ARE STOCKS RISKY? CRASHLET OF 1998 EDITION[1]

Laurence B. Siegel
Ford Foundation

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After 16 years of almost continuously rising equity markets,[2] investors are conditioned to believe that stocks only go up in the long run, high price/earnings ratios ("multiples") are here to stay, and buying on dips is a winning strategy. The latest decline tests this new orthodoxy.

How did this orthodoxy come to prevail? The crash of 1987 was twice as severe, in terms of the one-day return, as the fabled crash of 1929 that ushered in an era of global economic depression and that caused the Dow Jones Industrial Average ultimately to plummet 89% from its high. Yet after the 1987 crash, the market scrambled back quickly. There was no depression, and two years later stocks were at a new high. Investors began to believe that a new era had dawned in which stocks could not stay down for long, and in which a high return was more or less guaranteed to anyone with the patience to hold on for the long haul. To these investors, the even quicker recoveries from the bear market of 1990 and the corrections of 1994 and 1997 served as "proof statements" that this new perception was accurate. It is unclear how many of today's investment decision-makers have sufficient experience to remember what true downside volatility is – when markets go down and stay down, as they did repeatedly over 1969-1982.

Almost two years ago in the Journal of Portfolio Management,[3] I suggested that investors are ignoring the true long-term risk of equity markets – that even if you hold on long enough, returns might be too low to fulfill your needs. Returns might even be lower than those on fixed-interest investments for substantial periods of time. The idea that short-term volatility does not matter, and that long-term investors *always* prosper, is wrong. This brief article places these concerns in the context of the recent U.S. equity market decline of almost 20%, and concludes that markets

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[2] I define July 1982 as the secular bear-market low. The market was lower in nominal terms in September 1974, but in real terms the 1982 low point of the S&P 500 was (on a month-end basis) 12% lower than the 1974 low point, and 64% below the previous all-time high set in 1968. In those days, of course, dividend yields were larger than today, so that the situation was not as bad in total return terms.

[3] Siegel, Laurence B., "Are Stocks Risky? Two Lessons," *Journal of Portfolio Management,* Spring 1997.

have more risk than a naïve investor who has been conditioned by the last 16 years might expect. Risk happens! This doesn't mean equities are bad; we just have to keep risk in mind.

Brave new world

Earlier this summer, investors were willingly paying 25.1 times trailing earnings to buy the S&P 500 stock index. These are not depressed earnings that are about to explode upwards. They are earnings which have grown tremendously and then flattened out. They are earnings that represent a record high return on the book value of the companies in the index. The previous high "multiple" was 22.2 in 1961. As shown in Figure 1, the average multiple over 1954-1998 was a paltry 14.5.

I use the word *paltry* ironically. Over the whole of 1973-1982 investors would have fallen all over each other to sell their stocks at a multiple of 14.5. The latest decline has brought the multiple down to about 21. This is now widely regarded as a buying opportunity. It's a brave new world out there.

What is a little disturbing is that investors appear to regard these high valuations as permanent. Multiples have to be stay pretty high for investors' expectations to be realized. If the multiple were to revert from its 1998 high to its long-term mean over the next 10 years, that would take a 5.6% annual bite out of whatever return is otherwise expected over the period.[4]

Yet to justify a permanently high multiple, corporate earnings have to grow at a robust rate, much faster than the 3% real growth rate of gross domestic product (GDP). (Precisely what rate depends on one's assumptions about the equity risk premium.) Unfortunately, such growth would cause corporate profits to crowd out every other claimant – labor, government, and so forth – on GDP. In the long run, earnings cannot grow faster than the economy.[5]

The inescapable conclusion is that future returns on stocks will be much lower than returns over the 1982-1998 period. The recent decline may be the beginning of the realization of this forecast, and is a strong challenge to the notions of an always-rising market and a preordained growth path for the long-term investor. This does not mean that equities will be unrewarding or that investors should reduce their equity allocations, but there are few good reasons to ignore risk or to presume that all declines are a buying opportunity.

How did stocks get so expensive?

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[4] I am reluctant to admit this, but the expected total return of 8% that I proposed in my 1997 paper consists of my real earnings-growth forecast plus dividends plus inflation, so it implicitly depends on the multiple holding steady.

[5] The relevant economy for this forecast is the one in which companies are earning their profits. Since some 40% of S&P 500 earnings are derived from foreign sources, the earnings of these companies can grow faster than U.S. GDP if foreign economies are growing faster than the United States. There is no evidence of that at this time, but rapid growth of non-U.S. economies has occurred over long historical periods and probably will again.

Some observers believe that stocks are expensive because they incorporate future gains from technology, a permanent victory in the war against inflation, and dominance of world markets by a restructured and hyperefficient U.S. corporate sector. This view, occasionally parodied as "new age" thinking, is consistent with today's (or even this summer's) stock prices, but has several faults. First, it is contrary to economics – high profit margins are competed away and dominant players become less dominant, as the Japanese can testify. Second, it is inadequate to explain stock valuations unless almost everyone shares the view. The professional literature, if not the popular literature, on investing shows there are enough pessimists around (with money, so they can affect stock prices) to keep valuations from getting out of hand.

The Nobel Prize-winning economist, William Sharpe, has a less heroic explanation: high equity valuations are – at least to some extent – caused by an understandable and predictable change in investor psychology.[6] As the stock market rises for valid, fundamental reasons, the population becomes wealthier. Knowing they have a larger cushion of assets on which to rely, investors start to take risks they would have shunned when they were poorer. This decreasing risk aversion leads them to buy more stocks (or to require a lower return as compensation for the risk of stocks), pushing the market ever higher – beyond levels justified by fundamentals.

While a rising market can feed on itself in this way, so can a falling market. When the tide turns, the decline will be intensified because investors, perceiving they are poorer, will become more risk averse and sell more stocks – down to the sleeping point, wherever that is. Along the way, the market may fall below the its fundamental value and become cheap by historical standards. Now *that* would be a buying opportunity.

Everything old is new again

In the last two months, a different kind of unfamiliar newness has seized the market. Russia is in a state of collapse, the GDP growth rate of the once-mighty Japanese economy has turned negative, and many of the currencies, markets, and economies of southeast Asia have declined sharply. Despite volatile stock markets, the United States and European economies are still basically sound. However, some observers are concerned that because of the integration of our economy with those of Asia and other areas in recession, a flattening or even a downturn in U.S. economic activity is more likely than not.

One should not be too shocked by bad news from around the globe. Unstable foreign economies and markets are an old devil, come back after a 10-year absence during which the news from foreign lands was mostly good – sometimes breathtakingly good. Who would have thought that Ronald Reagan's exhortation to Mikhail Gorbachev: "Tear down this wall," was anything other than a politician's grandstanding? After all the good news, the recent flood of bad news seems like a nightmare from the past. Everything old is new again.

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[6]Sharpe, William F., "Investor wealth measures and expected return," in *Quantifying the Risk Premium Phenomenon for Investment Decision Making*, Association for Investment Management and Research, Charlottesville, Va., 1990.

The volatility of the U.S. stock market over the past 2 months is also the return of an old devil. Daily price swings of up to 7%, and monthly price swings twice that large, are hardly unprecedented, even if one ignores the crash of 1987. The expected volatility of the S&P 500 as implied by option prices is currently 19%, almost exactly the volatility that Ibbotson and Sinquefield measured for that index over 1926-1997.[7] Of course, this volatility is much larger than was experienced over the last few years, but the return of significant price fluctuation to the U.S. equity market is not a disaster. It is the historical norm.

The resurgence of volatility, however, does provide a wake-up call for investors who have been dreaming about getting rich in equities without taking any risk. The next section will explore the meaning of risk as it should be understood by long-term investors in a later section. The short version is that the risk of market declines, like the risk of turmoil in places like Russia and Asia, was always there. The fact that the risks did not occur for a long time lulled many investors into complacency. The latest decline is just the realization of a risk that investors must always take in order to have the hope of earning returns above the yield on Treasury bonds.

Does volatility matter? Are stocks risky?

Long-term investors should indeed care about short-term volatility. If stock market prices follow a random walk, then price moves contain no information. In a random-walk world, no one knows the true value of a stock, and the latest market price is the best estimate, so buying on dips makes no more sense than selling on dips. The true value could be higher or lower than the market price by any amount at any time. Volatility is bad under these conditions because a negative return makes the investor that much poorer forever. That is, the stock will start on a new growth path that is lower than the old growth path by the amount of the negative return.

If, on the other hand, stocks follow a nonrandom, mean-reverting pattern, then volatility could conceivably be good. In such a world, it is possible (say, by fundamental analysis) to obtain information about the true value of an asset, beyond the information implied in the market price. Price moves would then contain information in the sense that a lower price for the same asset represents a bargain, and timers could make money by buying on dips and selling on rallies.

Which model, random or nonrandom, better represents the stock market? The most likely answer is a mixture that is heavily tilted toward the random. The reader will have noticed that some of the arguments in this paper depend on mean reversion in the multiple, which implies but does not guarantee mean reversion in returns (because earnings growth is not entirely predictable). However, it is unlikely that mean reversion in returns, if there is any, conveys enough information to be of any practical use after the costs of acquiring and interpreting that information, and the cost of transacting, have been paid.

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[7] Ibbotson, Roger G., and Rex A. Sinquefield, *Stocks, Bonds, Bills, and Inflation,* Association for Investment Management and Research, Charlottesville, Va., 1989; updated through 1997 by Ibbotson Associates, Inc., Chicago, 1998. The S&P 90 from January 1926 to February 1957 is linked to the S&P 500 thereafter to form a continuous index.

Investors, then, should probably behave as if the market were a random walk – even if it has a nonrandom element. This implies a stable strategic asset allocation based on the investor's return requirements and risk target, as informed by long-term equilibrium views of what returns and risks are provided by the market. Tactical bets away from this mix should be based on a strong view that the market for a particular asset, or asset class, is out of long-term equilibrium at a point in time – and that there is a mechanism capable of returning that market to equilibrium.

To sum up, the true meaning of risk is the possibility of failing to meet a long-term investment objective. Short-term volatility is, however, a risk with which long-term investors should be concerned because returns are cumulative. Without a mechanism enabling the market to play catch-up, a particular negative return costs investors money forever.

How to allocate assets in a risky world

If the principles outlined in this article are essentially correct, then the U.S. equity-dominated asset allocation popular among some plan sponsors and individual investors needs to be revisited. Specifically, while continuing to hold U.S. equities, the portfolio needs to be diversified among some or all of the following:

- Fixed income
- Defensive stocks
- Value stocks
- International stocks
- Derivative-based portfolio protection strategies
- Uncorrelated asset classes

Fixed income is the original alternative asset class. Although there is not much room for capital gains with Treasury yields at 5%, relative stability of principal and high current income are traits not found in any stock market.

Defensive stocks, while a subcategory of the U.S. equities that one should be trying to diversify away from, have not participated in many of the excesses of the bull market and have fared well in the recent decline. Although I am not forecasting a bear market, they should be the best performers if one develops. *Value stocks* are desirable for many of the same reasons as defensive stocks, and the two categories overlap.

International stocks are very important to a well-diversified portfolio and are a sticking point with many sponsors and investment committees. The international indices have performed poorly since 1990 because Japan, which had a very large index weight at the beginning of the period, has declined sharply. This has given the illusion that all international stocks have been poor performers. Actually, European stocks have boomed in the last few years, running neck-and-neck with the S&P 500 since the beginning of 1996 and only a little behind for the whole decade. Moreover, because international stocks have tended to decline when U.S. stocks have declined in recent periods, the traditional diversification benefits of investing abroad have been muted. This performance has led some investors to conclude that international diversification is "dead" and that U.S. stocks should have an even more dominant role in institutional portfolios.

This conclusion is profoundly wrong. Diversification does not just mean protection in a U.S. downturn. There have been many periods, particularly in the 1970's and 1980's, when the U.S. market was flat and international stocks rose. Such patterns can be expected again. An internationally diversified portfolio should perform well because business cycles in different countries are usually out of phase with one another, companies and industries in Europe and elsewhere are being restructured, and there are many companies outside the U.S. with unique products or services or whose valuations are very attractive.

The recent disappointing performance of the international-stock indices is a reason to renew, not reduce, one's commitment to this asset class.

Portfolio protection strategies are a mechanism for buying protection against downside risk while retaining most of the potential upside from holding a large percentage in equities. If executed properly, such strategies – including puts, "collars", and dynamic hedging – can substitute for some of the fixed-income exposure that well-diversified portfolios should typically have.

Finally, *uncorrelated asset classes* such as commodities, real estate, private equity, and hedge funds may provide both downside protection and high returns. However, the success of such an approach depends heavily on prescient choice of strategies and managers, and on correlations with equities remaining low. The recent collapse of several hedge funds shows that a strategy believed by investors to be uncorrelated may contain bets that lead to high correlation when markets decline.

This is also a good time to re-examine strategic or policy allocations to determine whether the underlying return and risk assumptions are realistic. Forward-looking estimates of both return and risk are required for determining this mix. Few sponsors are naïve enough simply to extrapolate the recent past. However, excessive influence on the strategic mix from recent high-returning, low-risk periods sometimes sneaks in, and the sponsor should be on guard against such a possibility.

Conclusion

The idea that stocks are riskless, or almost riskless, if held for the long run is absurd. Investors can lose money over very long periods. After the crash of 1929, the market took 25 years to reach its old high. Between 1968 and 1982, the market lost 64% of its value in inflation-adjusted terms. These spans of time are comparable to the periods for which most individuals have their money in the market.[8] After these periods were over, it took a lot more time for stocks to rise to the point where they provided a healthy return if one had bought at the old high. Thus stocks are risky over any planning horizon that could possibly be relevant to an individual already in the work force and saving money.

[8] A reasonable guess is that the dollar-weighted average contribution that investors make to their retirement plans takes place in one's early fifties, and the dollar-weighted average retirement check is received in one's early seventies, for an investment horizon of 20 years.

The fact that stocks have risk does not mean they are "bad." Investors should probably be reassured that stocks are risky, because if they were not, they would offer no risk premium. Moreover, a globally diversified portfolio of asset classes (of which U.S. equities are an important part) will have a much more desirable risk-reward profile than a U.S. equity-only portfolio. Diversification and forward-looking risk assessment are the cornerstones of any well-managed investment program.

Our caution about the stock market being risky does not mean we disbelieve in long-term investing. We believe very strongly in long-term investing. That does not mean that long-term results will always be as favorable as they were over the period during which most of today's investors learned their trade. Investors must learn to live with lower returns, deeper dips, and longer and more uncertain waits to recovery and new highs.

So diversify. Be cognizant of risk. Look at other countries and other asset classes, as well as the United States and equities, in spending your risk budget. Don't be provincial by assuming that everything good in the world is right here in America, and don't assume that the S&P 500 is any kind of riskless asset. Stocks are expected to be rewarding precisely *because* they are risky, and diversification and risk management are the tools that enable investors to take advantage of the opportunity afforded by stocks while achieving the degree of safety they need.