

# ECONOMIC AND MATHEMATICAL PROPERTIES OF THE LEONTIEF PRODUCTION FUNCTION AND LINEAR FUNCTION

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Applying economic and mathematical properties of the Leontief production function and a linear function is discussed. The simulation of output depending on the most important factors (capital and labour) is presented in terms of value. Economic and mathematical properties of the Leontief production function and linear function, as well as their dynamic counterparts, are considered. In particular, the impact of the level of elasticity of factors' substitution on the possibility of using an appropriate production function at a given level of management is examined. Moreover, the dependence of productivity on the capital-labour ratio as a part of the Leontief production function and the linear function is studied.

A comparative analysis of these production functions, which makes it possible to determine the range of economic situations, when their use is appropriate, is carried

out. A reasoned conclusion is done that the Leontief production function and the linear function have economic and mathematical properties that define the specifics of their practical use in the production studies.

All theoretical propositions are illustrated by the example of the simulation of sales of the meat processing enterprises using the Leontief production function and the linear function. An economic analysis of the results of the simulation is presented; specific findings and suggestions are made. A wide range of economic and mathematical characteristics of the production process in the studied company on the basis of built Leontief production function and linear function are estimated. In particular, it set the redundancy of capital assets, determined the optimal capital-labour ratio, carried out its comparison with actual and calculated reserves of sales growth.