УДК 330.4   **Y. Taranenko, N. Rizun, M. Gudim**

THE APPLICATION OF LEONTIEV'S MODEL IN AUTOMATED ECONOMIC SYSTEMS

In recent years there were created a large number of different ways for the rational use of software to implement effective models of the economy. In this work there were researched the bases of interbranch Leontief model using Simulink (MathLab) – an interactive tool (software) for modeling, simulating and analyzing multidomain dynamic systems, including discrete, continuous and hybrid, non-linear and discontinuous systems, and also were researched some of its features, was created and described a scheme applying model W. W. Leontief, using Simulink. The basis of the scheme obeys to the matrix form of the model: $X = (E - A)^{-1}Y$, and consists of the following blocks of the scheme which divided into three main groups:

1)   Input data: blocks constants Constant (the data for the previous period and the identity matrix E);

2)   Group of blocks for finding the result: block multiplication ProductЧ3, block sum SUM (technological matrix $\bar{A} = (a_{ij})\ j = 1,n$,(E-A), $V = (E - A)^{-1}$ – the matrix of full cost and Y – outlet of the final product of the current period);

3)   Output data, final result: block multiplication Product, blocks of digital display Display (result).The simplicity of the input-output model which based on simulating Simulink scheme is found, thus reducing the time on the calculations, and is achieved considerable flexibility for dynamic models of economic systems and for different formulations of the task (analysis, synthesis, comparison). So, the active research, development and improvement of software which use mathematical tools in economics, in the modeling of processes and phenomena, and the application of existing models enables continuous improvement of their use.