DAVID WENDELL ASSOCIATES, INC.
INVESTMENT COUNSEL

P.O. Box 21980
325 Corporate Drive
Portsmouth, N.H. 03802
(603) 427-0200
www.davidwendell.com

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On Stock Market Bubbles

> *Prudence suggests that [the investor] have an adequate idea of stock market history, in terms particularly of the major fluctuations in its price level and of the varying relationships between stock prices as a whole and their earnings and dividends. With this background he may be in a position to form some worthwhile judgment of the attractiveness or dangers of the level of the market as it presents itself at different times.*
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> *-- Benjamin Graham, The Intelligent Investor, 1972*

As we head into the final stretch of 2013, some investors are wondering if the stock market has entered bubble territory. Both the Dow Jones Industrial Average and the Standard & Poor's 500 Index hit new highs recently with the Dow closing above 16000 and the S&P 500 above 1800 for the first time. It took over 40 years for the S&P 500 to rise to 1400 but it has climbed from the mid-1400s to over 1800 this year in only months.

Most investors today still have vivid memories of the housing bubble and the financial crisis that followed. Many also remember the bursting of the "dot.com" bubble at the end of the 1990s. Some can even recall the Japanese stock market bubble of the late 1980s, which culminated in the Mitsubishi Group purchasing Rockefeller Center in New York City just before Japan's major stock index fell over 50%. So it is not at all surprising that this year's strong results have caused wariness both on Main Street and on Wall Street.

Historically, bubbles have been part and parcel of stock markets. The first stock exchange was established in the early 1600s when Europe was seeking to expand trade with the East Indies. Just a few years later, the Dutch developed the infamous mania for tulips. The first documented stock bubble occurred some 80 years later when shares of the British South Sea Company soared and then collapsed dramatically. Ever since, investors have sought to understand how and why bubbles are formed, and how one can be protected from the inevitable day of reckoning.

We thought this an appropriate time to review some theories on stock market bubbles as well as current research on how they are formed. We also thought it worthwhile to review the performance of a group of high-quality, leading companies during the long bear-market that followed the bursting of the "Nifty Fifty" bubble in the 1970s.

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According to traditional financial theory, stock market bubbles should not exist at all. Eugene Fama of the University of Chicago School of Business, and a co-recipient of the 2013 Nobel Prize in Economic Science, developed the Efficient Market Hypothesis in the 1960s. In this model, the financial markets are considered to be ultimately efficient because investors immediately factor all new information into the price of a stock. If the price increases significantly, it must be due to rational investors responding rationally in an efficient market. Up until the financial crisis, it was widely taken as a given that markets were efficient and investors rational. If a bubble occurred, it was thought to be an unpredictable and highly improbable event -- a "black swan."

Under another popular theory, bubbles are not caused by rational investors with new information but by investors who do not have enough information. This is the "dumb money" theory which essentially pits uninformed investors against the "smart money" of better informed investors. Small investors are typically considered to be less informed than the larger institutional investors who are thought to have access to better information. Bubbles are thus formed by small, uniformed investors stampeding into whatever sector is considered "hot" while the larger, better informed investors stay on the sidelines.

At the other end of the rationality spectrum is the field of Behavioral Finance which explains bubbles in terms of psychology and the vagaries of human behavior. More weight has been given to this field in the last five years as many in academia, government and on Wall Street were caught unawares by the crisis that ensued when the housing bubble burst. New research in this area suggests that bubbles are caused by traders who, instead of thinking about the information they have, are focusing on the actions of other traders.

A team of behavioral economists, psychologists and neuroscientists at the California Institute of Technology recently conducted experiments using magnetic resonance imaging to scan the brains of participating students. The "mind in the eyes" test was also used to see how well the students were reading the emotions of others through photographs of their eyes. The findings were published in the September issue of the journal *Neuron*.

In the experiments, students traded a stock in a laboratory game. The fundamental value of the stock was established by its dividend payments, which were set to decline at known rates to almost zero. Thus, the students knew at all times how much the stock was fundamentally worth. In addition to watching the stock being traded, the students also had the opportunity to place a trade several times during each session.

The game was constructed so that in half the trading sessions no bubble occurred, but in the other half the stock's price soared to multiples of two, three and four times its fundamental value. The bubble would then burst and wipe out the traders.

What the researchers found was that the students who tended to make the worst decisions were the same students who were paying the most attention to what the other students were doing. In other words, those who bought the stock as its price soared were focusing more on trading than on valuing the stock based on its dividend payments. As the lead scientist, Professor Colin Camerer, observed:

> *"The way we interpret this is that these people [the students] were thinking more and more about what was going on in the market and wondering why people were behaving the way they were. Normally, in everyday social encounters and in specialized professions, this kind of mind reading is useful to the individual. But in these markets, when prices are going crazy, these people think 'Wow, I think I can figure these markets out. Let me buy and sell.' "*

One of the hallmarks of bubbles is the sense of euphoria that develops. Prices are seen as only going up and the traditional ways of valuing stocks are abandoned in favor of new measures that justify the rising prices. People become overconfident and overoptimistic, which leads them to overestimate the potential gains and underestimate the possible risks. They also believe that they have everything under control and can sell the stock before everyone else does if prices begin to drop.

This way of thinking was seen during the dot.com bubble. Internet and technology stocks had become wildly popular, and new companies, with little to show for revenues, earnings and dividends, issued stock for the first time. Prices soared and the price/earnings ratios of some of these stocks reached levels of 100 times earnings or more -- many, many multiples above normal. The p/e ratio of the Standard & Poor's 500 increased to over 30 times, more than twice its historic average.

Wall Street analysts justified their purchase recommendations with metrics such as "mind share" ("everybody is talking about this stock") and "eyeballs" ("the website is getting a lot of hits"). Despite such obvious craziness, many professional investors bought into this new way of thinking. One mutual fund manager described his job as buying an Internet stock in the morning and then going off to lunch for the day.

While the worst excesses of the dot.com bubble were centered on brand-new companies with no track records, the Nifty Fifty bubble of the late 1960s was focused on a group of large, well-known companies with proven track records. These were a group of large market cap stocks traded on the New York Stock Exchange that became very popular among institutional investors. Because of their growth prospects, they were widely regarded as safe to buy and hold forever -- thus their nickname the "one decision stocks."

There is no official agreement on what the Nifty Fifty were but the lists that do exist include companies familiar to our clients such as Coca-Cola, Johnson & Johnson and McDonald's, as well as other well-known companies including American Express, Eastman Kodak, Polaroid and Xerox, among others.

At the end of 1972, many of these companies were selling at price/earnings ratios ranging from over 40 to 80 times while the S&P 500 was valued at about 19 times earnings. At the time, institutional investors on Wall Street thought nothing of paying such premiums for the world's preeminent growth companies. But the OPEC oil embargo of 1973 helped precipitate a long-lasting bear market and the share prices of many of these companies collapsed and remained depressed well into the early 1980s.

What can investors learn from bubbles? Pay attention to valuations. Even though the students in the Caltech experiments knew how much the stock was worth, they still got caught up in the rush of bubble trading. If the best reason to buy a stock is that everyone else is buying it and "this time it's different," do not buy the stock. Things are not different, it's a bubble. Knowing a stock's fundamental as well as historical valuations will help the thinking investor decide if the price/earnings ratio makes sense for current purchase.

And that is perhaps the most important point of all. There is a great deal of difference between owning the shares of a high-quality and growing company through the ups and downs of the market over long periods of time and purchasing the shares of such a company in the heat of a bubble. As our company's founder used to say: "You may have bought a good company but you did not make a good investment."

In our work, we pay close attention to valuations as well as to the company's fundamental characteristics. Sometimes, a company's growth prospects may support a higher price/earnings ratio, but not tens of multiples higher. And at the end of the day, quality is paramount. The chart below shows a group of companies we have recommended over the years with their earnings, dividend and share price results through the economically stagnant years of the 1970s. They significantly outperformed the average company as represented by the Standard & Poor's 500 during those difficult years:

Compound Annual Growth 1970 – 1979

Company	Earnings Per Share	Dividends Per Share	Share Price
Abbott Laboratories	16.8%	14.9%	9.1%
Automatic Data Proc.	24.9	*not meaningful*	5.0
Becton, Dickinson	12.4	12.4	-1.2
Coca-Cola	11.7	12.4	-2.3
Colgate-Palmolive	4.7	10.4	-1.1
Ecolab	29.8	17.4	0.3
Exxon Mobil	14.2	8.5	4.7
IBM	12.6	15.2	0.1
Johnson & Johnson	16.3	21.8	3.7
McCormack & Co.	31.1	13.8	7.1
McDonald's	28.3	*not meaningful*	12.2
PepsiCo	14.4	13.4	3.9
Procter & Gamble	11.8	10.2	2.8
United Technologies	14.8	10.4	11.0
Walgreen	4.1	4.6	4.2
Average	16.5%	12.7%	4.0%
Standard & Poor's 500	12.5	6.7	1.8

Sources: Securities Research Company, Standard & Poor's, Interactive Data Corp.

As Benjamin Graham noted, investors are well served by a sense of history and how a company's earnings and dividends relates to its stock price. Having an investment discipline and being self-aware should also stand investors in good stead through all sorts of bubble trouble.