



Simple Examples of Risk Measurements

Navigating the labyrinth of investment risk terminologies can be challenging. For this reason, iQUANT has created the following guide to simplify the task of conveying risk measurements to your clients.

STANDARD DEVIATION

Imagine you and your friends run a mile every day, and you record your times. If everyone typically finishes close to the same time every day, you'd say your group has a low standard deviation; there's not much "deviation" or difference from the average time. But if one day someone is much faster or slower, the standard deviation would be higher. In essence, standard deviation is a way to measure how much variation or "spread" there is from the average (mean) or expected value.

SKEWNESS

Skewness in investing is like playing a game of darts. Imagine you're a player who usually hits near the bullseye (average return). If your throws start landing to the right of the bullseye more often (higher returns), your game is positively skewed. You're not always hitting the bullseye, but you're often getting higher scores. On the flip side, if most throws start landing to the left (lower returns), your game is negatively skewed. You're again not always hitting the bullseye, but you're often scoring less. Similarly, in investments, positive skewness means higher returns occur more often than the average, while negative skewness means lower returns occur more frequently. So, just like understanding your dart game can improve your strategy, understanding skewness can help fine-tune investment decisions.

KURTOSIS

Think of Kurtosis as measuring the chance of "wild cards" in your investment game. If your investment has high Kurtosis, it means there's a bigger chance of a surprising result, like winning or losing big, compared to a game with fewer wild cards. It's not about whether you'll win or lose more often, but how extreme those wins or losses could be. For example, investing in a new tech startup could have high Kurtosis – most days might be steady, but there's a chance of sudden huge gains or losses.

MAXIMUM DRAWDOWN

Think of Maximum Drawdown as the biggest drop your investment could take from its peak. Suppose you invest \$1,000 in a strategy. Over time, it grows to \$2,000, but then a market downturn cuts its value to \$1,200. Your maximum drawdown here is 40%. It's the largest drop from the peak (\$2,000) to the lowest point (\$1,200) before it starts to recover. This measure helps you understand the risk of a significant loss in your investment.

DOWNSIDE CAPTURE RATIO

Think of the Downside Capture Ratio as a rainy-day measure. It tells you how much an investment 'gets wet' when the market is having a downpour. If a strategy has a Downside Capture Ratio of 50%, it means when the market drops 10%, on average, the strategy drops only 5%. So, a lower Downside Capture Ratio is good, because it indicates that the investment is losing less in down markets compared to the benchmark.

DOWN MARKET BETA

A real-life example of down-market beta can be observed in the performance of a defensive stock during an economic downturn. Suppose a utility company's stock exhibits a down-market beta of 0.75. If the overall market experiences a decline of 10%, the utility stock, with its lower beta, is expected to decrease by 7.5% ($0.75 \times 10\%$). The lower beta indicates that the stock tends to be less volatile and provides relatively more stability during market downturns compared to the overall market. This makes the utility stock a potentially attractive investment option for investors seeking reduced exposure to down market fluctuations.

DOWN MARKET CORRELATION

Think of it like boating on a lake. When the weather is calm (a stable market), boats can go their own ways freely (stocks move based on individual factors). But, when a storm (down market) hits, all boats are likely to be driven in the same direction (down) by the wind and waves. This simultaneous movement is down market correlation; different investments behaving similarly because of market conditions.

RANGE OF HISTORICAL CAGRs

The historical rolling CAGR range can be compared to the speed of a car traveling at a highway. You don't always travel at the same speed on a long journey. It happens that you drive faster on the highways, slower in the city, and even pause for breaks. Your compound annual growth rate (CAGR) is determined by calculating the average speed at the conclusion of your journey.

Assume you repeat this trip over time (Rolling CAGR). Because of varying traffic conditions, detours, and so on, the speed (return) will vary each time. The range of historical rolling CAGRs is the range of these average speeds or returns.

In investments, just like on the road, returns aren't linear. They vary due to changes in market conditions. This range gives you an idea of the best and worst returns you might expect from an investment over a given period.