Chapter VI.

Technical Information

Relative Price Change Computation

In the process of computing the Spearman Rank Correlation Coefficient, AIQ MatchMaker creates a series of relative price changes between two items of stocks, groups, sectors, or indices. These price changes for stocks, groups, and sectors are adjusted by removing the influence of the market (the S&P 500 index). The analysis of indices does not include this adjustment.

For stocks, groups, and sectors, the formula for computing relative price changes is:

F_{rs} = relative strength factor
RS = relative strength
t = time period (daily or weekly)
dRS = relative price change
P_X = close price, ticker X
P_{SPX} = Close price, SPX index

$$F_{rs} = \frac{P_X(t_0)}{P_{SPX}(t_0)}$$

$$RS(t_0) = 100$$

then, for any time period, t

$$RS(t) = \frac{P_X(t)}{P_{SPX}(t)} \cdot \frac{1}{F_{rs}} \cdot 100$$

$$dRS(t) = \frac{[\, RS(t) - RS(t-1) \,]}{RS(t-1)} \cdot 100$$

Analyzing indices is the same except MatchMaker makes no adjustment for influence of the market, i.e.

$$F_{rs} = P_X(t_0)$$

$$RS(t) = \frac{P_X(t)}{F_{rs}} \cdot 100$$

Spearman Rank Correlation Coefficient:

See textbook *APPLIED NONPARAMETRIC STATISTICS,* second edition, by Wayne W. Daniel, PWS - KENT Publishing Company, Copyright 1990, Chapter 9, Section 1, pages 358-362.