

# Anatomy Of A Market Crash

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Oct 25, 2007 – Michael Mauboussin

When markets go sharply south, investors often act shocked and bewildered. Allusions to "perfect storms" and hundred-year floods parade through the financial headlines as if the market gods were acting on a vendetta. The only problem is these market swoons happen a lot more frequently than weather metaphors suggest: Hundred-year floods seem to appear every three to five years. Scorched investors may be perpetually surprised, but periodic crashes are as old as the markets themselves.

While market history tracks when these crashes happen, the trickier question is what causes them. External shocks--events like Sept. 11, or Hurricane Katrina--are a logical suspect. But it turns out external events are rarely the culprit for big market downdrafts. External factors are responsible for less than 20% of the stock market's biggest moves in the past 50 years.

Most crashes, including the subprime spillover in 2007, the global turmoil that sank Long-Term Capital Management in 1998 and the breathtaking stock market plunge in 1987, are the result of the market's internal workings. More directly, crashes are the culmination of three predictable phases. Recognizing these phases can help investors understand past market moves and possibly sidestep future crashes.

All crashes begin with the seed of success. Preceding the 2007 credit market crash was the dynamism of the U.S. housing market, including a period of unprecedented home price appreciation. The first phase of a crash is a dose of bad news--a crack in the bull market's veneer. Most recently, the bad news came from the subprime mortgage market, where lax lending standards and the liberal use of adjustable rate mortgages put debt obligations in the hands of people unable to repay it. Rising defaults in subprime mortgages combined with stalled home price appreciation quickly dulled the housing market's luster.

During the second phase, the portfolios of optimistic investors lose a lot quickly. These investors often use leverage to boost their returns, compounding their woes. In the

relatively low-return bond market environment of 2006 and 2007, optimistic investors snapped up mortgage-backed securities of lower and lower quality, encouraged by high yields and the imprimatur of the rating agencies. These investors were the first to be stung as the bad news trickled out.

In the final phase, lenders raise collateral requirements. As asset prices dip, lenders require more capital as collateral, forcing investors to sell assets, further depressing prices. The additional price drops spur a fresh round of margin calls, and the positive feedback spins out of control. Under the duress of margin calls, investors often have to sell assets unrelated to the bad news, leading to correlated declines in seemingly uncorrelated assets.

The poster children for this phase in 2007 were two Bear Stearns hedge funds which suffered the indignity of lender Merrill Lynch auctioning some of their assets. In short order, scores of funds saw sharp declines or were wiped out, similar to past crashes.

This process, a dash of bad news in a strong market leading to losses for optimistic buyers and finished by the coup de grace of higher collateral requirements, is cathartic. But asset prices rarely revert back to fair value. More like a pendulum, prices swing from overvalued to undervalued.

Warren Buffett's advice is to be fearful when others are greedy and greedy when others are fearful. Past crashes have created attractive investment opportunities. But for psychological reasons, most investors have a very difficult time being greedy when others are fearful. Recognizing and overcoming these psychological obstacles is critical to contrarian investing.

Let's begin with so-called "recency bias," a tendency to overweigh recent events when considering the future. When markets are calm, we expect more calm. When really bad things happen, we worry that more bad things will happen. There is sound evolutionary basis for this behavior, but it's not good for investors. To illustrate, empirical evidence shows retail mutual fund investors do much

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worse than the average mutual fund precisely because of bad timing. They invest after good periods and withdraw after bad periods--the opposite of the correct course.

Humans are also innately loss-averse, which means we suffer losses roughly two times more than we enjoy comparably sized gains. Being wrong is very painful, and following losses, investors are frequently tempted to withdraw from markets altogether to avoid additional anguish. Experiments show that following a string of poor results, loss aversion can cause investors to forgo objectively attractive investment opportunities.

A great deal of money today is controlled by institutions, including mutual funds, pensions, and hedge funds. These institutions often have odd incentives. They want to do a little better than the market and their peers, but aren't interested in straying too far from the pack to achieve those results. As John Maynard Keynes famously said years ago, "Worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally." For business and reputational reasons, many institutions don't want to be associated with losing stocks, prompting them to sell at or near the bottom.

And then there's stress. Research shows that when the stress response kicks in, investors become highly attuned to the short term and basically turn off any thought about the long term. So even if an investor believes a stock or industry group is likely to fare well over a three to six year period, anxiety about the next three to six months prevails--and a great opportunity slips away.

Following 2007's credit market dislocation, many markets are returning to more normal conditions. The yield curve has a more familiar upward slope, credit spreads are moving toward historical averages, lending standards have tightened, and the froth in the mergers and acquisitions market has evaporated for the time being. The market has repriced risk, correcting some of its recent excesses.

So what should investors do now? Part of the answer is a function of time horizon. In the

short term, many questions remain: What is the likelihood of recession? When will the U.S. housing market recover? How will energy prices affect consumer spending? But in the long haul, if the past is any guide, buying depressed industry groups at low valuations is a recipe for success.

Homebuilders fit this bill today. The stocks have been under pressure for a couple of years as the real estate hype has dissipated, leaving valuations and expectations near all-time lows. While there's no reliable way to know where these stocks will be in the short term, they appear to be very good investments for a long-term holder. History bears this out: Had you bought a basket of homebuilder stocks during the housing slump in the fourth quarter of 1990, you would have enjoyed exceptional returns for the next one-, two-, five- and ten-year periods.

History shows crashes periodically arise from the market's inner workings. And crashes are not random--they tend to follow a distinct pattern, even if the assets or actors differ. However, psychology shows it is hard for investors to take advantage of the opportunities market crashes present. Awareness of these patterns and psychological pitfalls are the first step to succeeding in difficult markets.