Bubble trouble

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And what policymakers should do about it

MR GREENSPAN has allowed the creation of a potentially disastrous financial bubble, say Andrew Smithers and Stephen Wright, two British economists. In a recent article, they argue that the Fed's chairman, having chided the markets for their irrational exuberance in December 1996, should have raised interest rates by enough to bring the exuberance down to more rational levels, and share prices with it. Instead, he did nothing. Share prices continued to rise. People felt wealthier than they should have done, and spent more and saved less than was prudent. Companies with rising share prices borrowed more against their equity, which they invested in all sorts of risky activities, many of which proved unwise.

Messrs Smithers and Wright blame Mr Greenspan's do-nothing stance on two ideas. One is the “efficient-markets hypothesis”, one of the cornerstones of modern financial theory which is credited with revolutionising the workings of financial markets in the past quarter-century. In efficient markets, prices are assumed to reflect fundamental values and to incorporate all relevant information. When ill-informed investors move prices away from their true value, informed investors will arbitrage them back to the right level, so there is no chance of a financial bubble, defined by Peter Garber in his book “Famous First Bubbles” as a high price “at odds with any reasonable economic explanation”. Efficient markets have become an article of faith in some corners of the financial markets. If a price goes to a level for which there is no obvious economic explanation, the believer will simply conclude that there is a non-obvious economic explanation—such as the coming of a more productive “new economy”. What he will not conclude is that there is a bubble.

One illustration of how believers in efficient markets think is the debate about accounting for managers' share options, which has been revived by Enron's collapse. Share options are clearly a cost of employment, an alternative to paying cash. So it would seem to make sense to allow for the cost of the options before calculating a company's profits; but American accounting rules require merely that the options be disclosed in a footnote, not passed through the profit-and-loss account. Efficient-market adherents believe that a footnote is all that is needed, because the market is perfectly capable of subtracting the cost of the options from stated profits when calculating true value. As Holman Jenkins, writing recently in the *Wall Street Journal*, put it, “In the real world, any information, as long as it is deemed relevant, will be processed into the mill for pricing securities. It doesn't matter whether the data is computed into the income statement, or appears in a footnote, or is shouted up and down Wall Street by a man in a tutu.” On the other hand, the fact that senior managers are fighting so hard to stop the cost of their options being set against

profits suggests that they, at least, do not think the market is as efficient as all that.

A growing number of economists have turned against efficient-market theory, at least in its extreme “no bubbles” version. One weakness in the theory is its assumption that arbitrage by the informed against the uninformed is riskless and costless. Shorting shares involves borrowing a share and selling it now in the hope of buying it back later at a lower price to return to the lender. But borrowing a share can be costly, especially if the price continues to rise for a while before it falls. The further it goes above the price at which it was sold, the more nervous the lender will get, and the more collateral he will want the borrower to post as security.

Perhaps the most famous example of the cost of arbitrage becoming unbearable was the collapse of Long-Term Capital Management in September 1998. LTCM was betting on the prices of various securities moving closer together, because it believed the true value of different pairs of securities was the same. In the event, many of these prices headed further apart, often much more so than at any point in the past. Later, the prices did move in the direction predicted by LTCM, and would have produced a handsome profit for the company had it been able to hold its positions for long enough. However, when the prices first diverged, the net market value of those positions dropped so much that some of the counterparties of LTCM trades feared it would go bust. They therefore required ever more collateral or became reluctant to do business with LTCM at all. In the end the Federal Reserve had to organise a rescue by several big banks.

At this point, it should have become clear that markets were not as efficient as the theorists claimed. After all, two of LTCM's founders had won the Nobel prize for their work on another cornerstone of modern finance, options-pricing theory. In fact, their fate did not stop millions of people getting caught out soon afterwards when they bought hugely overpriced Internet shares. A fascinating study of the dotcom bubble by Eli Ofek and Matthew Richardson of the Stern School of Business further illustrates the limits to arbitrage. With many of the dotcom companies, the authors point out, the number of shares in circulation was very small. There were not enough available to borrow to meet the demand from would-be shorters. Given that in practice the scope for arbitrage is limited, it is quite possible for people with inaccurate valuations to set prices, and for these prices to get way out of line.

Strikingly, once post-IPO lock-up restrictions on selling by corporate insiders ended, prices often fell sharply—perhaps partly because well-informed investors were able to communicate their knowledge to the market by shorting.

A growing number of economists have become adherents of “behavioural finance”, which attempts to explain real-world deviations from the asset prices predicted by modern finance using the insights of human psychology. One example is that people often use a “representative heuristic”—that is, they use data from the recent past as a basis for predicting the future. Thus, when share prices have risen strongly in the recent past, perhaps for a good reason such as a fall in interest rates, investors may assume that they will continue to rise. They will therefore buy the shares, making their rise a self-fulfilling prophecy, at least for a while.

If current share prices reflect a belief that the returns on shares earned in recent years will be repeated in future, they are probably mistaken. The average share-price-to-profits ratio of American equities—as well as British and some continental European ones—remains high by past standards. Jay Ritter, an economist at the University of Florida, estimates that shares might reasonably be expected to earn around one percentage point more per year than the risk-free rate of interest. That would be far less than the average return on shares during the past 20 years.

In “Triumph of the Optimists: 101 years of Global Investment Returns”, Elroy Dimson, Paul Marsh and Mike Staunton of the London Business School also question whether future returns will match those of the recent past. The global post-war bull market in shares, they say, owed much to two trends that cannot be relied on to continue. First, the world enjoyed a long period of relative peace and prosperity far exceeding expectations at the end of the war. Second, equity holders increasingly diversified their portfolios, which led them to regard their shares as less risky and

therefore more valuable.

Physics envy

Why do so many people cling so hard to the notion of efficient markets? Andrew Lo, an economist at MIT, suggests that they may be suffering from a “peculiar psychological disorder known as ‘physics envy'...We would love to have three laws that explain 99% of economic behaviour; instead, we have about 99 laws that explain maybe 3% of economic behaviour. Nevertheless, we like to talk as if we are dealing with physical phenomena.”

There may be some truth in this. In 1947 Paul Samuelson, later awarded the Nobel prize for economics, set out to apply the principles of thermodynamics to economics. More recently, Bill Sharpe, another Nobel-prize winner for his contribution to modern finance, wrote an interesting paper on “Nuclear Financial Economics”, drawing parallels with nuclear science. This work yielded some useful insights, but left a lot of question marks.

Emanuel Derman of Goldman Sachs, one of the growing number of former physicists working in investment banking, puts the financial world's physics envy into perspective. “There is no fundamental theory in finance. There are no laws.” In finance, he says, you are playing against people, who value assets on the basis of their feelings about the future. “These feelings are ephemeral, or at best unstable.”

The art (not science) of valuing shares may be getting harder because of changes in the nature of the economy, creating even greater scope for bubbles to form. When the bulk of a company's assets were physical and its markets were relatively stable, valuation was more straightforward. Now a growing proportion of a firm's assets—brands, ideas, human capital—are intangible and often hard to identify, let alone value. They are also less robust than a physical asset such as a factory. As Enron showed, a reputation for trustworthiness, and the market value resulting from it, can vanish in a moment. The dotcoms pushed this valuation challenge to extremes, often expecting investors to put a price on profits that would not be forthcoming for many years, and would be derived from business models and intangible assets such as brands that had not yet been created.

To pop or not to pop

But back to Mr Greenspan. Messrs Smithers and Wright, having dispensed with market efficiency and established that asset bubbles are possible, next take issue with the Fed chairman's belief that central bankers are supposed to control only inflation, not asset prices. They argue that the downside of a bubble bursting—possibly some combination of depression and deflation—far outweighs the cost of raising interest rates to stop the bubble forming in the first place.

The Fed does take asset prices into account in its policymaking, but only in so far as changes in them are transmitted to demand in the economy and thus potentially affect the rate of inflation. The likely transmission mechanism is the “wealth effect”. As share prices rise, people feel better off and spend more; as they fall, people feel poorer and spend less, reducing inflationary pressure.

In practice, Mr Greenspan has seemed to act on the wealth effect only after share prices have fallen. For instance, when prices tumbled after the collapse of LTCM, the Fed cut interest rates sharply, and shares started to recover at once. This has given rise to the notion of a “Greenspan put”: just as an investor can set a floor for the price of a security by buying a put option, so Mr Greenspan will provide a floor for the stockmarket by cutting interest rates when it gets too low for his liking.

Whether or not there is really a Greenspan put, there is certainly no “Greenspan call”, or ceiling on

share prices that would trigger a rise in interest rates. Should there be? It would be a risky strategy. Typically, bubbles begin when something has happened to make people feel more optimistic about the economy—say the building of the railways, or hopes of a new economic paradigm. This optimism might prove quite persistent. Small rises in interest rates might not be enough to burst such bubbles. Indeed, they might reinforce them by creating small falls in prices that provide “buying the dip” opportunities. To be sure of bursting a bubble permanently, a central bank might have to impose huge rate increases, with unpredictable and potentially severe economic consequences. That would make sense only if it could be quite sure that it really had a bubble on its hands that needed to be pricked.

There are various guides for judging whether shares are overvalued, including the ratio of share price to earnings and Tobin's Q, which shows the ratio of a firm's market value to its book value. But the only time anyone can be reasonably certain that there has been a bubble is after it has burst, and even then there could be an element of doubt. Some efficient-market proponents might argue that high share prices reflected fundamental value up to the moment they plunged, and continued to do so afterwards, because the change in valuation had been a rational response to new information coming to light. It would be hard to prove them wrong.

Given that a central bank could never be 100% sure at the time that there is a bubble, would it be justified in trying to burst it if it were 80% sure? Or 40%? This is a tricky question, and not just because raising interest rates would be unpopular; if it were raising rates to control inflation, it would willingly bear that burden for the sake of the economy. Keeping inflation under control does not challenge people's judgments; by maintaining the real value of the currency, it actually helps them to be confident that a price means what it appears to. By contrast, asset prices reflect the free judgments about value made by millions of people who have backed those judgments with their own money. Who is a central banker, even one as wise as Mr Greenspan, to say they are wrong? Should he be free to use heavy monetary artillery to make them change their minds? Probably not without a popular mandate.

In praise of bubbles

Besides, some economists argue that bubbles are really not so bad. They tend to coincide with periods of innovation that make society better off, even if they do not generate much profit for the innovators. The Internet, for instance, may have cost investors a fortune, but it has been a boon for its users. Policies that would be effective for preventing or pricking bubbles might also kill the underlying innovation.

Brink Lindsey, author of “Against the Dead Hand”, a robust defence of free markets, argues that the dotcom bubble was more of an example of “messy Schumpeterian creative destruction exploring a new technology than a structural problem”. The potential of e-commerce has been explored faster and more thoroughly “thanks to America's open-market system than had it been done by Japan's MITI [Ministry of International Trade and Industry] or a bank-financed system”. The bubble represented a “fast-forwarding of experimentation”.

Looking back, both the aftermath of the 1929 stockmarket crash and the bursting of the Japanese bubble were bad enough to justify paying a high price to avoid a repeat. But in both instances the authorities made glaring policy errors, including keeping interest rates high for far too long and, in Japan, refusing to acknowledge the extent of losses caused by the bubble bursting, let alone cleaning them up. There is no obvious reason why other central banks should repeat these mistakes. Alan Blinder, a former vice-chairman of the Fed, observed a little while ago, when the economy was still looking much bubblier than now: “For the US economy to go into a significant recession, never mind a depression, important policymakers would have to take leave of their senses.” We shall see.

Bubbles might be rarer if investors had accurate data on which to base their decisions. But even

after Enron, what are the chances of that?