

BRC Investment Management LLC

Research Spotlight

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CONCEPTS

Thinking the Unthinkable

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The essence of investing involves the assumption of risk in exchange for an expectation of future financial return. In order for investors to be enticed into buying assets whose prices vary over the short-run, they must have the expectation that these riskier assets will provide higher long-term profitability. This relationship between risk and return has strong theoretical underpinnings, and has also been born out over hundreds of years of financial market history. Those willing to accept short-term volatility have been rewarded with higher returns over longer periods. Short-term volatility is caused by many factors including supply and demand changes, economic developments, changes in commodity prices, company specific events, political elections, etc.

Volatility and abrupt price changes can also be caused by dramatic and completely unpredicted acts of war, violence and terrorism. Planning for this last category of events is particularly difficult given the emotionally charged nature of random violence and the tremendous

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uncertainty that accompanies such catastrophes. Nevertheless, as in all areas of a financial nature, understanding relevant risks and developing thoughtful plans are the best weapons we have for dealing with the potential for calamitous events.

When we look specifically at the scenarios associated with unexpected acts of terrorism and violence, it seems to us that five specific risks confront investors.

RISK 1: Loss of Market Value

While the short-term price reaction to unexpected violence is almost always negative, our financial markets have proven extremely resilient in bouncing back from seemingly catastrophic circumstances. A recent research paper published by Andrew Chen of Southern Methodist University and Thomas Siems of the Federal Reserve Bank in Dallas, examined the impact on our financial markets from 14 military/terrorist attacks dating back to the sinking of the Lusitania in 1915 (the full article can be found at www.wcfia.harvard.edu/seminars/pegroup/chen_siems.pdf). Along with documenting the overall resiliency of the US stock market, Chen and Siems also found that the speed of market recoveries has increased over time and that US

markets recover sooner than other global equity markets. One of Chen and Siems' charts has been reproduced below, which shows almost a 90-year timeline of the Dow Jones Industrial Average with key military/terrorist attacks noted. As an example of their findings, when Hitler invaded France in May of 1940, the Dow lost approximately 21% of its value over the next 11 days. The Dow stayed below its pre-invasion levels for 795 days or about 2 1/2 years. After the attack on Pearl Harbor, the Dow lost 6.4% of its value over the next 11 days and did not recover for 232 days. Amazingly, after 9/11, the Dow lost 7.9% of its value during the first 11 days of subsequent trading, but recovered to positive territory after only 40 days.

Chen and Siems postulate that increased speed of communication and wide spread dissemination of financial information has resulted in faster recovery times for the market in response to terrorist/invasion events. While it is true that equity markets decline in the days immediately following an attack, it is also clear that markets have recovered fairly quickly as investors' confidence in free enterprise re-emerges.

It is a sad truth that wars and calamity are often very positive, in an economic sense, for many sectors of our economy including basic materials, industrials, defense

Figure 1 Prior Calamities and Recoveries - 1915 to 2002



Fig. 1. Dow Jones industrial average 1915-2002.

and construction. If an investor's asset allocation is properly designed and maintained, the initial negative impact of an extreme event should be mitigated through diversification, and when the recovery ensues, the portfolio will be well positioned to regain any lost ground.

RISK 2: Increased Market Volatility

Following a terrorist attack it is likely that short-term market volatility will increase. Option risk premiums will increase and market trading volume will likely accelerate. The effect of this increase in volatility is to increase the transaction costs relating to short-term trading. This short-term volatility can greatly increase the negative impact of selling into panic and can also result in very large opportunity costs when the market rebounds. Often some of the greatest one-day returns in the market are in the very early recovery days following a significant negative event. On September 17, 2001 (the first trading day after 9/11) the S&P declined by 4.9% - the 3rd worst day in the over 2,700 trading days since 1995. Just one week later on September 24, the S&P 500 rose by 3.9% - the 15th best day since 1995. If an investor misses these big up days due to attempts to time the overall market, opportunity costs, which are impossible to recoup, will be experienced. Again, a sound asset allocation strategy and a long-term perspective mitigate the impact of the temporarily high market volatility surrounding major shocks.

RISK 3: Reduced Liquidity

Following 9/11, the major US exchanges were closed for 5 trading days. During this time, stocks could not be sold and mutual funds could not be redeemed (since they held stocks that could not be sold). Most observers view the resumption of trading on September 17th as a monumental achievement and a testimony to the resiliency of the US capital markets. Nevertheless, during the period the market was closed, funds from equity portfolios were not available and individuals and companies were required to rely on alternative sources of liquidity. Our view, as it was prior to 9/11, is that individuals should maintain a balance in money market funds or commercial bank accounts equal to approximately 6 months of projected expenses. Achieving liquidity quickly always has a price and, during a market calamity, the price of becoming liquid will rise dramatically until markets are able to settle themselves.

RISK 4: Interruption of Communication

It is certainly possible to conceive of scenarios where normal lines of communication are temporarily suspended. As discussed above, if our client's asset allocation has been correctly implemented and liquidity reserves are in place, we would not expect to be selling client stocks into the teeth of a panic. In the event of a 9/11 type situation, we would immediately post our analysis and recommended strategy to our web site (www.brcinvest.com) and would attempt to communicate with our clients by phone and/or email. In the days following 9/11, we spoke with most of our individual clients, and in cases where we undertook any trading it was predominantly to buy securities that had declined precipitously during the panic. It is obviously important that our clients provide us with updated and complete contact information so that we can communicate directly during these periods.

RISK 5: Third Party Infrastructure

Unfortunately, the times in which we live require all businesses to plan for possible interrupted access to their physical facilities. We have developed a written Disaster Recovery Plan which outlines our internal procedures for minimizing the impact on our operations in the event of a natural disaster, terrorist attack, or other catastrophic event. We maintain our web servers at a remote location and all of our non-proprietary raw data is immediately accessible from a new physical location should the need arise. Our internal server, which houses our client data and proprietary stock ranking information, is backed up each night, removed from the premises, and stored in a fire-proof safe at one of our employee's residences. Since we do not custody the assets of any of our clients, their "official" financial records and holdings are also stored, secured and backed up at their respective custodian bank or securities firm.

It is a certainty that future negative shocks are going to affect our financial markets. The risks noted above are real and have the potential to create short-term volatility and transitory declines in market value. Overtime, however, our capital markets have proven to be resilient and profitable. As an example, we looked at the monthly price returns of the S&P 500 Index over the 75 year period from March 1931 to September 2006. Using month-end values of the S&P 500, there have been over 725 rolling 15 year periods since 1931. Over this span, which includes depressions,



*BRC Investment
Management LLC*

8400 East Prentice Avenue
Suite #1401
Greenwood Village, CO 80111

Phone: 303-414-1100
Fax: 303-414-1111
Email: ddurie@brcinvest.com

*We are on the web:
www.brcinvest.com*

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wars, terrorist attacks, assassinations, and scandals of all types, the S&P 500 has produced a positive price return in every single period. Short-term price volatility is the price of admission into the long-term investment game. Ultimately, our capital markets have demonstrated that they successfully reflect the rewards that accrue to productivity, hard work, entrepreneurship and creativity. We believe these relationships will continue into the future despite the inevitable shocks and setbacks that will occur along the way.

Summary

In summary, we believe addressing the following areas is the best protection against the financial risks associated with a terrorist attack or similar disaster:

Personal Readiness – Ensure that estate plans, life insurance, medical records, etc., are updated and easily accessible. Prepare an emergency communications plan that all family members will understand and remember.

Liquid Reserves – Establish a reserve of liquid assets held either in government-backed money market instruments or a sound commercial bank.

Asset Allocation – Design and implement an asset allocation strategy that incorporates a variety of asset classes that span a mix of security types and geographical regions. Maintain target allocations, do not impulsively change allocations in response to market events, and rebalance to targets if market volatility creates imbalances. Remember that investing is a long-term endeavor and that you will be rewarded for accepting some short-term volatility.

Backup Communication Channels – Provide key service providers with updated contact information, copies of key documents, and the names of persons that could be contacted in case of an emergency.

Verify – Ask your service providers about their preparedness for emergency situations and their plans for business continuation should a natural disaster or terrorist attack occur.

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