To constitute Index Fund using simulated annealing Algorithm and Genetic algorithm

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Abstract
The purpose of this study is constitute Index Fund using Simulated Annealing algorithm and Genetic algorithm. Index funds are portfolios which design to decrease the transactions costs to provide return near to the market return by investing in a few number of the index constitutive items. This study is sought to examine the relationship between tracking error and the number of constituent stocks of the fund, also this study will be checked out the performance of the simulated annealing algorithm in comparison of genetic algorithm to form of an index fund. In this study, the priority function will be used for choosing the share of companies that should place in index fund. This priority function selects the shares that have the highest impact on the index, and then by using heuristic algorithms, the efficient weight of these shares will be calculated. The results show that by increasing number of fund shares, the tracking error decreases. Results proved that index fund created by the genetic algorithm in comparison with simulated annealing algorithm had High precision and Superior performance .To create this fund, shares of companies in Tehran stock exchange will be used.

Keywords: Index fund, Portfolio, Genetic algorithm, simulated annealing algorithm

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Surveying the relation between Liquidity and Market Risks with Abnormal Return in three-Factor model: Fama and French

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Abstract
Due to expansion and depth of any financial market, there is densification of instruments to be used for investment. They are also being applied by investors by considering risk and return of assets. There are different sorts of risks, so investors attempt to catch risk premium. In this study, at first effect of information quality by considering liquidity risk on abnormal return in Fama And French model is investigated, and then the effect of information quality by considering market risk in the mentioned model is studied.

In this research, stock returns which were affected by SMB and HML in the model are omitted. Characteristics of firm and market are considered as risk variables. Results show that model is fitted

Keywords: Fama and French, Liquidity and Market Risks

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Rating and assessment the performance of City bank branches base on the balanced scorecard approach using TOPSIS model

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Abstract
Balanced Score Card is a managerial mechanism which is established based on measurement, and considered to be prerequisite of strategic management. This research aims at evaluation of city bank performance so that the bank could find its right position and make strategic decisions in order to reach its main goal. The research is considered to be an applied one in terms of the goal type, and a descriptive survey one in terms of gathering data.

There are three questionnaires used in this existing research. Questionnaire of pairs comparisons, questionnaire of staff's satisfaction, and questionnaire of customer's satisfaction are distributed in the research, among which questionnaire of pairs comparisons(experts' questionnaire) was handed out to five experts in order to answer, while the questionnaire of staff's satisfaction was distributed among all staff to fill in; and in order to fill in the questionnaire of customer's satisfaction the staff were asked to hand out the relevant questionnaires among the customers so that the staff could then analyze the answers.

The results of AHP pairs comparisons proved that customer perspective among the four perspectives of Balanced Score Card takes high importance, and the financial perspective proved to be important after that, and the other two perspectives, i.e. internal processes, and learning & growth take the same importance.

In this research, attempts are made to present and then examine the most important indexes. The result of evaluation by TOPSIS model showed that the area 8 has achieved the first position in rank order of the evaluation, since the most important perspective, i.e. customer perspective is mostly highlighted in the area 8; therefore it is reasonable to claim that success owes to taking the priorities into high consideration.

Key words: assessment of performance, Balanced Score Card, multi-criterion decision-making

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Using Goal Programming for Asset Liability Management
Case Study: X Bank

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Abstract
Asset – Liability Management (ALM) of banks is one of the significant issues that many managers are being faced with that. Also it is a challenge in the firms’ path and especially financial institutions and banks, while many restrictions and rules are being enacted by supervisory organizations and market. On the other hand banks have different objectives that some of them are in different directions. Therefore, Goal Programming is the best method and technique in optimization. In this research a model designed including the operational profit and bounds or restrictions, legal and structural. Coefficients were found through statistical simulation methods. Then LINGO software was ran. There is a significant division out coming from the model and reality, but management can not conform itself with the model, because it is impossible to change the deposits and loans completely and suddenly. The model can be used as a guide in the bank rout.

Keywords: Goal Programming, Asset Liability Management, Econometrics Simulation

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Abstract

Stock market behavior is one of the most complicated mechanisms ever studied by researchers over the time. The stock market can be analyzed in two different ways, namely fundamental analysis and technical analysis. The first method of analysis is cause-oriented, while the second one involves an effect-oriented technique. One branch of the stock market behavior in the technical analysis is random modeling which incorporates one of the major techniques used in the efficient market theory. Markov chain is utilized in this study as a random model in order to predict the stock price used. For this purpose, 9 different conditions are obtained from interaction of two variables: i.e. variation of stock price and daily turnover. Three conditions or levels are defined for each of these variables as being positive, neutral or negative. A case study of Dow Jones industrial average index is provided to investigate efficiency of the model, which verifies performance of the proposed model.

Keywords: stock market behavior, technical analysis, random walk model, efficient market theory, Markov Chain model
Performance Evaluation of Banking Industry with a combination of Balanced Scorecard approach - Fuzzy TOPSIS (FTOPSIS-BSC)

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Abstract
The goal of this research is offering formularized method for investigation of action of privative and state banks, by recognizing the effective able factors on their investigation, Weighted Perspectives index with Hierarchical fuzzy entropy technique and ranking the banks by using of TOPSIS Technique. statistical group is consist of 296 persons of exports and managers of state bank(Melli, Sepah and Keshavarzi) and privative bank (Mellat, Sarmayeh and Pasargad)of Karaj that among all of them,167 exports and managers are in sample group. For investigating the banks'actions, we put 24 factors as final factors in the Balance Score Card. The result of this research can help and be useful for managers ,exports and all of the bank’s beneficiaries .they can understand the effective factors for investigating the action and make decision better.

Key words: Performance Evaluation, Balanced Score Card, Banking Industry, Fuzzy TOPSIS Technique

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Exchange by using GLS & GARCH approaches

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Abstract
In recent years, future contract markets and options contract in financial and investment world have become much more important and these markets reached to a level of financial innovation that it is necessary for every expert in financial affairs have to be aware that how these markets work.

This paper, investigates the effective factors on Future Contracts Price Fluctuation in IRAN Merchandise Exchange by using GLS & GARCH approaches. In this paper we used Esfand of 1390 future contract as symbol of Future Contracts in IRAN Merchandise Exchange and between the effective factors on Future Contract Price Fluctuation we chose the world price of gold, total index of exchange, the equality rate of dollar and Rial. The statistic society of investigation is IRAN Merchandise Exchange that future contract of Esfand 1390 with 178 working days have chosen. Our approach is econometric and using Generalized Auto Regressive conditional heteroskedasticity (GARCH) and Generalized Least Squares (GLS).

As we saw in this paper there is a positive relation between the equality rate of dollar and Rial and Future Contract Price Fluctuation that means with increasing of equality rate of dollar and Rial the Future Contract Price will increase and also it is true about the world price of gold but as we saw it didn’t approve about total index of exchange.

Keywords: Futures Contract, Futures Market, Arbitrage

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Investigating explanation capability of nonparametric models (Monte Carlo) in measuring the amount of value at risk in portfolio of investment companies for indicating optimum portfolio in capital market of Iran.

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Abstract  
Since creating wealth is considered necessary for growth and development, for creating wealth investment is needed and the main source of investment is saving. Saving happens when a person delays his or her consumption in order to get a minimum consumption compared to present. So securing the investment is one of the most important concern for the investors. For this reason a lot of techniques has been appeared for predicting the risks of investment. In this paper after exploration theoretical model on nonparametheric predictors for value at risk we have investigated 31 portfolio of active investment companies in order to explaining this model in measuring value at risk.

Key Words: Risk, Return, Portfolio, Value at risk, Investment companies, Nonparametric Approaches, Monte Carlo Simulation Method

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Estimating Operational Risk Capital Charge in Banking Industry Using Loss Distribution Approach

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Abstract
The basic goal of this paper is to develop a model for calculating capital charge in case study of one Iranian bank. The model follows Loss Distribution Approach (LDA). We demonstrate how a bank can use the actuarial model in developing of operational risk system. Our work focuses on the main quantitative components, i.e. use of loss data in database, frequency and severity modeling, using a kind of fat tail distributions, $\alpha$-stable, in severity modeling, aggregate frequency and severity distributions to build aggregate distributions, dependency concepts and capital charge calculation using Value at Risk (VaR) and Conditional Value at Risk (CVaR). We conclude with a section on the analysis and validation on LDA models. We show that the $\alpha$-stable model can be good choice for severity modeling and negative binomial is appropriate for frequency modeling in retail banking.

Keywords: Operational Risk, Basel Committee on Banking Supervision, Capital Charge, Advanced Measurement Approach, Loss Distribution Approach, $\alpha$-stable Distribution, Value at Risk, Conditional Value at Risk.

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