

ABSTRACT

Bachelor's thesis: 125 p., 38 fig., tabl., 10 appendixes, 13 sources.

The topic of the research: "Forecasting nonstationary macroeconomic processes using alternative approaches".

The object of the research is nonlinear nonstationary financial and economic processes (GDP growth, inflation, exchange rates), presented by statistics.

Subject of research is mathematical models and forecasting techniques: Regression, GMDH, neural networks.

The goal of the research: construction of adequate models of selected processes, forecast evaluation and comparative analysis of alternative methods of predicting financial and economic processes.

Theoretical and methodological basis of the research are works of local and foreign scientists in the field of economic theory, mathematical modeling of nonstationary processes.

During the bachelor's thesis software for computational experiments was created using GMDH. For classical methods powerful SAS system and EViews were used. A comparative analysis of all the methods on real statistics was completed.

The methodology is implemented on the basis of well-known algorithms, using own development.

The software is implemented using programming language C#. The recommendations for further researches were presented.

MATHEMATICAL MODELING, ECONOMETRICS,
MACROECONOMICS, NONSTATIONARY PROCESSES, TRENDS,
HETEROSKEDASTICITY, GROUP METHOD OF DATA HANDLING, NEURAL
NETWORKS