Insights on...

MARKET VOLATILITY

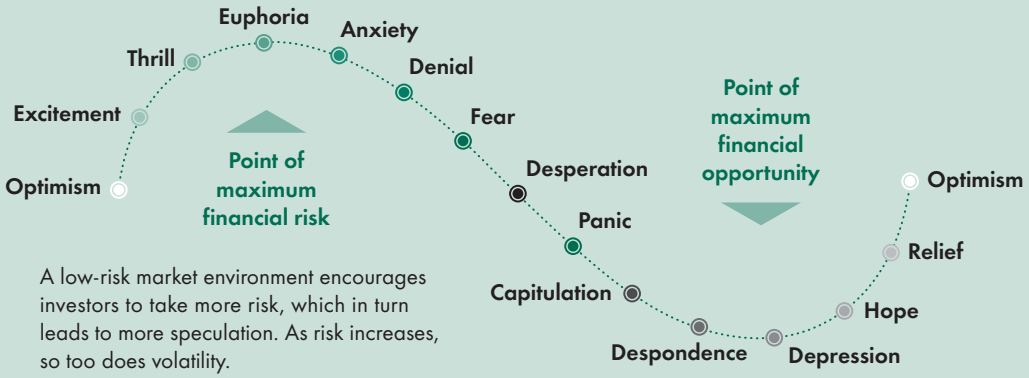
REBALANCING YOUR PORTFOLIO IN A VOLATILE MARKET

Understanding the Practical Implications of Market Volatility Theory

The late economist Hyman Minsky proposed that periods of stability and prolonged prosperity lead to increased risk taking. Eventually, this increased appetite for risk, he believed, brings about periods of instability. His theory, called the financial instability hypothesis, asserted that market participants undertake increasingly speculative positions and use more and more leverage when times are good. Eventually, a tipping point is reached where borrowers' cash flow is no longer sufficient to service the debt. Often this is also accompanied by the intervention of regulators to contain such speculation in the form of increased interest rates or other regulation. Borrowers will start to liquidate their positions to cover their loans, credit tightens and asset values collapse. This situation has been referred to as a Minsky moment.

The primary tenet of Minsky's theory is that business cycles are not necessarily the result of external shocks to the system. Rather, business cycles and market fluctuations are a result of normal dynamics inherent in the capitalist system as participants seek efficient use of capital and compete for returns. A low-risk environment encourages more risk taking. This, in turn, leads to more speculation and use of debt. Once the Minsky moment is reached and assets are sold down, the market eventually returns to a low-risk environment and the process starts anew. Minksy did not believe that the economy is ever in a state of equilibrium, but rather is constantly moving from stability to instability and back.[1]

CYCLE OF MARKET EMOTIONS



A low-risk market environment encourages investors to take more risk, which in turn leads to more speculation. As risk increases, so too does volatility.

[1] Minksy, Hyman. 1992. "The Financial Instability Hypothesis." The Jerome Levy Economics Institute of Bard College.

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Predicting volatility is difficult. Using volatility to predict markets is even more difficult, especially because it typically lags initial market declines.

Minksy's financial instability hypothesis would therefore suggest that volatility, which is a measure of risk, is also cyclical. Periods of stability would exhibit periods of low volatility, but as risk increases so too does volatility. Regardless of whether or not you subscribe to his theory, it has some interesting connections to the markets in recent years, including the subprime mortgage crisis in the United States. And there does seem to be a connection between volatility and the cycle that Minksy suggests.

MEASURING VOLATILITY

Predicting volatility is difficult. Using volatility to predict markets is even more difficult, especially because it typically lags initial market declines.

One way to gauge expectations about volatility in the U.S. equity markets today is the Volatility Index (VIX). VIX is an indication of near-term volatility as implied by the price of S&P 500 Index Options (OEX) with 30 days left to expiration. The calculation of VIX today uses OEX options contracts with a variety of strike prices, some in the money and some out of the money. The VIX is often referred to as the investor fear gauge. This is because the VIX tends to rise during periods of increased market tension and risk.

Using the VIX as a reference, we can make two important observations on volatility. The first is that over the past 15 years volatility has tended to be cyclical. Periods of heightened volatility have been followed by periods of stability. Herein lies one of the connections with Minsky's theory.

The other observation we can make is that volatility itself is volatile. During periods of cyclically low volatility, the VIX still would occasionally spike. One such time occurred in May 2006 during an otherwise stable market environment. Likewise, volatility levels sometimes drop temporarily in a highly volatile market. Perhaps the best recent example is the drop in the VIX amid stable market conditions during the late summer of 2000, at the peak of the market and inconveniently just before the start of a three-year bear market. This provides a clear illustration of the poor predictive quality of volatility.

SHIFTING ASSETS IN A VOLATILE MARKET

As investors review their portfolios and consider moving assets between asset classes, volatility becomes critically important because the costs from unexpected market movements can dwarf a portfolio's other costs. The potential costs arising from volatility when trading assets will vary from situation to situation. A shift from one asset class to another will be inherently more risky than restructuring investments within the same asset class. Volatility has greater implications when transitioning among asset classes or markets with a low correlation as well. Liquidating investments to increase cash reserves also can take on an added element of risk because cash essentially has a zero correlation to most investments.

Many risk models and systems have been developed to estimate these costs, which are often referred to as opportunity cost or volatility cost. The first hurdle to accurately quantifying the risk from market volatility is that risk modeling relies in part on past data and market observations. And while volatility is cyclical in its overall trend, day-to-day volatility is unpredictable and often volatile. It becomes even more unpredictable as risk increases. Therefore, historical data often proves to be a poor indicator of what the future will hold. During periods of increasing or decreasing volatility, these models are susceptible to further errors as a result of risk's cyclical nature.

A further complication is that conventional probability theory assumes that market volatility will be normally distributed (as depicted on a bell curve). However, extreme market movements happen more frequently than the efficient market theory would suggest. One extreme example is the market crash of October 19, 1987, when the market fell 20% in one day. This should not have happened in more than four billion years if market returns were normally distributed.[2] In other words, the chance of extreme volatility is perhaps even greater than probability theory would estimate. Adjusting risk models to reflect this anomaly is challenging and inexact.

MANAGING VOLATILITY

Fortunately, you can take several steps before rebalancing your portfolio to assess and manage your risk.

Identify the Key Contributors

Volatility can be broken down into three specific components: market risk, common factor risk and security-specific risk:

- Market risk represents the general exposure of a portfolio to a particular asset class. A portfolio with a higher measure of risk compared to the overall market (beta) can be expected to be more volatile. The portfolio benchmark also is a driver of market risk because different benchmarks represent different asset classes, which may vary in their risk profiles.
- Common factor risk arises from exposure to particular characterizations or subgroups within the portfolio. Overexposure to a sector or style would be examples of common factor risk. Other drivers include capitalization, market, currency and country.
- Security-specific risk, at the micro level, is the risk attributable to a single holding in the portfolio. The concentration of the portfolio and relevant news pertaining to a holding are key drivers.

All types of volatility risk fall into these categories. A review of your portfolio will help determine its primary sources of risk. Identifying this risk is a vital step in the risk management process.

Evaluate the Current Market Environment

Once you've identified the sources of risk, evaluate them with respect to current conditions. You need to consider the effect of a recent pick-up in volatility, for example, on the asset classes you are considering rebalancing. Upcoming news events, such as economic reports, interest-rate decisions or earnings announcements, likely will have some effect on market fluctuations. The current market conditions may ultimately require you to re-evaluate your risk, especially during cyclically volatile times.

[2] Reider, Rob. 2007. "Volatility Forecasting I: GARCH Models."

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Critically Assess the Risk Model

After considering the type of risk your portfolio faces and the implications of current market conditions, reassess the risk model's output. Does your portfolio face risk factors the model may not fully appreciate? Does the cost estimate reflect upcoming news or market conditions? How well does the model make adjustments to consider extreme market events?

These steps will prove immensely valuable, not only to better evaluate risk, but also to help when developing strategies to minimize your risk when rebalancing. The bottom line is that even with the growing sophistication of risk tools and computers, risk management only starts with these models, it does not end there.

MAINTAIN VIGILANCE

The media makes much of volatility in the marketplace. News stories herald a new era of low volatility and less risky financial markets during stable times, with sharply differing moods prevailing during more volatile episodes. In reality, volatility seems to be cyclical, as Minsky's theory implies. At the same time, volatility cannot be relied upon to predict market movements, nor can it be expected to stay at one level for long. In the long run, volatility may represent just a small blip on performance. But this is little comfort when trading assets over a relatively brief period of time, especially if you happen to trade on this blip. Therefore, it is best to understand the implication of volatility as it pertains to each specific move you are considering. After all, volatility represents a significant potential cost in any asset transition. And this is worth remembering both in periods of stability and otherwise.

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