

## OPINION

Вх. № ПД-06-93 / 16.09.2024

on a Thesis for Acquiring the Educational and Scientific degree "Doctor"

**Submitted by:** Assoc. Prof. Dr. Emil Krastev Papazov, University of National and World Economy, Sofia, Scientific Field "Economics and Management".

**Reason for Writing:** Orders ПД-06-93 / 27.06.2024 and ПД-06-103 / 09.08.2024 of the Rector of the Economic University, Varna, and Decision of the Meeting of the Scientific Jury on 26.07.2024.

**Thesis Topic:** Management of Entrepreneurial Risks in the Implementation of Investment Projects.

**Author:** Miglena Stefanova Staneva-Todorova.

**Scientific Supervisor:** Prof. Stoyan Andreev Stoyanov, PhD.

### 1. Overview of the PhD Thesis

The management of entrepreneurial risks in the execution of investment projects is a subject that has been explored only in recent times. Information regarding it is limited and inadequately analyzed, necessitating enhancements in study methodologies. The significance of the issue, along with these factors, renders the dissertation very pertinent.

Miglena Staneva-Todorova's PhD thesis comprises 280 pages, including 264 pages of primary text and 16 pages of appendices.

The thesis has an introduction, a three-chapter explanation, and a conclusion. It includes 35 figures and 38 tables. The reference list comprises 120 entries, including 96 in Cyrillic, 24 in Latin, and 16 web sites.

Along with the dissertation, an abstract has been developed, which includes a reference to the scientific contributions in the dissertation and a reference to the publications on the dissertation.

The formal aspects of the dissertation work and their meaningful examination give reason to believe that it complies with Art. 27 (2) of the Regulations for Implementation of the Academic Staff Development Law (RIASDL) of Bulgaria and possesses all the necessary elements of a completed scientific investigation.

### 2. Publications and Participation in Scientific Forums

Within the dissertation defense procedure, the PhD student has submitted one article published in a peer-reviewed scientific journal and two scientific papers published in proceedings of scientific conferences. The publications are independent, made in specialized scientific journals and reflect the essential points of the dissertation research. The total number of points obtained corresponds to the quantitative requirements under Art. 35, par. 1-4 of the Regulations for Academic Staff Development at EU-Varna.

### **3. Assessment of the Thesis Structure and Content**

The study's conceptual framework encompasses: the object (investment projects), the subject (risks associated with the implementation of investment projects), the aim and objectives (identification and analysis of specific risks), and the study's limitations (projects pertaining to housing construction). Secondly, a thorough examination of essential concepts and their interconnections, namely: investment; investment project; investment project life cycle; entrepreneurial risks in the execution of investment projects; housing investment projects and the associated risks of their implementation (within the established scope of the dissertation research). Thirdly, categorizing entrepreneurial risks according to the phases of the investment project life cycle and elucidating their effects on key investment project attributes, including budget, quality, and duration. Fourthly, categorizing entrepreneurial risks based on their significance and probability of occurrence in housing investment initiatives. Fifth, create a toolset to aid organizations in tackling strategic challenges associated with project risk management. The established framework is coherent, and the PhD student adhered to it continuously during the thesis production.

A study was done among 50 construction and investment firms to support the author's claim that effective risk management may address numerous challenges in the execution of housing development projects. Statistical techniques and suitable software were employed to analyze the gathered data. The many appendices, tables, and figures indicate the survey's comprehensiveness.

The allocation of material across the chapters is fairly uniform, signifying a commendable equilibrium of the paper's substance. Every chapter ends with a concise overview of the key research findings to date, and the dissertation culminates in a synthesis of the principal conclusions alongside selected outcomes derived from the overall research results.

The dissertation exhibits an academic language and style, and the employed instruments are effective.

The reference of the utilized literature demonstrates the author's strong scientific understanding in the offered work.

The abstract created for the dissertation defense encapsulates the principal findings and outcomes of the conducted research.

### **4. Identification and Evaluation of the Contributions in the Dissertation**

The contributions outlined in the abstract predominantly represent the principal accomplishments of the PhD student within the comprehensive research. The contributions are primarily of a scientific and applied nature. They are logically drawn from the theoretical-methodological and empirical analysis of the specific subject of investigation.

### **5. Critical Comments and Recommendations**

Within the framework of the presented research design for data collection and analysis (section 1.3.2), it would have been appropriate to provide more detailed information on the representativeness of the survey and the way the surveyed firms were selected.

In some cases, the survey results lead to surprising findings (e.g. pandemic risk ranks first in importance among the key entrepreneurial risks, see Table 36), and hence the need for a more thorough treatment.

Based on the results of the dissertation research, more detailed recommendations could be made to all organizations relevant to the housing sector.

The critical comments made do not detract from the results achieved within the research.

### **6. Conclusion**

The thesis on "Management of entrepreneurial risks in the implementation of investment projects", authored by PhD student Miglena Stefanova Staneva-Todorova, is an original study of a topical and significant problem for the Bulgarian economy. It contains scientific and applied contributions to the theory and practice of risk management in a specific sector.

All presented materials show that doctoral student Miglena Stefanova Staneva-Todorova has the knowledge and abilities to conduct scientific research, which gives me reason to give a positive assessment of the dissertation and to propose its author to be awarded the Educational and Scientific Degree "Doctor"

Sept. 12<sup>th</sup>, 2024

Member of the Scientific Jury:

Заличена информация съгласно  
ЗЗЛД и регламент (ЕС) 2016/ 679

(Assoc. Prof. Dr. E. Papazov)



Вх. №

РД20-1162 / 02.09.2024

## SCIENTIFIC OPINION

by Assoc. Prof. Dr. Yana Georgieva Stoencheva

regarding a dissertation for the acquisition of an educational and scientific degree "doctor" in Professional field 3.8 "Economics", doctoral program "Economics and Management (Construction and Real Estate)" with author Miglena Stefanova Staneva-Todorova

### 1. General information:

Prepared the scientific opinion: Assoc. Prof. Dr. Yana Georgieva Stoencheva, Department "Real Estate" at the University of National and World Economy - Sofia, appointed as a participant in the scientific jury on the basis of order No. RD 06-93/26.07.2024 of the Rector of the University of Economics - Varna.

Grounds for giving an opinion: Dissertation developed by Miglena Stefanova Staneva-Todorova for the acquisition of the educational and scientific degree "doctor".

Dissertation topic: BUSINESS RISKS MANAGEMENT IN IMPLEMENTATION OF INVESTMENT PROJECTS

### 2. General presentation of the dissertation:

The dissertation consists of 280 pages, of which: Introduction – 5 pages, main text (three chapters) – 243 pages, conclusion – 3 pages, appendices – 16 pages. 120 information sources were used, including 16 electronic sites. Of the literary sources, 81 are in Cyrillic and 23 in Latin. The literary sources cover a wide time range, and a significant part of them are contemporary. For the online-based literature sources, an access link and date of use is indicated. There are 38 tables and 35 figures in the dissertation.

### 3. Publications and participation in scientific forums:

The dissertation student has presented three scientific publications related to the topic of the dissertation work. Including one scientific article in a refereed scientific journal and two reports from participation in scientific conferences. The publications on their topic fit into the content of the dissertation work and sufficiently efficiently ensure publicity of the achieved results. They are a guarantee that research results are presented and discussed and that the scientific community and all other interested persons, companies and institutions have access to the creative pursuits and achievements of the doctoral student.

### 4. Assessment of the structure and content of the dissertation:



The structure of the dissertation work is well balanced and responds to good practices in this regard. The relevance of the problem is convincingly explained in the introduction of the dissertation. Correctly formulated: the object, subject, purpose and tasks of the research. The research thesis is realistic. In the first chapter, methodological issues related to the essence of entrepreneurial risk are discussed in depth and competently in a retrospective and contemporary aspect. Summaries are presented in authentic tables and figures. An author's interpretation of the concepts of "investments" and "entrepreneurial risk" is presented. The procedure for making an investment decision has been thoroughly and thoroughly discussed, which allows one to understand the particularities of the risk at the individual stages. An author's adaptation of the formula for calculating the Relative Impact Index is presented, which allows improving its sensitivity to rare risk factors and thus increasing its cognitive power. In the second chapter, an analysis of the information on investment risks, obtained with the help of a survey, was carried out. An appropriately prepared survey card enables them to calculate a standard and a modified version of the Relative Impact Index for the main types of investment risks defined by the author. The obtained results are successfully presented and carefully discussed, showing the personal opinion of the doctoral student. This empirical analysis lends inestimable evidentiary force to opinions and considerations which, until now, were only hypothesis. In the third chapter of the dissertation, attention is directed to the possibilities of managing entrepreneurial risks so that they can be minimized. A special survey was conducted with the participation of entrepreneurs. The personal characteristics, management experience and knowledge of construction entrepreneurs are analyzed. Graphs are presented for the degree of use of different management approaches for managing investment risks. The dissertation student made conclusions useful for business practice. A conceptual model was developed and based on it, a virtual system for assessing investment risk was created and tested. This ensures accessibility, speed, precision and comparability in the assessment of investment risk. This innovative element in the development is an expression of skills in applying electronic technologies to the solution of management problems. The created system can be interpreted as a variant of a specialized information advisory system that assists entrepreneurs in assessing investment risks and makes management decision-making less subjective. An algorithm for the effective use of artificial intelligence "Chat GPT 3.5" has been developed for the management of entrepreneurial risks in the implementation of investment projects for residential construction. In the conclusion,





the contributing points are presented, which fully correspond to what was achieved in the dissertation work.

The development style is analytical, the layout is precise, logical consistency and high scientific and practical utility of the results have been achieved.

**5. Identification and evaluation of the scientific and scientific – applied contributions in the dissertation work:**

I accept the contributions formulated by the doctoral student and recommend that they be separate scientific and practical applications.

**6. Has plagiarism been detected in the dissertation and the abstract?**

I have not found any signs of plagiarism. The literature used is duly cited.

**7. Critical notes and recommendations:**

I recommend a higher publication activity regarding the results obtained. The application of information technologies to support management activity is a rapidly developing field, and any delay may affect the relevance of the results obtained.

**8. Questions for the dissertation student:**

- Is support provided for the web-based platform you created for the assessment of entrepreneurial risk in the implementation of investment projects in construction?
- How long after its creation will it continue to function?

**9. Conclusion:**

On the basis of the indisputable merits of the presented dissertation work, I propose that, upon successful defense, the esteemed Scientific Jury should award the dissertation student Miglena Stefanova Staneva-Todorova an educational and scientific

Sofia, 29.08.2024

Заличена информация съгласно  
ЗЗЛД и регламент (ЕС) 2016/ 679

Assoc. Prof. Yana Georgieva Stoencheva



## О P I N I O N

**on awarding the educational and scientific degree "Doctor"  
under a procedure announced by the University of Economics – Varna**

### 1. General Information

**Opinion drawn up by:** Assoc. Prof. Dr Todor Stoyanov Raychev, Department of Business, Investments, Real Estate (BIRE), University of Economics – Varna (UE – Varna), habilitated in professional field 3.8. Economics, academic specialty "Economics and Management (Innovations in Construction)"

**Grounds for writing the Opinion:** Order No РД-06-93/27.06.2024 by the Rector of UE – Varna appointing the members of the scientific jury and Decision of the first meeting of the scientific jury of 28.06.2024 for designating reviewers and drawing up of opinions.

**Author of dissertation:** Miglena Stefanova Staneva-Todorova, full-time doctoral student in professional field 3.8. Economics, doctoral programme "Economics and Management (Construction and Real Estate)" with the Department of BIRE at UE – Varna, pursuant to order No РД-17-462/14.02.2017 by the Rector of UE – Varna, for a period of 3 years, effective from 01.02.2017 to 01.02.2020 and disenrolled with the right of defence within 5 years, as of 03.02.2020, pursuant to order No РД-17-303/06.02.2020 by the Rector of UE – Varna.

**Dissertation topic:** *Management of Entrepreneurial Risks in the Implementation of Investment Projects*

The initiation of a procedure for dissertation defence is according to a decision taken by the Department Council of the Department of BIRE, as per Record No 14/11.06.2024.

**Scientific Supervisor:** Prof. Dr Stoyan Stoyanov

### 2. General description of the dissertation

The dissertation defender Miglena Staneva-Todorova submitted a 280 page-long Dissertation, which has been developed in the classical format: an Introduction – 5 pgs, Body in three chapters of three sections each – totalling 243 pgs, Conclusion – 3 pgs, Appendices – 16 pgs and Bibliography – 9 pgs. The body text includes 38 Tables and 35 Figures. The Bibliography consists of 120 literature and information sources, 81 in Cyrillic, 23 in Latin, respectively,



as well as 16 Internet sites. In the work are also included 3 appendices, which allow the dissertation defender to reason her conclusions and recommendations.

The topic of the Dissertation is given up to the relevant issue of the identification and management of entrepreneurial risks in the implementation of investment projects for residential construction in Bulgaria, with a view to minimizing the negative effects on their effective implementation and achieving greater company competitiveness.

The Body of the Dissertation shows the thorough study of the literature and normative sources, along with the corresponding analyses, applied are appropriate research methods such as the historical approach, the method of deduction, the comparative analysis, the qualitative and quantitative analysis, the empirical approach, statistical methods, mathematical methods, etc.

### **3. Publications and participation in scientific forums**

Submitted are a total of 3 independent scientific publications on the issues of the Dissertation – 1 article and 2 papers presented at international scientific conferences, with which the dissertation defender meets the quantitative requirements under Art 35, Para. 1, s. 4 of the Regulations on the Development of Academic Staff at UE – Varna.

One is favourably impressed by the presentation of the publications in journals and at forums of specialized readership, suitable for assessment of the content, which reflects substantial points from the Body of the Dissertation.

### **4. Assessment of the structure and contents of the Dissertation**

**The structure** of the Dissertation follows a classical model, which comprises three chapters of three paragraphs each and corresponds with the topic chosen by the dissertation defender. The latter has successfully managed to develop the scientific tasks set in the work. The Dissertation is distinguished for a clearly expressed author's standpoint, with original and creative formulations and conclusions. The dissertation defender has precisely formulated the object, subject, aim and tasks of the study. Put forward is the thesis, which the doctoral candidate convincingly defended in the Dissertation, namely, that through the successful management of entrepreneurial risks property developers could solve to a greater degree various problems in the implementation of investment projects for residential construction. Specified and correctly applied are the methods of study in the process of development of the dissertation. The Conclusion of the Dissertation summarizes the findings of the study and the main theoretical and practical contributions are pointed out.

**The Contents** of the Dissertation include a theoretical and methodological chapter, an analytical chapter and a practical and applied chapter, which are systemically bound and very well balanced relative to the size of the Body.

Chapter One presents an examination of the theoretical and methodological aspects of entrepreneurial risks in investment projects for

residential construction. As a result of a comprehensive and thorough analysis the author refines the concept of "investments" and formulates a definition of the concept "investments in real estate". After a conducted study of the nature and peculiarities of investment projects there is also formulated a definition of the concept of "investment projects for residential construction". Traced out is the life cycle of investment projects for residential construction, which the author expands with additional stages. In one of those the definition of "financing an investment project" is refined. The development of the concept of risk in economic theory is examined. A working classification of risks is proposed, by means of a generalized author's distribution according to scientifically grounded essential attributes of 35 types of risk in 14 specific groups. In the last paragraph an identification of an appropriate methodology for conducting the research is carried out. Provided is a structured and systematic framework for carrying out the research work through adaptation of the so-called "Research onion", developed by M. Saunders. The research concept of gathering and analyzing data is formulated. A survey among 50 construction companies in the four biggest cities in this country is conducted. Performed is an analysis of the gathered data through a reasoned choice of method of analysis – "Relative Importance Index". Presented is a modification of the formula of that index, which is an innovative development in the area, as it contributes to improving the analysis and the management of entrepreneurial risks, by integrating both the impact, and the probability for the occurrence of the risks. Developed is an algorithm for the use of the modified formula, which constitutes a tool for the systematic and effective assessment of entrepreneurial risks in the context of investment projects for residential construction.

In Chapter Two an analysis of entrepreneurial risks in investment projects for residential construction is performed. The main risks are identified and defined through a survey (*Appendix 1 – SURVEY for assessment of entrepreneurial risk in the implementation of investment projects for residential construction*), and the gathered data are statistically processed by means of the Relative Importance Index (RII). In order to achieve a more precise registration of the probability and the level of impact of the risks, the analysis uses its modification. Identified and analyzed through the standard and the modified RII are 20 entrepreneurial risks, which have the most significant effect on the budget and the quality of the investment projects for residential construction. The emphasis is on the importance of the analysis of entrepreneurial risks on the budget and the quality of the investment projects for residential construction. The use of the standard and the modified RII provides the opportunity to identify successfully the impact of the risks in the different stages of the projects, which aids property developers in the effective management of their influence on the budget and the quality. Performed is also an assessment of the impact of entrepreneurial risks on the timing in the various life cycle stages of the investment projects for residential construction. On its basis the author demonstrates a methodology for comparing the standard and the modified RII,

which provides a pragmatic tool for the management of entrepreneurial risks and the optimization of the time needed for the implementation of projects. The proposed analytical tools are notable for their practical orientation to the benefit of property developers and/or the management teams of investment and construction companies, by providing information and possibilities for situational analysis of key entrepreneurial risks, which can affect the implementation of projects and lead to diversions. Through those the dissertation defender offers a pragmatic opportunity for making informed management decisions regarding the effect of potential entrepreneurial risks in investment projects for residential construction.

In Chapter Three innovative strategies for managing entrepreneurial risks in investment projects for residential construction are put forward. On the basis of a second survey (*Appendix 2 – SURVEY on the management of entrepreneurial risk in the implementation of investment projects for residential construction*) among 50 property developers, representatives of 50 construction companies in this country, the author presents the current profile of property developers in the area of management of entrepreneurial risks in the implementation of investment projects for residential construction. The conducted study provides valuable data and analysis of the general profile of property developers operating in the area of residential construction in Bulgaria. As a result of the analysis of the data, scientifically substantiated recommendations and guidelines for property developers are formulated, which are to be used in the search for opportunities to improve the management of entrepreneurial risks and achieve better results in the implementation of investment projects for residential construction. A conceptual model of an innovative web-based platform, which combines modern technology and expert analysis, is developed, in order to provide valuable prospects for identification and assessment of entrepreneurial risks in investment projects for residential construction. The platform is intended to assist construction managers in the development of strategies for optimizing the investment process and lowering entrepreneurial risks. The feasibility of the platform is piloted in construction company Planex EOOD, Varna, through a created by the author algorithm for testing it in a real environment. One is impressed by the introduction on the part of the dissertation defender of the innovation of Artificial Intelligence, with the use of ChatGPT 3.5 in the management of entrepreneurial risks during the implementation of investment projects for residential construction. A guide for the efficient use of Artificial Intelligence in the management of entrepreneurial risks with projects of residential construction is developed. An algorithm for the most effective use of ChatGPT 3.5 in the management of entrepreneurial risks in investment projects for residential construction is also developed. Using such an innovative approach, a considerable facilitation and a guaranteed improvement in the management of the risks in the implementation of investment projects for residential construction become possible, inasmuch as there are provided specific directions on performing the task and achieving the goal.

As regards the overall presentation of the conducted research work, I have found the good practice, used by the author, to highlight, after each paragraph, the achieved more significant research findings in it through the appropriate conclusions or summaries.

**The Summary** accompanying the dissertation is 50 pages long. It is laid out correctly and faithfully reflects its contents and the achieved results in the course of the research. The former contains properly formulated contributions and publications on the Dissertation.

**The lexical and stylistic characterization** of the Dissertation, the Summary and enclosed publications are distinguished for a contemporary scientific style, correct use of the specific terms in the area of entrepreneurial risks in the implementation of investment projects in residential construction, accurate citation of literature and normative sources of information.

#### **5. Identification and evaluation of the scientific and the applied research contributions in the Dissertation**

The dissertation defender correctly drew the contributions in the Dissertation. The Statement of Contributions presented is evaluated as correct and actually describing the achieved theoretical and practical results.

#### **6. Ascertained or unascertained plagiarism in the Dissertation and the Summary**

Following an inspection, no plagiarism was ascertained in the Dissertation and the Summary. The literature sources, including the normative material, have been used conscientiously in the presented work. This is claimed also in the Declaration on Observance of Copyright Requirements, signed by the author and enclosed with the documentation for the defence procedure, with respect not only to them, but also to the authenticity of the Dissertation and the publications accompanying it.

#### **7. Critical remarks and recommendations**

During the development of the Dissertation I have, in due time, provided the dissertation defender Miglena Staneva-Todorova with the appropriate critical remarks and recommendations for attaining high quality of the study, which is why I do not have any substantial remarks with respect to the research work.

I would recommend that the dissertation defender should:

- continue and broaden her research work on the issues, connected with the management of the risks in the implementation of investment projects also in respect of other types of construction;

- popularize, maintain, upgrade and improve in the long term the proposed innovative web-based platform for identification and assessment of entrepreneurial risks, so that it would turn into a recognisable, functioning (useful) and reliable tool in management decision-making among the experts and the professionals from the construction industry and could, at the same time,

be used in the training of both school and university students studying Risk Management in construction.

#### **8. Questions to the dissertation defender**

The interesting issues prompted me to ask the following question of the dissertation defender:

- Can it be claimed that a specific stage of the life cycle of investment projects for residential construction proves to be, in principle, the most vulnerable with regard to the level of impact of potential entrepreneurial risks on the budget, the quality and the time?

#### **9. Conclusion**

The Dissertation whose author is Miglena Stefanova Staneva-Todorova, entitled "Management of Entrepreneurial Risks in the Implementation of Investment Projects" is of a high value and original applied research nature. It meets the requirements for an independent research work of theoretical and applied contributions. It contains important research findings and specific ideas of theoretical and practical nature. Taking into account the positive qualities of the dissertation, I believe that it fully meets the requirements and the criteria of the LDASRB, RALDASRB and the Regulations on the Development of Academic Staff at UE – Varna for acquiring the educational and scientific degree of "Doctor".

All this gives me reason to grant a positive evaluation of the dissertation and to move that the members of the esteemed scientific jury award the dissertation defender Miglena Stefanova Staneva-Todorova the educational and scientific degree of "Doctor" in the professional field 3.8. *Economics*, doctoral programme "Economics and Management (Construction and Real Estate)".

12.09.2024  
Varna

Заличена информация съгласно  
ЗЗЛД и регламент (ЕС) 2016/ 679  
Signature: ..  
(Assoc. Prof. Dr Todor Raychev)