



Jeremy Grantham, Chairman

The Canary in the Coal Mine* & Letters to the Investment Committee III

Traveling around the world for my first time – 19 flights in 35 days – mostly on business, I could not help noticing a few things. First, you should travel east to west. Yes, it's 10 or 12 hours longer flying time, but your jet lag kicks in at 6 p.m. at your new location when nobody cares. Going the other way, I found myself continually trying to talk to a group of analysts or clients at 4:15 a.m. on my internal clock. And as soon as you adjust, you move on again.

More importantly, a traveler could not help but notice how grimly expensive things are **everywhere**, seen through dollar eyes. When you have a bet against the dollar (who doesn't?) it is disturbing and serves to underline my points from last quarter's letter that were attached in a *Barron's* article. First, that the dollar is probably not overpriced on any fundamental basis. Second, though, that no one seems to sound convincing on the topic of currency valuation. And third, yes, what are you going to do long term in the face of a 700 billion dollar annual accumulation of foreign obligations but bet against the dollar? I said last quarter that the only thing I really lay awake sweating about was the fear of a quick 15% move in the dollar's favor. History says that this kind of upward move is routine, even if the real trend is still down. Well the ink on *Barron's* had barely time to dry when the dollar set off on a 6.5% run against the euro from its low. Anyway, trust me, Sydney and Auckland are expensive, Tahiti is very expensive, and as for London, has anyone worked out how the locals can afford to live there?

The other thing you'd have to try to avoid noticing is the attention given to house prices in the three English speaking markets ... and who would not give attention to these house prices? New Zealand is up over 20% in the last 2 years. The whole of the north of England moved up a staggering 40% in a 12-month period a year or two before that, and it is rumored that Sydney has pushed San Francisco out of the champion's spot in the "who's got the lowest return to renting your house?" contest. During

my trip, I was happily quoted in the *Australian Financial Review* as saying that the Australian residential real estate market could be the canary in the coal mine – that is, a harbinger of bad things to come for a lot of us. And it may be. Sydney house prices rose earlier, faster, and further than any other. Australia also raised its rates earlier and further than England, where rates were in turn raised earlier and have climbed further than the U.S. And both of these foreign markets have overwhelmingly floating rate mortgages so it would reasonably be expected that the effect of higher rates would impact prices faster.

Well, GMO's office in Sydney is on an old wharf, and right next to it is another long, converted wharf, at the end of which is a splendid apartment bought 6 months ago for \$3 million and now converted into two still pretty splendid units, now for sale for \$2.5 million combined. The official numbers confirm that Sydney prices are well off their highs, although as yet far from a real bust. Nearer to home, London prices are also flat to off a little – finally – in most, but not all, districts. Real estate has a long history of lagging stock market breaks and had every reason to do even better than normal this time, as global interest rates were cut and money and credit made so available. What was new this time, though, was the degree to which home owners in these Anglo-Saxon markets increased the size of the mortgages as they refinanced, supporting their rapidly growing consumption in the face of only modest increases in income.

Increasing paper wealth from houses in fact more than offset the negative wealth effect from the stock market declines of 2000 through 2002. By making home owners feel wealthier, it also helped suppress the need to save, and all three countries saw their personal savings rates drop and hold at unprecedentedly low rates, despite the aging population problem. In this way, delusions caused by stock market paper wealth were followed by similar

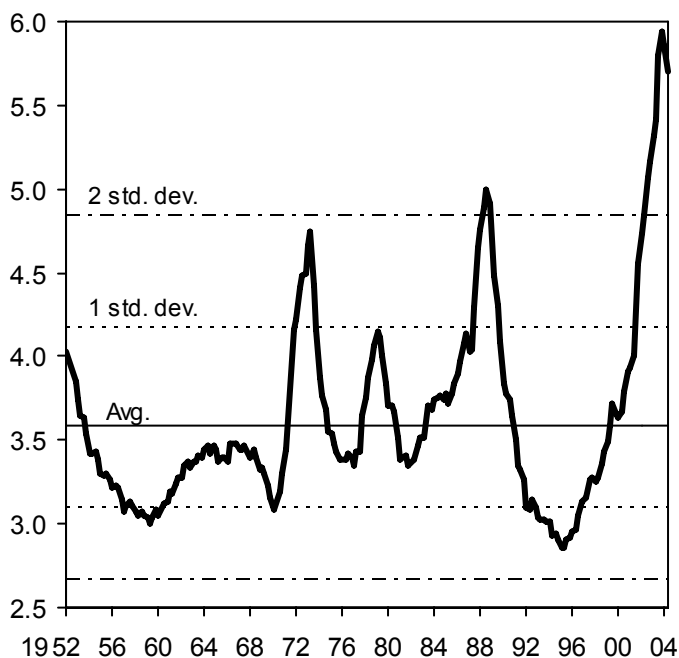
* After 40 years in America, I'm still apparently using Englishisms. Miners used to take a caged canary into the coal mines, which would oblige by dropping dead from odorless gases before the miner holding the cage did.

delusions driven by paper housing wealth. Alan Greenspan may be impressed by the increases in household financial strength caused by higher house prices, but any believer in replacement value cannot be impressed, and I am certainly one of them. (See January's Special Topic titled "Letters to the Investment Committee II – Replacement Cost: The Bedrock of Value".) When the price of a chemical company's stock doubles, I always urge focusing on its more or less unchanged replacement value and not the change in its paper value to twice that. And how much easier it is to see this effect with the house you live in: the price of my house in Boston may have tripled in 10 years, but the flow of **real** service that it offers me is clearly unchanged. It protected me from the wind and the rain exactly as well 10 years ago as it does now, in fact, slightly better back then since it's now older. (Yes, the replacement cost for the 20% that is land is the least simple of all asset classes, since clearly they don't make any more land at any cost, but for the record, land too is mean reverting and has in Europe a several hundred year record of rising at about the rate of the GNP.) But apart from land, it is **very** much easier to understand that the changes in housing values around replacement value are paper events, than it is to appreciate the same point for stocks where analysts always justify **every** price increase in the market by proposing some equal and offsetting increase in future prospects. Perhaps as much as 10% of these perceived increased virtues for stocks are real, but I doubt it. Also, the increased price of an owner-occupied house is clearly not contributing to the owner's ability to service his increased mortgage!

The increased role that housing price increases have played in sustaining the expansion of credit and consumption in the last several years has made us realize that we have not put enough research effort into this area and we are attempting to address this.

Replacement cost for housing is a messy and difficult way to approach this problem, but fortunately as a long-term reader of *The Economist* I am well aware that house prices are also mean reverting around a trend line multiple of household income. Our quants in our London office reviewed the data and found, to our mild surprise, that for the last 45 years this trend seems to show no clear upward trend in this ratio as we would have guessed; Brits seem willing to spend only the same fraction of their income on housing over time – although they certainly have a lot of fun roller coasting around this flat trend. **Exhibit 1** shows the data and it makes a very worthy exhibit for the Bubble Hall of Fame: on the modern data, current housing prices in the U.K. are over 3 standard deviations above trend, having as recently as 1995 been

Exhibit 1
United Kingdom: Home Prices as a Multiple of Average Earnings



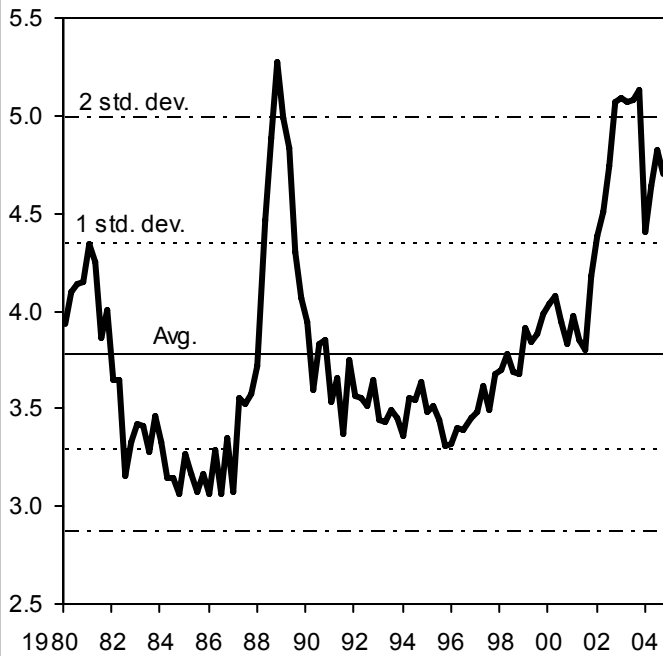
Sources: Nationwide, Office of National Statistics (UK), GMO

more than 1 standard deviation below it. This is about as extreme an event as the recent March 2000 U.S. equity bubble. This is remarkable, since March 2000 was the largest deviation from trend in modern U.S. equity history. I have absolutely no doubt that the consequences will be similar, and that U.K. housing will also return to trend or below.

We beg your indulgence for **Exhibit 2** – recent Sydney house prices – because neither our Sydney nor U.S. office could come up with a decent series longer than 25 years. Still, it does capture the spirit of the exercise and indicates the potential for a major decline. **Exhibits 3 and 4** show off the great advantage of the size and diversification of the U.S. housing market, where side by side on the two coasts we have something close to a bubble versus something near normal through most of the rest of the country. Exhibit 3 uses median income to median house price ratio and indicates that U.S. average house prices are probably only about 25% over trend. The March 3 *Economist* has a series based on house rentals that indicates about a 30% overpricing. A conservative compromise would be to assume a one-third overpricing that would require a 25% decline to get back to trend. Exhibit 4, in contrast, shows the situation in Boston – selected entirely at random to help persuade my wife to sell our house and pay rent – which reflects a more Sydney-like rise to 52% over trend, again all in the last

Exhibit 2

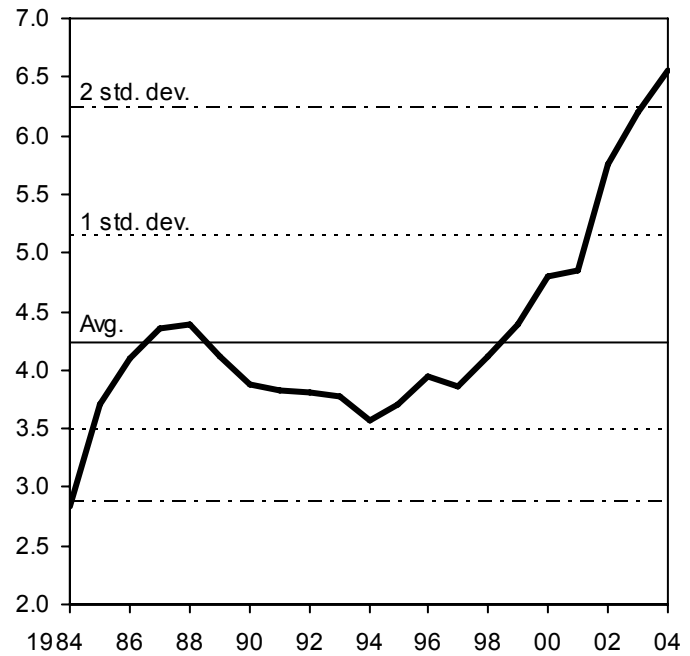
Sydney: Home Prices as a Multiple of Australian Household Income



Sources: Real Estate Institute of Australia, Australian Bureau of Statistics, GMO

Exhibit 4

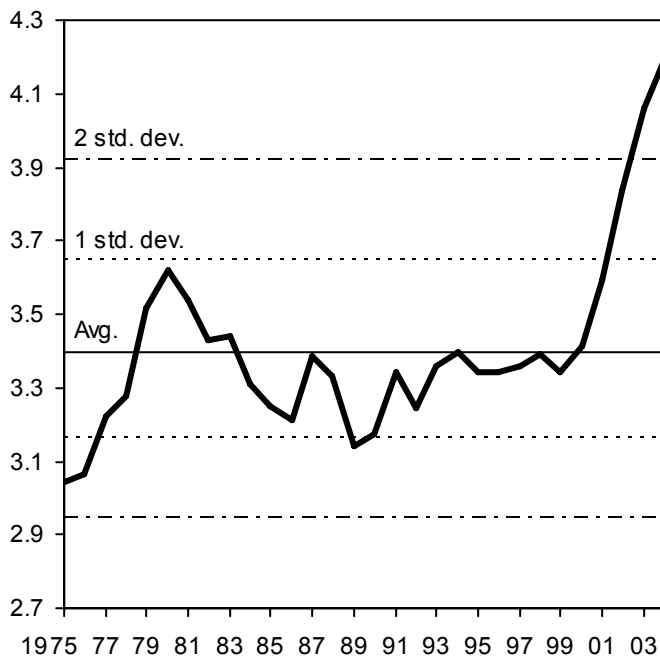
Boston: Median Home Prices as a Multiple of Household Income



Sources: National Association of Realtors, OFHEO, U.S. Census Bureau, GMO

Exhibit 3

United States: Median Home Prices as a Multiple of Household Income



Sources: National Association of Realtors, U.S. Census Bureau, GMO

few years. Another suspicious feature of our Boston data is that the recent trend of house price multiple of income is almost 30% higher than the average for the U.S. Cities usually have higher house prices because they have higher incomes. One wonders if in addition to that factor this higher ratio is reasonable or sustainable or merely a reflection of even more vulnerabilities.

How painful would a correction be? To start with London, we could look at the last bubble that built up in the late '80s and broke in the late '90s. Viewed with hindsight from today's 3 sigma (standard deviation) event, the 1990 event looks like a bona fide member of the GMO bubble club where we draw the boundary at 2 standard deviations, which seems (at least to us) to be reasonable although it is quite arbitrary. A 2 sigma event is the kind that would occur on the upside (i.e., a bubble) every 40 years **if the data were a normal distribution**. Yes, we know the real world actually has more outliers than a normal distribution, that is to say, its distribution is 'fat tailed' and therefore there will be more 2 sigma events than there 'should' be. But like arcane sports rules, these rules although arbitrary are the same for every asset class. In any case, even in our world of fat tailed distributions, we have only found 28 good examples of previous bubbles including: stock markets around the world, currencies, and commodities. As frequent

readers know only too well, I am patiently waiting for the current 28th bubble, the S&P 500, to go all the way back to trend – about 750 versus today’s 1150. It fell to within 10% of trend in 2002, but still no cigar. But, as also often mentioned by us, **all** the other 27 identified bubbles did indeed move all the way back to (or below) the trend that existed prior to those bubbles forming.

The U.K. housing data in **Exhibit 1** shows, in addition to the current mega bubble, two prior substantial bubbles that both fully mean reverted. An interesting point, though, is that the 1990 bubble, although held responsible (rightly or wrongly) for considerable damage to the U.K. economy as it broke, did not involve as much pain getting back to trend as you might think because the trend line average income was also rising rapidly. It rose for two reasons. First, inflation was high by today’s standard, averaging 4% a year for the 5-year decline, and despite GNP problems, average real incomes did surprisingly well. Nominal income gains for the 5 years totaled about 30% – about twice what you could expect today in the U.S. under recent conditions. So although the U.K. house price to income ratio had to fall by 24% to get to trend from a peak of 4.7 times to a trend line of 3.6 times, the typical home owner’s house was more or less the same **nominal price at trend** as it had been at the peak! ($4.7 \times 1 = 4.7$, $3.6 \times 1.30 = 4.7$)

All the real pain from the decline of house prices then came not from the move to trend, but from the typically disturbing tendency for down cycles to over correct. Prices bottomed at 2.9 times income, or another 20% below trend. Today, though, in the U.K., the price/income ratio would have to fall by 37% to merely get to trend, and today’s lower inflation and lower income growth will cushion far less of the decline, perhaps only half. Once again any overrun would inflict additional pain. And any unexpected help from accelerating inflation in reducing the ratio would in the U.K. come with an equally unexpected sting in the tail: their floating mortgage rates would of course rise with inflation, leaving most people worse off, all things considered, than if inflation stayed low. A damned if you do, damned if you don’t situation if ever there was one. This point is more relevant now in the U.S. than it has been before because of the sudden recent rise towards 40% in the use of floating rates.

Australia and New Zealand would both be in the same boat as the U.K., but the U.S. will obviously be less bad. Even if the ratio here were to over correct by 10%, that would only be a drop of 25%; if the decline took 5 years, all but a few percent would be offset by even modest rises

in family income. In contrast, for the Bostons of the country, of course, the outcome could be a much more painful decline of 25% even after allowing for any offsetting income gains. Unfortunately it must also be admitted that the badly overpriced cities of the East and West Coasts do have a disproportionate share of both the media and the financial industry, so that their pain will probably be misrepresented as more significant than it really is in GNP terms, which might exaggerate the depressing effect on “animal spirits”. The key point in the U.S., though, is that in the recent 3-year stock market decline all the stock market wealth lost by the median family holding stocks was more than offset by a 21% advance in house prices. This favorable circumstance seems extremely unlikely to reoccur this time. The inevitable 30% to 40% decline in stock assets necessary to get to fair value, accompanied by flat to down housing prices, will pose substantially greater risks for consumer spending than last time. And leveraging housing debt was such an easy, effective, and unthreatening way to allow consumption to keep growing despite the quite modest gains in household incomes in all our three Anglo-Saxon markets. There is likely to be very little increase of this debt if prices stop rising and rates are even modestly higher, and there might be some modest, but painful, reversal. The **best** reasonably likely outcome in the U.S. is that a moderate stock market decline in the next 2 years – my ‘dreary’ forecast – could be accompanied by up to 1 more year of average house prices rising, for the U.S. housing market has lagged the other countries and has some good potential for catch-up in certain regional markets. This lag might be expected because our house prices have risen less and our rates rose later. But, by this time next year, time would really seem to be running out for our U.S. housing semi-bubble. It also seems very likely that by then the housing markets in the other two countries will have completely run out of steam.

Another Small Canary with Apologies for a Late Warning

There has been a small cap effect in the past in the sense that an annually rebalanced portfolio of small stocks has beaten large stocks by a wide margin since 1925 ($2\frac{1}{2}\%$ a year \pm). A less well known factor is that over 100% of this outperformance has been concentrated (on average) in the month of January. Even less well known is that when small caps have a bad January, it is a very bad sign for their performance for the year. (Now he tells us.) Since 1965, poor Januaries for small cap are followed by average underperformance of 7.2%, and they have outperformed only 15% of the time!

Germany to the Rescue!?

Germany has looked like a basket case for so long now that it is only fair to point out that several things have improved. First, through lower inflation they have become more competitive and largely worked their way out of a badly and painfully overpriced currency position at the start of the euro. Second, although their economic reforms have been disappointingly slow, there has been progress and it continues. Third, and relevant to our topic, their debt leverage at all levels has not been increased like the English speaking Anglo-Saxons; they have not increased their housing debt, and house prices themselves have not increased. Indeed, German house prices are where they were in the late 1970s in real terms! This relative strength in both debt and housing may give Germany an unexpected substantial reprieve relative to us should we get into a credit crisis any time in the next few years, which seems quite likely – I would think at least a one in three shot. It is probably worth adding that while some other European countries have had some house price escalation – Holland and more recently France – and some debt expansion, none come close to the potential risk of the three Anglo-Saxon countries.

Edward Chancellor and Credit Cycles

On my 35-day trip around the world I read a new book by Edward Chancellor (whose *Devil Take the Hindmost: A History of Financial Speculation* was a great success) that analyzes credit expansion, its past role in market and economic breaks, and the current credit expansion's potential for making trouble. Chancellor's book, titled "*Crunch Time for Credit*," reviews the major competing schools of thought on the dangers of asset class inflation, the power of monetary measures to balance them, and the possible role of animal spirits; in short, the Monetarists, 'Austrians', and Keynesians. I must say I thought it was excellent – dense and informative and continuously summarized. (I even read a few pages on the beach at Huahine off Tahiti, a considerable hurdle to clear in terms of distractions.) What impressed me was that nothing was agreed on, certainly not the causes of the 1929 crash or the following depression. And some views were as hard to understand as the Efficient Market Hypothesis of French, Fama, Malkiel, et al. For example, Chancellor reports that Milton Friedman and the Monetarists basically maintain that 1929 was not a bubble, just the market's reflection of good times, just as Irving Fisher maintained in early 1930. The depression they argue was **entirely** caused by lack of monetary stimulus and had nothing to do with the run-up in debt, speculation, and asset prices. While still shaking my head in disbelief, I came across Chancellor's use of GMO's "All Bubbles Break" exhibit

of the 12 great bubbles that form some of the bedrock of our belief in mean reversion, followed by our Exhibit 1 from this letter on U.K. real estate bubbles. I must say, amongst the Austrian-Monetarist squabbles, our data did seem clear cut. We and other believers in mean reversion would have seen 1929 as an asset class bubble for it looked at the time like a 2½ sigma event. Roger Babson famously did predict a severe decline, but of course 2 years too early, to which I can only say, "Been there, done that!" The contrast between their theoretical arguments (Monetarists, Austrian, etc.) and our simple data driven 2 sigma analysis led me to think about the few points that we believe are beyond reasonable argument.

What Do We Really Know?

- Data is data, and **all** bubbles defined as 2 sigma events have indeed broken. They broke **regardless** of the steps that were taken during and after the bubble. Bad monetarist policy may have caused the Great Depression and good policy may have let us down gently after 2000 (we shall see), but both were clear asset bubbles and both broke. The economic and monetary environment was different for all 28 bubbles, but all of them broke.
- A breaking bubble in an important asset class will **definitely** affect animal spirits, investing intentions, and consumption. This effect **may** or may not be offset or postponed by monetary or fiscal moves.
- The increase in housing prices in several countries this cycle has definitely facilitated easy credit expansion and allowed total household credit to go to new highs.
- Housing prices **will** eventually retreat to trend, and this will cause this part of the credit expansion to stop and quite possibly to reverse.
- Higher average asset class prices since 1995, led by stocks and followed by bonds and real estate, definitely made people feel richer, spend more, and **save** less.
- We have in the U.S., U.K., Australia, and a few other countries definitely saved less at the household and corporate pension level than is necessary for good personal retirement plans.
- This shortfall **will** be revealed when asset classes revert to normal, and a great majority of savers will be forced to realize that their nest eggs are inadequate.
- When this is revealed there will be a lot of broken hearts.
- And finally, **nothing** that Greenspan and his successor do will prevent this reversion to the mean of asset prices, although their actions may have a very substantial and beneficial effect on how badly the economy fares in an environment of falling asset prices –

although they have **probably** run out of asset classes to inflate (except for a potential catch-up leg in some real estate markets) and **may** be approaching some maximums in debt leverage.

GMO and the First Quarter

My first quarter letter predicted a “dreary” rather than very painful year, and so far global markets have been trying exceptionally hard to please. In dollar terms, the S&P was -2.1%, EAFE -0.2%, U.S. bonds -0.4%, non U.S. bonds -3.0%, and emerging debt -1.3%. Only good old emerging equity was up at 1.9%. Now that’s what I call dreary!

GMO fund alphas had a slight average lead in fixed income and a respectable start in our hedge funds. On balance, we were nicely up in U.S. equities, and on a weighted basis slightly up in foreign equities, thanks to an over 2% lead in emerging. GMO asset allocation also had a good quarter. I would certainly settle for three more quarters like this in all respects.

So far oil prices have been worryingly strong and European growth worryingly weak, but the U.S., China, and emerging have kept going nicely and the dollar has rallied. All in all, no major land mines, and without one or two I believe we will struggle through this year about okay.

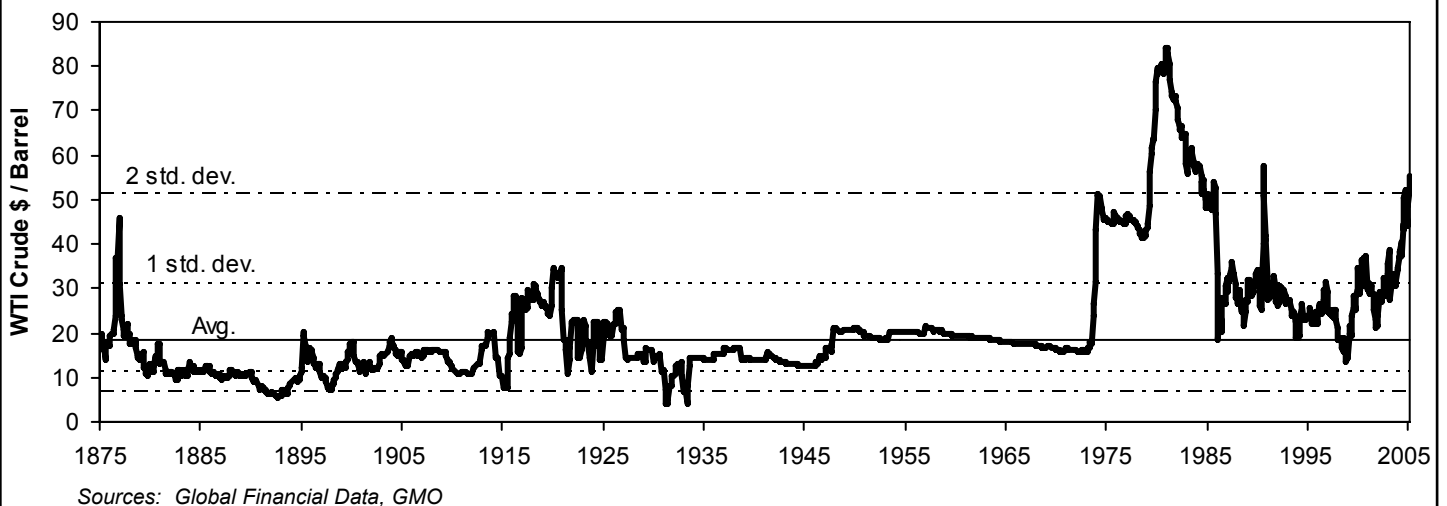
Oil

The closest we are to a serious land mine is the oil price and I am happy to have been quoted in the January 3

Barron's as advising, “not to assume because it is at \$50 per barrel it will come down.” The December 2010 future was then \$37 and it’s now \$50. I must also admit that I have no confidence that it will stay over \$50, and my view is that we should be extra careful as oil could burn us badly either way. China has probably changed the commodities world for decades, and the world may be very close to pumping as much oil as we ever can, just as the U.S. itself is long past its own maximum production. If that is so, then we must substitute and economize, or bust, and that would make for exciting times. Oil may be that very rare bird – a paradigm shift. Over the years we have asked over 2000 professionals for an exception to our claim that every asset class move of 2 sigmas away from trend had broken, and not one of the 2000 has ever offered an exception! This should be scarier than the fact that GMO has tried so hard to find one and failed. But we have always said that intellectually you can imagine a paradigm shift in an asset class price, even if we have been unable to document one yet in history. **Exhibit 5** shows the price of oil and 1 and 2 standard deviation bands. If the new price averages \$50 and above, it will look suspiciously like the real McCoy. Chinese growth and supply problems **could** do it. It’s the best **possibility** I’ve seen in my career. But the investment desert is littered with the bones of those who bet on new paradigms.

Exhibit 5

Oil Price in 2005 Dollars



Disclaimer: The foregoing does not constitute an offer of any securities for sale. Past performance is not indicative of future results. The views expressed herein are those of Jeremy Grantham and GMO and are not intended as investment advice.



Jeremy Grantham, Chairman

Letters to the Investment Committee III **6 Kinds of Bull**

It is surprising to me that as the years go by the type and quality of market analysis in terms of the market's value has been so consistently bullish that it is misleading about half the time. This negative comment is not aimed at the substantial and influential number of academics and financial experts who believe in market efficiency, for they of course can have nothing to say on this topic. What I'm really getting at here is the analysis of market value you read in the stock market columns of daily papers and magazines and 'strategy reports' from brokerage houses. The reasons for the bullish bias form a complicated issue that I hope to cover next quarter. Here I would like to look at results: the six kinds of sloppy bullishness. There is of course a seventh completely kosher kind of bullishness, and that is when the market is cheap: when it is selling below its trend line price to earnings of 16, and better yet, on a profit margin level that is also below normal. 1982 is the perfect example. The market sold at 8 times badly depressed profit margins: it was simply very cheap and a bullish outlook was entirely justified.

Sloppy and therefore dangerous bull market approaches can, I believe, be divided into six types:

1. *Dow 36,000*: the purely 'PR' driven nonsense
 2. Jeremy Siegel: price doesn't matter, 7% real returns by divine right
 3. Sloppy or no earnings adjustments to market P/E
 4. Sloppy growth forecasts
 5. The Abby Cohen and Alan Greenspan Show: the economy is great and therefore the market will do fine
 6. The 'Fed Model Effect': yes P/E ratios are quite high but the market is still cheap because interest rates are so low.
1. The *Dow 36,000* book that came out in 1999 was typical of several similar books and articles published in 1929 such as Raskob's famous "*Everyone Ought to be Rich.*" Only at the height of bubbles are people credulous enough to buy them, but when the time is right they sell like hot cakes because they reinforce our worst impulses of wishful thinking, overconfidence, and just plain greed. The Dow at 36,000 would have been close to five times replacement value! Every new \$100 million factory would instantly become worth \$500 million, and the whole U.S. would have eventually drowned not just in fiber optic cable – one area that actually got close to five times replacement value – but virtually everything else as well, as excess capital spending would have produced overcapacity which in turn would have led to low profits and eventually many more bankruptcies than we actually had.
 2. Jeremy Siegel and his "*Stocks for the Long Run*" is a much more serious threat to sensible thinking because as a Finance Professor who was obviously smart and persuasive and who had produced useful and extensive stock market data, he seemed like someone who should be listened to, and in the 1998 to 1999 run-up his thinking influenced many investment committees. His argument was that stocks had always beaten bonds and had delivered 7% after inflation, and therefore the safe bet was to assume the same for the future. I debated him several times and used to summarize his argument as "price doesn't matter" – stocks always win by divine right. Curiously Jeremy agrees that investors get the "earning yield" – the inverse of the P/E – so that at 10 P/E you get 10% real a year, and at 20 P/E you get 5%. But there is a serious inconsistency in his argument. His data showed that the historical 7% real stock return had come from an earnings yield

of 7%. That is to say a historical average P/E of 14 times. What a coincidence! What he never answered in our debates is why in March 2000 at 33 times earnings the S&P 500 should not return 3.0% in perpetuity! Price of course is everything, or almost everything, for diversification also matters. And concerning diversification, the idea that stocks always win was giving fits to Jeremy's old PhD teacher, Paul Samuelson, who was quoted in *Forbes* as saying, "I have students of mine – PhDs – going around the country telling people it's a sure thing to be 100% invested in equities, if only you will sit out the declines. It makes me cringe!" Me too. The occasional very bad markets are capable of panicking any committee that would be 100% invested in stocks.

3. **Sloppy or no adjustments to P/E** make evaluations of the aggregate market misleading. At the extreme – which is fairly common – you can read that "the market is selling at 15 times next year's estimated operating earnings, which does not seem unreasonable." This misses the mark on every issue. The analysis fails to make several necessary adjustments:
 - a. You cannot compare next year's P/E with historical P/E ratios that are always based on trailing earnings. And given the optimistic bias (and self interest) of brokerage firms, next year's estimates have averaged 11% higher than will actually be recorded.
 - b. The earnings used are 'operating earnings' not 'net earnings'. For the market as a whole this should make no difference since in theory there should be as many pleasant surprise write-ups to assets and earnings as there are write-downs. But in a world where corporations are desperate to beat earnings by a penny, accounting weasels are everywhere and write-downs net of any write-ups have averaged 14% for the last 10 years! (Et tu AIG?) At GMO we take aggregate operating earnings and mark them down by 14% – rough justice, but on average much better than no adjustment.
 - c. Most importantly, you cannot compare boom economies with slumps since profit margins are so highly mean reverting. Strong economies should have lower than normal P/E ratios applied, and vice versa. At GMO we normalize by regressing current profit margins to the long-term average over a sedate 7 years.

4. **Sloppy growth forecasts** form probably the widest shared optimistic factor. About twice a year I get to talk to investment professionals attending 1-week seminar sessions, and I have often asked them to estimate the past long-term growth rate for the S&P 500's earnings per share and sales per share. The estimates have always been very high relative to history. Their estimates average in the 4% to 5% range after inflation, and Lord knows it was hard to find any analyst's estimates as low as 5% in 1999. The data shows that the actual growth is only 1.8% real per year, and Rob Arnott and others come up with even lower numbers.
5. **Abby Cohen and Alan Greenspan** belong to the school that if recent productivity, profit margins, and GNP have been strong then: a) they will continue to be strong; and therefore b) the market will continue to go up. Trying to debate these bulls (and most strategists at brokerage houses fell into this camp in the late 1990s) was like talking Swahili to a Russian. We believers in value and mean reversion talked exclusively about adjustments and fair value and they talked about productivity and GNP growth. When I got to speak second I could attempt to trash their case, but speaking first was a problem so we attempted to come up with a simple pre-emptive strike. **Exhibit 1** shows the three most commonly used important fundamental factors for the economy. The middle column shows the correlation that these three factors have with the same factors in the following 2 years. For example, we are asking if above average profit margins predict falling or rising margins and does above average GNP growth predict acceleration or deceleration? All three factors are in fact **negatively**

Exhibit 1

Current Economic Factor	Correlation	
	Economic Factor Over Next 2 Years	Stock Market Returns Over Next 2 Years
Profit Margins	-49.0%*	-4.1%
GNP Growth	-9.4%	-5.2%
Productivity Growth	-1.5%	-10.3%

Data: 1950-2003

* Correlation between current level of profit margins with future change in profit margins.

Sources: GMO, Federal Reserve

correlated with the next 2 years of data. The last column shows the correlation of the three factors with stock market moves (above or below the past average of about 7% real). Nor surprisingly, since the economic factors themselves are negatively correlated, the market returns are also negatively correlated, spectacularly so for profit margins. This means that when Abby, Jeff Applegate, and the rest finish their presentation of how good the fundamentals are they should add ... “and therefore we expect **below** average performance from the market.” Trust me, this is not what they say.

Alan Greenspan is of course more convoluted but delivers the same implications. In January 2000 he said famously that, “the American economy was experiencing a once-in-a-century acceleration of innovation, which propelled forward productivity, output, corporate profits, and stock prices at a pace not seen in generations, if ever.” The internet, which had “pushed back the fog of uncertainty” for corporations, was his particular pet. “Lofty equity prices,” he said a few weeks later, “have reduced the cost of capital. The result has been a veritable explosion of spending on high-tech equipment ... And I see nothing to suggest that these opportunities will peter out anytime soon ... especially in the business to business arena,” i.e., the lofty equity prices would continue. All this within 1 week of the Nasdaq reaching a level from which it would decline 75%, the business to business sub index 95%, and even the S&P 500 falling by 50%! The Fed Reserve Boss seemed to believe that there was a virtuous cycle in which high stock prices helped

fundamentals, which justified even higher stock prices: about as far from regression to the mean as you could get.

6. **The So-Called Fed Model** maintains that the fair P/E level depends on the level of inflation and interest rates. This really is the vampire theory that refuses to die. Modigliani years ago made the point that stocks are real assets that should sell at real replacement value and that earnings pass through inflation. If that was not the case, Brazil would be way under 1 times earnings by now given its historical inflation.

Analyzing the data, though, is a very muddy job because inflation and P/E ratios are coincident. They do move together for behavioral reasons: shifts in inflation disturb investors. To make matters worse, since there is often some short-term momentum in inflation, i.e., rising inflation tends to predict rising inflation, it will also appear to predict rising P/E ratios and stock moves, and over a horizon of months this does seem to uphold the Fed Model. But it really is an illusion as both series are mean reverting so that throughout history the great market peaks – 1929, 1965, and 2000 – from which point medium-term returns have been poor, have all had low inflation and low rates. Conversely, the market lows like 1982 that resulted in magnificent intermediate-term results had very high inflation and interest rates (13% and 16%, respectively). This medium-term mean reversion is reflected in the **average** 5-year holding periods for buying stocks in the highest 10% inflation and rates compared to the lowest 10% since 1925. High rate and high inflation periods beat the other end by 2.5% and 2.4% a year, respectively. Not bad.

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