

## ABSTARCT

Diploma thesis: 90p., 21 fig., 21 tables., 2 annexes, 13 sources.

In this work the process of model human development is analysed as the nonstationary process. Nowadays, HDI is one of the key indicators of the country development . This is the first ever country-ranking indices which was formed basing on the indices revealing abilities for development basing on the years of duration of development of scientific perception and years ahead for realization gained previously knowledge, and the financial security . In essence, this indices helps in benchmarking different countries by opportunities for unleashing the potential of its population.

The object of the study is time series indices of human development in Ukraine and its components, methods of analysis, models for forecasting. The subject of the study in this paper are the linkages between components of the HDI and its meaning; mathematical models and non-stationary processes descriptive methodologies, estimating and analysis forecast quality.

The objective of this thesis is studying methods for predicting socio-economic indices, in order to build a forecast model of HDI, and select the best one.

The results of the paper are time series forecasting models built by using regression analysis and group method of data handling. There was a software developed using programming language Python, a library of functions for the GMDH. The mentioned software calculates indices of constructed models adequacy and quality of the forecast.

**KEYWORDS:** HUMAN DEVELOPMENT INDEX, QUALITY OF LIFE, UNDP, INDEX REGIONAL HUMAN DEVELOPMENT, HUMAN DEVELOPMENT MODELS, DEVELOPMENT, HUMAN DEVELOPMENT