Who Predicted the Bubble? Who Predicted the Crash?[1]

If you can look into the seeds of time, and say which grain will grow and which will not, speak then unto me. —William Shakespeare—

Mark Thornton
Senior Fellow
Ludwig von Mises Institute
518 West Magnolia Avenue
Auburn, AL 36832-4528
(334) 321-2100
Fax 321-2119

Who Predicted the Bubble? Who Predicted the Crash?

"Science is prediction"—Motto of the Econometrics Society

Those who have knowledge, don't predict. Those who predict, don't have knowledge.

—Lao Tzu, *6th Century BC Chinese Poet*

The Question of Prediction

Predicting economic behavior is inherently difficult. As Niels Bohr joked, "Prediction is very difficult, especially if it's about the future."[2] People and their economic actions are subjects of choice and change, unlike the subject matter of the physical sciences, which have fixed properties. Therefore the future must remain uncertain. Predicting the economy as a whole is fraught with additional dangers and complications, and all attempts to construct indicators of economy-wide change either do not have, or eventually lose, their ability to predict the future. As Paul Samuelson quipped, "Wall Street indices predicted nine out of the last five recessions?"[3]

In light of these difficulties, economists have taken widely divergent views on the role of prediction. As noted above, many modern mainstream economists view prediction ***as*** science. If you cannot predict, and predict with a high degree of accuracy, then you are not being scientific. You must be able to put your science to the test. The dominance of positivism in economic methodology encourages economists to worry less about the logical consistency of their models and to concentrate on the development of models that

can adapt existing historical data into the production of predictions of the future. These models can then be exploited by government and professional economists to forecast GDP, interest rates, unemployment, company sales, stock prices, housing starts, and demographic changes.

There is also a substantial voice for the position that we cannot in fact predict the future and that economists have a terrible record of forecasts and unrealized predictions. With respect to the recent bubble and bust, Mike Norman puts this view of economists in perspective:[4]

> I'm an economist. Big deal, right? Until last year, economists got even less respect than Wall Street analysts; now, we're just a notch above. Admittedly, this reputation is well-deserved, because it comes from our less-than-stellar ability to get economic forecasts right. With all of that data and plenty of powerful computing ability, you'd think we could produce better forecasts. Heck, even the local weatherman puts us to shame.

The “street,” having witnessed countless predictions and forecasts go wrong, is naturally suspect. As Lindley Clark notes in the *Wall Street Journal,* “Economists have a great deal of trouble predicting the future, and it’s unlikely that this unhappy situation ever will change.”[5] Not only will the state of affairs not change, some economists think that forecasts are like “magic” and this magic is denied by the very essence of economic science. McCloskey attempts to explain this view of economic forecasts:[6]

> Economics is the science of the postmagical age. Far from being unscientific hoobla-hoo, economics is deeply antimagical. It keeps telling us that we cannot do it, that magic will not help. Only the superstitious think that profitable forecasts about human action are easily obtainable. That is why economics, contrary to common sneer, is not mere magic and hoobla-hoo. Economics says that forecasts, like many other desirable things, are scarce. It cannot be easy to know what great empire will fall or when the market will turn. “Doctor Friedman, what’s going to happen to interest rates next year?” Hoobla-hoo. Some economists allow themselves

> to be paid cash money to answer such questions, but they know they cannot. Their very science says so.

While agreeing in the main that forecasting is of questionable value, Michael Bordo claims that forecasting has some scientific and practical value and is not all just snake oil and magic. Besides, he notes that not all economists have been such dismal failures at forecasting; Richard Cantillon made correct predictions about John Law's Mississippi Bubble system based on economic theory and made a fortune as a result.[7]

Others are sanguine about the prospects for prediction, like the famous Chinese philosopher Lao Tzu, but do not reject the idea of forecasts and predictions altogether. They merely restrict themselves to hypothetical and qualitative prediction. Foremost among this group is the Austrian school of economists, who reject the notion of fixed relations between human-controlled variables, or even that data can be used to "test" a theory. Austrian economist Ludwig von Mises rejected the general notion of forecasting and claims that economics can only provide qualitative predictions about particular polices:

> Economics can predict the effects to be expected from resorting to definite measures of economic policies. It can answer the question whether a definite policy is able to attain the ends aimed at and, if the answer is in the negative, what its real effects will be. But, of course, this prediction can be only "qualitative." It cannot be "quantitative" as there are no constant relations between the factors and effects concerned. The practical value of economics is to be seen in this neatly circumscribed power of predicting the outcome of definite measures.[8]

The problem of predicting (with the goal of preventing) bubbles and stock market crashes is particularly important. Not just because it results in huge financial loses for some investors, but because many of these extreme financial cycles can disrupt the

financial system and lead to economic contractions (Mishkin and White, 2003). Unfortunately, economists have yet to develop a generally accepted view of bubbles and have little to offer in terms of predicting bubbles.

As a case in point, a conference sponsored the World Bank and the Chicago Federal Reserve featured leading economists who addressed the question of what causes asset-price bubbles. Among the participants, Randall Kroszner of the University of Chicago and the President's Council of Economic Advisors claimed that uncertainty about the past makes real-time identification of bubbles problematic. "The research record on asset-price measurement is far from being sufficient to build a policymaker's confidence." The Governor of the Bank of France, Jean-Claude Trichet, said that determining asset-price bubbles was difficult and that government policy could do more harm than good because people "may become involved in riskier projects without having consciously taken the decision to accept greater risk." Fredrick Mishkin and Eugene White reexamined the last 100 years of stock market crashes and suggested that ignoring stock market crashes and concentrating on the economy is the best policy to avoid severe financial meltdown, *most of the time*. Kunio Okina and Shigenori Shiratsuka found that the Bank of Japan should have used aggressive monetary policy following the Japanese bubble, but that it could not do so due to the fundamental and ongoing weakness of the Japanese banking and financial system. Santiago Herrera and Guillermo Perry concluded that the United States helped export bubbles to Latin American economies.

Are bubbles "rational"? John Cochrane of the University of Chicago thinks bubbles are rational in that holding shares of high-tech companies is like holding cash. Ellen McGrattan and Edward C. Prescott of the Federal Reserve Bank of Minneapolis

found that there really was not a bubble in 1929 and that stocks were actually undervalued. Allan Meltzer of Carnegie Mellon University made the reassuring claims that bubbles could be explained, that buyers and sellers during bubbles are rational, and that "expansive economic policies can compensate for any deflationary impulse on output prices coming from asset prices." Werner De Bondt, however, felt that psychological factors played an important role in short-term bubble behavior.

Michael Bordo and Antu Murshid found that bubbles are transmitted regionally during some periods and internationally during others. Franklin Allen and Douglas Gale found that international stock linkages can either increase or decrease the extent of asset bubbles. Steven Kaplan of the University of Chicago found that high-tech stocks were highly valued because people felt they would reduce transactions costs, but that stock market values fell when people no longer felt that way. Marvin Goodfriend of the Federal Reserve Bank of Richmond said that central banks should not target asset prices, but Michael Bussa of the Institute for International Economics said they should, sometimes. Stephen Cecchetti and Hans Genberg argued that it might help to target asset prices. There was agreement that if asset bubbles do exist, then they are inevitable, whether they are rational or not.[9] Obviously, these conflicting and contradictory findings leave much to be desired with respect to our understanding of stock market bubbles.

Therefore, when we ask the question of who did make accurate predictions about the economy and who did not, we ask a question that goes beyond the issue of the day and touch on a fundamental issue of economic methodology. Naturally, this effort does not represent a comprehensive accounting for all predictions. It begins with the notion that most people did not predict the bubble and crash whether they were investment

analysts, advisors, fund managers, investors, pundits, or professional and academic economists. Not only were the number of correct predictions small, but for certain reasons, these predictions were generally made in venues of relatively small market share. In canvassing for correct predictions, special attention has been paid to eliminate perpetual prediction of doom (i.e. those who are always predicting bear markets, stock market crashes, and depressions) and to analyze the rationale for the prediction (e.g. valuation measures, technical analysis, theoretical analysis, or market psychology). A Meta analysis of these causal factors should provide good direction for future research.

Bubble Predictions

> Responsible economists and economic analysts should have been warning the public about the prospects of a market crash and its implications for both the economy as a whole and their personal fortunes. However, few economists were issuing such warnings.[10]

Someone who did issue warnings regarding the stock market bubble and the problems a stock market crash could generate was **Dean Baker** of the Center for Economic and Policy Research. In the aftermath of the crash he made the following observations:

1. It should have been very simple for any competent analyst to recognize the bubble as the ratio of stock prices to corporate earnings hit levels that clearly were not sustainable in the late nineties.
2. The failure to recognize the bubble and warn of its consequences stems in part from a misunderstanding of the stock market and its role in the economy.

3. While there were some economic analysts who did warn of the market bubble, their views were almost completely excluded from the media.
4. Due to their failure to recognize the stock market bubble, official forecasters, like the Congressional Budget Office (CBO) and the Social Security Administration (SSSA), made projections that were implausible on their face.
5. Most managers of large investment funds, including public and private pensions, and university and foundation endowments, failed to see the bubble and its inevitable collapse.
6. While the failure to recognize and warn of the stock market bubble amounted to an enormous professional lapse, few economic or financial analysts seem to have paid much of (a) price for their mistake.[11]

Two of the most famous predictions concerning the stock market come from **James K. Glassman and Kevin A. Hassett** who predicted at the apex of the stock market bubble that the Dow Jones Industrial average would go up to 36,000, and **Robert J. Shiller** who wrote at the same time that the stock market was suffering from "Irrational Exuberance," a phase coined by Federal Reserve chairman Alan Greenspan.

The Glassman-Hassett duo represents a team consisting of a professional economic journalist and an academic economist with experience in government, both of them being "free market" oriented and best described as supply-siders. They published *Dow 36,000: The New Strategy for Profiting from the Coming Rise in the Stock Market* in September of 1999 with the following description:

> This book will give you a completely different perspective on stocks. It will tell you what they are really worth—and give you the confidence to buy, hold, and profit from your investments. It will convince you of the single most important fact about stocks at the dawn of the twenty-first century: They are cheap.[12]

This turned out to be the worst prediction since economist Irving Fisher proclaimed at the beginning of the Great Depression that stocks had reach a permanent and high plateau. It also ranks among the worst investment advice in history. Not satisfied, they reemphasized their prediction that stocks were undervalued and predict that stocks could soon skyrocket in price.

> Throughout the 1980s and 1990s, as the Dow Jones industrial average rose from below 800 to above 11,000, Wall Street analysts and financial journalists warned that stocks were dangerously overvalued and that investors had been caught up in an insane euphoria. They were wrong. Stocks were *undervalued* then and they are *undervalued* now. Tomorrow, stock prices could immediately double, triple, or even quadruple and still not be too expensive.[13]

> Stocks are now in the midst of a one-time-only rise to much higher ground—to the neighborhood of 36,000 on the Dow Jones industrial average.[14]

Unfortunately for Glassman and Hassett, and especially their readers, these predictions were made near the peak of the bubble, right before stocks began to plummet. In addition to being wrong about the valuation of stocks, Glassman and Hassett are also wrong that analysts and journalists were warning the public that stocks were overvalued. Some to be sure were casting such warnings, but the bulk of recommendations were positive and often wildly bullish. Measure of "investor sentiment" such as the number of investment advisors who are bullish compared to the number who are bearish is a "contrary indicator" for the stock market, in that "sentiment" is negative at the beginning of a bull

market and highly positive or bullish just before a decline in the stock market. In fact, analysts who were bearish during the height of the boom often found themselves shunned by the media, if not out of a job, while all the media attention and economic rewards flowed to analysts who were bullish even after the market turned negative.[15]

Glassman and Hassett also provided readers with their big stock pick, which they labeled "A Glorious Company within our Comfort Zone." They claimed that Automatic Data Processing, Inc. (ADP) was a "magnificent company that the market has consistently underpriced." Unfortunately for their readers, ADP topped out near $70 a share during 2000 and has more recently been trading at less than half its previous value and well below its 200-day moving average. The only good thing that can be said for their stock pick is that the ADP has done far better than many other stocks touted by professional stock analysts. And to be sure, ADP and the Dow Jones Industrial Average could ascend to historic and mind-boggling heights over the next decades, but in the short run readers have lost a large percentage of their wealth following Glassman and Hassett's "courageous" advice.[16] To be fair to the authors, the Dow Jones Industrial Average has yet to lose much ground relative to the NASDAQ since their book was published and their prediction of Dow 36,000 is a long-term estimate; they claim that "it is impossible to predict how long it will take" to be achieved.[17]

Some traditional investment advisors were quick to warn against the recommendations of Glassman and Hassett. In particular, **Charles Murray of the American Institute for Economic Research** noted that such books are often a harbinger of disaster.

> At the time (October 25, 1999), we said that books such as *Dow 36,000* seem mainly to make their appearance at or near market tops. In fact,

> investors had their choice among *Dow* titles in the past year: David Elias explained why the Dow will reach 40,000 in *Dow 40,000*; whereas Charles W. Kadlec and Ralph J. Acampora predicted (although wouldn't guarantee) that the Dow will eclipse 100,000 in—you guessed it—*Dow 100,000.*

Murray's traditional approach led to the conclusion that the market was in a bubble and to a prediction that a crash or bear market was imminent. As a result, his readers could have been protected against the crash.

> Readers of these *Reports* know that for some time we have noted that the market's valuation of common stocks has been markedly high in relation to *most* measures used in security analysis—cash flow, book value, earnings, etc. However, the historical record does not tell us what the "right" valuation is, only that the current valuations are exceptional. We have also observed that the current bull market is of unprecedented duration and magnitude and that at some point a genuine bear market or even crash can be expected. Again, at what point this valuation becomes unsustainable is far from clear.

He notes that the traditional valuation methods do have some shortcomings and that, for the larger purposes such as preventing bubbles, valuation techniques do not tell us what causes bubbles in the first place.

Another good foil to Glassman and Hassett is economic and financial writer **Christopher Mayer** who investigated and wrote about their book during its heyday (circa March 2000). Mayer concentrated on the meaning of "overvalued"—not so much on how to tell when something is overvalued numerically, but the cause, meaning, and effect of overvalued stocks. Specifically, he criticized the notion of perfectly rational and efficient markets and showed how markets can, in a sense, lose their rationality.[18] First Mayer introduces the general mindset of the new paradigm that dominated the view of the market during the bubble, and links Glassman and Hassett to this mindset.

> Are stocks overvalued? One answer is that it depends on whom you ask. Those who are buying and holding apparently think that they will be able to sell them at higher prices. Maybe they believe in a new paradigm where the old yardsticks of value are useless. James Glassman and Kevin Hassett recently wrote a book called *Dow 36,000* in which they maintain that the stock market is currently undervalued.

Next, he makes his own prediction, linking Glassman and Hassett with the hapless Irving Fisher, but more importantly, he explains specifically why there was a bubble, not just that the market was over or undervalued by some historical yardstick.

> Looking back, future financial historians will likely relate the Glassman-Hassett thesis to Irving Fisher's famous proclamation in 1929 that "stock prices have reached a permanent and high plateau." James Grant likes to say that there are three common features of a bubble: one part fundamental (i.e., a technological revolution), one part financial (i.e., a surge in money and credit) and one part psychological (i.e., a suspension of belief in traditional valuation measures). All the ingredients would appear to exist in the current bull market.
>
> As is often said, only time will tell. Unfortunately, no theory of cycles or bubbles can tell us precisely when it will all end. Maybe twenty years from now, we will be able to definitively state whether these prices were reasonable or whether the boom time of the 1990s ended in a bust. From where I sit, heeding the teachings of the Austrians, I'll place my bet on the latter.

One of the earliest prognostications regarding the boom and bust was certainly the above-mentioned **James Grant**, the editor of *Grant's Interest Rate Observer*. He closes his book *The Trouble with Prosperity,* written in May of 1996, "at what may or may not prove to be the ultimate peak of the speculative frenzy" with the following conclusions:

> Predictably, the risks to saving are the greatest just when they appear to be the smallest. By suppressing crises, the modern financial welfare state has inadvertently promoted speculation. Never before has a boom ended except in crisis. In anticipation of just such an outcome, a skeptical Seattle investor, William A. Fleckenstein, founded a hedge fund in 1995 to buy cheap stocks and to sell dear ones. He named it The RTM

> Fund, the initials signifying "reversion to the mean." They may be the financial watchwords for the millennium.[19]

Grant continued to warn investors about the stock market bubble in his investment newsletter and to provide detailed explanations of the cause of the bubble and to chronicle the relevant statistics.

Another early analysis of the bubble and prediction of a stock market crash comes from **Tony Deden** at Sage Capital Management. He identified the bubble and its causes and predicted a crash:

> We fully expect a decline in securities prices and the almighty dollar over the next years….There is no new paradigm. Economic sins have consequences. Hopefully, perhaps even economists will learn that inflation is measured by the growth in money and credit rather than in an idiotic index of consumer prices. They might even learn that growth achieved with smoke and mirrors ultimately leads to ruin.
>
> Is the incredible rise in securities prices since 1995 a reflection of real value created or is it merely a bubble? Is this really a second Industrial Revolution that changes our very basic economic assumptions or is it not? Is it a 'new paradigm'? A world of fast growth, record unemployment and no apparent inflation? Have economic laws been suspended? And if not, how could so many people be so wrong?[20]

He leaves no doubt as to the size and magnitude of the distortions of bubble and economy. Writing at near the peak in the bubble, Deden declares:

> Let there be no doubt, that what we are witnessing is, indeed, history's greatest financial bubble. The indescribable financial excesses, the massive increase in debt, the monstrous use of leverage upon leverage, the collapse in private savings, the incredulous current account deficits, and the ballooning central bank assets all describe the very severe financial imbalances which no amount of statistical revision nor hype from CNBC can erase.[21]

He is equally clear and unequivocal about the cause of the bubble and related distortions in the economy:

> Their cause is not the fault of capitalism as it has been suggested, but an excessive amount of money and credit created by central banks. Yet, this seems to escape the understanding of those who will, in one day, convene congressional hearings to determine what caused this destruction. The culprit is, as it always has been, the same organization, which professes interest in bringing about price stability and low inflation: The Federal Reserve Bank and its policies of money market intervention, credit creation and loose money.[22]

Economist **Jörg G. Hülsmann**, writing in August 1999 provides an analysis and prediction of the stock market bubble based on the post-1980 monetary regime in the U.S.[23] Here he concludes that the market was artifically created and doomed to fail:

> You do not need a rocket scientist to predict the bitter end of this evolution. [...] Just as any other state of affairs that has been artificially created and maintained by inflation, the present system bears in itself the germs if its own destruction. It will experience a flat landing of which even the most recent crises in South-East Asia, Russia, and Latin-America only give a weak foretaste."

Hülsmann discusses the alternative courses of action that the Fed can take to address the boom and bust in the stock market. One is to continue inflating money and credit. The second is to stop the inflation of the money supply. However, he concludes:

> In any case the crisis is therefore inevitable. It breaks out as soon as the price-enhancing effect of the inflation is no longer neutralized through currency exports or other factors. (And of course the crisis accelerates when the inflationary currency streams back from abroad.)

Based on these arguments he concludes that eventually this system of boom and bust based on national fiat currencies must come to an end and that either path of economic policy taken by policy makers will entail extreme changes in our political economy:

> It is but a question of time until North-America and Europe also reach the dead end of an economy built on fiat money. At that point, however, there will be nobody to extend the life span of this shallow game through further credits and further inflation. Either the western economies will then be under total government control, as it has already been the case in German National Socialism, or we are expecting a hyperinflation. It may take some more years or even decades until we reach this point of time. It can be further delayed through a currency union between Dollar and Euro (and Yen?). But it is and remains and dead end street, at the end of which there is either socialism or hyperinflation. Only radical free-market reforms -- in Rothbard's words: return to a commodity money such as gold on a free currency market and a complete ban of government from monetary affairs -- lead us out of this.

Formatted: English (U.S.)

If Hülsmann is correct not just about the end of the bull market, but about the economic and polical consequences following the bust, then the issue of stock market bubbles and understanding their cause and consequences takes on a critical importance.

Hülsmann is not the only economist who dates the phenomenon of this business cycle back to the post-1980 monetary regime of deregulation. Allies of the Austrian school of economics held a conference at the height of the bull market with most participants emphasizing the role of the Federal Reserve in creating the boom. In particular, **Frank Shostak** highlighted the impact of the central bank's policies.

> Today's prevailing view is that central banks and other policy makers are knowledgeable enough to pre-empt severe economic slump. … Notwithstanding the popular view, the US economy is severely out of balance. The reason for this is the prolonged loose monetary policies of the US central bank. The federal funds rate which stood at 17.6% in April 1980 fell to the current level of 5%. At one stage in 1992 the rate stood at 3%. The money stock M3 climbed from $1824 billion in January 1980 to $6152 billion at the end of June 1999. In a time span of less than a decade it grew by over 200%. Another indicator of the magnitude of monetary pumping is the Federal debt held by the US central bank. It jumped to $465 billion in the first quarter of 1999 from $117 billion in the first quarter 1980, a 300% rise. Obviously the sheer dimension of the monetary pumping and the accompanied artificial lowering of interest rates has caused a massive misallocation of resources which ultimately will culminate in a severe economic slump.

> The intensity of the misallocation of resources was further strengthened with the early 1980's financial de-regulation. The idea of financial deregulation was to free the financial system from the excessive controls of the central bank. It is held that freeing financial markets will permit a more efficient allocation of economy's scarce resources, thereby raising individual well being. It was argued that the overly controlled monetary system leads to more rather than less instability. Nonetheless, rather than producing more stability, the "liberated" system gave rise to more shocks.
>
> The 1980's financial de-regulation resulted in a reduction of the central bank supervisory powers. The weakening in the central bank controls gave impetus to a greater competition in the financial sector. This in turn through the fractional reserve banking sparked the unrestrained creation of credit and money out of "thin air". The money out of "thin air" in turn has been further processed by creative entrepreneurs, who have converted this money into a great variety of financial products, thereby contributing to a wider dissemination of the monetary pollution.

On the basis of his analysis of the then-current economic utopia, Shostak concludes that the economy is poised for bad times ahead:

> It seems therefore that the chaotic state of world financial markets will continue to get worse, unless gold is allowed to assume its monetary role. Notwithstanding that there is very little reason for being optimistic in the current economic climate.[24]

The most accurate and forceful prediction of both a stock market bubble and stock market bust comes from economist **George Reisman** in an article published on August 18, 1999 at the height of the stock market bubble. He begins with the observation that the conditions of reality are clearly askew, an observation most commentators could only make in hindsight:[25]

> Clearly, something is wrong. It simply cannot be that we can have a society in which everybody lives by day trading in the stock market. While the stock market does make an important contribution to capital accumulation and the production of wealth, it is far from an unlimited one, and its contribution is not enlarged by hordes of essentially ignorant people dabbling in it on the basis of tips and hunches. Yet such an absurd

> outcome of practically everyone being able to live by means of buying stocks cheap and selling them dear is what is implied by an indefinite continuation of the bull market. As a result, it is inescapable that the bull market must end.

For Reisman, predicting stock market bubbles and crashes is not a matter of measurement, but a matter of cause and effect. He makes the common-sense observation that to understand the cause of stock market bubbles is to understand its ultimate effect:

> To understand precisely how and when this will come about, one needs to understand what has been feeding the current bull market. Then one can understand what will put an end to it—what will constitute pulling its foundation out from under it.

He finds the ultimate cause of extreme movements in the business cycle, and in particular the stock market bubble, to be government intervention in the money supply and interest rates:

> The only thing that explains the current stock market boom is the creation of new and additional money. New and additional money, created virtually out of thin air, has been entering the stock market in the financing of corporate mergers and acquisitions and of stock repurchases by corporations.

Shunning issues of technological change and psychology, Reisman concludes that not only is excess financing for the stock market the cause of the bubble, but that this money will ultimately find its way throughout the economy, spreading higher prices and bringing the stock market back to reality.

> The increase in the quantity of money exerts its favorable effect on stock prices only when, as in the last few years, the increase is concentrated in the stock market and has not yet sufficiently spread throughout the rest of the economic system. When it does spread throughout the economic system and begins substantially to raise commodity prices, the effect on the stock market becomes negative.

> The application to the stock market is that the market will stop rising as soon as the Federal Reserve becomes sufficiently alarmed about the inflationary flooding of the economy as a whole that emanates from the stock market bathtub so to speak. When the Federal Reserve is finally moved to turn off the water—the new and additional money—flowing into the stock market, its rise will be at an end. Indeed, not only will the stock market stop rising, it will necessarily suffer a sharp fall.
>
> The inescapable implication is that sooner or later, the stock-market boom must end. The bubble must break.

Reisman, it would seem, made an accurate analysis of the stock market, the cause of the bubble, and an accurate prediction that the stock market would crash.[26]

Irish economic and stock analyst **Sean Corrigan** also provided well-timed prognostication of the bubble and deep insight into its cause. He compared the fall of 1999 to the late summer of 1987, the Japanese bubble of the late 1980s, and the "roaring" 1920s in the US. Corrigan dismisses the idea that technology and all the musings of a "New Paradigm" could have been responsible for the run-up in stock prices in the late 1990s." As he saw it, debt of all kinds was expanding at high rates at a time when the saving rate was plummeting. The solution to this economic paradox is straightforward for Corrigan. He blames Alan Greenspan for being overly "generous of high powered money," and then goes on to explain the impact of this highly expansionary policy.

> Monetary pumping on this order, as the Austrians will tell you, leads to serious distortions in the price structure of an economy which cannot be captured in crude, aggregate, index numbers. These distortions between the value of goods, present and future, lead to mal-investments and a clustering of false decisions. Factories built and productive processes put in train based on a market rate of interest artificially lowered by the effulgence of fiduciary media are not backed up by real savings and thus become misaligned with a propensity for consumption which has, if anything, intensified.

What is the impact of these distorted prices and investments? Corrigan goes on to make a bold and far-reaching prediction:

> A raft of "entrepreneurial errors" lies ahead. This means not only the prospect of half-finished malls, hotels and offices, but also completed, but now distinctly sub-par undertakings: businesses and plant which cannot possibly earn the returns projected at inception. Less visible, though more widespread, such an overhang will depress returns on capital where they do not wipe it out completely. The credit expansion, once it draws to its inevitable end, will impoverish everyone, everywhere.[27]

Writing at the end of the boom, economist **Hans Sennholz** describes both the direct cause (Federal Reserve credit creation) and its effects in creating the boom in the stock market and economy, making special note of the explosion in the use of derivatives.

> Surely, the American economy looks very dynamic and the value of the stock market is the highest in U.S. history, but the private economy is incurring the biggest financial deficits since the Second World War. The country is suffering record current account deficits with net external liabilities now exceeding 20 percent of GDP and rising.
>
> Wall Street may be celebrating the decline in government deficits, but other debts continue to grow by leaps and bounds. According to the Fed's Flow of Funds, household debt (mainly home mortgages) is growing at an annual rate of 9.25 percent, total household debt as a share of personal income now exceeds 103 percent. Business debt is soaring at a 10.5 percent rate. Corporate debt of non-financial firms is rising at a 12 percent rate, the fastest in more than a decade.
>
> While some of these debts are going into new investments, much is spent on share buybacks. In short, corporations are going into debt to boost their share prices. Margin debt in the stock market is growing faster than any other type of credit. In 1999 it soared by 46 percent, now exceeding $206 billion, which is the highest in U.S. history. Unfortunately, if this growth of debt should come to a halt, or merely slow down, it may break the fever of the boom and usher in the readjustment.

Sennholz then goes on to describe the precarious position of the economy and stock market. He describes the contraction in the market as an inevitable consequence of the credit-induced boom and something the Federal Reserve has no power to fix.

> The American economy is in its 10th year of cyclical expansion, which is the longest on record. A grave risk in this setting is a sudden fall in share prices, a bear market, which would evoke a dramatic fall in consumer confidence and demand. Since consumption is driving more than two-thirds of American production and growth, a sharp decline of consumer demand would soon lead to a decline in production, which may trigger an international run from the dollar. In order to stem such a run and attract enough foreign capital to cover the current account deficit of more than 4 percent of GDP and carry external liabilities of more than 20 percent of GDP, the Federal Reserve would have to raise its rates. But such a raise at a time of falling stock prices and falling output would soon aggravate the decline and lead to a painful recession. The present pleasant scenario of rising productivity and income, high stock prices and a strong dollar would soon turn into the opposite—falling productivity and income, falling stock prices and a weak dollar, declining imports, rising inflation, rising interest rates, and rising unemployment. The longest economic boom in history would give way to a long recession.

Just as clearly, the cause of the credit creation and therefore the boom is the Federal Reserve and the policy of central bankers.

> The economic maladjustments due to many years of monetary manipulations by the Federal Reserve System are the prime source and mover of the inevitable readjustment. Once the market structure no longer reflects the unhampered choices of all participants, the readjustment is unavoidable.
>
> In the end, the laws of the market always prevail over the edicts of political controllers and regulators. They even reign over the wishes of a few central bankers. Surely, government officials and central bankers have the power to lessen or aggravate the stresses of readjustment as they have the power to interfere with the economic lives of their nationals.[28]

At a time when many were still unsure about the causes and impact of the initial features of the "bust," others such as **William Anderson** clearly saw the "beginnings of

the end" and emphasize that this big cycle of boom and bust was nothing new to American economic history.

> We have, supposedly, learned our lessons since the 1970s. Alan Greenspan knows more than previous Federal Reserve chairmen, Robert Rubin was a brilliant Secretary of the Treasury, the internet is providing new ways of doing business, and Bill Clinton has marvelously orchestrated the whole thing. The stock market is rising, and the government (or at least the current regime, according to Al Gore in his stump speeches) knows how to continue the prosperity. This time, we really are experiencing the New Economy.
>
> Pardon me if I dissent. If history tells us correctly, we are in our third "New Economy" in the last 80 years. The first episode of "prosperity forever" came in the late 1920s, as the bull market, low unemployment numbers, and general good times led newly-elected President Herbert Hoover to declare, "In no nation are the fruits of accomplishment more secure." We know the rest of that sorry story.

Anderson is careful to distinguish the cause of the boom from the normal or natural features of economic growth. He also distinguishes between a potential catalyst of the bust (the Microsoft trial) and its underlying causes.

> But for all of the high-technology wonders and the gains made from deregulation, the one substantial part of the New Economy consists simply of an economic boom in all that the phrase implies. The engine behind the boom is also the locomotive behind the inevitable bust: the Federal Reserve and its inflationary policies.
>
> As things stand currently, the once-vaunted bull market is in flux. This is partly due to the government's arrogance in believing it could attack Microsoft without harming other high technology firms that have been the most visible in the current economic expansion. That the NASDAQ has lost much of its value since Janet Reno's Department of Justice won the first round of its attempt to dismember Microsoft bears testament to this administration's foolishness regarding economic matters.
>
> But even without the DOJ's Microsoft follies, the high-technology sector of the economy faces real problems. First, the bubble that pushed so many of the "dot.com" initial offerings into the stratosphere had burst even before Reno's pyrrhic victory. Second, the malinvestments as described by Ludwig von Mises and Murray Rothbard that occur as the result of wildly

> expansive monetary policies by the Fed have been centered in the high-technology sector. The growth of new money that is the signature of inflation can come only through the fractional-reserve banking system in the form of loans, which, as noted earlier, have found their way into high technologies, real estate, and the stock market.
>
> Should a large number of high technology investments go bust, or if profit rates disappoint potential investors, the new money will stop pouring into that sector. By that time, we will be seeing an increase of commodity prices, and inflation will be recognized as a serious problem. The next stage will be the beginning of the recession, as the malinvestments that grew willy-nilly during the period of monetary expansion will have to be liquidated.
>
> The US economy the past five years has been able to absorb a large amount of new money, much more so than it could have done two decades ago. That does not mean, however, that it is inflation-proof or is impervious to malinvestments. The Misesian theory of the business cycle is a comprehensive theory. It has not lost its explanatory power in 2000 any more than it was irrelevant in 1969 or 1929.
>
> While we may be currently celebrating a record boom, we have not overturned the laws of economics. No doubt when it happens, the usual Keynesians in the halls of academe and in the media will blame high interest rates and the Fed's refusal to expand credit. In truth, there will be another explanation, one that people are ignoring now and will ignore then.[29]

Conclusions

This survey of predictions regarding the stock market bubble of the 1990s was conducted to light of the fact that economists do not agree on either the role of prediction in economic science or the causes of stock market bubbles. The purpose was to determine who correctly determined the existence of a stock market bubble or who predicted a crash in the stock market. The appendix at the end of the paper provides a timeline of additional quotes reflecting insight, unawareness, or confusion regarding the

macroeconomic picture of bubble and crash. More importantly, however, this survey examines how the boom was identified and what was its cause. This is an important issue because stock market booms entail massive transfers and financial losses in an economy, and when associated with severe turns in the business cycle can result in significant economic costs, distortions, and inefficiencies. In the extreme, such radical changes can result in social upheaval and political instability.

In general there were two categories of correct predictions. The first group was based on analysis of valuation. Using standard measures of stock market value such as the price-to-earnings ratio (P/E), economists such as Robert Shiller and a number of market analysts who were bearish in 1999 felt that the stock market was extremely overvalued and that therefore the stock market was experiencing bubble-like conditions and fated to steep decline.

Unfortunately, most of these forecasters did not provide detailed economic analysis of their predictions. The use of valuation measures is indeed a useful guide, but is essentially a tool of historical analysis—comparing ratios and percentages from one time period to another or against historical averages. The majority bulls always found some way to adjust the valuation measures to account for modern conditions and to make the stock market look undervalued.

The second group of correct predictions came from outside the mainstream of the economics profession. Most of these predictions came from the Austrian school of economics, including academic economists, financial economists, and fellow travelers of the school. These predictions begin in 1996 and continue until after the downturn in the stock market began, but most of the prediction occurred close to the peak in the stock

markets. Given that the Austrian school is both small in number and marginalized in the profession, their dominance in making correct predictions seems like an elephant in the soup bowl. It is a particularly interesting finding given the Austrians' general disdain for forecasting and the mainstream's requirement for prediction.

It is especially noteworthy that the Austrian predictions all provided an economic explanation of the bubble and that their explanations were relatively consistent across the group. To generalize, they saw the Federal Reserve as following a loose money policy that kept interest rates before the rates that would have existed in the absence of inflationary monetary policy. Individual writers emphasized the willingness of the Federal Reserve to consistently bail out and rescue investors during the 1990s, thereby desensitizing investors to risk. As a result, a period of "exuberance" and wild speculation took place building into the hysteria of a stock market bubble. If the Austrian analysis is correct, this would suggest that the Federal Reserve is a significant source of financial and economic instability. It also suggests that the general bias to keep rates as low as possible can cause significant losses in the economy and that a better policy might be to let interest rates be determined by market forces, without the intervention of the Federal Reserve.

Those who discovered the "boom" in the economy, the "bubble" in the stock market, and predicted either a "bust" in the economy, or a crash in the stock market work within a tradition of analysis dating back to Richard Cantillon, whose book *An Essay on the Nature of Commerce in General* was published in 1755. The Cantillon tradition was carried forward and extended in the works of Turgot, Say, Bastiat, Menger, Wicksell,

Bohm-Bawerk, von Mises, Ropke, and Hayek, and is now home in the modern Austrian school of economics, with which many of the successful predictors identify themselves.

The hallmark of this mode of analysis is an emphasis on entrepreneurship and the causes for prices to rise and fall, encompassing wages, rents, profits, interest, and the purchasing power of money. With respect to the business cycle, the Cantillon tradition shows that disturbances in the supply of money and credit, especially when a monetary authority expands the supply of paper money, changes relative prices in the economy. Artificial reductions in interest rates encourage investment and increase the valuation of capital assets. The resulting alternations in the structure of production (buildings, technology, and the pattern of industrial organization) are called Cantillon effects. This is the boom—a phase when resources are misallocated, both to malinvestments and misdirected labor. As relative prices correct themselves in the bust, resources are reallocated via such mechanisms such as bankruptcy and unemployment.

There is no question that Austrian ideas have received more notice and attention in the financial media and academic publication in recent years. However, a survey of economic textbooks at the undergraduate or graduate level would find hardly a word about Austrian business cycle theory or Cantillon effects. While it may be too early for a complete rewrite of economics textbooks and too much to ask that economics professors rewrite their class notes, it certainly is time to at least introduce these concepts so that students can be exposed to an alternative paradigm and be free to evaluate the relative merits of each. The future is at stake.

Appendix: Some Other Predictions

- "The problem may…be…in asset [stock] markets, as suggested by historical episodes in this country, notably in the 1920s, and in Japan in the late 1980s." **Jerry L. Jordan**, President of the Federal Reserve Bank of Cleveland, Federal Open Market Committee, November 11, 1997.[30]
- "The arguments in favor a (sic) new Golden Age are generally not persuasive," **Victor Zarnowitz**, "Theory and History Behind Business Cycles: Are the 1990s the Onset of a Golden Age," NBER Working Paper 7010 (Cambridge, MA: National Bureau of Economic Research) March 1999.[31]
- "At some point, and nobody knows when, the stock market is going to reverse its climb. It may even collapse." **Llewellyn H. Rockwell, Jr**. "Stock Market Bailout," *The Free Market*, Vol. 17 No.1 (November 1999).
- "There is talk on Wall Street of a "New Economic Paradigm," that has repealed the business cycle. But surface appearances can be deceiving….Eventually a recession will occur." **Greg Kaza**, "Downsizing Detroit: Motown's Lament," *Chronicles: a Magazine of American Culture*, Vol. 23 No. 11 (November 1999) p. 20.
- "The claim by Glassman and Hassett to have found a new value for the Dow is a wonderful marketing gimmick, but it is the least important part of their book. The authors are certainly right that Americans have gotten over their fear of the stock market—because the stock market works better than it used to. For investors, it has become safe to buy, hold, and forget." **Holman W. Jenkins Jr**., "Of Bulls and Bubbles," *Policy Review*, No. 98 (December 1999 & January 2000).
- "I recognize there is a stock market bubble problem at this point" and "I guarantee if you want to get rid of the bubble, whatever it is, [increasing margin requirements] will do it." **Alan Greenspan**, Federal Reserve Open Market Committee Meeting, September 1996.
- "Such is the exuberance on Wall Street that only a brave man insists that the American stockmarket is overdue for a crash. Down the long history of bubbles ready to burst, it was ever thus." ***The Economist***, "Bubble, bubble," March 23, 2000.
- "It is very difficult to definitively identify a bubble [in US stock markets] until after the fact." **Alan Greenspan**, Speech at the Federal Reserve Bank of Kansas City's Annual Conference in Jackson Hole, Wyoming, August 30, 2000.
- "The present market collapse is different; it was caused by vastly overblown valuations. The stock market has been in a colossal bubble, a delusion born in the late 1990's that reached its zenith in 2000. While not uncommon, bubbles have always been a fact of market life, a byproduct of runaway human emotions." **Nicholas F. Brady**, "Every Market Collapse is Different," *New York Times*, August 11, 2002.
- "There was a sense of frustration that we couldn't deal better with the asset-price bubble….But I don't think anybody has come up with a strategy that people fell would have gotten the job done," **Laurence Mayer**, Federal Reserve Governor

during the bubble, quoted in Carol Vinzant, "Two Schools of thought on economics," *Chicago Tribune*, September 3, 2002.

- "The difficulty with declarations claiming that large stock price moves are "bubbles" or "panics" is that they rely on perfect hindsight, typically generated only a few months or a year following the event. But investors do not have that luxury. They must price securities based on the information they have at the time they make their decisions." Professor **Matthew Spiegel**, Yale School of Management, "2000 A Bubble? 2002 A Panic? Maybe Nothing?" October 28, 2002.
- "If not technology shocks or market pricing failures, what's driving the current business cycle? It's not terrorism or war. Terrorism doesn't exact sufficiently large direct costs to drive the economy; and it's hard to argue that its psychological effects have slowed growth, when the economy turned around in the quarter immediately following 9/11 and turned in its best performance in years in the quarter after that. Nor is there hard evidence that the prospect or reality of the war with Iraq punctured business investment and consumer spending." **Robert Shapiro**, "Spin Cycle: Why has the business cycle gone topsy-turvy?" *Slate.com*, April 15, 2004.
- In the boom cycle, people are not so much interested in a message that says: a bust is simply a necessary part of the business cycle. In a false prosperity, good economic ideas are marginalized. That's why Austrians should prepare right now to offer the best explanation when the tide turns, as it always does. Who knows? Maybe well find ways to make the bust intellectually profitable. In time, Austrian economics could be again seen as the mainstream theory. It should be. **James Grant**, "The Trouble with Prosperity: An Interview with James Grant," *Austrian Economics Newsletter*, Vol. 16 No. 4 (Winter 1996).

References

Anderson, William, “New Economy, Old Delusion," *The Free Market*, Ludwig von Mises Institute, Vol. 18 No. 8 (August 2000).

Baker, Dean, “Dangerous Minds? The Track Record of Economic and Financial Analysts,” Center for Economic and Policy Research, December 2, 2002 http://www.cepr.net/dangerous_minds.htm.

Bordo, Michael D., “The Limits of Economic Forecasting,” *Cato Journal*, Vol. 12 No. 1 (Spring/Summer 1992) pp. 45-48.

Corrigan, Sean, “Will the Bubble Pop?” *Mises Daily Articles*, October 18, 1999

Deden, Anthony, “Fasten your seatbelts,” *The Sage Chronicle*, September 24, 1998.

Deden, Anthony, “Reflections on prosperity,” *The Sage Chronicle*, December 29, 1999.

Glassman, James K. and Kevin A. Hassett, *Dow 36,000: The New Strategy for Profiting from the Coming Rise in the Stock Market* (New York: NY: Random House) 1999.

Glassman, James K. and Kevin A. Hassett, "Dow 36000 Revisited—Hey, be patient," *WSJ.com Opinion Journal*, August 1, 2002

Grant, James, *The Trouble with Prosperity: The Loss of Fear, the Rise of Speculation, and the Risk to American Savings*, (New York, NY: Random House) 1996.

Hülsmann, Jörg G., Scöne neue Zeichengeldwelt [translated as "Brave New World of Fiat Monies"] Postface to Murray Rothbard. *Das Schein-Geld-System* (Gräfelfing: Resch, 2000), pp. 111-154.

Hunter, William C., George G. Kaufman, and Michael Pomerleano editors, *Asset Price Bubbles: The Implications for Monetary, Regulatory, and International Policies*, (Cambridge, MA: MIT Press) 2003.

McCloskey, Donald (now Deidre), "The Art of Forecasting: From Ancient to Modern Times," *Cato Journal* Vol. 12 No. 1 (Spring/Summer 1992) pp. 23-43.

Meyer, Christopher, "The Meaning of Overvalued," Mises Daily Articles, March 30th, 2000.

Mises, Ludwig von, *The Ultimate Foundations of Economic Science: An Essay on Method* (Princeton, NY: D. Van Nostrand) 1962.

Mishkin, Frederic S. and Eugene N. White, "Stock Market Bubbles: When Does Intervention Work?" *Milken Institute Review: A Journal of Economic Policy*, Vol. 5 No. 2 (Second Quarter 2003) pp. 44-75.

North, Gary, "Market Manias Determine Which Experts Get Published," www.LewRockwell.com/North/North114.html (July 26, 2002).

Reisman, George, "When will the Bubble burst?" *Mises Daily Articles*, August 18, 1999.

Sennholz, Hans, "Can the Boom Last," *Mises Daily* Articles, July 31, 2000

Shiller, Robert J., *Irrational Exuberance* (Princeton, NJ: Princeton University Press) 2000.

Shostak, Frank, "Inflation, Deflation, and the Future," presented at the conference "Austrian Economics and Financial Markets," September 16, 1999 also available at *Mises Daily Articles*, October 5, 1999.

Endnotes

---

[1] I would like to thank Robert Blumen, Mark Brady, John Bratland, George Ford, Charles Harris, Greg Kaza, Benjamin Powell, Jeff Scott, Harry C. Veryser, Paul Wicks and Steven Yates for helpful suggestions

[2] http://www.brainyquote.com/quotes/quotes/n/q130288.html

[3] Paul A. Samuelson, "Science and Stocks," *Newsweek*, September 19, 1966.

[4] Mike Norman, " Dismal Science May Get a Little Sunnier," *Special to TheStreet.com*, April 21, 2003

[5] Lindley H. Clark, Jr., "Housing May Be In for a Long Dry Spell," *Wall Street Journal*, January 19, 1990, p. A10 as quoted by Simon.

[6] Donald (now Deidre) McCloskey (1992, p. 40). I suspect that McCloskey means hullabaloo instead of hoobla-hoo.

[7] Bordo (1992, p. 47).

[8] Mises (1962, see especially Chapter 4: Certainty and Uncertainty, Section 6: Economic Prediction and the Trend Doctrine).

[9] Hunter, Kaufman, and Pomerleano (2003). For more on this topic see the Symposium on Bubbles in the *Journal of Economic Perspectives,* Vol. 4 No. 2 (Spring 1990) pp. 13-101.

[10] This writer tried to issue such warnings and analysis in public lectures, radio, the internet and newspapers, but with little or no effect. In a public lecture in Houston, Texas (07-15-99) I addressed an audience about Alan Greenspan's "luck" in increasing the money supply without price inflation, but warned that there were inevitable negative consequences in the economy, particularly stocks and the dollar. I appeared on the *Financial Sense New hour* (04-03-00 and a year latter on 04-04-01) on radio shows titled "Credit Bubble" [http://www.financialsense.com/Experts/Thornton.htm]. I warned on the Barstool Economist List on 01-05-01 and 01-07-01 that the dollar (at its peak) would in all likelihood weaken over time. I also wrote several letters to the editor during this time frame, none of which were published. Here is an example of those letters.

> Dear Investors Business Daily:
>
> In "Are Boom-Bust Cycles Gone Forever?" (08-23-00, p. A10) a strong case is made that the business cycle is dying, if not dead. Once again the "new economy" mantra of technology, globalization and government management of the economy has raised its ugly head.
>
> The same mantra was common in the U.S. during the 1960s when Keynesian "counter-cyclical fiscal policy" was in charge of the business cycle while American high tech companies expanded around the globe. Then came the stagflation of the 1970s. The Japanese boom of the 1980s was said to be due to its "managed economy" that allowed Japanese industry to dominate world markets. The Japanese bust of the 1990s followed. And who can forget the "Roaring 20s" when America's new technology (radios, cars, planes, refrigerators, motion pictures, etc.) had the world in awe. Economist Irving Fisher declared a "permanent prosperity" right before the stock market crash of 1929 and the Great Depression.
>
> Technology cannot kill the business cycle. In fact, technology is the mechanism that traps capital in unsustainable and premature investment projects. Entrepreneurs are lured by artificially low or stable interest rates during the "boom" phase of the business cycle only to see their plans go bust as interest rates and inflation increase.
>
> Clearly FED chief Alan Greenspan understands that monetary instability is the key to the cycle and he has recently stated his knowledge of the Austrian business cycle theory to Congress. But knowing the problem and solving it are two different things. Knowledge of economic theory does not allow bureaucrats to solve the problems of government inefficiency, taxation, business regulation and price controls.
>
> The business cycle will not die until money and credit are purely market-based institutions, rather than government bureaucracies that supply, control, and regulate. While such a radical change of institutions is an unlikely event in the near future, requiems for the death of the business cycle might serve as a good forecast for what is.

[11] The opening quote (p. 7) and bullet points (p. 3) quoted from Baker (2002).

[12] Glassman and Hassett (1999, p. 3).
[13] Glassman and Hassett (1999, p. 3 &4).
[14] Glassman and Hassett (1999, p. 4).
[15] North (2002).
[16] Kevin Hassett followed that up in July of 2002 with Bubbleology: The New Science of Stock Market Winners and Losers.
[17] Glassman and Hassett (August 1, 2002).
[18] Meyer (March 30th, 2000).
[19] Grant (1996, pp. 314-5).
[20] Deden (September 24, 1998).
[21] Deden (December 29, 1999).
[22] Deden (December 29, 1999).
[23] Hülsmann (2000, pp. 140, 147, and 154).
[24] Shostak (September 16, 1999 and October 5, 1999).
[25] Reisman, (August 18, 1999).
[26] For an update and further analysis see George Reisman, "It May Be Bursting Now, and Faulty Economic Analysis May Cost Investors Dearly," www.capitalism.net February 26, 2000.
[27] Corrigan (October 18, 1999).
[28] Sennholz (July 31, 2000).
[29] Anderson (August 2000).
[30] As a voting member of the FOMC, Jordan voted unsuccessfully five times to raise interest rates starting in 1998.
[31] Zarnowitz is aware of the Austrian theory of the business cycle and considers it in his analysis