UDC 655.3.066.364

SOLVING OF THE MULTICRITERIAL PROBLEM
FOR THE RATIONAL DIRECTION CHOICE
OF THE UKRAINIAN HRYVNIA BANKNOTE DURABILITY

T. Yu. Kyrychok

*National Technical University of Ukraine
«Kyiv Polytechnic Institute»
37, Prosp. Peremohy, Kyiv, 03056, Ukraine*

**Research methodology.** Solving of the multicriterial problem of the most rational variant of the Ukrainian hryvnia banknote antiwear improvement has been conducted on the basis of the hierarchy analysis method using BOSR (Benefits – Opportunities – Costs – Risks) system, the analysis by expert evaluation of conjugate equations matrices.

**Novelty.** There have been defined the types of problems to develop banknote producing, which have to be taken into account when making decisions: 1) benefits; 2) benefits-losses; 3) benefits-losses-risks; 4) benefits-opportunities-losses-risks. The criteria and their hierarchies of benefits and losses concerning global aims, i.e. benefits and losses from the various antiwear improvement technologies usage, have been defined.

**Results.** It has been determined that the most rational variant of the Ukrainian hryvnia banknote antiwear improvement is the simultaneous using of protective varnishing and the base of heightened wearability. The separate usage of the antiwear base and varnishing is also rational enough.

**The practical significance.** The results of the research can be used while choosing the variants of production development, the banknote one in particular, and also taken into account when taking a variant of the Ukrainian hryvnia banknote antiwear improvement.