Stock portfolio performance Data Set
Download: Data Folder, Data Set Description

Abstract: The data set of performances of weighted scoring stock portfolios are obtained with mixture design from the US stock market historical database.

Data Set Characteristics:	Multivariate	**Number of Instances:**	315	**Area:**	Business
Attribute Characteristics:	Real	**Number of Attributes:**	12	**Date Donated**	2016-04-22
Associated Tasks:	Regression	**Missing Values?**	N/A	**Number of Web Hits:**	42673

Source:

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Data Set Information:

There are three disadvantages of weighted scoring stock selection models. First, they cannot identify the relations between weights of stock-picking concepts and performances of portfolios. Second, they cannot systematically discover the optimal combination for weights of concepts to optimize the performances. Third, they are unable to meet various investorsâ€™ preferences. This study aims to more efficiently construct weighted scoring stock selection models to overcome these disadvantages. Since the weights of stock-picking concepts in a weighted scoring stock selection model can be regarded as components in a mixture, we used the simplex centroid mixture design to obtain the experimental sets of weights. These sets of weights are simulated with US stock market historical data to obtain their performances. Performance prediction models were built with the simulated performance data set and artificial neural

networks. Furthermore, the optimization models to reflect investorsâ€™ preferences were built up, and the performance prediction models were employed as the kernel of the optimization models so that the optimal solutions can now be solved with optimization techniques. The empirical values of the performances of the optimal weighting combinations generated by the optimization models showed that they can meet various investorsâ€™ preferences and outperform those of S&Pâ€™s 500 not only during the training period but also during the testing period.

Attribute Information:

The inputs are the weights of the stock-picking concepts as follows
X1=the weight of the Large B/P concept
X2=the weight of the Large ROE concept
X3=the weight of the Large S/P concept
X4=the weight of the Large Return Rate in the last quarter concept
X5=the weight of the Large Market Value concept
X6=the weight of the Small systematic Risk concept

The outputs are the investment performance indicators (normalized) as follows
Y1=Annual Return
Y2=Excess Return
Y3=Systematic Risk
Y4=Total Risk
Y5=Abs. Win Rate
Y6=Rel. Win Rate

Relevant Papers:

[1] Liu, Y. C., & Yeh, I. C. Using mixture design and neural networks to build stock selection decision support systems. Neural Computing and Applications, 1-15. (Print ISSN 0941-0643, Online ISSN 1433-3058, First online: 16 November 2015, DOI 10.1007/s00521-015-2090-x)
[2] Yeh, I. C., & Cheng, W. L. (2010). â€œFirst and second order sensitivity analysis of MLP,â€ Neurocomputing, Vol. 73, No. 10, pp. 2225-2233.
[3] Yeh, I. C. and Hsu, T. K. (2011). â€œGrowth Value Two-Factor Model,â€ Journal of Asset Management, Vol. 11, No. 6, pp. 435-451.

Citation Request:

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