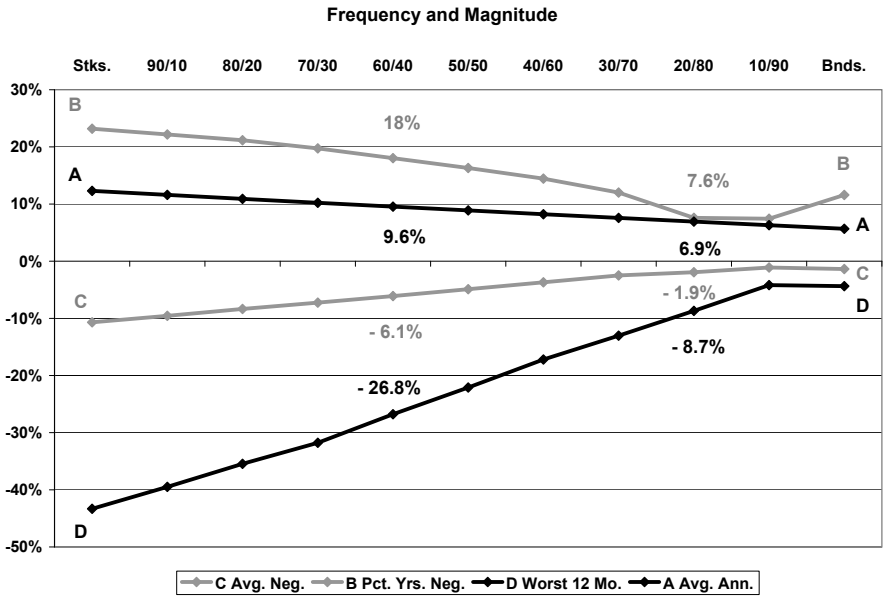
**Chart 5: One-Year Risk/Reward**




the individual investor's risk tolerance. What is most important is that investors have an accurate assessment of the risk they are exposed to.

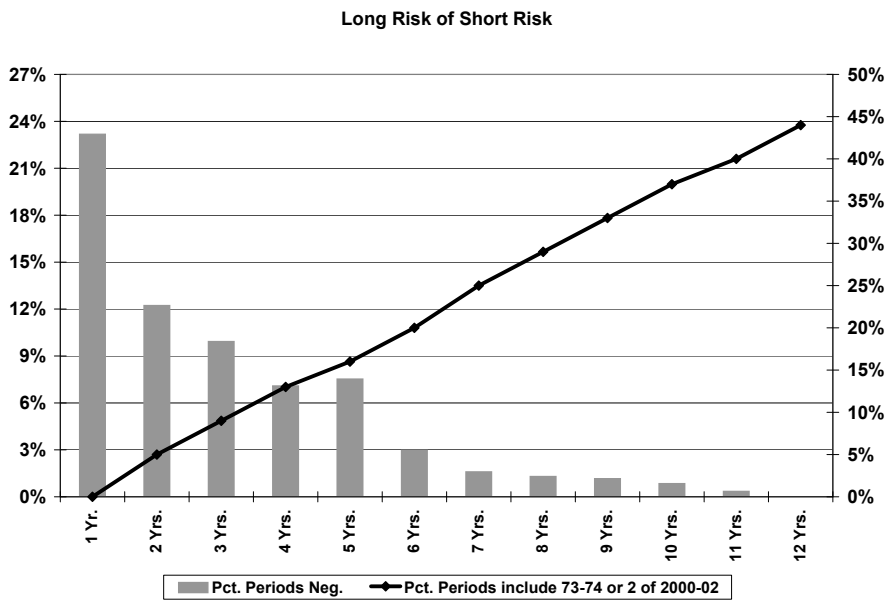
An accurate assessment of risk exposure is especially important regarding "worst-case" stock markets such as 1973–1974, 2000–2002 or 2008–2009. The odds of running into one at some point in one's investing lifetime make it imperative to have a plan for dealing with them: for those who expect them, they can be extremely uncomfortable; for those who don't, they can induce panic. Someone once said that if the odds are a million to one against something occurring, chances are 50/50 it will.

Chart 6 shows how time has historically increased the chances of incurring one of these "rare" markets. The data points on the line correspond to the right axis and show the percentage of time periods since 1950 that include either 1973–1974 or at least two years of 2000–2002. For example, while about 17% of all five-year periods include one of those markets, about 37% of ten-year periods include one. Extending

the line further to capture longer time periods would show that 100% of thirty-year periods include one of these worst-case stock markets.

Although time increases the odds of a worst-case market, the bars in Chart 6 illustrate how people often describe the impact of long-time horizons on risk. The bars correspond to the left axis and show the percentage of time periods since 1950 that stocks have had a cumulative negative return. For example, 23% of single years (rolling twelve-month periods) have been negative, 12% of two-year periods have had a cumulative loss and so forth until no twelve-year periods have been negative. Some advisors may comfort investors by pointing out that stocks have had no twelve-year periods since 1950 in which they lost money, yet the line in Chart 6 shows that 44% of twelve-year periods included a catastrophic market that might have caused an unprepared investor to panic and abandon their advisor. Success is a journey not a destination, and those who have a realistic expectation of how bumpy the journey can be have a better chance of reaching their destination.

**Chart 6: Long-Term Risk of Short-Term Risk**

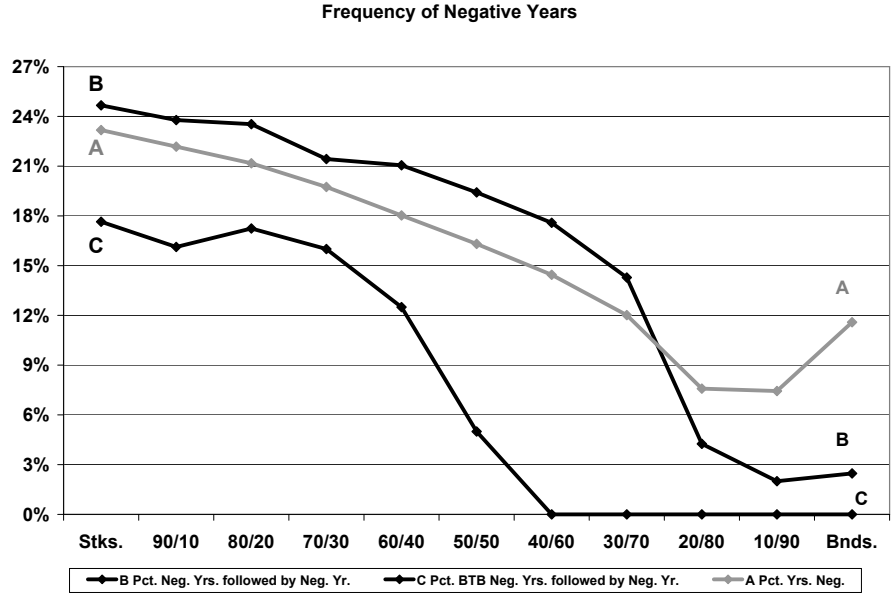


Applying the same analysis to market corrections of 20% or more shows that, like worst-case markets, the odds of running into a market correction in a given year have been relatively low but increase over time. Corrections began in 16% of years since 1950, but on average investors would have seen a 20% correction within three years of investing (the maximum wait was nine years). Furthermore, a review of all of the twenty-five-year periods beginning 1950–1984 shows that 11% contained three corrections of 20% or more, 37% had four such corrections, 43% had five and 9% had six. In summary, investors should be prepared to see a 20% market correction within three years of an investment and to see four or five such corrections over twenty-five years. Again, investors who expect these types of bumps are less likely to panic.

Finally, in understanding downside risk it should be noted that buying stocks after a negative year does not necessarily tilt the odds of another loss in one's favor. Line A of Chart 7 shows the percentage of twelve-month periods in which various allocations had a negative return, and line B shows the percentage of those negative periods that were followed by another negative twelve months. Line C shows the percentage of those second negative periods that were followed by a third consecutive negative twelve months. For example, a 100% stock allocation has been negative 23% of the time (line A). But 25% of those negative years were followed by another negative year (line B), and almost 18% of those were followed by a third negative year (line C).

I call the year after a negative year for stocks the "bounce," and Chart 7 shows how frequently bounce years have been negative. Chart 8 shows the magnitude of bounce years by comparing the average annual return (line A) to the average return for bounce years (line B) to the average return for all years with positive returns (line C) for various allocations. While the returns in bounce years for stock-heavy portfolios have historically been higher than their average annual returns, they have been lower than the average return for all years with positive returns. I suspect some would anticipate a bigger average bounce when

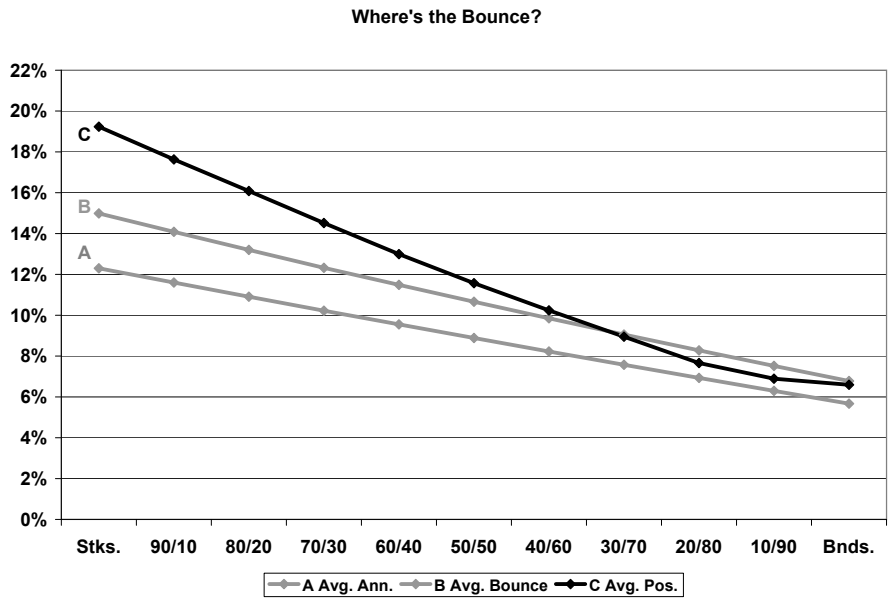
**Chart 7: Frequency of Negative Returns**




buying stocks "on sale." But average bounce returns for over-allocations to stocks are pulled down by the fact that some of the worst years for stocks have come in bounce years.

The description of war as long periods of boredom punctuated by moments of terror may describe how many investors feel about investing in stocks. By focusing so much on the boring periods, professional measures of risk don't prepare investors for the moments of terror. Advisors should create an expectation of downside volatility and explain their plan for addressing and taking advantage of that volatility. Those expectations should include a 20% correction in stocks within three years of investing and four or five such corrections over the course of twenty-five years with at least one of those in the magnitude of 2008. The plan for hedging downside risk should take a page from professional poker players who try to make more money long-term by losing less short-term by playing conservatively and patiently until the odds tilt in their favor.

**Chart 8: Bounce Magnitude**




## Conservative and Patient

It has been said that the stock market is efficient at transferring wealth from the impatient to the patient. In a five-person poker game, the odds are that any one player will have the best hand approximately 20% of the time, meaning their best strategy may be to fold in forty out of fifty hands. Having that much patience may be difficult for some, as they watch the ante for each hand erode their capital. But professional players understand the importance of managing resources until the odds favor them. For investors, understanding the fundamental relationship between stocks and bonds is the key to managing their resources while patiently waiting for the odds to favor them.

Those who understood that relationship benefited in 2008 as stocks fell 37% but the Barclays Long Government Bond index ("BLGv") went up 22%. Some questioned whether asset allocation, diversification and modern portfolio theory failed in 2008, but 22% is the highest return the BLGv has had in any of the twenty-four years since 1929 in which stocks were negative. I submit that at its most fundamental level diversification

was successful on historic levels, and that 2008 was the continuation of a long history of high-quality bonds hedging stock losses and vice versa.

Since 1929 stocks have been negative twenty-four calendar years, and bonds (as represented by the BLGv) were negative nineteen years—but they were only negative in the same years three times. The correlation between stocks and the BLGv since 1929 is .07, which is low. However, in only those forty years in which stocks or bonds were negative, the correlation is –.5. The returns for those forty years are listed in Table 3.

In the years stocks were negative, bonds averaged 5.7%, and in the years bonds were negative, stocks averaged 13.6%. The effectiveness of bonds to diversify stock losses has been especially important during the worst stock markets (such as 1929–1932, 1973–1974, 2000–2002 and 2008–2009) and for the type of dramatic short-term losses illustrated by returns listed in Table 4.

**Table 3: Calendar Years since 1929 When Stocks or Bonds Were Negative**

| Year | Stks. | BLGv | Year | Stks. | BLGv |
|---|---|---|---|---|---|
| 1929 | –8.9 | 3.4 | 1966 | –10.1 | 3.6 |
| 1930 | –25.3 | 4.6 | 1967 | 24.0 | –9.2 |
| 1931 | –43.9 | –5.3 | 1968 | 11.1 | –0.3 |
| 1932 | –8.9 | 16.8 | 1969 | –8.5 | –5.1 |
| 1933 | 52.9 | –0.1 | 1973 | –14.8 | 0.9 |
| 1934 | –2.3 | 10.0 | 1974 | –26.5 | 3.4 |
| 1937 | –35.3 | 0.2 | 1977 | –7.4 | 1.3 |
| 1939 | –0.9 | 5.9 | 1978 | 6.5 | –1.1 |
| 1940 | –10.1 | 6.0 | 1979 | 18.5 | –1.6 |
| 1941 | –11.8 | 0.9 | 1980 | 32.5 | –2.9 |
| 1946 | –8.2 | –0.1 | 1981 | –5.0 | 1.4 |
| 1947 | 5.2 | –2.6 | 1987 | 5.3 | –2.8 |
| 1951 | 24.0 | –3.9 | 1990 | –3.1 | 6.3 |
| 1953 | –1.0 | 3.6 | 1994 | 1.3 | –7.7 |
| 1955 | 31.6 | –1.3 | 1996 | 23.0 | –0.8 |
| 1956 | 6.6 | –5.6 | 1999 | 21.1 | –8.9 |
| 1957 | –10.8 | 7.5 | 2000 | –9.1 | 20.3 |
| 1958 | 43.4 | –6.1 | 2001 | –11.9 | 4.3 |
| 1959 | 12.0 | –2.3 | 2002 | –22.1 | 17.0 |
| 1962 | –8.8 | 6.9 | 2008 | –37.0 | 22.7 |