

REVIEW

by Assoc. Prof. Dr. Valentina Grigorova Grigorova-Gencheva

Department of "Finance and Insurance", Higher School of Insurance and Finance

of a dissertation for the award of the scientific degree "Doctor of Science"

in the Field of Higher Education 3. Social, Economic and Legal Sciences

Professional Direction 3.8. Economics

Author: Božena Kuš

Topic: "Economic Efficiency of Farms in Poland Depending on the Economic Size"

(Экономическая эффективность фермерских хозяйств в Польше в зависимости от экономического размера)

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 am appointed as a member of the scientific jury for ensuring the procedure for the defense of a dissertation on the topic "Economic efficiency of farms in Poland depending on the economic size" (Экономическая эффективность фермерских хозяйств в Польше в зависимости от экономического размера) for the acquisition of the scientific degree "Doctor of Sciences" in the Field of Higher Education 3. Social, Economic and Legal Sciences, Professional Direction 3.8. Economics. The author of the dissertation is Božena Kuš - candidate at the Department of Finance and Insurance.

The materials submitted by Bozhena Kush include documents according to the presented list: dissertation in electronic version and on paper, abstract of the dissertation in electronic version and on paper in Russian, declaration of originality and authenticity, certificate of fulfillment of the minimum national requirements for acquiring the degree of Doctor of Science, list of publications on the topic of the dissertation, copies of publications on the topic of the dissertation, summaries of publications on the topic of the dissertation in Bulgarian and English, and a CV. The candidate has attached a total of 40 (forty) publications. 3 (three) of them are monographs, one - co-authored with another researcher, 10 (ten) articles are co-authored, published in refereed and indexed world-renowned databases for scientific information, 23 (twenty-three) are co-authored articles and reports in non-refereed and indexed publications, 4 (four) are chapters of collective monographs.

2. Short biographical data of the candidate

Currently, Bożena Kus works as an assistant in the research and teaching group at the Department of Computer Science in Management of the Rzeszow University of Technology, Republic of Poland. She is a Doctor of Agricultural Sciences since 2015 in the field of zootechnics based on a doctoral dissertation: “The quality of regional pork products depending on the feeding and breeding system of pigs”. B. Kus’ scientific internships abroad include internships at the University of Valladolid, Spain, at Westfield State University in the USA and at the Technological Educational Institute of Peloponnese in Greece.

3. Relevance of the topic and appropriateness of the goals and objectives set

The topic considered in the dissertation is relevant not only from a scientific point of view, but also in relation to the agrarian policy of Poland, which is decisive for the path of development in the agricultural sector and farms. The author notes that the changes in the structure and organization of agriculture, which began in the 1960s in developed Western European countries, have not yet manifested themselves in Poland. Small farms with an area of up to 20 ha predominate in the country. This is a serious structural disadvantage of the agrarian sector in Poland, which determines the low efficiency of various economic activities on a farm. The goals set in the dissertation are logically related to the idea of Bożena Kusz to prove that the economic size of a farm is a major factor that determines its economic efficiency and the effectiveness of the economic activities carried out on it. According to her, scientific research into this factor will contribute to the formation and implementation of a proper agricultural policy that will lead to effective restructuring and modernization of the agricultural sector in Poland.

4. Knowledge of the problem

Candidate Bożena Kusz shows good knowledge of the researched issues. The dissertation and the abstract to it express the author's personal opinion on the issues considered, as well as indicate the possibilities and problems for future research. Kusz makes comments and analysis of what has been written on the topic of effectiveness in the literature used. In conclusion, she points out that the three main hypotheses formulated by her have been proven. The study used a significant amount of diverse statistical data, which are summarized in the form of 114 diagrams, 89 tables, 2 graphs and 1 scheme. Only a small part of them, however, are subject to in-depth scientific analysis, while the rest are presented only in the form of a review with a brief author's comment.

5. Research methodology

The dissertation uses various methods for measuring the efficiency of business entities, which can be divided into three groups: ratio indicators, parametric (SFA, TFA, DFA) and non-parametric methods (DEA, FDH, etc., based on the Malmquist productivity index, which measures the dynamics of efficiency in two time periods). The author introduces various economic categories, indicators and variables that she uses to calculate the efficiency and profitability of production. Along with these individual elements, the candidate also applies the data scope analysis (DEA) method. It was created on the basis of mathematical programming and serves to determine the efficiency of various objects described using input and output vectors. The set of methods, variables and indicators used by Božena Kuš facilitates obtaining an adequate answer to the tasks solved in the dissertation.

The chosen research methodology allows the three main hypotheses formulated by the author to be proven.

6. Characteristics and evaluation of the dissertation work

Božena Kush has formally complied with the technical requirements for writing a dissertation work. The text with a volume of 228 pages is divided into several parts: introduction, four main parts, conclusion and bibliography. The dissertation work includes 114 diagrams, 89 tables, 2 graphs and 1 scheme.

The bibliography includes 282 titles, with 144 articles that can be used online. In the introduction to the dissertation, B. Kush justifies her choice of topic and presents the state of scientific research on it.

In the first part, the author sets out the purpose, the intended volume and the three main hypotheses of her research, as well as the scientific methods used to achieve the set goals and objectives.

The second section presents the theoretical and practical aspects of efficiency in agriculture. Here, an analysis of the concept of efficiency and the methods for its measurement is made based on the literary sources used.

In the third section, the candidate examines the characteristics of the studied farms and the ratio between the various factors of production: land, labor and capital. Kush notes that the relationship between these factors is a basic condition for the efficiency of the production process. She pays particular attention to the capital-labor and labor-land relationships, comparing the situation and structural changes in farms in developed European countries and in Poland. In this part, richly illustrated with tables and diagrams, the author also presents the organization of agricultural production, its technical efficiency, as well as economic indicators and the structure of the cost of production. A special place is devoted to the study of the indebtedness and financial liquidity of farms. The fourth section is devoted to the factors determining the economic efficiency of the studied farms. Based on specific data for the period 2004-2020, the efficiency and profitability of production factors

are analyzed. This section also presents results from the analysis of the change in the efficiency of the studied farms for the specified period. The analysis was conducted by applying the Malmquist index for the individual classes of economic size of farms. Its results allow B. Kush to determine the differences in the degree of efficiency in different farms and to emphasize the importance of economic size in the formation of the efficiency of agricultural activity. In the words of the author, "The fourth section is the main part of the dissertation, which most accurately corresponds to the stated scientific goals and hypotheses."

The main part of the dissertation ends with the part "Conclusion and illations", in which B. Kush summarizes the results of his studies and indicates opportunities for their practical application.

7. Contributions and significance of the work for science and practice

The dissertation work of Bozena Kus summarizes a significant part of the research on the topic under consideration by commenting and analyzing those related to the fundamental economic category "efficiency" in some of the main publications used. The author does not independently formulate either the scientific or the scientific-applied contributions of her dissertation. According to her, the research conducted must be continued due to the exceptional relevance of the problem in Poland and because any change in economic and social conditions, as well as in the institutional framework, requires a constant analysis of the conditions for increasing the efficiency of agricultural activity. In the abstract to the dissertation, B. Kus defines several scientific-applied contributions of her research, namely:

1. The studied data testify to the beginning of an intensive process of replacing labor with capital. The author is convinced that the policy for the development of rural regions in Poland must implement effective instruments that would stimulate farmers to seek non-agricultural sources of income;
2. The analyzed data show a strong dependence of farmers' incomes on state aid, but also the sustainability of family farming in crisis situations;
3. The dominant source of financing is farmers' own capital, which can limit and slow down the processes of development and modernization in agriculture;
4. The increase in the economic size leads to an increase in the economic efficiency of agricultural activity. Kus warns, however, about the possible negative social consequences in rural regions of Poland, associated with depopulation and loss of viability;
5. The candidate also reaches some scientific and applied conclusions related to optimizing the "labor-capital" ratio. According to her, an obstacle to the development of farms may be the lack of access to land. Therefore, Kus recommends that regulations in the field of agricultural policy should affect the easing of the regime of property transfer between individual farms, as well as land leasing.

These scientific and applied contributions could be implemented in the agricultural policies of the Polish government with the aim of increasing the efficiency of farms.

8. Assessment of publications on the dissertation work

The candidate has submitted a total of 40 (forty) publications. They contain original scientific and applied contributions that have received international recognition, some of which have been published in journals and proceedings of scientific conferences published by international academic publishers. 3 (three) of them are monographs, one - in co-authorship with another researcher, 10 (ten) articles are in co-authorship, published in refereed and indexed world-renowned databases for scientific information, 23 (twenty-three) are co-authored articles and reports in non-refereed and indexed publications, 4 (four) are chapters of collective monographs. 13 (thirteen) of the publications on the dissertation work are in English.

9. Assessment of fulfillment of minimum national requirements

According to the reference attached by Bożena Kush, the minimum national requirements for acquiring the scientific degree "Doctor of Science" in the professional field 3.8. Economics are met.

10. Personal participation of the candidate

The presented dissertation research, the performed statistical data analyses and the obtained results are the personal merit of Bożena Kush. The sources used have been cited correctly and there is no evidence of plagiarism. In addition, the author has also submitted a Declaration of Originality and Authenticity of her doctoral dissertation.

11. Abstract

The abstract attached to the dissertation is 21 pages long. It contains a description of the main characteristics of the presented scientific work: structure and content of the dissertation, a summarized presentation of the main problems and research methods, as well as publications on the topic of the dissertation.

The abstract of the dissertation is prepared in accordance with the accepted criteria for similar scientific works.

The abstract systematizes the scientific achievements of Bożena Kush, which include dozens of her publications in scientific journals and chapters of monographs, as well as participation in a number of national and regional scientific conferences.

In a declaration to the abstract, the author clearly states that the presented dissertation does not repeat either the topic or the content of the work for the acquisition of the educational and scientific degree

of doctor, entitled "Quality of regional pork products depending on the system of feeding and raising pigs", defended in 2015. at the State Research Institute at the Zootechnical Institute in Krakow.

12. Critical remarks and recommendations

B. Kus could analyze in more depth the statistical data on farms in Poland published in numerous tables and diagrams.

It is recommended, in order to emphasize the significance of the presented scientific research, to explicitly state the scientific and applied scientific contributions of the dissertation work, which are included descriptively in the conclusion.

I would ask the following question to B. Kus:

- How do you relate to the process of consolidation of farms in Poland and what main positive and negative consequences does she expect from it?

13. Personal Impressions

My personal impressions of Božena Kush were formed during the preliminary defense of her dissertation, held online on February 24, 2025. The candidate presented the structure and main conclusions of her dissertation clearly and comprehensively, answered confidently and competently the questions posed by members of the Finance and Insurance Department. In this first meeting for me, B. Kush showed excellent presentation skills.

14. Recommendations for future use of the dissertation contributions and results

The scientific and applied contributions of the dissertation could be used as recommendations to the structures related to the management of the agrarian sector in the Republic of Poland. The author could continue her research in the direction of studying the process of consolidation of agricultural property and its consequences for the development of agriculture and its efficiency.

CONCLUSION

The dissertation contains scientific, applied and applied results that represent an original contribution to science and meet the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADSRB) and the Regulations for the Implementation of the ADSRB. The presented materials and dissertation results fully comply with the specific requirements of the Rules for the Conditions and Procedure for Acquiring the Scientific Degree "Doctor of Sciences" at the Higher School of Insurance and Finance. The dissertation shows that the candidate Božena Kush possesses in-depth theoretical knowledge and

professional skills in Professional Field 3. 8. Economics, demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I confidently give my positive assessment of the conducted research, presented by the above-reviewed dissertation, abstract, achieved results and contributions, and propose to the esteemed scientific jury to award the scientific degree "Doctor of Science" to Bozhena Kush in the Field of Higher Education 3. Social, Economic and Legal Sciences; Professional Field 3. 8. Economics.

7.04. 2025

Reviewer:

Assoc. Prof. Dr. Valentina Grigorova-Gencheva