

OPINION

by Assoc. Prof. Dr. Lyudmila Boykova Dikova

on the dissertation for the award of the academic degree "Doctor of Sciences"
in the Higher Education Field 3. Social, Economic, and Legal Sciences
Professional Field 3.8. Economics

Author: Dr. Bozhena Kush

Title: ECONOMIC EFFICIENCY OF AGRICULTURAL FARMS IN POLAND DEPENDING ON
ECONOMIC SIZE

1. General Description of the Submitted Materials

By order No. 85/21.02.2025 of the Rector of the Higher School of Insurance and Finance, Prof. Dr. Boris Velchev, I was appointed as a member of the scientific jury for the defense procedure of the dissertation entitled *Economic Efficiency of Agricultural Farms in Poland Depending on Economic Size* for the acquisition of the academic degree "Doctor of Sciences" in the Higher Education Field 3. Social, Economic, and Legal Sciences, Professional Field 3.8. Economics. The author of the dissertation is Dr. Bozhena Kush, a candidate from the Department of Finance.

The materials submitted by Dr. Bozhena Kush on an electronic carrier comply with the Regulations for the Development of the Academic Staff of the Higher School of Insurance and Finance. These include a CV, a copy of the diploma for the educational and scientific degree "Doctor," the dissertation, a list of contributions, an abstract, a list of publications, and the order appointing the scientific jury.

The candidate has submitted 40 publications and cited over 70 references.

2. Brief Biographical Data of the Candidate

Dr. Bozhena Kush has the appropriate education and professional experience to obtain the academic degree "Doctor of Sciences." She graduated from the National Research Institute of Animal Production in Kraków, earning a Ph.D. in Agricultural Sciences in the field of Zootechnics based on her dissertation: *"Quality of Regional Pork Products Depending on the Feeding and Breeding System of Pigs,"* defended on 25.03.2015.

Since 01.03.2020, she has been an Assistant Professor in the research-teaching staff group at the Department of Informatics in Management, Faculty of Management, at Rzeszów University of Technology.

3. Characteristics and Evaluation of the Dissertation

The dissertation *"Economic Efficiency of Agricultural Farms in Poland Depending on Economic Size"* consists of 234 pages. The bibliography includes 282 sources (books, articles, statistical and other publications, reports, and online sources).

- The **first section** defines the research objective and scope, formulates hypotheses, and presents the research methodology.
- The **second section**, based on a literature review, introduces the topic of agricultural efficiency, highlighting the variety of approaches to understanding the term due to different ideological foundations in economic theory.
- The **third section** characterizes the studied farms, presenting their endowment with key production factors—land, labor, and capital—and their changes over the analyzed period. It also examines factor ratios, emphasizing that their relationship is a key condition for production efficiency.
- The **fourth section** focuses on the factors determining economic efficiency, analyzing it through partial indicators of efficiency and profitability of production factors. It also presents an analysis of changes in farm efficiency over time using the Malmquist Index, detailing results across different economic size classes.
- The dissertation concludes with a **"Conclusions and Findings"** section.

The research results have been published in specialized publications. The topic is relevant and significant both theoretically and practically, making it suitable for a *Doctor of Sciences* dissertation.

4. Contributions and Significance of the Research for Science and Practice

The main objective of Dr. Bozhena Kush's work is to analyze the efficiency levels of Polish farms and the factors influencing them across different economic size classes.

The research covers:

- A systematic review of theoretical material on economic efficiency in agriculture.
- Characterization and analysis of economic and financial performance changes in farms categorized by economic size.
- Analysis of endogenous determinants of farm economic efficiency.
- Assessment of technical efficiency using Data Envelopment Analysis (DEA).

The author supports the thesis that labor is increasingly being replaced by capital, a trend leading to the "displacement" of labor from agriculture through mechanization. According to the author, this shift should reduce the opportunity cost of farmers' and their families' labor while also lowering the cost of hired labor.

5. Evaluation of Publications Related to the Dissertation

The candidate has submitted 40 publications with over 70 citations, all of which are relevant to the field of Economics (Professional Field 3.8). These publications address both theoretical and applied issues, demonstrating a high level of academic expertise and individual scientific focus.

6. Compliance with Minimum National Requirements

The documents and materials submitted by Dr. Bozhena Kush meet all the requirements of the Bulgarian Law on the Development of the Academic Staff (ZRASRB), its Implementing Regulations, and the specific regulations of the Higher School of Insurance and Finance.

Based on the presented materials, I conclude that Dr. Bozhena Kush meets the minimum national requirements for obtaining the academic degree "Doctor of Sciences" in Professional Field 3.8. Economics.

As of the preparation of this opinion, there is no information that would cast doubt on the authenticity of the submitted dissertation and scientific publications.

7. Dissertation Abstract

The abstract adheres to good academic practices and accurately summarizes the dissertation.

The candidate has provided a sufficient number of scientific publications, meeting the national minimum requirements set by the Bulgarian Law on the Development of the Academic Staff and its regulations for obtaining the *Doctor of Sciences* degree in Professional Field 3.8. Economics.

8. Critical Remarks and Recommendations

I have no significant critical remarks or recommendations.

CONCLUSION

The submitted dissertation is a relevant and high-quality scientific study. It fully meets the requirements for such research and possesses undeniable academic merits. The candidate's publications further establish her as a knowledgeable specialist who effectively combines practical experience with an excellent understanding of contemporary theory in her chosen field.

The dissertation contains scientific, applied-scientific, and practical contributions that represent an original addition to the field. It meets all the requirements of the Bulgarian Law on the Development of the Academic Staff and its implementing regulations, as well as the specific requirements of the Higher School of Insurance and Finance.

The dissertation demonstrates that Dr. Bozhena Kush has profound theoretical knowledge and professional skills in Professional Field 3.8. Economics, as well as the ability to conduct independent scientific research.

For these reasons, I confidently provide a positive evaluation of the dissertation, abstract, achieved results, and contributions. I recommend that the esteemed scientific jury award the academic degree *Doctor of Sciences* to Dr. Bozhena Kush in the Higher Education Field 3. Social, Economic, and Legal Sciences; Professional Field 3.8. Economics.

31.03.2025
Lyudmila Dikova

Reviewer: Assoc. Prof. Dr.