RAYMOND JAMES

The Vicissitudes of Volatility

A Guide to Navigating the Uncertainties of Capital Markets

FOREWORD

This brief introduction to the fundamentals of volatility will cover the causes of volatility, the methods by which it is measured, the degree to which human behavior influences volatility, as well as the means by which investors can insulate their portfolios from volatile markets.

KEY TAKEAWAYS

Volatility is the product of uncertainty in financial markets.

Effective asset allocation and diversification can insulate portfolios from volatility.

Despite periodic pullbacks, returns on various assets are generally positive over multi-year periods.

Emotional decisions can exacerbate the negative effects of volatility.

DEFINING VOLATILITY

In finance, volatility is often used to denote times of tumult and turbulence. When asset prices and financial markets change dramatically, they are deemed to be 'volatile.' Simply put, volatility is the degree to which the price of an asset fluctuates. Volatility is the product of instability, unpredictability, or variability in financial markets. It also is often an extension of human emotion, which has the tendency to be quite volatile in and of itself. Frenzied buying or selling exacerbates price fluctuations as investors are driven to avert losses or acquire profits. Sources of volatility are varied and encompass a myriad of risks. Additionally, volatility serves as an effective indicator of overall investor sentiment, condensing many disparate pieces of information into a single metric.

SOURCES OF VOLATILITY

While the specific causes are countless, the root of most all volatility is uncertainty. Certainty induces confidence in financial markets and produces a greater degree of predictability when pricing assets. On the other hand, uncertainty instills confusion and precipitates fluctuations in asset prices. If certainty is the calm that ensures smooth sailing for asset prices, uncertainty is the wind that whips up waves of volatility.

Most uncertainty is caused by four distinct categories of risk: market risk, liquidity risk, credit risk, and operational risk. Market risk denotes many of the most common causes of uncertainty in asset pricing, including exogenous price shocks, currency or interest rate movements, natural disasters, and geopolitical tensions. Liquidity risk refers to the inability to sell a particular asset due to the lack of a sufficient number of buyers. Credit risk is specific to debt investments and occurs when debtors default on

their obligations and creditors incur losses. Operational risk refers to the risks inherent in the management of a business or other entity, including fraud or other illegal activities. Suffice to say that, barring few exceptions, market risk is responsible for the vast majority of volatility in asset prices. When previously unforeseen risks become visible to investors, uncertainty is injected into financial markets. The result is heightened volatility.

To use a hypothetical example to illustrate this concept, suppose a company earns a majority of its revenues from international sales. Payments are often received in foreign currencies, which must be exchanged to U.S. dollars. Say there is significant fluctuation in the valuation of the U.S. dollar relative to foreign currencies and the trend is expected to continue in the future. It is therefore more difficult to value the future revenues of the company with the same degree of certainty due to the presence of additional currency risk. As a result, investors sell shares of the company, causing its stock price to decline. Voilà, volatility.

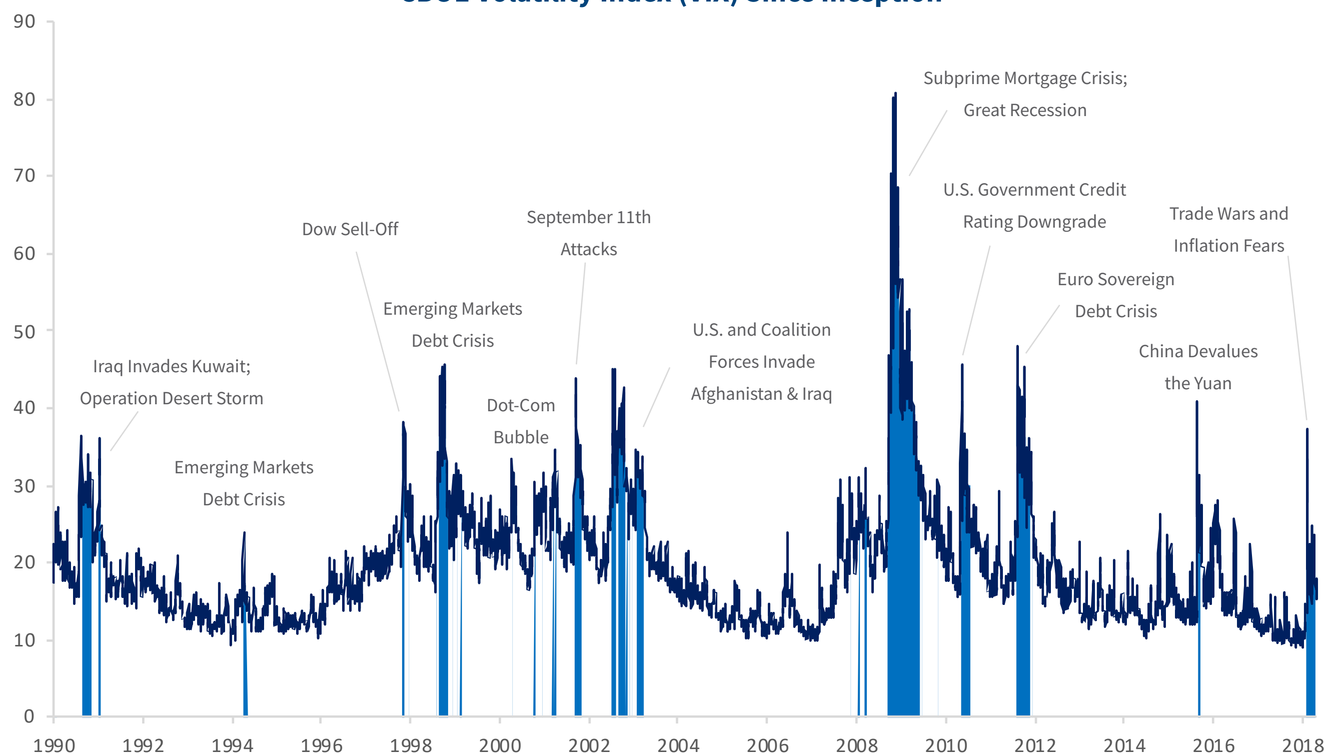
MEASURING VOLATILITY

As a gauge of overall investor sentiment, volatility is a valuable metric in assessing the level of uncertainty present in financial markets. The methods by which volatility is quantified are either historical or predictive in nature.

Historical volatility is derived from the standard deviation of past returns, which is often used to calculate technical market metrics. Standard deviation is a statistical measure of variability and is often used as a proxy for risk in financial returns. One such technical metric is the simple moving average, which is an oft-cited gauge to assess the the current price level of an asset relative to its past price movements. This average is calculated by dividing the standard deviation of an asset's price by a given time period. Popular periods include 50, 100, and 200 days.

On the other hand, implied volatility is a helpful gauge in anticipating whether markets will experience volatility in the future. Implied volatility is derived from prices on option contracts. Options allow an investor to buy or sell an asset at a given price at a predetermined point in the future. Therefore, one of the greatest determinants of the price of an option contract is the expectation of future price fluctuations on the underlying asset, namely 'implied volatility.' The Chicago Board Options Exchange Volatility Index (VIX) is an oft-cited measure which aggregates the pricing on an array of options contracts on the S&P 500. The VIX is one of the leading gauges of market risk and its level is often used as a proxy for the magnitude of volatility expected to occur in the market over the next 30 days. Colloquially, many refer to the VIX as the 'fear index.'

CBOE Volatility Index (VIX) Since Inception



Source: FactSet, CBOE as of 10/31/2018; Shaded areas indicate periods of heightened volatility with the VIX above 30.

BEHAVIORAL FINANCE

It is worth noting that volatility in financial markets does not occur in a vacuum. On the contrary, volatility is often caused or magnified by elements which are not exclusively economic or financial in nature. The fallibility of human nature often induces emotional responses to price changes, which exert an outsized influence upon market movements. This guide would be remiss if it were to ignore the effects of emotion upon volatility. When investors face the risk of losing their capital or the prospect of profiting off the price of an asset, they often act irrationally. Frenzied buying or selling can both engender and exacerbate price fluctuations as investors are driven to avert losses or acquire gains. It is incumbent upon investors to remain impervious to such irrationality and adhere to disciplined and methodical action wherever possible.

RESPONSES TO VOLATILITY

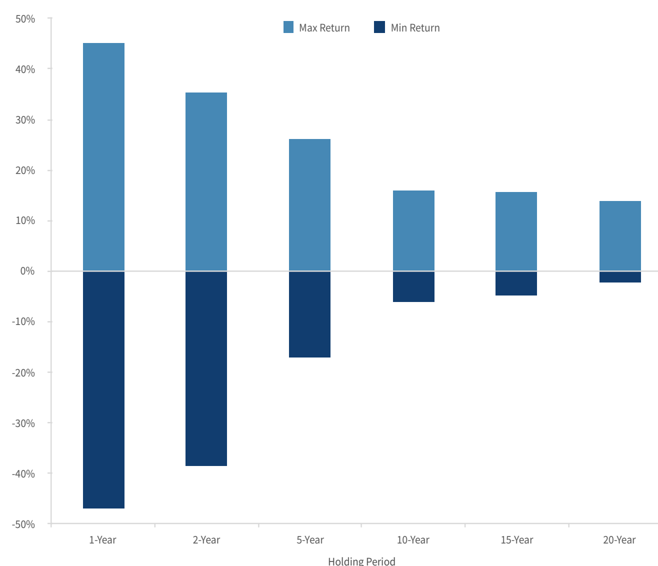
While its effects cannot be completely eliminated, a variety of strategies may be employed to mitigate the impact of volatility upon a portfolio of investments or to capitalize on the opportunities which it creates.

The first and foremost defense to volatility is effective asset allocation and diversification. Just as ballast stabilizes a ship and prevents it from capsizing in stormy seas, well-diversified investments can prevent a portfolio from collapsing during bouts of volatility. Allocating capital with respect to the correlation of each asset to other assets within the portfolio can shield investments from the negative effects of volatility. By allocating a percentage of capital to negatively or non-correlated assets, portfolio returns can be insulated from market volatility. In addition, the performance of different asset classes varies year to year. A balanced, well-diversified portfolio has proven to be one of the best ways to capture consistent returns over time (see chart). A balanced portfolio offers exposure to the upside potential of multiple asset classes while attempting to limit downside risk (for more information, see Asset Allocation, A Guide to the Fundamentals of Portfolio Construction).

However, investors need not focus exclusively on the downsides associated with volatility. While a shortsighted investor may concentrate on the losses caused by price fluctuations, a shrewd investor is keenly aware that volatility offers opportunity for gains in equal measure. Just as shifting currents and winds occasionally necessitate a temporary change in course, changing price trends occasionally offer chances to capitalize upon new opportunities. Price declines afford investors the opportunity to purchase assets at better valuations. However, accurately timing purchases may prove to be a challenge. Investing specific amounts of capital at periodic intervals (known as 'dollar cost averaging') can be an effective way to equalize the price paid for an investment over time, irrespective of price fluctuations. Additionally, the intentional sale of assets at a loss for tax purposes (know as 'tax loss harvesting') affords an investor the opportunity to offset taxation on investment gains while simultaneously affording him the opportunity to reinvest capital at better prices.

Finally, the importance of simply staying invested over long periods of time cannot be overstated. Just as waiting can often be the best strategy to weather a storm, the best strategy to survive spells of volatility is often simply to stay calm and carry on. This notion is reinforced by historical asset returns over sufficiently long periods of time. While financial markets can be quite volatile from year to year and periodically experience significant pullbacks, returns on various assets are generally positive over multi-year periods (see charts). The most difficult challenge of navigating stormy seas is often maintaining a consistent heading according to a compass. Likewise, the most difficult challenge of investing is often adhering to a plan according to long-term financial objectives. Remaining resolute and reasoned in the face of volatility is of paramount importance. Investors should avoid irrationality as if it were a dangerous reef that would wreck their financial plans. Selling assets at inopportune times may not only lock in a loss, but it may preclude the investment from recovering in the event of a market rebound. On the other hand, allowing an asset time to regain lost ground essentially renders periodic volatility inconsequential to its long-term performance.

Range of S&P 500 Returns Since Inception



Source: FactSet, Standard & Poors, Author's Calculations as of 10/31/2018

All content written and assembled by Taylor Krystkowiak, Investment Strategy Analyst.

ADDITIONAL DISCLOSURES | Views expressed in this newsletter are the current opinion of the author, but not necessarily those of Raymond James & Associates or your financial advisor. The author's opinions are subject to change without notice. Information contained in this report was received from sources believed to be reliable, but accuracy is not guaranteed. Past performance is not indicative of future results. Investing always involves risk and you may incur a profit or loss. No investment strategy can guarantee success.

The S&P 500 is an unmanaged index of 500 widely held stocks that is generally considered representative of the U.S. stock market. Keep in mind that individuals cannot invest directly in any index, and index performance does not include transaction costs or other fees, which will affect actual investment performance. Options involve unique and potentially significant risks and are not suitable for everyone. Option trading can be speculative in nature and may carry substantial risk of loss. Dollar cost averaging does not assure a profit and does not protect against loss. It involves continuous investment regardless of fluctuating price levels of such securities. Investors should consider their financial ability to continue purchases through periods of low price levels. Diversification and asset allocation does not ensure a profit or protect against a loss. Investments are subject to market risk, including possible loss of principal.

Not FDIC or NCUA Insured • No Bank Guarantee • May Lose Value

RAYMOND JAMES

INTERNATIONAL HEADQUARTERS: THE RAYMOND JAMES FINANCIAL CENTER
880 CARILLON PARKWAY, ST. PETERSBURG, FL 33716

© 2018 Raymond James & Associates, Inc., member New York Stock Exchange/SIPC.
Raymond James® is a registered trademark of Raymond James Financial, Inc.