

# STATEMENT

by member of the scientific jury: **assoc. prof. Biser Yordanov Krastev, PhD - Plovdiv**

in connection with the defense of a doctoral thesis for obtaining the educational and scientific degree "**Doctor**"

in the Field of higher education **3. Social, economic and legal sciences**

Professional field **3. 8. Economics**

Doctoral Program: "**Finance and Banking**"

by candidate: **Delyan Kostadinov Plachkov** according to a procedure announced by UARD - Plovdiv

## 1. General information

This statement was prepared in accordance with Order №114/04.04.2023 of the Rector of UARD on the basis of art. 30, para. 3 of the Regulations for the Implementation of the Law for development of the academic staff in the Republic of Bulgaria, art. 43, para. 2 of the Regulations for organization and conduct of training in the educational and scientific degree "doctor" of UARD, as well as in accordance with the Decision of the Council of the Department of Economics and Management at the UARD (Protocol № 2/03.04.2023) .

Author of the doctoral thesis: **Delyan Kostadinov Plachkov**

Doctoral thesis topic: "**Financial instruments for risk management in the context of the Common Agricultural Policy of the European Union**"

Scientific consultant: **prof. Ogniana Stoichkova, PhD**

## 2. General presentation of the doctoral thesis

The doctoral thesis submitted for review has a total volume of 191 pages. It consists of a content (2 pages), an introduction (5 pages), a chapter one (48 pages), a chapter two (45 pages), a chapter three (76 pages), a conclusion (3 pages), a bibliography (8 pages), as well as abbreviations used (2 pages). The doctoral thesis contains 43 tables and 36 graphs. The literature used contains 118 sources, of which 60 are in Bulgarian and 58 in English.

**Topicality** of the issues presented in the doctoral thesis is indisputable, since the financial instruments used to support farmers and the development of rural areas stabilize the quantities and prices of agricultural and livestock production within the European Union. They are extremely efficient and largely prevent disruptions in supply chains. On the other hand, the assessment of the market risk regarding the changes in the prices of cereals in Bulgaria, Croatia, Romania and Slovakia during the period 07.11.2019 - 10.11.2022 was carried out on the basis of a specific methodology that contributes to the enrichment of knowledge related to predicting this risk.

The doctoral student has formulated the object and subject of the research in an appropriate way. In this sense, **the object of research** in the doctoral thesis is: “financial instruments in the context of the Common Agricultural Policy of the European Union”. **The subject of the study** is: “risk management in the agricultural sector through the Common Agricultural Policy financial instruments, in particular market risk in the grain production sector in Central and Eastern Europe, before and during the hostilities in Ukraine”.

Based on the set goals and objectives, **the research thesis**: “that the market risk in the grain sector in the context of the Common Agricultural Policy of the European Union and the application of financial instruments can be quantitatively assessed and predicted by using the methodology “Value at Risk” used in the banking sector” has been successfully proven.

### **3. Assessment of the structure and content of the doctoral thesis and an opinion on the correctness of the abstract of the dissertation**

Structurally, the doctoral thesis was built successfully. There is a logical sequence and relative balance between its components. The content of the doctoral thesis is fully in line with the topic of scientific research. The methodology used by the doctoral student is suitable for conducting the research and for proving the thesis defended by him.

The title of **chapter one** is “Development of the EU's Common Agricultural Policy in the context of financial instruments and risk management in agriculture”. It consists of four paragraphs and has a volume of 48 pages. In her the goals and principles underlying the Common Agricultural Policy of the EU are presented (pp. 10-21). Its role in terms of the liberalization of the world agricultural production markets (through signed international agreements within the framework of the GATT and the WTO) is emphasized, as well as in the development of the EU budget process (pp. 22-33). The various directions and stages of the reform of the CAP are presented sequentially. The reforms of 1992, 1999, 2003, 2013 and 2020 have been analyzed. The role of the European Agricultural Fund for Rural Development as the main financial instrument under the second pillar of the CAP, including a variety of loans, guarantees and equity combined with grant funding, intended to support the development of agricultural producers and SMEs in the food sector has been taken into account. (pp. 34-47). The strategic goals of the CAP in the program period 2021-2027 and the mechanisms for their achievement have been clarified. It focuses on the sustainable management of the environment, soils and climate (pp. 48-55).

At the end of chapter one, relevant conclusions and summaries are made.

**Chapter two** is entitled “European Union Common Agricultural Policy Approaches and Instruments for Interventions in the Agricultural Sector and Financial Instruments for Risk Management”. It consists of five paragraphs and its total volume is 45 pages. At the beginning of the chapter, the specifics of the

common market organization of agricultural products within the framework of the CAP and the intervention measures that are applied to their production, storage and trade are systematized (pp. 58-65). Characterized is the so-called the second pillar of the CAP, aimed at the development of rural areas and the measures that are applied for this purpose both at the pan-European and at the national level (pp. 66-74). The financial instruments used to support small farms under the first pillar (the single area payment scheme, national payments and specific support) and the second pillar of the CAP, including the measures “Investment in physical assets”, “Development of holdings and enterprises”, “Agroecology and Climate Change”, “Organic Farming”, “Disadvantaged Areas” and “Natura 2000” are described (pp. 75-83). Further, attention is directed to the financial instruments that are most often used for risk management in agriculture - insurance, swaps, futures, options and forward contracts (pp. 88-94). The doctoral thesis offers an original methodology for evaluating the market risk accompanying the growing and trading of cereals. It contains a formula apparatus from descriptive statistics, used to evaluate dynamic series, combined with the Value-at-Risk approach (pp. 95-100).

At the end of the second chapter of the doctoral thesis the author is made the relevant conclusions and summaries.

**Chapter three** is entitled “Stochastic Probabilistic Models for Assessing Market Risk in the Agricultural Sector in Central and Eastern Europe” and has a volume of 76 pages. It consists of five paragraphs. In the first of them, the author conducts an empirical study related to the assessment of market risk in relation to changes in the price of bread wheat in Bulgaria, Croatia, Romania and Slovakia during the period 07.11.2019 - 11.10.2022. He predicts what will be maximal losses for bread wheat producers from these countries in the next 7 days, respectively the next 30 days with a probability of 99%, using delta normal VaR and historically simulated VaR (pp. 105-122).

In the second paragraph, the doctoral student examines in an analogous way the market risk regarding changes in the price of feed wheat in Bulgaria, Croatia, Romania and Slovakia during the period 07.11.2019 - 10.11.2022. He predicts what will be maximal losses for bread wheat producers from these countries in the next 7 days, respectively in the next 30 days with a probability of 99%, using delta normal VaR and historically simulated VaR (pp. 105-122).

In the third paragraph, a quantitative assessment of the market interest rate risk was carried out in connection with the changes in the price of barley in Bulgaria, Croatia, Romania and Slovakia during the period 07.11.2019 - 10.11.2022, predicting the maximum losses for barley producers of these countries in the next 7 days, respectively the next 30 days with a probability of 99% when trading it using delta normal VaR and historical simulated VaR (pp. 140-156).

In the fourth paragraph, Delyan Plachkov makes a comparative analysis of the changes in market risk values regarding the prices of bread wheat, feed wheat and barley before and during the special military operation in Ukraine on the markets of Bulgaria, Croatia, Romania and Slovakia with a horizon of 7 days and of 30 days with 99% probability measured using delta normal VaR and historical simulated VaR (pp. 157-174).

In the fifth paragraph, the doctoral student presents the results of the quantitative assessment of the market risk borne by grain producers in the analyzed countries and makes recommendations for improving risk management schemes and expanding the application of financial instruments in the context of the Common Agricultural Policy in order to address the challenges, faced by farmers and rural communities.

In **the conclusion** of the doctoral thesis, the main conclusions and summaries of the overall scientific research are formulated and presented.

**The abstract** reflects in a synthesized form the main statements and results of the research in the doctoral thesis. It has a volume of 48 pages and is written according to established requirements. It contains the general characteristics of the doctoral thesis and its structure. A brief presentation of the dissertation was made. The main conclusions of the scientific research are drawn. A reference to scientific and scientific-applied contributions, a list of publications on the subject of the doctoral thesis, as well as a declaration of originality and credibility signed by the author are included. The referee's style is tight and to the point. From a technical point of view, it is prepared at a very high level and can be evaluated positively.

In conclusion, the generalization can be made that the doctoral student is able to conduct independent scientific research, formulate research theses, reach logical conclusions and support them with real data from practice. As is evident from the content of the plagiarism check declaration, the dissertation and abstract presented by Delyan Plachkov are not borrowed from foreign publications, the author's participation is clearly visible in them and they correctly and fully reflect his scientific positions regarding the market risk management in the grain sector in selected countries of Central and Eastern Europe.

#### **4. Determining and evaluating of the scientific and scientifically applied contributions in the doctoral thesis**

The scientific contributions of Delyan Kostadinov Plachkov, which are formulated in the abstract, can be divided into two groups: two of the contributions are theoretical nature and four of them are scientifically applied.

**The contributions of a theoretical nature** are the following:

1. After a theoretical review and analysis of Bulgarian and foreign authors and sources, the essence, scope and specific features of the Common Agricultural Policy of the European Union and the various types of

financial instruments for risk management in its context are highlighted. A historical analysis of its development in this direction was carried out.

2. A study of the interventions and impact of the Common Agricultural Policy and risk management through financial instruments on the agricultural sector and rural development has been carried out with an emphasis on market risk in the agricultural sector. The market risk it is comprehensively defined and its components are examined and analyzed in detail.

**The scientifically applied contributions** are the following:

1. The market risk of grain producers in Central and Eastern Europe (and in particular Bulgaria, Croatia, Romania and Slovakia) is assessed and forecast at 99% probability for a period of 7 and 30 days in accordance with required by the regulatory framework of the Bank for International Settlements in Basel by using of the approach delta normal VaR and historical simulated VaR, which is done for the first time.
2. Empirically, the peculiarities of assessing and forecasting the market risk for three cereals: bread wheat, fodder wheat and barley, listed on the markets in Central and Eastern Europe (Bulgaria, Romania, Croatia and Slovakia) have been established. The level of market risk for the entire studied period, as well as for the periods before and during the war in Ukraine, was established.
3. It has been proven that the military conflict in Ukraine affects the market risk in the grain sector of the analyzed countries to a different degree and in a different direction. Military conflict has been shown to have the greatest impact on the fodder wheat market in Romania, where it reduces market risk. Highest levels of increase in market risk due to hostilities calculated for barley markets in Croatia.
4. Based on the theoretical analysis and market risk assessment, recommendations have been formulated regarding the risk management schemes in the Rural Development Programs, oriented towards market risk management and the need to develop a toolkit of financial instruments, taking into account the most the new trends and priorities towards “greening”, “simplifying” and modernizing the CAP, as well as promoting the application of innovation and digital technologies, improving awareness and increasing motivation among all stakeholders, creating and sharing new knowledge and building capacity for implementation and development of the financial instruments of the Common Agricultural Policy of the European Union.

I believe that the contributions in the dissertation work faithfully and accurately reflect its scientific merits, as well as its significance for the development of Bulgarian science and practice in the field of analysis and assessment of market risk in the grain sector of the countries of Central and Eastern Europe.

## 5. Critical remarks and recommendations

In addition to the positive aspects and merits with which the doctoral thesis is distinguished, some weaknesses are also noticeable in it. I will take the liberty of noting one of them, thus hoping to assist the PhD student in his future research work.

This weakness stems from the fact that, unlike chapters one and two, at the end of chapter three, the main conclusions from it are not drawn.

I recommend the doctoral student to further deepen his research in his chosen scientific field and to publish part of his scientific production in refereed and indexed issues with an impact factor, included in world-famous databases of scientific information, such as Scopus, Web of Science etc.

It should be noted that the critical remarks and recommendations made in no way detract from the qualities and merits of the scientific work presented by the doctoral student.

## 6. Questions to the doctoral student

The question I am asking doctoral student Delyan Plachkov in connection with the defense of his doctoral thesis is the following:

1. In your opinion, if the possibility of practically unlimited import of bread wheat, fodder wheat and barley from Ukraine to Bulgaria continues during the special military operation, how will this circumstance affect the prices of these cereals in our country, as well as the level of the market risk taken by the Bulgarian grain producers?

## 7. Conclusion

The doctoral thesis has a fully completed form and can serve as a basis for future scientific research. This gives me reason to confidently award **my positive assessment** of the conducted research, presented by the above-reviewed dissertation, abstract, achieved results and contributions. I propose to the respected scientific jury **to award** the educational and scientific degree “doctor” of **Delyan Kostadinov Plachkov** in the Field of higher education 3. Social, economic and legal sciences, Professional field 3.8. Economics, Doctoral program „Finance and Banking”.

24.04.2023  
Plovdiv

Signature:  
/assoc. prof. Biser Krastev. PhD/