



REVIEW

PhD thesis for defense of the educational and scientific degree “doctor” in 3. Social, business and legal sciences, professional field 3.8. Economics, PhD Program in Economics and Management (Agriculture)

Author of the PhD thesis: ROSEN PLAMENOV IVANOV, PhD student at the Department of Economics at the Agricultural University, Plovdiv

Title of the PhD thesis: RISK MANAGEMENT IN AGRICULTURE

Reviewer: prof. dr. Zornitsa Dimova Stoyanova, UNWE, Natural Resource Economics department, professional field 3.8 Economics, specialty Economics and Management (Agricultural management), a member of the Scientific Jury with Order № РД-16 - 368/ 13.03.2025 of the Rector at the AU

1. Short presentation of the candidate

Rosen Plamenov Ivanov is a full-time PhD student at the Department of Economics at the Agrarian University. He graduated with a Bachelor's degree in Business Administration from the Aarhus School of Business at the University of Aarhus, Denmark in 2008 and in 2010 received a Master's degree in Finance from the same university.

His professional experience combines academic and business careers: he is an assistant professor at the Agrarian University - Plovdiv and owner of a consulting company Multiconsult Finance EOOD, Plovdiv. From the information included in the candidate's CV, it is evident that he has competencies in statistical analysis, project management, marketing and entrepreneurship, etc.

The PhD student is the author of scientific publications in the field of risk management in agriculture, is a participant as a lecturer in initiatives of the Ministry of Agriculture and Food (Academy of Entrepreneurship in Agriculture) and he is a certified analyst of the Elliott Wave Theory (Level 1). He is fluent in English and Danish and has a wide range of digital skills.

2. Actuality of the problem

The topic of risk management in agriculture is extremely relevant in the context of the growing challenges facing agricultural holdings both in Bulgaria and globally.

Agriculture is one of the riskiest sectors of the economy, exposed to a number of adverse factors such as climate change, price instability in the markets, political and regulatory changes, as well as socio-economic transformations. The relevance of the topic increases in a period of growing environmental challenges, and the assessment of risk in agriculture is becoming increasingly complex and comprehensive. This makes it a necessary tool for identifying threats in agriculture in order to take measures to respond to them. Scientific works, such as the current PhD thesis, proposing measures at the macro, sectoral and micro levels in response to threats have their contribution and would have a synergistic effect in terms of reducing or overcoming the challenges in agriculture and in particular the fruit growing sector.

The topic of risk management in fruit growing is relevant, both due to the specifics of the agricultural sector and the fruit growing sub-sector and the risks arising from its specificities. At the same time, the topic of risk management in Bulgarian fruit growing remains poorly developed, and scientific works in this area are limited. The PhD student argues well the relevance of the topic by pointing out that a large part of the researches focus on the assessment of a given type of risk and a small part considers risk management in a comprehensive manner, presenting the different types of risk to which fruit farms are exposed.

3. Aim, tasks, hypothesis and research methods

The main goal of the dissertation is to assess the types, impact and frequency of risks in fruit growing and to propose effective methods and strategies for risk management depending on the characteristics of fruit farms.

To achieve the goal in the dissertation, five tasks have been set for development and solution, which determine the boundaries within which the goal is implemented in the individual parts of the dissertation and the tasks are as follows: 1) to analyze the main theories and empirical features of risk management in agriculture; 2) to develop a methodological framework for the objective study of the types of risk, their frequency and impact, and their management in fruit farms; 3) to collect large-scale primary data from a representative and diverse sample of fruit farmers in Bulgaria; 4) to analyze critically the risk management process in fruit growing, to identify the characteristics of the sector and the potential for future improvements; 5) to define management and institutional solutions that would contribute to better risk management and sustainable development of the fruit sector in Bulgaria.

The adopted methodological approach of the study is consistent with and stems from the formulated PhD thesis that risk management is an underestimated topic for fruit farmers in Bulgaria, with efforts being limited mainly to the management

of traditional biological risks, while the dynamic external environment creates new and increasingly complex types of risk in agriculture. The object was successfully defined, namely fruit farms of different types throughout the country, but mainly concentrated in the Upper Thracian Lowland. The subject of the study was defined as risk management in farms growing fruit species.

To achieve the goal of the study, the following methods were used: deductive analysis, case study, survey method. The results were analyzed using descriptive and comparative methods, regression and dispersion analysis.

4. Visualization and presentation of the results

The PhD thesis of Rosen Ivanov consists of an introduction, an exposition in four chapters, a conclusion, references and appendices. The total volume of the dissertation is 200 printed pages. The PhD thesis is well illustrated with 45 figures and 16 tables. 144 references were used, 110 of which are in Latin and 34 are in Cyrillic. The PhD student uses the literary sources correctly, they are purposeful to the topic of the study, which shows the high degree of awareness and good knowledge of the literature on the issues he is researching.

5. Discussion of the results

The content of the dissertation is presented in four chapters.

The first chapter is devoted to the theoretical formulation of the problem. A theoretical overview of risk management in agriculture is made, examining the risk management process and an overview of the main emphases in risk management. A positive moment in this part of the work is the analysis of the types of risk in fruit growing, with the risks classified into external, sector-specific, organizational, biological, risk of theft and vandalism. Rosen Ivanov argues and presents in detail the peculiarities of fruit growing that have an impact on the risk management process. He connects them with low added value of the activities in the work process of fruit growing farm, a significantly greater degree of manual labor in basic processes, seasons with peak labor stress, natural and climatic risk, difficult access to external financing, etc.

The second chapter presents the methodological framework of the study. The PhD student skillfully presents the object and subject of the study, determines the time scope and sources of information, presents the structure of the questionnaire and the sample. In this chapter are formulated six research hypotheses related to the statements that: 1) For fruit growers, risk management is not a process of primary importance. 2) Different types of risk are of equal importance for fruit growers. 3)

Individual sociodemographic characteristics of farmers do not have an effect on risk management in fruit growing. 4) The specifics of the fruit farm do not have an impact on risk management. 5) Different types of risk are of equal importance regardless of the characteristics of the orchards. 6) Owners and managers have the same levels of tolerance to risk and behavior in the process of its management.

In the third chapter, an analysis and assessment of risks in fruit growing in Bulgaria is made. In this chapter, based on the survey conducted, the demographic characteristics of fruit growers, the characteristics of their farms are presented, the types of risk in fruit growing are identified and assessed, the importance of risk management is assessed in relation to the hypotheses set out in the study and the individual characteristics of the farmers are assessed on the one hand and the role of the type of fruit farm in risk management on the other hand. An assessment of the different types of risk is carried out depending on the type of orchards and the differences in risk management arising from the role of the farmers are assessed. Of interest is the classification of risk into six main groups and additional one. The specific and relevant risk events for each main group are indicated. Based on the risk assessment, the rating of the different types of risk is calculated and the risk matrix is graphically illustrated. The qualitative assessments given by the respondents in relation to the hypotheses are the basis for conclusions for their rejection or partial non-confirmation. Based on the analyses and assessments made, Rosen Ivanov presents a model for risk management in fruit growing in Bulgaria, which reflects the specific sectoral characteristics.

The fourth chapter logically includes production and institutional solutions for sustainable development of fruit growing, which are grouped into three levels - macro, sectoral and micro, namely, related to the external environment, the fruit growing sector and at the level of individual farms.

6. Scientific and practically applied contributions of the PhD thesis

The following scientific and scientific applied contributions can be outlined in the PhD thesis:

- ✓ The essence and features of risk management in agricultural holdings, and in particular fruit-growing holdings, have been further clarified, covering the various types of risk to which they are exposed.
- ✓ A methodological framework has been developed for studying the factors that influence risk management in fruit-growing, including both the profile of the farmer and his attitudes, as well as the characteristics of the farm and its surrounding environment.

- ✓ Based on the analysis and assessment of the risk for agricultural holdings in the fruit-growing sector, the problems and challenges facing these holdings are determined and specific solutions for dealing with them are outlined.
- ✓ Practical applied directions for risk management in fruit-growing at the macro, sectoral and micro levels have been developed, and proposals for risk management at each level have been given.

7. Critical notes and questions

The significance and actuality of the topic raises questions and recommendations that the PhD student can pay attention during the defense of the PhD thesis:

1. There is a statement in second chapter that a survey among fruit growers is the main source of primary data and its purpose is to collect data that is "quantitative in nature and unknown to the public". What are these data, given that the questionnaire includes questions that are of an evaluative nature and are not related to information that contains quantitative measures?
2. How do the individual characteristics of farmers in the fruit growing sector (education, age, experience) influence their risk management behavior?
3. What is the importance of state policy and institutional support in the risk management process in fruit growing?

I would like to recommend Rosen Ivanov, in his future work, based on the assessments of the different types of risk to classify them according to the risk matrix and the quadrant in which they fall and determine which of the risks are unforeseen, critical, systemic, irrelevant or according to another similar classification and on this basis to determine the risk management strategies (limitation, avoidance, transfer, acceptance, etc.).

8. Publications

Rosen Ivanov has submitted two publications for the defense of PhD thesis, which were published in the journal Agricultural Sciences. The publications were published in 2023 and 2025 and are related to risk management in agriculture and risk management analysis and practices in Bulgarian fruit growing.

The abstract of the PhD thesis correctly reflects the content of the dissertation and has the necessary logical sequence. It includes the general characteristics of the PhD thesis, a brief summary of the dissertation, contributions, publications on the topic of the dissertation and a bibliography. The presented abstract objectively reflects the structure and content of the dissertation.

Conclusion

Rosen Ivanov's dissertation is an independent study of an actual issue, elaborated deeply and containing all the necessary contributions to the required degree. The PhD student demonstrates in-depth knowledge of the risk management in fruit growing. The dissertation work meets the requirements of the LDASRB and the regulations for the implementation of the Law in the AU Plovdiv.

On the basis of the above mentioned reasons, I appreciate positively the PhD thesis and suggest to the honorable members of the Scientific Jury to decide to give Rosen Ivanov the educational and scientific degree "Doctor" in professional field 3.8. "Economics", scientific specialty "Economics and Management (Agriculture)".

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Plovdiv

REVIEWER:
(prof.dr. Zornitsa Stoyanova)