

Correlation Analysis:

A key practice in achieving portfolio diversification

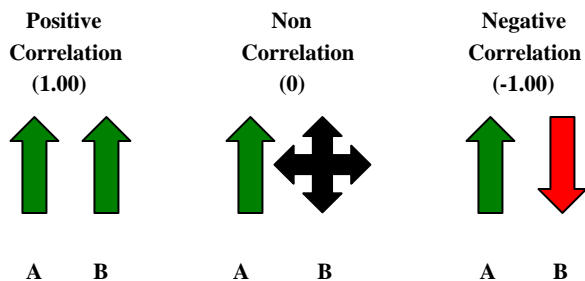
Correlation is a familiar term to many experienced investors. However, few investors fully understand its importance in achieving and maintaining a diversified portfolio. This paper takes a close look at correlation analysis and discusses the importance of continual portfolio monitoring.

What is Correlation?

In finance, the correlation between two securities is a statistical measure of the relationship between the price movements of the two securities. This relationship, which is expressed by what is known as the correlation coefficient, is represented by a value within the range of -1.00 to +1.00.

A correlation coefficient of +1.00 indicates that two securities move in the same direction at all times. If security A gains in value, we would expect security B to gain as well.

A correlation coefficient of 0 indicates that the price movements are totally random. A gain by security A provides no insight into the expected movement of security B.



A correlation coefficient of -1.00 indicates that two securities move in the opposite direction at all times. If security A gains in value, we would expect security B to decline in value.

Before making any investment decisions based upon correlation analysis, one must recognize that correlation does not imply one security is responsible for the movement of another. Correlation simply measures the relationship of movement between two securities.

What is the significance of correlation in the pursuit of diversification?

Investors seek diversification as a way to reduce risk in their portfolio. The fundamental premise behind diversification is that portfolio risk and volatility can be lowered by investing in a number of differing asset classes (also known as asset allocation) which have varying levels of risk, volatility and return. Effective asset allocation should reduce what is known as unsystematic risk (the risk associated with owning an individual security).

In order to achieve effective diversification, portfolio holdings should not be highly correlated. The relationship between correlation and proper diversification is most typically inverse. When correlation increases, diversification decreases and when correlation decreases, diversification increases.

Risk can be mitigated through diversification, but diversification is best accomplished when accompanied by correlation analysis.

Monitoring Your Portfolio

The correlation coefficient between different securities is not a static measure. Correlation levels can change over time for a number of reasons. For example, the correlation coefficient for the S&P 500 index and the 10-year treasury note moved from a positive .24 in 1965 to -.53 in 1997 and back to a positive .39 in 2007. This indicates that including both of these securities within the same portfolio may

provide very different diversification benefits depending on the timing. Regular correlation monitoring can prove to be very important.

Market Correlation

Historically, certain asset classes have had low correlations and investors have been able to diversify a portfolio by simply allocating assets among a variety of asset classes. However, during certain periods of time, correlation levels across asset classes have increased, making it difficult to diversify a portfolio simply by spreading asset across various asset classes. When highly correlated markets become volatile, a portfolio which is simply allocated across different asset classes may experience instability and risk. As a consequence, when broader markets (including equity and fixed income) exhibit high levels of correlation, correlation analysis is even more important and diversification should be sought through more than simple asset class allocation.

When correlation levels are high, some resourceful investors look to less traditional investments to provide diversification opportunities. Leveraged index funds, for example, can free up portfolio capacity to be better allocated across other non-correlated investments. Additionally, inverse (or short) funds can provide diversification through negative correlation to the long funds within a portfolio, and can be particularly attractive to investors that believe a hedge or long/short relative value strategy to be prudent in certain market conditions.

Conclusion

Proper diversification is contingent upon the right mix of investments within a portfolio and the assumption that portfolio holdings offer varying levels of correlation.

Portfolios that exhibit high levels of correlation across their holdings may be exposed to a higher degree of risk. Correlation levels can fluctuate across asset classes throughout time. During periods when correlation levels are high across such investments as equities and fixed income it becomes increasingly difficult to effectively diversify a portfolio. Diligent investors will recognize the increased need for correlation analysis during these periods.

Our goal with this paper was to impress upon the reader that correlation measures are not simply noted statistics. Rather correlation analysis is a necessary tool in effective portfolio management. For more information on how to best implement a correlation analysis program and to learn about Direxion's correlation tools, please contact us at info@direxionfunds.com

Useful Correlation Analysis Tools

Recognizing the importance of correlation, Direxion has developed a correlation center to aid investors in building and maintaining a properly diversified portfolio. The correlation center contains the following useful tools:

- A **Correlation Calculator** which displays correlation coefficients and the returns of individual securities in relation to a user's sample portfolio.
- An **interactive correlation analysis tool**, which allows the user to compare correlation coefficients across all of Direxion's active funds and the relevant indices.
- A **correlation matrix** which allows the user to compare correlation coefficients across all of Direxion's active funds.

These tools can be accessed at www.direxionfunds.com The Correlation Calculator is available only on our Financial Professionals site. A user I.D. and password can be request on our site.

An investor should consider the investment objectives, risks, charges and expenses of the funds carefully before investing. The prospectus contains this and other information about the funds. To obtain a prospectus, please call the Direxionfunds at 1 800-851-0511. The prospectus should be read carefully before investing.

Investing in index funds may be more volatile than investing in broadly diversified funds. The use of leverage by a mutual fund increases the risk to the fund. The more a fund invests in leveraged instruments the more the leverage will magnify gains or losses on those investments.

Date of first issue: August 30, 2007 Distributor: Rafferty Capital Markets, LLC