

REVIEW

**by James Borislavov Jolovski, Associate Professor at the University of Insurance and Finance,
Doctor of Economics**

of a dissertation for the award of 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, Insurance and Provision*"

Author : *Tsvetelina Emilianova Simeonova*

Topic : *Financing of environmental security (in the context of the banking system)*

Scientific supervisor : *Virginia Zhelyazkova, professor at the University of Insurance and Finance,
Doctor of Science*

1. General description of the materials presented

By order No. 34 of 13.01.2026 of the Rector of the University of Insurance and Finance, Prof. D. Sc. Boris Velchev, I am appointed as a member of the scientific jury for ensuring a procedure for the defense of a dissertation on the topic Financing of Environmental Security (in the context of the banking system) for the acquisition of the educational and scientific degree " Doctor" in Field of higher education 3. Social, economic and legal sciences, Professional field 3.8. Economics, doctoral program "Finance, insurance and provision". The author of the dissertation is Tsvetelina Emilianova Simeonova - doctoral student in an independent form of study at the Department of "Finance and Insurance" with scientific supervisor Prof. D. Sc. Virginia Zhelyazkova from the University of Insurance and Finance.

The materials submitted by Tsvetelina Simeonova include the following documents:

1. Dissertation work
2. Abstract in Bulgarian
3. Abstract in English
4. Declaration of originality and authenticity
5. Information on the implementation of minimum national requirements
6. List of publications

7. Abstracts of publications
8. Autobiography
9. Full text of publications
10. Application for admission to public defense

The package of documents is complete, well organized and clearly arranged, which significantly facilitates the work with the individual documents. The doctoral student has attached a total of 7 publications, of which 1 study and 6 scientific articles.

2. Brief biographical data about the doctoral student

PhD student Tsvetelina Emilianova Simeonova has a thorough and consistent educational background in the field of economics, finance and banking, enhanced by many years of practical experience in the financial sector and active research activity.

She holds a Master of Finance (Banking) from a joint program of the University of Veliko Tarnovo "St. Cyril and Methodius" and the Bulgarian Academy of Sciences, with specialized training in central banking, banking risk management, financial econometrics and international banking. Her education also includes two master's degrees in the field of agribusiness economics and management and sustainable development, with a focus on environmental security, EU environmental policy, environmental risk management and financing of sustainable development. Her basic economic training is completed with a bachelor's degree in agricultural economics.

Since 2018, the doctoral student has been studying in the doctoral program "Finance, Insurance and Social Security" at the University of Insurance and Finance, with her dissertation on the topic "Financing Environmental Security (in the Context of the Banking System)", which clearly positions her in the interdisciplinary field between finance, banking and sustainable development.

Her professional experience spans over twenty years of practice in the banking sector, primarily in the area of credit risk management and control. For over a decade, she held senior positions at Eurobank Bulgaria AD, including Head of Credit Control and Corporate Credit Control, with responsibilities related to developing credit policies, monitoring credit risk, assessing asset quality, managing the provisioning process and coordinating analytical and control activities at the portfolio level. Her previous experience includes expert positions in other leading banks, where she worked in the areas of corporate lending, risk management and financial analysis.

Since the end of 2025, the doctoral student has also been actively engaged in academic and research activities as an assistant professor in the International Economics Section at the Institute for

Economic Research at the Bulgarian Academy of Sciences, with research interests in the field of international finance, climate and environmental risks, green transformation and economic policies. In parallel, she participates in scientific projects, publications and expert analyses, as well as in academic forums.

In summary, the doctoral student's education and professional experience provide a solid theoretical and empirical basis for developing a dissertation in the field of economics and finance, with her practical expertise in the banking system contributing significantly to the applied significance and relevance of the researched issues.

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

The topic of the dissertation is highly relevant in the context of deepening climate change and the growing awareness of environmental risks as a systemic factor for economic and financial stability. In modern conditions, environmental security goes beyond the framework of traditional environmental policy and is established as a key element of national and economic security, which requires the active participation of the financial system, and in particular banks, in the processes of sustainable transition. The dissertation argues that the banking sector is not only a passive intermediary, but also a strategic participant in the management of environmental risks and the direction of capital flows to environmentally sustainable activities.

The relevance of the study is enhanced by **the accelerated development of the European and international regulatory framework** related to ESG requirements, the EU Taxonomy, CSRD, SFDR, climate stress tests and the integration of environmental factors into supervisory practices. In this context, the dissertation proposes a comprehensive theoretical and empirical framework that systematizes the methodological approaches, channels, mechanisms and instruments for bank financing of environmental security, analyzing them in the light of global climate scenarios, the concept of dual materiality and the role of environmental risks as a source of systemic financial risk.

The work has particular practical significance for Bulgaria, where the banking sector is a major source of financing for the real economy, and the process of integrating environmental risks and sustainable financing is still in its development stage. Through the empirical analysis, the comparative approach and the developed original models and indices, the study provides analytical tools and specific guidelines that can assist both commercial banks and regulatory and supervisory authorities in the formation of policies for green transformation and increasing environmental security in the long term.

4. Knowledge on the problem

Based on the presented dissertation and professional CV, it can be concluded that the doctoral candidate demonstrates a deep and systematic knowledge of the issues related to the financing of environmental security in the context of the banking system. The theoretical part of the work covers a wide range of scientific concepts – from climate risks and planetary boundaries to integrated assessment models (IAMs), international climate policy and the EU regulatory framework – and the analysis is structured, conceptually sound and linked to economic theory and financial stability. The formulation of a clear research thesis, the systematization of thirteen methodological approaches and the development of original indices (ESFI, BEFI, GBPI, CBEI) testify to a high degree of analytical competence and the ability to integrate interdisciplinary knowledge into a single scientific framework.

The doctoral candidate's professional experience in the banking sector, especially in the field of credit control and risk management, further enriches the research with a practical perspective, which is evident in the detailed analysis of banking instruments, regulatory mechanisms and the management of environmental exposures. The combination of many years of practice in the banking system with academic and research activities allows for the consideration of the issues not only at a conceptual level, but also through the prism of real institutional constraints and opportunities. This justifies the conclusion that the doctoral candidate knows the topic both in theoretical and applied aspects, which gives persuasiveness and practical relevance to the research.

5. Research methodology

The methodological framework of the study is defined in the Introduction. The subject, object, goal, sub-goals, tasks, thesis and hypotheses are correctly, clearly and precisely defined, and the role of the banking system as a strategic factor for sustainable transition is clearly outlined. Although they are well developed and implemented in the work in an appropriately corresponding volume, I believe that they are too numerous, comprehensive and detailed for a dissertation work, and suggest more in-depth research work subsequently.

On pages 15-16 of the dissertation, the research methods are indicated (system analysis, comparative analysis, documentary analysis, qualitative analysis, quantitative analysis, indicator and index analysis, scenario and geospatial analysis and policy modeling), and they are correctly linked to the specific parts of the work in which they are applied. The implemented tools guarantee the fulfillment of the research tasks, and respectively the realization of the set goals, from which the relevant contributions follow. The limitations and assumptions on which the subsequent analysis in the work is built are also presented.

6. Characteristics and evaluation of the dissertation work

Chapter One, “Theoretical and Methodological Foundations of Banking-based finance for Environmental Security,” builds a solid theoretical foundation through an analysis of climate change, global environmental risks, and their significance for economic and financial stability. The evolution of the concept of “environmental security” is traced, a distinction is made between environmental security, environmental sustainability, and sustainable development, and the role of banks in the management and transmission of environmental risks is argued. The chapter integrates scientific concepts, international policies, and regulatory approaches, placing environmental security at the center of contemporary banking and financial thinking.

Chapter Two “Methodological and Applied Aspects of Banking-based finance of Environmental Security” presents a systematized analysis of methodological approaches, channels, mechanisms and instruments for bank financing of environmental security. Thirteen contemporary approaches are considered, including ESG, risk-based, taxonomically consistent and impact-based approaches, and a multidimensional assessment has been developed for them according to criteria for regulatory compatibility, operational applicability, environmental impact and financial characteristics. The chapter has a clearly expressed analytical and applied nature and forms the conceptual basis for the empirical study.

Chapter Three “Empirical Analysis of Banking-based Finance of Environmental Security” contains an empirical analysis, including a comparative study of the regulatory and institutional frameworks in key international jurisdictions, as well as an in-depth analysis of bank financing of environmental security in Bulgaria. The degree of commitment of banks, the effectiveness of the instruments used and the role of central banks, including the BNB, in the integration of environmental risks are assessed through developed author’s indices and models. The chapter concludes with a scenario analysis and formulation of directions for the future development of green bank financing.

The conclusion summarizes the main results of the theoretical and empirical analysis, verifies the research hypotheses, and provides a comprehensive assessment of the role of the banking system in financing environmental security. Specific conclusions, scientific and practical contributions, and recommendations for commercial banks, regulatory authorities, and public institutions are formulated. Possible directions for future research are also outlined, which gives completeness and perspective to the dissertation work.

The work includes 38 figures and 33 tables, which significantly contribute to improving the visual perception of the information through its systematization. The bibliography is a total volume of approximately 35 pages, including 437 scientific, institutional and normative sources, which

testifies to the in-depth knowledge of the researched issues and the wide international scope of the literature used. A significant part of the sources are from the last 5 or maximum 10 years, which is logical and given the topicality of the topic. However, it should be emphasized that despite the significant volume of the work, it is difficult to comment on all these very numerous sources in sufficient depth in the text.

Overall, the research meets the requirements for a habilitation thesis. Some individual views of the author do not fully correspond to my personal understandings. However, they are sufficiently substantiated in the monographic work. For this reason, I could not accept that this circumstance has any bearing on the merits of the proposed scientific research.

The dissertation work thus presented gives me some grounds to assume that it contains some scientific and applied scientific results that represent an original contribution to science. The project shows that the candidate possesses in-depth theoretical knowledge in the relevant scientific field and abilities for independent scientific research.

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

The contributions of the study are not explicitly formulated in the work. Such are definitely observed – both in scientific and applied aspects. They can be deduced in connection with the proof of each of the hypotheses. At the same time, it is possible to significantly generalize them, and in my opinion, some need additional justification. In my opinion, the statement that environmental security should be a central guideline in the strategic management of financial institutions requires more in-depth reasoning from the perspective of all the priorities of strategic management, as well as the opportunity costs that could arise for all participants in the overall process.

One of the significant contributions of the work is the attempt to systematically position environmental security as an economic and financial category, and not only as an environmental or political concept. The author argues for the connection between climate risks, systemic risk and financial stability and integrates the topic within the framework of banking theory and risk management. This represents an interdisciplinary expansion of the traditional analysis of sustainable finance. Structuring thirteen methodological approaches (ESG, taxonomic, risk-based, impact-based, etc.) within a framework of channels, mechanisms and instruments creates analytical clarity and a comparative basis, which is missing in much of the fragmented literature. The multi-criteria analysis along axes such as regulatory compatibility, technical complexity and operational applicability is a real methodological contribution. The indices (BEFI, GBPI, CBEI, etc.) represent an original attempt to quantitatively assess the effectiveness, engagement and institutional integration of environmental

risks. This builds on the existing descriptive analyses in the literature and creates a toolkit for comparative assessments.

The paper provides a systematic overview of the level of integration of green finance in Bulgaria, including the institutional framework and the role of the BNB. This has direct applicability for the banking sector and regulators. The model for technical complexity and organizational feasibility is a practically useful tool for banks that need to make decisions regarding the implementation of ESG, scenario analysis or climate stress tests. The formulated recommendations to banks, the central bank and public institutions create specific directions for the development of sustainable finance, especially in the context of national specifics.

8. Assessment of dissertation publications

A total of 7 publications directly related to the topic of the dissertation are attached, of which 1 study and 6 scientific articles. They are different in nature, but I would recommend that the doctoral student also publish in co-authorship, in a foreign language and in international publications. In fulfilling the minimum national requirements, 3 of these articles were taken into account, published in VUZF review, which also cover the national minimum requirements.

9. Assessment of compliance with minimum national requirements

Judging by the submitted documents, including the reference prepared by the candidate, the minimum national requirements have been met, providing the required number of points, namely - 50 points from the dissertation project and 30 points from publications – 3 articles published in VUZF Review.

10. Personal participation of the doctoral student

I have no doubt about the personal contribution of the doctoral student in the development of the work, including considering her professional experience. Tsvetelina Simeonova clearly demonstrates the capacity to conduct independent scientific research. The report from the Strike Plagiarism system estimates a similarity of 6.27%, which is completely within the normal range, especially considering the citation of normative literature. Within the framework of the procedure, I also did not establish plagiarism in accordance with the statutory procedure.

11. Autor's abstract

The dissertation is accompanied by an abstract in Bulgarian of 43 pages and in English of 42 pages . It presents the structure and content of the work, the main problems, the research methodology and publications on the topic. In my opinion, however, the abstract should have been about 50 pages, given the volume of the dissertation.

A declaration of authorship and originality is included. Overall, the abstract has been prepared in accordance with the requirements and established good practices for such developments.

12. Critical remarks and recommendations

The developed author indices are a valuable tool, but part of their construction involves expert assessment and scaling, which brings an inevitable element of subjectivity. Additional sensitivity of the results to different weights or alternative normalization methods would strengthen the methodological robustness of the models.

The topic is highly dependent on current and changing European regulations (CSRD, taxonomy, climate stress tests, etc.). This means that some of the conclusions drawn have a “time horizon” and will require updating. This is not a weakness of the author, but a characteristic of the researched matter, but it can be more explicitly reported as a limitation.

The above notes do not diminish the value of the dissertation, but rather outline directions for its improvement. They are characteristic of research in a new and dynamically developing scientific field, where methodological tools and regulatory frameworks continue to be formed.

13. Personal impressions

I have no personal impressions of the candidate, beyond those gained from the documents within the procedure.

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

The results and the methodological frameworks and indices developed in the dissertation can be used both in banking practice - when building systems for managing environmental and climate risks, and by regulatory authorities when developing policies and analytical tools in the field of sustainable finance. They have the potential to be integrated into academic training and to be built upon in future scientific research, especially in the context of the dynamically developing regulatory environment. In this way, the work creates a basis for continued application and development in both theory and practice.

CONCLUSION

The dissertation work *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 comply with the specific requirements

of the Regulations for the Admission and Training of Doctoral Students at the University of Insurance and Finance.

The dissertation shows that the doctoral student Tsvetelina Simeonova **possesses** 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 research conducted, presented by the above-reviewed dissertation, abstract, achieved results and contributions, and ***I propose to the esteemed scientific jury to award the educational and scientific degree 'doctor'*** to Tsvetelina Simeonova in the Field of Higher Education 3. Social, Economic and Legal Sciences; Professional Field 3. 8. Economics; doctoral program "Finance, Insurance and Provision".

12/02/2026

Reviewer:

Assoc. Prof. Dr. James Jolovski