

Scientific Opinion

of Assoc. Prof. Dr. Kristian Stoyanov Hadjiev, NBU, Department of Administration and Management, Professional Field 3.7 "Administration and Management", scientific specialty 05.02.20 "Social Management"

Subject: Presented dissertation for the acquisition of educational and scientific degree "Doctor" in the scientific specialty "Administration and Management (Business Administration)", professional field 3.7 Administration and Management

Author of the dissertation: Katerina Nikolova Pankova - PhD student in self-study in the doctoral program "Business Administration" - International Business School.

Dissertation topic: "Risk management in long-term projects in the business environment with the help of real options and leasing"

Supervisor: Prof. Dr. Serafim Petrov, Assoc. Prof. Dr. Nadia Marinova-Milanova

Grounds for presenting the opinion: member of the Scientific Jury, according to Order №21 / 31.01.2022 of the Rector of International Business School Prof. Dr. Georgi Apostolov

The opinion has been prepared in accordance with the Law on the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for the Application of this Law and the Ordinance on the Development of the Academic Staff of the International Business School.

1. General characteristics of the presented dissertation

The reviewed dissertation consists of 186 pages and includes an introduction, three chapters, a conclusion, a bibliography and an appendix. The main text contains 37 tables, 5 diagrams and mathematical expressions. In support of the exhibition are included 142 literary sources, of which 78 in Cyrillic and 64 in Latin.

The presented dissertation is dedicated to a very **current** topic related to risk management tools for long-term projects in the context of globalization, unprecedented competition and constant pressure for change. The study is focused on the main approaches for planning and implementation of specific models for investment risk management through options and leasing. Adequate methods, techniques and tools for solving the problem have been identified through analysis and disclosure of significant factors in the selection of appropriate solutions in the company policy of BioPharmGInt.. In this context, the statements, ideas and proposals contained in the dissertation have a practical and applied nature.

The dissertation is **balanced**, the issues are presented in their logical sequence and coherence, the style of the presentation is scientific, the technical layout is excellent.

The goal and the tasks are connected and rich and fully correspond to the topic of the dissertation. The main scientific problem is correctly formulated, and its boundaries are precisely defined. The research tasks, the object, the subject and the main thesis of the research are clearly and concretely stated. A methodology has been developed that is completely sufficient to achieve the objectives of the study. The concepts and terms used in the dissertation are specified.

The used literature is as close as possible to the topic of the dissertation and gives a sufficiently complete picture of the state of the researched problem. The literature sources are arranged and numbered according to the requirements of the adopted standards.

The doctoral student analyzes and systematizes a significant volume of literature sources on the topic, which are cited correctly in the text. An own critical interpretation of the ones presented in them has been made.

The text is successfully illustrated with tables, figures and diagrams, which significantly contribute to its understanding. The results of the research are presented clearly, logically and understandably.

From what has been said so far, I come to the conclusion that the ultimate clarity of the doctoral student on the above issues is one of the prerequisites for the high quality of the entire dissertation.

2. Evaluation of the obtained scientific and scientific-applied results

In accordance with the formulated goal and the detailed tasks, the structure of the dissertation is built.

The introduction of the dissertation contains all the necessary "requisites": a convincing justification of the problem and its significance; clear and precise formulations of the purpose and research objectives; the object and subject of research; argumentation of the choice of research approaches and methods.

The chapter conceptual apparatus, fundamental theoretical concepts and relations related to risk management and assessment of risk decisions in long-term investment projects based on research in the scientific literature on the issue.

First clarifies the development of the research problem and forms the theoretical basis on which the doctoral student derives the main research thesis. The conclusions reached by the doctoral student are reasonable, supported by solid arguments. development of empirical research methodology.

In the second chapter doctoral student develops *the methodological bases of the research*. The methods for reporting and substantiation of risks in long-term projects are analyzed. The focus is on the analysis and assessment of the sustainability of the investment project. The modeling of changes in cash flow parameters and substantiation of Net Present Value (NPV) estimates are associated with the methods of discrete analysis and Monte Carlo. Special attention is paid to *four main risk dimensions* in long-term projects: the average or expected distribution of the net present value of the project, the variance (NPV deviation from mathematical expectation), the standard deviation of this distribution and the coefficient of variation.

The PhD student identifies the sequence of calculations in the discrete analysis of the sensitivity of NPV for the investment project with respect to changes in cash flow parameters and the base interest rate based on simulation modeling.

At the end of the second chapter, as well as of the first chapter, the respective concrete conclusions are made.

The third chapter presents a methodology for studying the practical approaches to risk management by specifying each of the components. Particular attention is paid to operational risk management. The practical aspects of risk management with the help of real options and leasing in BioPharmG Int. are presented. The advantages of using the built-in (internal) real options for risk management in investment projects are proved.

The conclusion to be drawn is that in all three substantive chapters, the doctoral student demonstrates skills for clear identification and reasoned scientific defense of their views on risk management in long-term projects *through real options and leasing*.

In *conclusion* of the dissertation the doctoral student systematizes the immediate *results and conclusions* from the complex research of the methodology and practice in risk management with the help of options and leasing. The methodological approaches, the contribution moments and the practical significance of the obtained results are presented.

The result of the dissertation research: confirmation of the formulated **main** research **thesis**, namely that it is necessary to apply new (holistic) approaches to risk management and minimization in long-term investment projects involving the use of real options and leasing.

3. Description of the scientific and scientific-applied contributions

The dissertation is a *serious scientific research* of a topical and significant problem. The main contribution points can be considered and evaluated in two groups - scientific contributions and practical contributions. I fully accept the contributions formulated by the doctoral student.

4. Impact of the dissertation on the external environment

Three independent publications on the topic of the dissertation have been made in renowned specialized national and international scientific journals, which indicates that a number of ideas and conclusions formulated in the study are available to professional audiences. All of them reflect specific aspects of the doctoral student's research work and provide the necessary publicity.

5. Evaluation of the abstract

The presented abstract reflects correctly the content of the dissertation. It summarizes the main points of the dissertation: general characteristics; content and structure of the work; scientific contributions; publications on the issues of the dissertation.

6. Critical remarks, recommendations and questions

I have no critical remarks, recommendations and questions on the presentation of ideas and statements in the dissertation.

7. Conclusion

The presented dissertation shows that the author has in-depth knowledge of the issues studied by him. The topic of the dissertation is topical and significant in scientific and practical-applied aspect. The dissertation is a fully completed scientific and practical research, which meets the requirements of the Academic Staff Development Act, the Regulations for its implementation, as well as the internal regulations of the International Business School for awarding educational and scientific degree "Doctor". In his research, the doctoral student shows that she has the ability to conduct independent research and obtain specific scientific and applied research results and contributions.

All this gives me reason to give a **positive assessment of the dissertation** and to suggest to the renowned members of the scientific jury to make a decision **for awarding the educational and scientific doctor's degree of Katerina Nikolova Pankova in the scientific specialty "Business Administration" in the professional field 3.7 "Administration and Management"**.

Sofia,

March 14, 2022.

Signature:

/ Assoc. Prof. Dr. Christian Hadjiev/

