

The main scientific objective of the proposal is to evaluate the usefulness of modeling and forecasting macroeconomics phenomena with averaging characteristics of vector autoregressive (VAR) models.

Econometric models are a quantitative description of reality. Econometric studies contribute to better understanding and more efficient management at the micro and macroeconomic scales. The econometric model, as an example of simplification of reality, may vary and depends mainly on the availability of data. However, data are not the only important role in occurring and describing relationships. An essential aspect of modeling is selecting variables structure of used processes (data). Econometric models to give cognitive properties and guarantee the right decisions and applications must satisfy certain conditions.

Currently, researchers have access to a large number of databases. A large quantity of data can be used for modeling, but it is hard to specify the correct model from both the theoretical and statistical points of view. The vector autoregression approach assumes that there is no difference between endo and exogenous variables, i.e., an atheoretical modeling approach to econometric modeling is applied. Using computer software to use redundant structures for modeling is possible, which justifies an atheoretical approach. Assuming that there are 40 variables in the model, then we can create $2^{40} = 1,099,511,627,776$ models. Such a number of combinations is not possible to calculate in a reasonable time (and we consider "only" 40 variables). Then the necessary step in obtaining an empirical model is to remove the variables that bring a minor or no explanation. There are econometric procedures that realize variable selection. However, the result is always only one model, which is influenced by using a specific method of eliminating variables.

Another approach, which will be implemented in the project, is to allow more models to be considered and then average their estimates and conclude based on all possible models, not only on one specification. In the project model, averaging is applied to vector autoregression models. The effectiveness of this approach in modeling will also be investigated by comparing the proposed method with other frameworks which are currently used in econometrics.

The implementation of the above solution will be conducted in the free, open-source software *gretl* with a graphical interface, which will ensure more comfortable and broader usage by the users.

The performed research allows us to determine the usefulness of the proposed methodology for modeling macroeconomic processes in terms of forecasting accuracy. The study will be conducted on data available in the db.nomics database.