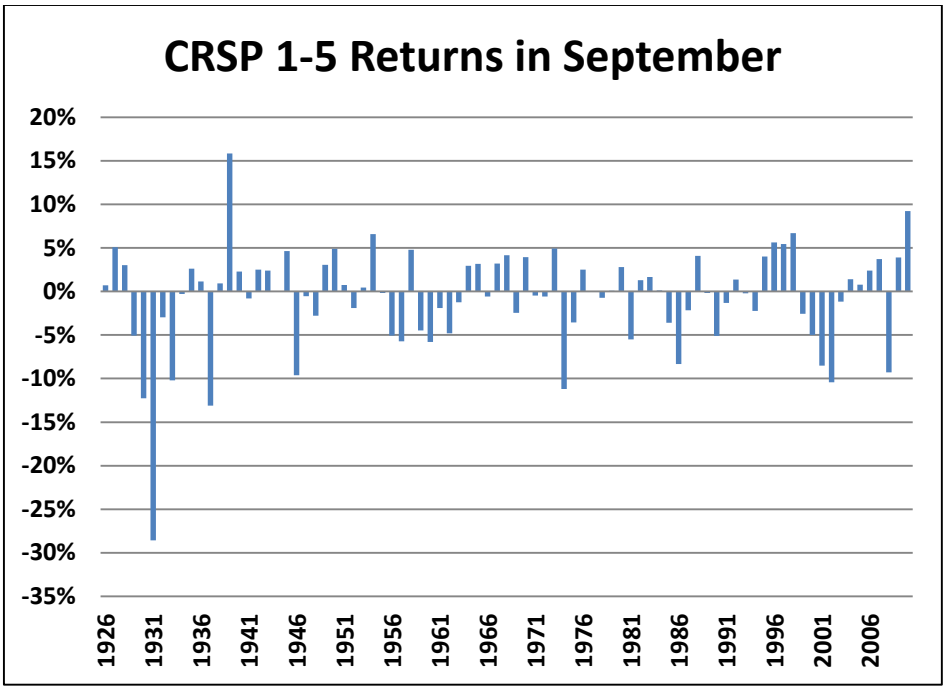
The best-known monthly anomaly is the January effect. Here is average return by month from 1926 through 2010 inclusive (CRSP 1-5 is large U.S. companies, while CRSP 6-10 is smaller companies):



As you can see, the January effect has been concentrated in those smaller companies, but the effect may have worn off over the past decade. Here is how investing in those smaller companies during January would have worked out each year:

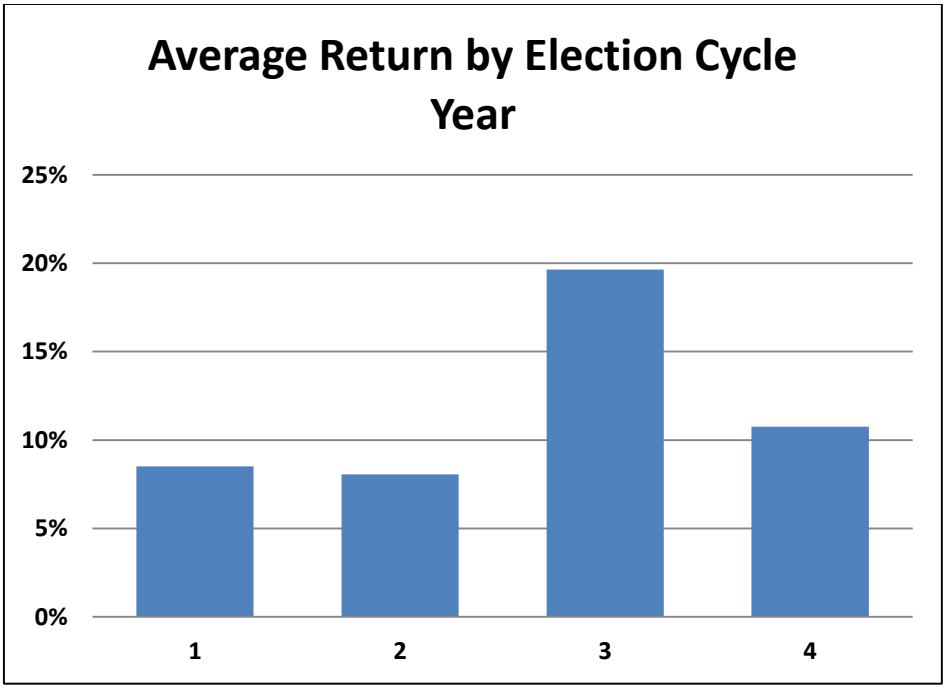


The astute reader may also have noticed the abnormally low returns in September, but the effect is concentrated around 1931 and there has been no net negative return (compounded) over the past 20 years. Here is the September performance year by year:

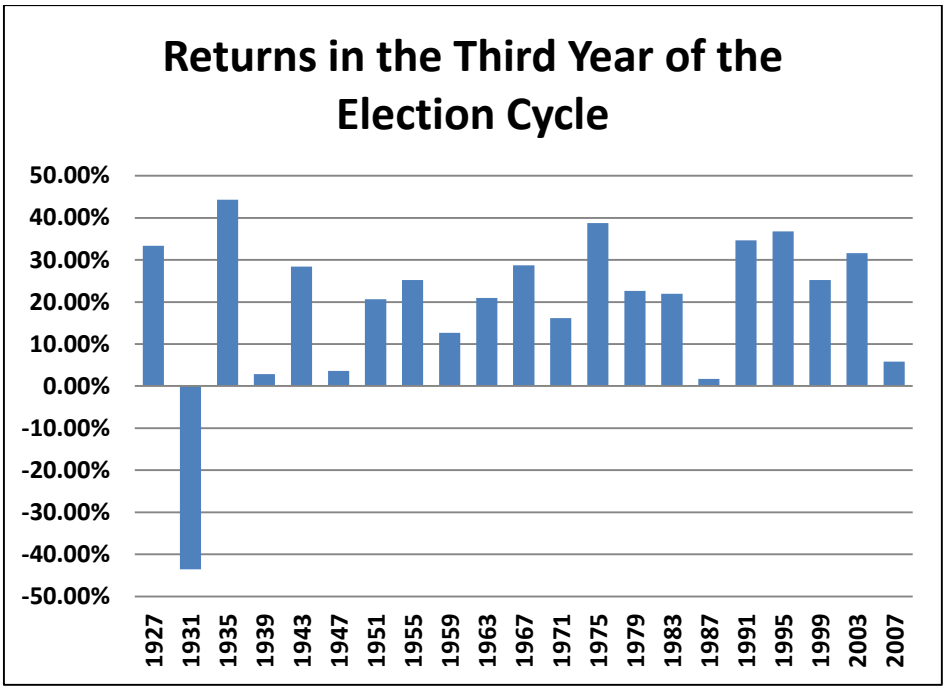


"Sell in May and go away." The specific origins of this saying are murky, but the original version was "Sell in May and go away, stay away till St. Leger Day." St. Leger Day was the horse race of the season in Great Britain. Today the ending event is Halloween, but it doesn't rhyme as nicely so the saying has been truncated. The adage seems disproved by the monthly return graphs already shown.

Election cycle effect. We have one more calendar anomaly to examine, the third year of the presidential election cycle. This is a graph of the average return (CRSP 1-10, i.e. the entire U.S. stock market, from 1926 through 2010 inclusive) where year four is the election year and year one is the inauguration year:



Though not quite rising to the level of statistical significance, the third year does appear to be propitious for investors. Here it is year by year:



While there are no guarantees and currently the political landscape doesn't appear favorable for additional stimulus, based on history investors may be pleased with the growth of their portfolios in 2011.

Conclusion. While calendar effects are interesting historical anomalies, it appears that their publicity may have caused them to cease to exist. This is exactly what we would expect in an efficient market. As Milton Friedman was fond of saying, "There's No Such Thing as a Free Lunch."

Notes:

The analysis in this report has been prepared by David E. Hultstrom, MBA, CFP©, CFA©.

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This report was originally written in February, 2011 and was last reviewed/updated in April, 2013.