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# Mathematical model of optimal loan portfolio structure of commercial bank

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**Research Methodology.** The structure of a commercial bank's credit portfolio has been researched with the help of optimization technique, which is linear programming,

**Results.** The mathematical model of the bank's loan portfolio has been made up. After the calculations its optimal structure is received for maximum profit with constraints on risk of its credit operations.

**Novelty.** Optimization model is applied to a particular application. Credit risks of the NBU regulations and requirements for diversification and limiting the risk management of the bank are taken into account. These requirements are mathematically formalized with the help of Excel to enable processing of the model.

**The practical significance.** Practical recommendations on the management of the bank's loan portfolio formation with optimal ratio "risk-benefit" are made up. With the change in the credit risk of the NBU regulations or priorities in the credit policy of the bank, model allows to make these changes in a formalized way and get another loan structure that meets the new requirements.