The optimal analysis of the structure of assets and liabilities in the banking system using the mathematical model

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Abstract The main purpose of this research is to analyze the optimality of the structure of assets and liabilities in the banking system using the mathematical model. The present research is based on the type of classification based on the purpose, the point of view of applied research and its direction is descriptive, relying on post-event. In this research, mathematical modeling is used to optimize the balance sheet structure of the bank. Factors of granting facilities, attracting deposits, profitability, liquidity, risk, etc. are among the issues considered and considered in the model. The statistical population of this research is private banks accepted in Tehran Stock Exchange. All banks have been accepted in Tehran Securities Exchange and systematic elimination sampling has been used for sampling. To analyze the data in this research, MATLAB software has been used. Based on the calculated results of solving the model, the optimal amounts of assets and liabilities are obtained to maximize bank revenues. Key words: asset management, debt management, bank, capital structure

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