StrategyDB Intermediate Level

Strategy Back-test Definitions

Net profit

The total profit/loss realized by the system over the period traded.

Select Net Profit

This figure artificially adjusted the system's results by removing all positive and negative outlier trades. The final figure presents a net profit devoid of aberration trades. Systems that are heavily dependent upon outlier trades will have dramatically different select net profit results than the systems that do not. A trade is considered to be an outlier if its profit/loss is greater than three standard deviations away from the average. A trader may also want to pay attention to whether or not the model is attempting to systematically capture returns from "outlier" or rare events when using this information to make value judgments about systems.

RINA Index

The RINA Index combines select net profit, time in the market and drawdown calculations into a single reward risk ratio. The larger the number, the more efficient the system. This performance measure is a trade-based statistic as opposed to equity based measures of performance such as the Sharpe Ratio.

Sharpe Ratio

Average annualized monthly returns (in %) minus the risk-free rate (interest rate setting) divided by the standard deviation of monthly returns. The higher the number, the greater the return in relation to variability of returns. Typically, Sharpe Ratios above one are considered to be indicative of good performance.

Return Retracement Ratio

This reward risk ratio is an alternative to the Sharpe Ratio that has been introduced by Jack Schwager. Unlike the Sharpe Ration it distinguishes between upside and downside return variability. The higher the ratio, the greater the return in relation to risk. For more complete information please refer to Jack

Schwager's book "Schwager on Futures: Technical Analysis". (This formula is also found in the definitions under the Analysis Tab).

Return Retracement Ratio Calculation

Return Retracement Ratio (RRR) represents the average annualized compounded return (R) divided by an average maximum retracement (AMR) measure:

RRR=R/AMR

AMR=1/n *,

Where n=number of months in survey period.

MRi = max (MRPPi, MRSLi),

Where

MRPPi=(PEi – Ei)/PEi,

MRSLi=(Ei – MEi)/Ei,

Where Ei = equity at the end of the month i,

PEi = peak month-end equity on or prior to month i,

MEi = minimum month-end equity on or subsequent to month i.

R is the average annual compounded return equals to

R= - 1,

Where S is starting equity, E is ending equity, N is the number of years

K-Ratio

Lars Kestner created a ratio that gauges performance by examining the consistency of returns with respect to time. Calculations for return and risk are derived from VAMI (value added monthly index). VAMI is a monthly plot of the progress of a hypothetical $1000 initial investment. Because the

consistency of returns is examined with respect to time, the K–Ratio provides a good evaluation of equity performance.

Calculations for return and risk are derived from VAMI (value added monthly index). VAMI is a monthly plot of the progress of a hypothetical $1000 initial investment. Although the example below employs a base 10 log, using another log base will result in the same final value.

Running a linear regression on the log-VAMI curve reveals several details about performance. The slope of the regression line (the numerator of the K-Ratio) characterizes the return. The steeper the slope, the faster the money has been made. Risk in the K-ratio is measured by the standard error of the slope, a value calculated from the regression. The standard error measures the smoothness of the regression line of the log-VAMI. The higher the standard error the higher volatility of returns which is usually viewed as an equivalent of risk. The denominator of the K– Ratio is multiplied by the square root of observations to normalize the measure across different time frames.

K–Ratio = (Slope of Log VAMI Regression line) / ((Standard error of the slope)*(Number of period in the Log VAMI))

For more information please see a related article by Lars Kestner in Futures Magazine, January, 1996

Percent in the market

Divides the test period by total time in the market to produce the percentage of time spent in the market.

Adjusted Net Profit

The total adjusted gross profit minus adjusted gross loss experienced by the portfolio.

Adjusted Net Profit

The total adjusted gross profit minus adjusted gross loss experienced by the portfolio.

Adjusted Gross Loss

Total losing trades plus its square root multiplied by the system's average losing trade dollar amount.

Select Net Profit

This figure artificially adjusted the portfolio's results by removing all positive and negative outlier trades. A trade is considered to be an outlier if its profit/loss is greater than three standard deviations away from the average. Traders may want to note whether the trading model(s) systematically seek to capture profits from periodic outliers or rare events when evaluating portfolio performance.

Select Gross Profit

Total winning trades minus positive outliers.

Select Gross Loss

Total losing trades minus negative outliers.

Total Trade Terms

Number of trades

The total number of trades generated in the portfolio.

Total stopped trades

The number of trades that were stopped out by the system.

Average trade

The average profit/loss of all the trades in the portfolio.

1 Standard Deviation

Measures the absolute variability of the returns made by all of the trades. The smaller the number the less deviation there is between the trades.

Average trade ± 1 Standard Deviation

Measures the range of trades ± one standard deviation (STDEV) from the average. Note: adjustments made to the standard deviation setting found in the options menu will effect this calculation.

Coefficient of variation

Expresses the standard deviation as a percentage of the mean. The smaller the percentage, the more stable the trades.

Run-up Terms

Maximum Run-up

The largest intra-day run-up experienced by the portfolio on a single closed out trade.

Maximum Run-up Date

The date of the largest intra-day run-up experienced by the portfolio on a single closed out trade.

Average Run-up

The average maximum profit potential of all the portfolio's trades.

Drawdown Terms

Maximum Drawdown

The largest drawdown experienced by a trade (from the highest high to the subsequent lowest low) on an intra-trade basis at the portfolio level.

Drawdown Date

The date of the portfolio's maximum drawdown.

Average Drawdown

The average maximum open loss (whether realized or unrealized at the time) of all the trades.

Efficiency Description

Total Efficiency is defined as a realized difference in prices from a trade expressed as a part of the total profit potential during that trade. It shows how well the total move of a trade has been used. The following formula is used to compute Total Efficiency for a trade.

Total Efficiency = Realized_Difference_in_Prices/Profit_Potential.

Realized_Difference_in_Prices is the difference between Exit Price and Entry Price taken into account the direction of the trade.

Profit_Potential is the difference between the highest and the lowest prices during the trade. That means

For Long Trades

Total_Efficiency = (Exit_Price - Entry_Price)/(Highest_Price - Lowest_Price),

For Short Trades

Total_Efficiency = (Entry_Price - Exit_Price)/(Highest_Price - Lowest_Price).

Entry Efficiency is defined as a maximum possible realized difference in prices from a trade that has the trade entry price expressed as a part of the total profit potential during that trade. Entry Efficiency shows how well a system enters into a trade. If a trade is long - how close an entry to the lowest point within the trading period, if a trade is short - how close an entry to the highest point within the trading period. The following formula is used to compute Entry Efficiency for a trade.

Entry Efficiency Description

Entry Efficiency = Maximum_Possible_Difference_in_Prices_For_This_Entry/Profit_Potential.

Maximum_Possible_Difference_in_Prices_For_This_Entry is the difference between the Highest Close Price (for Long Trade or the Lowest Close Price for Short Trade) and Entry Price.

That means

For Long Trades

Entry_Efficiency = (Highest_Price - Entry_Price)/(Highest_Price - Lowest_Price).

For Short Trades

Entry_Efficiency = (Entry_Price - Lowest_Price)/(Highest_Price - Lowest_Price).

Exit Efficiency is defined as a maximum possible realized difference in prices from a trade that has the trade exit price expressed as a part of the total profit potential during that trade. Exit Efficiency shows how well a system exits a trade. If a trade is long - how close an exit to the highest point within the

trading period, if a trade is short - to the lowest point within the trading period. The following formula is used to compute Exit Efficiency for a trade.

Exit Efficiency Description

Exit Efficiency =

Maximum_Possible_Difference_in_Prices_For_This_Exit/Profit_Potential.

That means

For Long Trades

Exit_Efficiency = (Exit_Price - Lowest_Price)/(Highest_Price - Lowest_Price).

For Short Trades

Exit_Efficiency = (Highest_Price - Exit_Price)/(Highest_Price - Lowest_Price).