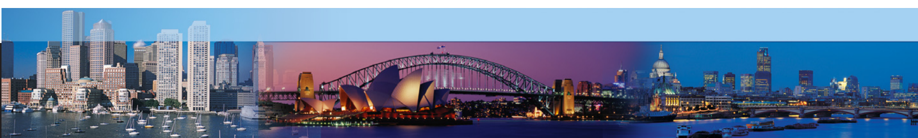
GMO

WHITE PAPER



April 2009

Valuing Equities in an Economic Crisis *or* How I Learned to Stop Worrying about the Economy and Love the Stock Market

Ben Inker

Having spent the last decade decrying stocks as overvalued despite what has generally been an extremely benign economic backdrop, some of our clients are a bit bemused to find us more bullish than many of their other managers today. After all, isn't this the worst economic crisis since the Great Depression? If we could hate stocks when times were great, shouldn't we hate them even more when the world seems to be going down the drain? But given our basic set of beliefs – mean reversion happens, the economy is driven by the skills of the workforce and the physical and intellectual capital of companies, equities are long-duration assets – both stances are completely consistent. To us, the true value of the stock market changes very slowly and smoothly. It is the myopia of investors that causes market prices to vary so wildly.

In their recent panic, investors have driven U.S. equity valuations down below fair value for the first time in well over a decade. This is not particularly surprising given the economic environment, but we should not confuse a predictable event with a justifiable one. Given that we are in an economic crisis, investors were apt to overreact to the bad news and drive the market down, but we believe that this is not warranted given the underlying fundamentals of the market.

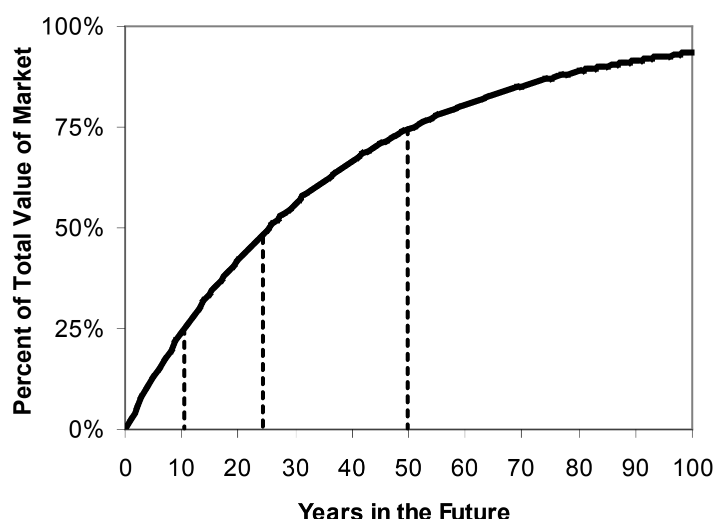
John Templeton's famous line, "The four most dangerous words in investing are 'This time it's different,'" is usually taken to apply to New Era bull markets. But it is just as applicable in a bear market. Because the economy is a mean reverting system, things have never been as good as they appeared in the booms, and have never yet been as bad as they appeared in the busts. We believe that this time will not be different, and history, at least, is on our side.

The Duration of Stocks

The first thing to recognize about equities is where their value comes from. Stocks are worth the present value of the future cash flows they will deliver to their owners. Since stocks do not have an expiration date and dividends grow over time, the duration of stocks is extremely long. If we assume that half of the return from stocks in a given year comes from the dividends and half from the growth in dividends, most of the value of stocks comes from cash flows in the distant future. Exhibit 1 shows how the value of the stock market accumulates over time.

Exhibit I

Accumulation of Stock Market Value



Source: GMO

The first 11 years of dividends account for 25% of the value of the stock market. Half of the value comes from cash flows more than 25 years in the future, and one quarter from cash flows more than 50 years in the future. How far out do you think macroeconomists can forecast the economy? Two years? Three years? Five at the outside?

Let us assume that we know for certain that the economy is going to be horrible for the next five years and that this will force dividends over that period to be 50% lower than trend. How much of the present value of the stock market will that wipe out? The answer turns out to be 5%. Even if the malaise will be 10 years, it would only knock down the value of the stock market by 10%. Ten years is a long time and well beyond the skills of the vast majority of economists to forecast. And a 50% fall in dividends turns out to be a pretty extreme forecast. But even if we could be confident in such a forecast, it means the intrinsic value of the stock market has fallen 10% from the steady-state projection. Given that stock markets are around 50% below their 2007 highs, it is easy to come to the conclusion that stocks must be an awful lot cheaper today than they were then.

Long-Term Stability of the Economy and Dividends

Implicit in our analysis above is an assumption that the impact of current economic conditions is temporary, rather than permanent. Why do we believe this? There are two basic reasons. One is because of our understanding of how the economy works, and the other is because of our analysis of economic history. The productive capacity of the economy comes from the skills and size of the workforce and the country's accumulated intellectual and physical capital. If GDP were to fall by 5%, it would not be because our ability to produce goods and services had fallen by 5%, but because aggregate demand for those goods and services had fallen. When the demand returns, the economy will be able to ramp up production quite quickly. Take a look at GDP growth in the U.S. over the last 120 years (Exhibit 2).

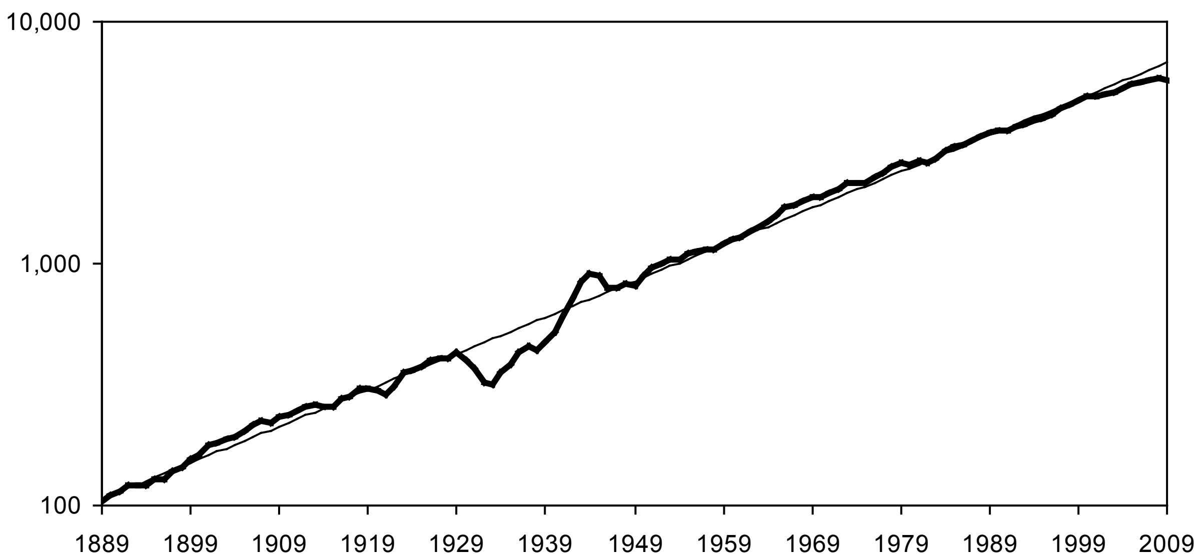
The Great Depression is far and away the most striking period on the chart. Real GDP fell by 25% from 1929 to 1933, in what was easily the worst economic event to hit the U.S. since the Civil War. But that fall, as extraordinary as it was, was a fall in demand relative to potential GDP, not a fall in the economy's productive capacity, and so the economy eventually got back onto its previous growth trend as if the Depression had never happened.

Even more extreme events, such as the massive destruction of capital (and labor) suffered by Germany and Japan in World War II, eventually left those economies without a noticeable trace. Exhibit 3 shows German per capita GDP as a percent of U.S. per capita GDP.

In 1939, per capita GDP was 84% of that in the U.S. By 1946, it was only 27%. It took West Germany until 1961 to get approximately back to where they were in the 1930s on a relative basis. During that time per capita GDP grew

Exhibit 2

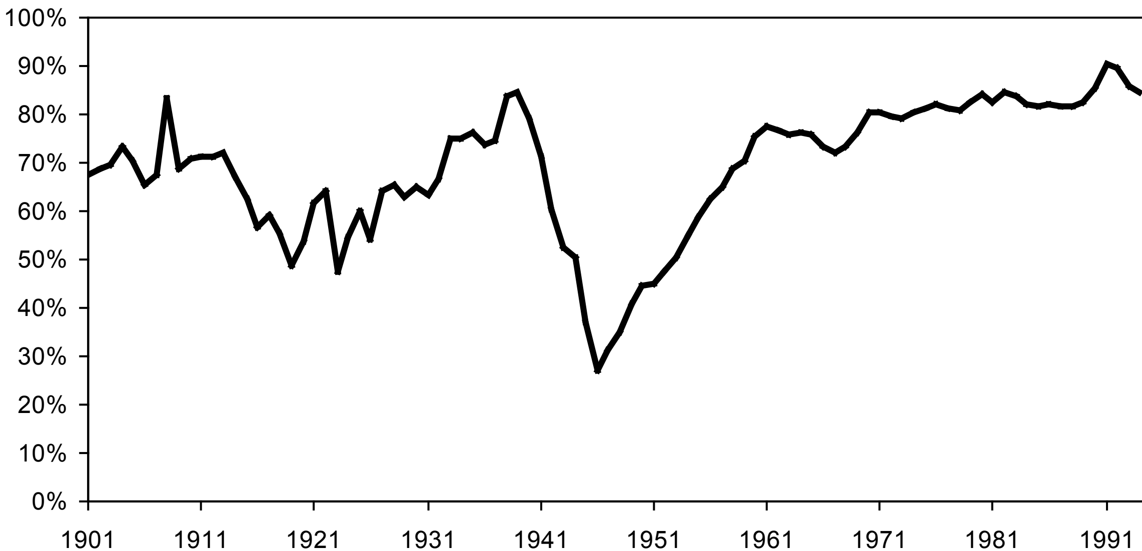
The Long View of GDP



Source: Current BEA since 1929, average of BEA, NBER before

Exhibit 3

German Per Capita GDP as Percent of U.S.



Source: Maddison, Monitoring the World Economy 1820-1992

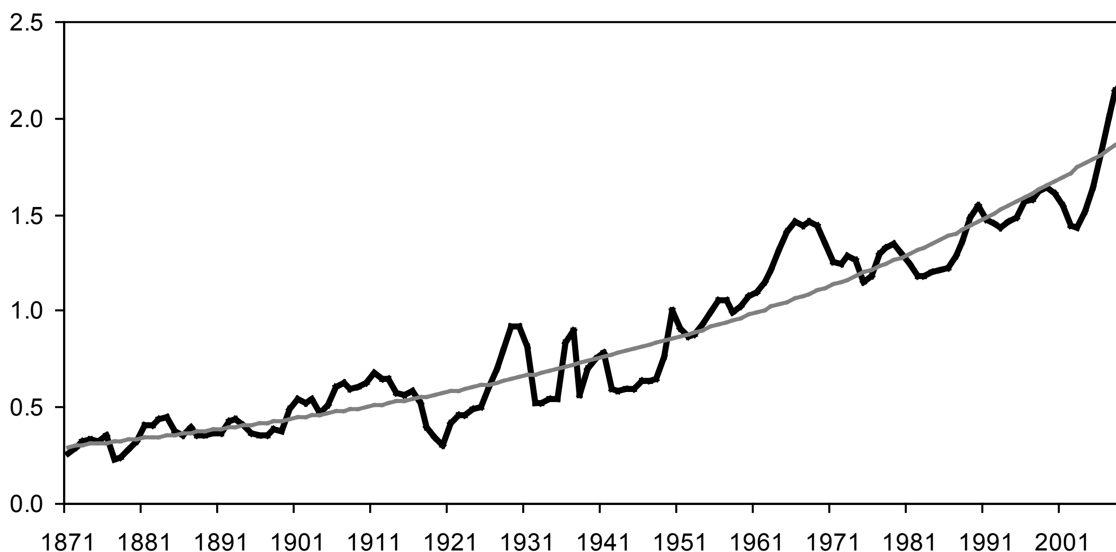
at an astonishing 8.7% per year. Even the extraordinary loss in German capital stock was only a temporary setback for the country.

This is not to belittle the impact of the Depression or World War II. Large numbers of companies went bust in the Depression, and the impact to German companies of having their factories destroyed by allied bombing may indeed have been catastrophic. But investors with a diversified portfolio of stocks should not concern themselves with the prospect of an individual holding going bankrupt, but should worry about a systematic loss of earnings power for their overall portfolio. If half of all auto companies went bust in the Depression, but the survivors inherited the market share of all of the bankrupt companies when demand eventually recovered, investors in the entire group were not affected particularly by the bankruptcies.

The real question that equity investors need to answer is what is going to happen to their stream of dividends. Exhibit 4 shows the path of real dividends for the S&P Composite since 1871.

Exhibit 4

Real Dividends per Share of S&P Composite

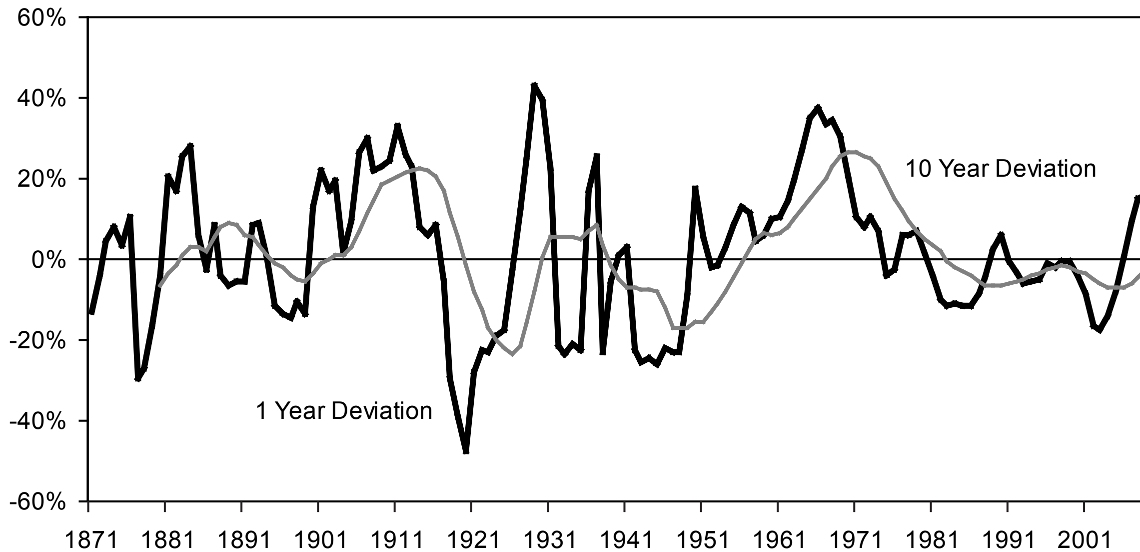


Source: Robert Shiller

The series has been quite stable. It is hard to see any obvious kinks in the data that would herald a true paradigm shift. Looking at the deviations from the trend, we can see the magnitude of how economic events have impacted stock dividends.

Exhibit 5

Deviations from Trend for Real Dividends



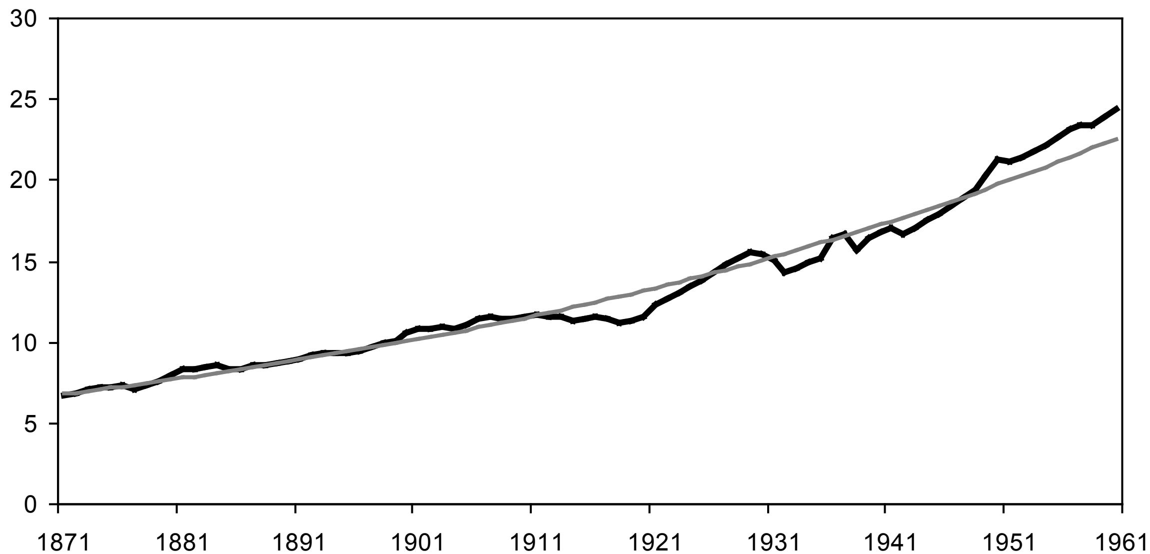
Source: Robert Shiller

The worst-ever deviation was a 50% shortfall in dividends versus trend in 1918. This would have caused a clairvoyant investor to want to knock about 2% off of the value of stocks in 1917. The worst 10-year event – the 10 years ending in 1926, interestingly enough, well before the Depression – was a 23% shortfall, which would have caused our hypothetical clairvoyant investor to knock around 6% off of the value of the stock market.

If our hypothetical clairvoyant was able to accurately forecast the next 50 years of dividends from stocks (an idea we have shamelessly stolen from Robert Shiller, along with his stock market data), his value for the stock market would have looked like the following:

Exhibit 6

Clairvoyant Value of S&P Composite

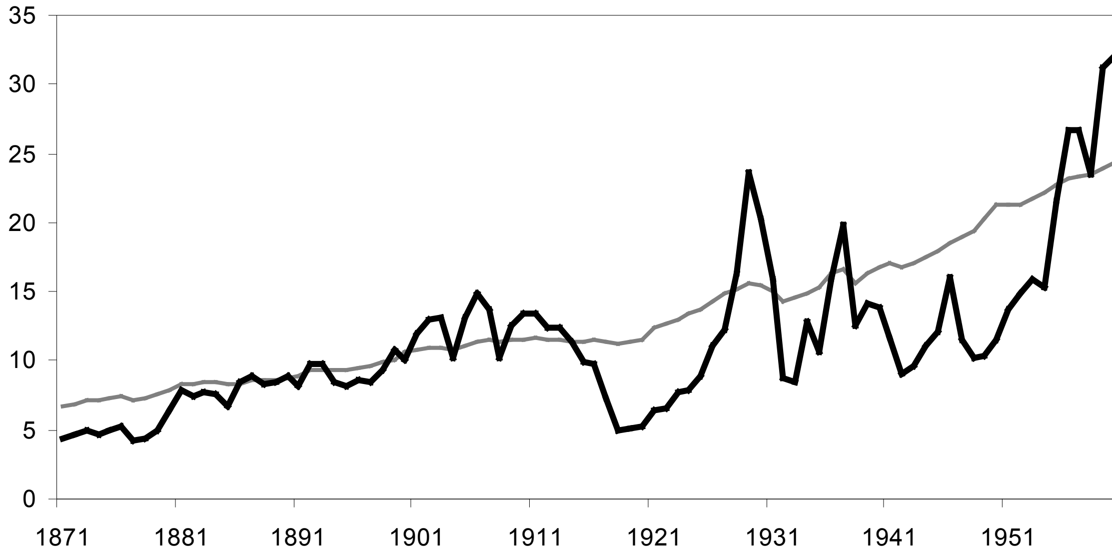


Source: Robert Shiller, GMO

An investor with perfect knowledge of the next 50 years of dividends would have knocked down his valuation for the market by a maximum of 12% in 1918 and written up his valuation by a maximum of 8% in 1950, relative to steady-state. The history of stock market prices, of course, has been hugely more volatile, as we can see in Exhibit 7.

Exhibit 7

Clairvoyant Value and Price of S&P Composite

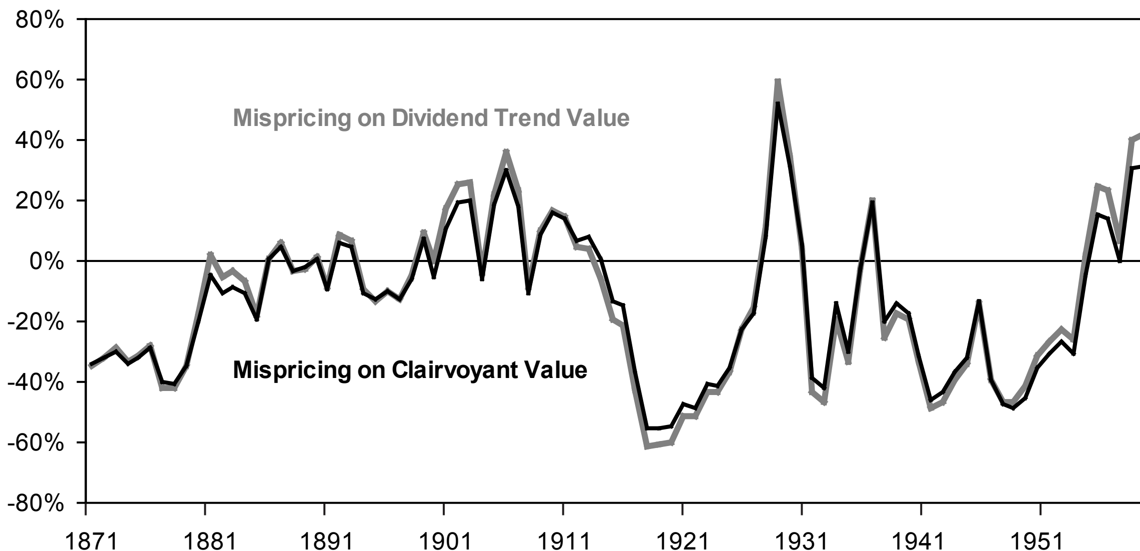


Source: Robert Shiller, GMO

The variations from trend in stock prices were a large multiple of anything justifiable by the future path of dividends. In fact, the variation in stock prices was so large relative to the variation in future dividends that clairvoyance was not particularly useful. Exhibit 8 shows the mispricing of the S&P 500 relative to clairvoyant value and the dividend trend.

Exhibit 8

Mispricing of S&P 500 Relative to Clairvoyance and Trend Dividends



Source: Robert Shiller, GMO

There was no time when the clairvoyant actually would have had a materially different view on how cheap or expensive the market was than someone who assumed dividends grew at a constant rate. For those of us who lack psychic abilities, this is a reassuring fact.

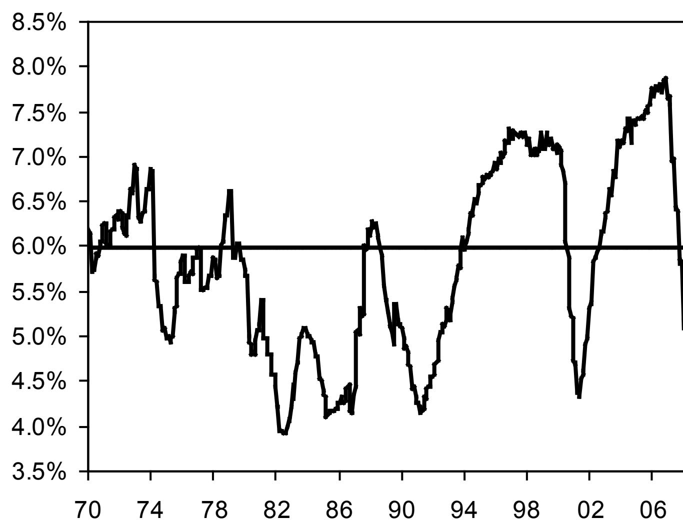
The Current Economic Crisis

And this brings us to the current crisis and our attempts to determine the fair value of equities. The short answer is that if the Great Depression and two world wars failed to materially change the long run path of GDP or dividends, then it seems that the safest assumption is that the credit crisis will not, either.

The fall we are seeing today in corporate profits is very large. It is not surprising that investors have reacted as strongly as they have. But a big part of the reason why the fall has been so precipitous is that profit margins were unsustainably high coming into the crisis. Exhibit 9 shows profit margins for the S&P over the past 40 years.

Exhibit 9

Operating Profit Margin for S&P 500



Source: Compustat, GMO

On an operating basis, S&P 500 profit margins since their peak are down 36%, but most of the fall to date has been profit margins simply moving back to long-term trend. If we follow the pattern of past recessions, profit margins will likely drop further from here. But the historical pattern is one of *cyclical* moves in earnings. Investors today seem to be assuming that the problem we face is a *secular* one. Just because such an event has not happened historically does not mean that it cannot happen in the future, but the burden of proof should be firmly on those who are arguing for the unprecedented event.

There are factors in the current crisis that may cause things to be "different this time." There always are. But the question we are agonizing over at GMO is not how much less equities are worth than we thought. We never thought equities had gained in intrinsic value in the credit bubble, and we think there will be little long-term impairment from the credit bust. We are spending a lot of our effort today in trying to understand how investors will overreact to the current economic crisis, and how undervalued the equity markets may get as a result. In previous economic crises, equity markets have become extremely undervalued, selling in many cases at valuations well below anything we have seen to date in the current crisis. We want to understand what caused those markets to become so undervalued and thereby make the best estimate we can of how far below fair value stocks are likely to get this time.

Given our assumptions, fair value for the S&P 500 is around 900. Long-term investors in stocks should therefore do well if they invest at current levels. An investor who correctly guesses that the market will bottom at 600 and waits until then to invest will do even better. But that investor is taking the risk that investors overreact less to this crisis than they have in previous crises and, in waiting for the perfect entry point, may miss the best opportunity to buy equities in over 20 years.

Mr. Inker is the director of asset allocation.

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