

Blowing Bubbles

DUE MOSTLY TO THE DOT-COM EQUITY CRASH, the study of bubbles is currently popular in economic academia. But my own personal interest in bubbles began several years ago, when playing with soap bubbles was a favorite pastime of my daughter Zoe.

Why was her fascination with them so all-consuming? Was it the ease of their creation? Was it the uncertainty associated with the shape and size of her next one or the frustration or squeal of success with her last one? Or was it the search for the largest bubble in the whole world or the longest time a bubble would last? These problems are somewhat similar to those underlying the study of economic and investment bubbles.

As researchers often do, the “why” question is often added, to attempt to better understand why they were formed or when they’re completely burst. Zoe never worried about these questions—she took their answers for granted. Behavioral economists see in financial bubbles evidence that markets are irrational, reflecting over-optimism in their growth or over-pessimism at their bursting. Human and market behavior can significantly influence both the financial environment and economic decision-making. Behavioral economists and many actuaries assume that bubbles are inevitable, although of uncertain intensity and duration, because no market is perfectly efficient.

Meanwhile, I think that few economists who believe in efficient markets or rational expectations (of whom there were more in the 1970s and 1980s) still cling to the idea that the dot-com bubble was due to realistic assessments of future profits.

Of course, there were some back in the mid to late 1990s who recognized that the equity market was crazy (i.e., irrational). Some thought they were acting rational-

ly by following prices upward, confident that they could get out exactly at the market’s peak. The greater fools were buying shares even then. Remember the day-traders, wishfully thinking that all they had to do was buy the hot tech or telecom stock to become rich overnight?

Bubbles have generally followed unexpected actual or apparent good news, say with “irrational exuberance.” New opportunities for profit are seized and in turn overdone. When investors finally wake up to reality, the system panics. Where were all of those rational investors who failed to arbitrage away the absurdly high prices caused by irrational buying?

They occasionally need effective regulatory oversight. It would be best if the regulator always came to the rescue or developed safety nets while giving participants the feeling that rescues were not a sure thing and that financial consequences could result.

But why should actuaries be concerned with bubbles? Because they affect many areas of actuarial interest. The insurance underwriting cycle, for instance, although not an extreme bubble example, has consisted of a series of relatively small bubbles. Such a cycle (a periodic bubble process) can result from the extrapolation of current conditions and the ever-present urge to increase market share during one segment of the cycle or show profits by controlling losses, exposures, and costs during another.

Another area of concern is the expense control cycle. Companies periodically over-emphasize constraints on trivial expenses that only tend to irritate those on the receiving end during tough times. Or they reduce future investments that can negatively affect the long term, such as continuing education activities of staff and re-

search/development efforts. Other cycle processes, such as rates of interest and unemployment, will continue as long as human behavior and incentives continue.

There are many applications for estimating a value based on observations, which in turn can be influenced by short-term conditions that contribute to bubbles. Traditional actuarial approaches have in some cases ignored such temporary short-term conditions, as evidenced by market prices, because they may not indicate underlying value or long-term conditions.

Many actuaries are uncomfortable with the use of such point-in-time observations. At the same time, they’re sensitive to the accusation of using outmoded smoothing techniques.

An example of the issues involved was a discussion of long-term interest rate projections (the next 75 years) held by the 1991 Social Security Technical Panel I was privileged to serve on. Larry Summers, currently president of Harvard University, advocated the use of the current yield curve for this purpose, which he claimed to be the best available unbiased estimate of future long-term interest rates. The actuaries present disagreed, pointing to the extensive variability of yield rates, even over a daily period.

It seems to me that the approach taken should depend on the application involved. For such a long-term projection, a yield curve observed at the end of a particular day may not serve as the most appropriate basis for a “best estimate,” while at the same time the use of long-term averages may not be sufficiently responsive to expected future conditions.

Actuaries have explored these issues a great deal recently, both by developing new models (e.g., stochastic, option pricing) and by integrating some of the concepts of financial and behavioral economics into the actuarial toolkit. I look forward to further progress. ●

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