

**TO THE MEMBERS OF THE SCIENTIFIC JURY  
FOR THE AWARD OF THE EDUCATIONAL  
AND SCIENTIFIC DEGREE "DOCTOR"  
IN THE DOCTORAL PROGRAMME  
"FINANCE, MONEY CIRCULATION,  
CREDIT AND INSURANCE"**

**REVIEW**

**for the award of the educational and scientific degree "doctor"  
in SA "D. A. Tsenov" - Svishtov**

**Reviewer: Assoc. Prof. Ph.D. Nadezhda Georgieva Blagoeva**, Department of Economics, AU - Plovdiv, scientific specialty "Finance, money circulation, credit and insurance", member of the scientific jury according to order 49/20.01.2023

**Author of the dissertation: Ana Borisova Ivanova**, D 020219184, a part-time doctoral student in the Department of Finance and Credit, at the Faculty of Finance, CA "D. A. Tsenov"

**Dissertation topic: Healthcare financing models: limitations and capabilities**

**Scientific supervisor: Assoc. Prof. PhD Anelia Radulova**

**I. General presentation of the dissertation:**

The reviewed dissertation is devoted to a problem of unceasing relevance and emphasized significance for modern society. The Covid 19 pandemic in the last two years has focused even more public attention on the healthcare sector and its still unsolved problems in Bulgaria. The healthcare financing models are a real challenge for every society, and especially for ours, bearing the consequences of the still unfinished reform.

The current study is presented in a total volume of 191 pages, including 163 main part. They follow a classic structure, divided into an introduction, three chapters, a conclusion, and a bibliography. The structure is relatively balanced, with a certain predominance of the first and third chapters. The doctoral student used 49 figures and 7 tables to illustrate her research. She added as an appendix another 15 pages that present the surveys used in the study, directed to hospital managers, doctors, and patients. A total of 101 bibliography sources are listed, of which 19 are in Latin, 57 are in Bulgarian and 24 are legal documents. They are quoted in good faith and in compliance with the relevant requirements and standards. The literature is relatively new, which shows the desire of the doctoral student to use modern sources of information. The study analyzes the years from 1998, when the Health Insurance Act was introduced in Bulgaria, governing the new health care financing model until 2021.

The author accurately defines the main element in the introduction. She has chosen as an object of research in the dissertation the healthcare financing models. The subject of the dissertation is the limitations and the capabilities of the healthcare financing models because of healthcare specifics and normative organization in terms of their implementation in the relevant national healthcare system following the example of the in-patient healthcare establishments in

Bulgaria. The purpose of the research is to analyze the advantages and the disadvantages of the healthcare financing models, their specifics, and their application to overcome the problems in the budgetary provision of healthcare in Bulgaria, following the example of the in-patient healthcare establishments. The author sets herself several research tasks to achieve the above-mentioned purpose:

- ✓ to analyze the regulations concerning the hospital activity in terms of financing, the sources, methods, and control over cash flows from the patient to the NHIF and the hospital.
- ✓ To outline the main sources of health care financing and identify the advantages and disadvantages of the used financing sources applied in the process of health care organization
- ✓ to identify the specifics of the existing world practice models for health care financing and to evaluate the possibilities of their application in health care financing in Bulgaria
- ✓ to assess the healthcare financing model and the existing problems in healthcare financing in Bulgaria
- ✓ to survey the opinion of managers of healthcare facilities and patients

The main thesis statement defended in the dissertation is that the adaptation of the financing model of the health care system in Bulgaria to the specific socio-economic indicators of the environment is a necessary condition for overcoming resource instability resulting from the permanent deficit of budgetary resources and determinants of financing that prioritize the quality of health services.

The author has chosen to use in her investigation methods such as the survey method, Delphi method, documentary method, and statistical method. The functional capabilities of Excel were used for data processing and visualization. The data on the development are collected from official sources such as the Ministry of Health, Ministry of Finance, NHIF, NSI, and Eurostat.

In her research, the author sets two limits. She excludes from the scope of the investigation the extreme and very different 2020-2021 year of the Covid pandemic, as well as the outpatient care.

## **II. Assessment of the form and content of the dissertation.**

The dissertation stands out with a good logical sequence of research. It is well structured in three main chapters. Bulgarian and foreign bibliographic sources are studied. The practical experience and the author's opinion stand out well.

In the first chapter, she examines the healthcare financing models and organization of healthcare. A comparative analysis of several basic and derivative models of health systems worldwide is performed. A chronology of the reform in the health system of the Republic of Bulgaria is made. The problems of the health reform in inpatient care in Bulgaria are well highlighted. The strong and critical author's position and experience are clearly distinguished here. The author highlights as more serious the problems related to incorrect pricing, based on the monopoly of the NHIF, and not on the market principle, which does not cover the real value of the services, the underfunding of the inpatient cars at the expense of the outpatient care, insufficient investment in state and municipal hospitals as opposed to private ones, the imperfect legal status of medical institutions.



The second chapter deals with the conceptual features of healthcare financing in the Republic of Bulgaria. The specificity of Bulgarian healthcare plays a special role here. The doctoral student highlights the perception that healthcare reform is partial and too far behind in its development. She analyzes basic macroeconomic indicators that take into account the level of financial resources invested in healthcare. The strong dependence of health insurance payments on revenues and transfers to the NHIF has been proven. The structure and method of financing of the NHIF as a main monopolist in financing health services is examined in detail.

The third chapter is devoted to the financial management of healthcare organizations in the context of the development of market relations. The data from the author's research are analyzed in detail through a questionnaire regarding the need for health reform specifically in inpatient care. The questionnaire is addressed to three addressees - managers of medical facilities, doctors, and patients. The obtained results make it possible to summarize the relevant conclusions and recommendations based on a survey among only managers and patients. The data are visualized with a sufficient number of figures that contribute to a better perception. Coming to the negative assessment of health care among the respondents, the results point to the extreme need for health care reform by building a completely new system in part of inpatient care. Using classic tools for financial analysis and data from selected medical institutions from the North-West region, the author confirms the hypothesis that private hospitals report recapitalization, unlike state and municipal ones, which often suffer losses.

In the final part, the Ph.D. student summarizes her results, conclusions, and recommendations. They allow her to confirm the main research thesis laid down at the beginning of the investigation. At the end of each chapter, the author summarizes the most important conclusions in a concise style. This greatly contributes to the good organization and systematization of the dissertation work. It is distinguished by the necessary logical sequence. The dissertation is presented in the required scientific style. It proves the competence and good practical knowledge of the problems of health care in Bulgaria. The combination of scientific awareness and the practical experience of the Ph.D. student allows her to highlight the qualities of her work.

The author presents the culmination of the investigation in the abstract of the dissertation. It is developed in a total volume of 30 pages. It is characterized by a correct and concise reflection of the most important moments and conclusions of scientific research. It fully complies with the accepted norms for composing and structuring an abstract of a dissertation, containing all the necessary elements. These are relevance, object and subject, thesis statement, purpose and tasks, research methodology, the structure of the dissertation, guidelines for future work, reference to the scientific and scientific-applied contributions of the dissertation work, list of publications on the topic of the dissertation, reference to compliance with the national requirements, statement of originality.

The Ph.D. student has published 4 publications on the topic of the dissertation. She has published 2 studies, 1 article, and 1 scientific report. In all of them, Ph.D. student Ana Ivanova is the sole author. This brings her a total of 50 out of the required 30 points according to the Rules for Implementation of the Law on the development of Academic Staff in the Republic of Bulgaria.

### **III. Scientific and scientific-applied contributions of the dissertation work.**

The presented dissertation is a complete scientific work that systematically achieves the research goal set at the beginning. It shows the Ph.D. student's ability to research, analyze, and



interpret the obtained results, shortcomings, and problems, looking for guidelines for overcoming them. The author defines six contributions that I fully accept. Some of them are scientific, and others are scientific-applied. They are as follows:

- ✓ trends and problems are identified and substantiated, which confirm the public relevance of the topic of the urgent change in the way of financing health care, reform of the legal status of inpatient healthcare establishment to improve the indicators of the health status of the population in Bulgaria
- ✓ the main characteristics of the financing models in a global aspect are derived and evolutionary analysis of a model applied to health care through health insurance in Bulgaria is performed. The advantages and imperfections, limitations, and possibilities of the specific models are outlined. The positive characteristics of each model and its scope of application in different countries are argued, according to geographical specificity, the degree of development of market relations, history, and political dimension in each of them
- ✓ a regression-correlation analysis of the dependence of health insurance payments on revenues and transfers to the NHIF is conducted. Significance testing by Fisher's F-test, with a confidence interval greater than 99%, established significance of the highest order with confirmed results and by statistical analysis of the data on a chain basis
- ✓ a survey tool is tested, aimed at the three main groups - managers of medical facilities, doctors and patients, with representative data from the respondents with verbal-graphic models in the part for medical facilities and for patients
- ✓ opinions are expressed regarding the need for a comprehensive reform in the sector with the aim of increasing the efficiency of financial flows in health care and achieving a social result - better health for all and a positive economic effect
- ✓ the estimates of significant disparities both in terms of geographical location and in terms of ownership, where private hospitals report improved financial indicators, and state districts and municipal ones suffer losses and growing debts, are confirmed with an empirical study of data from financial statements of selected hospitals establishments from the North West Planning Region

#### **IV. Critical notes, questions, and recommendations on the dissertation work.**

The author's teamwork with the team of the department and especially with her scientific supervisor has allowed her to develop a completed dissertation work of a practical-applied nature, to which I have no significant critical remarks. It enriches existing knowledge, highlights problems relevant to modern society, and looks for alternatives for overcoming them. The guidelines set by the author herself for her future work make a positive impression. It would be good to complete the research by distributing the questionnaires to doctors as well. After that, she could continue with the remaining three directions set in her plans.

I would like the doctoral student to express her opinion on the following questions:

1. Do you think that a change in the legal status of the medical facilities and their refusal of being commercial companies would help the possibilities of their financing?
2. What solution do you see for overcoming the problems of the municipal hospitals on the territory of the Republic of Bulgaria?

#### **V. Summary conclusion and opinion.**

In conclusion, I could summarize that the dissertation work presented for review on the topic " Models for financing on health care: limitations and possibilities " has the qualities of an independent and completed scientific study. In its sequential course, the author achieves her set goals and tasks and argues the research thesis. The dissertation contains contributions of a scientific and scientific-applied nature. It fully meets the requirements of the Rules for Implementation of the Law on the development of Academic Staff in the Republic of Bulgaria.

The above-mentioned arguments give me a compelling reason to give my **positive** assessment and to vote **for** awarding the scientific and educational degree "doctor" to Ana Borisova Ivanova in the professional direction 3.8 Economics, in the scientific specialty "Finance, money circulation, credit, and insurance".

Date: 26.02.2023

Reviewer: .....  
(Assoc. Dr. N. Blagoeva)