

REVIEW STATEMENT

written by a member of a scientific jury,

for the acquisition of an educational and scientific degree "doctor"

in "D. A. Tsenov" Academy of Economics - Svishtov

The statement was prepared by associate professor Plamen Petkov, PhD

Author of the dissertation: Vesna Stoyan Korunovska

Topic of the dissertation: Role of the fiscal strategy of the Republic of North Macedonia in achieving sustainable development of the national economy

I. General presentation of the dissertation.

This statement was prepared as a result of participation in the composition of the scientific jury for the defense of the dissertation according to Order No. 1098/08.11.2023 of the Rector of the "D. A. Tsenov" Academy of Economics. The presented dissertation work on the topic "Role of the Fiscal Strategy of the Republic of North Macedonia in achieving sustainable development of the national economy" with author Vesna Stoyan Korunovska is in a volume of 254 pages, of which 214 pages are plain text, 9 pages are bibliographic reference and 32 pages with appendices presenting the initial data subjected to statistical analysis as well as the main results of the empirical study. The dissertation is characterized by a logical connection, balance and a smooth transition between its separate parts. Structurally, it consists of a table of contents, a list of abbreviations, an introduction, three chapters, a conclusion and recommendations for future research, a list of cited literature, and appendices.

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

The actuality of the discussed issues is beyond any doubt. Looking in retrospect at the interest of theoretical and practical research in the field of public finance in the 1990s and tracing the trend of "Keynesian policy" aimed at economic prosperity, as well as the main areas of fiscal policy, the author arrives at to the conclusion that, specifically for the Republic of North Macedonia, there are insufficient studies that rely on statistical and econometric tools in assessing the impact of fiscal policy on economic development.

The introduction presents the justification for the relevance and significance of the topic discussed in the dissertation. A brief review of the scientific literature related to individual aspects of fiscal policy is carried out and the main problem of the research is diagnosed, namely the insufficient degree of qualitative use of quantitative econometric studies of the effects of fiscal policy in the Republic of North Macedonia (RCM). The object,

the subject, the time scope, the purpose, the tasks, the main and auxiliary hypothesis of the scientific research are defined by marking the main information sources that were used to implement the empirical part of the dissertation, the software products used, and the restrictive conditions that accompany the present development are presented too. In addition, the main reasons for choosing quantitative research in development are highlighted, the applied scientific methods are justified, as well as the expected contribution elements such as knowledge and skills and the main research questions to which a sustained, correct and reliable answer is sought.

The object of research is the effects of the fiscal policy of the Republic of North Macedonia on macroeconomic development and public debt. The subject of research are the policies, strategies and instruments of the fiscal policy in order to ensure sustainable development, as well as methods for evaluating the short- and medium-term effects of the fiscal policy on the GDP and public debt of the Republic of North Macedonia, with a special emphasis on the estimation of the significance of quantitative econometric models based on vector autoregression (VAR-models). The main goal of the dissertation is to evaluate the fiscal impacts in terms of intensity, direction of movement, time lag of changes, interdependence with GDP, by using econometric models to study the effects of fiscal policy on macroeconomic development in the Republic of North Macedonia. To specify the goal, 6 research tasks have been set, three of which are of a theoretical and methodological nature, and the other three have a practical and applied nature. A sufficient number of restrictive conditions that characterize the present study are listed, and a logical argumentation for each of the listed restrictions is also presented.

The structure of the work is characterized by a finished look and correctly reflects the presented information by following the principle "from the general to the specific". The first chapter covers the theoretical foundations for studying the concepts of the impact of fiscal policy on economic development. The content, functions and concepts of public finance are clarified, then the fiscal multipliers are examined in the necessary depth, commenting on their occurrence, the views that have arisen in the literature are analyzed and the contradictions between individual scientists, public figures and politicians are described. The chapter ends with a presentation of the essence of the vector autoregression (VAR) models, which are used in the study of complex macroeconomic models, and in this case the emphasis is on their application possibilities in estimating the effects of fiscal policy on the macroeconomic development of the national economy. The second chapter is of a methodological and empirical nature. It distinguishes three main directions of analysis. First, a diagnostic analysis was made of the main indicators of the fiscal position of the Republic of North Macedonia,

which are presented correctly from a statistical point of view in comparable and not in current prices by using correct deflators, and then with the vector autoregression methodology, an analysis was carried out, in which the effect of the impact of public consumption on the Gross Domestic Product of the Republic of North Macedonia is assessed. Based on time series compiled from quarterly data for the period from 2000 to 2019, a number of working hypotheses regarding the relationship between GDP and public consumption are tested. The check for non-stationarity of the analyzed time series was correctly performed by applying the augmented Dickey-Fuller (ADF) test, and with the help of the The Engle and Granger approach, as well as with the Phillips-Ouliaris test, it was established that there are no cointegrated variables, which is a necessary condition for using vector autoregression. Since the levels of the indicators according to the unit root tests are determined to be non-stationary and integrated of the first order, the logarithms of their first differences are used further in the analysis with the VAR-methodology. The optimal lag order using the information criteria is determined to be 3. The final model is tested for normality, homoscedasticity and autocorrelation in the residuals. With the help of the impulse response function and the decomposition of the standard error, the hypothesis of the existence of a two-way causal relationship between GDP and public consumption in the Republic of North Macedonia is confirmed. The chapter concludes with an application of the Granger methodology to establish a causal relationship between capital expenditure as part of the government budget and GDP. Again, quarterly data is used, covering the period from 2006 to 2019. Due to the non-stationarity of the indicators, the logarithms of the first differences are used in the analysis. In the final model, the optimal lag order has been chosen to be 4 and the residuals are normally distributed and there is no autocorrelation and heteroskedasticity. In the end, it is found that capital expenditure in the Republic of North Macedonia, which is the main instrument for GDP growth and economic growth, as well as the most frequently used tool for countercyclical economic policy, does not affect the GDP of the Republic of North Macedonia for the analyzed period 2006 -2019. That allows the application of model for GDP estimation and forecasting. In the third chapter, an analysis of the fiscal strategy of the Republic of North Macedonia was carried out by linking it to the medium-term fiscal framework, a comparative analysis of macroeconomic and fiscal forecasts was carried out, and several main guidelines for improving the management of public finances were proposed.

A total of 95 literary sources are included in the bibliographic reference. There are 23 works in Cyrillic, of which 7 are in Bulgarian, and the remaining 72 publications are in English. Regarding the style and language of the dissertation, there is a correct presentation of the information, which is to a large extent stylistically and semantically clean, considered in

the necessary depth and presented in a way that befits a completed scientific work. The terminology used in the part of empirical analysis is specific and not familiar to the general reader. For this reason, the terms and concepts in the dissertation are correctly defined and explained as admirations, and we must consider the well-deserved admiration for the inclusion of a list of used abbreviations at the beginning of the work.

The author's abstract consists of 45 pages. It reflects the dissertation in too much detail and gives a complete picture of the conducted scientific research. It is written in a robust style and presents the main stages and results of the study. Fourteen scientific publications (three articles and eleven reports), all co-authored, are attached to the dissertation work. Twelve of the publications are printed in English, which helps the global dissemination of the ideas, opinions and analysis presented by the PhD student. The publications reflect the results obtained by testing different models in the empirical analysis and are directly related to the topic, object, subject, purpose and main thesis of the dissertation work.

III. Scientific and applied contributions of the dissertation.

The dissertation contains scientific and applied contributions that build on theoretical and empirical research in the field of the application of the statistical and econometric tools in the estimation of the significance of quantitative econometric models based on vector autoregression (VAR-models). Through these methods, both the effects of the fiscal policy on the macroeconomic development in the Republic of North Macedonia as a whole, as well as the impacts regarding the intensity, the direction of movement, the delay in time of the changes and the interdependence with the GDP can be fully studied. The contributions are correctly defined by the PhD student in the reference to the author's abstract, and their number is reduced to seven. Three of the declared contributions are of a theoretical and methodological nature, and four are directly resulting from the results obtained from the testing of various modifications and models based on specific real data.

IV. Questions and recommendation on dissertation.

I have no questions for the doctoral student, but I would like to make a recommendation. Although the volume of the PhD dissertation is large enough, it is recommended that the author's abstract present the results obtained from the research in a balanced and compact form. Its style is sustained, but its volume could, in my opinion, be optimized by achieving greater brevity, scientific conciseness and synthesis.

V. Summary evaluation and conclusion.

In conclusion, taking into account the completed nature of the presented work, taking into account the merits and positive aspects of the dissertation, regardless of the recommendation, I believe that the PhD student possesses theoretical knowledge and skills for practical application of a complex toolkit in such a complicated environment as the study of causal relationships between macroeconomic indicators, use of statistical methods and techniques for time series forecasting, has demonstrated to the necessary extent abilities for argumentative defense of own views and for carrying out a critical analysis of theory and practice. Based on all of the above, as well as the fact that the author has the required number of publications and the minimum national requirements are met, I give a **positive assessment** of the dissertation and offer the members to the Scientific Jury **to award** the educational and scientific degree "Doctor" in Professional Direction 3.8. "Economics", Scientific specialty "Planning" of **Vesna Stoyan Korunovska**.

05.12.2023 r.

Signature:

Svishtov

(Assoc. prof. Plamen Petkov, PhD)