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EDITORIAL COMMENTARY

Market Bubbles and Investor Psychology

Some leading market observers have stated that we are in the greatest mania in American financial history. If this is true those of us who are market participants should certainly be concerned. The explanations for this mania appear not to be based in financial theory but are psychological in nature. Bubbles and panics are the ultimate psychological overreactions of individuals, groups and crowds in the marketplace. During periods of bubbles or panics, people can be shown to move far away from what is considered normal investment behavior. Of more universal interest, the aberrant behavior of crowds and groups is propelled by psychological and sociological factors similar to those noted in non-financial panics and manias. From the terrors of the Inquisition to the hunting down of witches and sorcerers, to the genocide of the current century, panics and manias have gripped us and made a mockery of the concept of rational man.

The aberrations of large groups of people when captivated by a single consuming idea have been noted for hundreds of years. Charles Mackay, in his *Extraordinary Popular Delusions and the Madness of Crowds*, first published in London in 1848, included three lengthy episodes in this work on investment manias followed by panics, behavior he considered every bit as bizarre as the persecution of witches, the Child Crusades or the folly of Metaphysics. As observers have noted for centuries, people throw away their long-term behavioral norms and perform acts that in retrospect appear inexplicable. At the time, however, they are well defined by codes that condone such actions. Mackay, Gustave LeBon—one of the original students of crowd psychology—and other observers were angered by what they called "crowd madness." They did not, however, have the tools of modern social science to analyze these actions.

The marketplace is an excellent laboratory for the social scientist to study such major deviations from behavioral norms. Both the expansion of a mania and the inevitable panic that follows can be documented through extensive statistical data bases. Throughout the process, countless opinions of experts and crowd participants are available. The social scientist can therefore begin to break down the complex psychology that leads people to deviate so far from acceptable standards of evaluation.

The market thus is not only important to study for its own deviations from rational behavior, it is also an important laboratory to observe these powerful forces that appear in other areas of human endeavor.

How can we know when we are in a financial bubble? The answer is found by studying the size of the deviations from normal market pricing of assets. Professor Robert Shiller, for example, found that the price earnings ratio of the S&P 500 and its predecessor indices is at the highest levels in the 130 years of their recorded history. While even a minor cataloging of such deviations would entail a lengthy article, a few illustrations might help to demonstrate just how large the recent excesses have been. The South Sea Company for example appreciated 700% in less than a year in the textbook bubble of 1720 before collapsing. VA Linux, a recent initial public offering (IPO), beat this performance handily, rising 700% in its first trading day. Another IPO, Akamai, increased almost 600%.

The Internet mania today, though vastly larger in market value than earlier bubbles, is little different in its characteristics. For example, 400 internet-related companies had a market value of one trillion dollars (27% of that of the Dow Jones Industrial Average) at the end of 1999. Their total revenue last year was only $29.5 billion (only 2% of the revenues of the Dow). Investors enamored with the seemingly exponential growth were paying 34 dollars on average for each dollar of sales, and 300 to 400 times each dollar of anticipated future earnings. What were the current earnings of these companies? There were none: The stocks as a group are expected to lose 9 billion dollars in 2000, compared to 150 billion dollars in profit for the Dow. For the same price an investor could buy every energy and basic-material company in the S&P 500, S&P midcap, and S&P small-cap indices, including Exxon, British Petroleum, DuPont and Dow Chemical.

Most Internet IPO's have small revenue bases, hopelessly optimistic business plans, and a slim likelihood of survival. Still the market is willing to place many billions of dollars of value on the futures of these companies. E-Toys as an illustration, with sales of $27 million and losses of $150 million, had a value after its IPO of $9 billion, about triple that of Toys R Us. The latter company had $11 billion in sales and has been profitable for

over two decades. Palm Pilot, a recent IPO, in its first trading day had a market value higher than that of General Motors which earned $5.6 billion last year.

The survival rate is likely to be as low in this case as it was in the auto industry in the early twentieth century, when only a handful of the over 500 manufactures then in existence survived even a decade or two. The same was true of the PC industry at its inception at the beginning of the 1980s. Of the several hundred companies in existence back then, only Apple survived. Dell and Compaq, the industry leaders today, were formed years later. This was true even though growth in the personal-computer industry was well above even the most optimistic forecasts of that time, and the industry had innovations such as laptops, vastly expanded memory and the Internet itself, that were unthinkable to its most bullish adherents at its outset.

That people can pay enormous prices for companies with so little chance of survival is a phenomenon of markets that has occurred repeatedly over time. It is the hope of the editors of the Journal that through the study of such phenomena, researchers will be able to develop new approaches to explain abnormal group behavior both within and outside of markets.