

REVIEW

of a doctoral dissertation for the award of an educational and scientific degree "doctor" according to an open procedure for the defence of a dissertation in the PhD program "Finance, Money Circulation, Credit and Insurance" (Finance)

Reviewed by Assoc. Professor A. Radulova PhD, scientific specialty "Finance, money circulation, credit and insurance (finance)", member of the Scientific Jury for the acquisition of the educational and scientific degree "Doctor".

Author of the doctoral dissertation: PhD candidate Julian Hristov Voinov, No. D020219197

Title of the dissertation: "Lag modelling of public finances through stress test"

Grounds for presenting the review: participation in the scientific jury, approved by Order of the Rector of the SA "D. A. Tsenov" - Svishtov No. 51, dated January 20. 2023.

I. General presentation of the dissertation

The doctoral dissertation, on the topic "Lag modelling of public finances through stress test", is focused on the need to optimize the methodology for calculating the cyclically adjusted budget balance (CAB), as a means of analysing the current fiscal situation and trends in the development of the country's fiscal policy.

The **object** of research are the main fiscal parameters contained in the government's budget forecasts, on the basis of which the consolidated fiscal program (CFP) of Bulgaria is prepared. The **subject** of the research are the main methods for conducting a stress test on financial parameters and on the fiscal cyclically-smoothed budget balance.

In terms of volume, structure, and content the dissertation complies fully with the generally accepted standards and has a volume of 197 standard pages, of which 159 pages are the main text and 20 pages are appendices. Structurally, it consists of

an introduction, an exposition in 3 chapters, a conclusion, and a list of literature – a total of 70 sources. The exposition is enriched with an optimal number of figures (30) and tables (12), which correspond to the text and serve as evidence for the conclusions and generalizations based on them.

The doctoral dissertation is for the award of the educational and scientific degree "Doctor" (Economics) in the doctoral program "Finance, Monetary Circulation, Credit and Insurance" (Finance) and is on the topic: "Lag modelling of public finances through stress test"

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

When assessing fiscal policy, as an instrument for political influence on the economy, fluctuations in economic activity invalidate the role of actual budget balances as an indicator of the degree of sustainability of public finances. For this reason, actual budget balances must be adjusted for these cyclical influences by calculating an adjusted budget balance (CAB).

The relevance of the presented scientific work stems from the fact that any scientific search in the direction of applying appropriate concepts and mechanisms to optimize the process of calculating the estimated budgets is in harmony with the current problems that the rational use of public funds faces. The focus of the scientific interest of the doctoral student on researching the specifics of the models applied in world practice for calculating a cyclically adjusted budget balance, as an indicator of the structural part of the fiscal policy, and the application of a stress test in order to optimize the values of the estimated budget balances is in harmony with the need for changes in the fiscal regulatory framework of the EU.

The dissertation paper follows a strict logical sequence and "ensures" the step-by-step disclosure of fundamental theoretical statements regarding the specifics of the models for calculating the cyclically-smoothed budget balance (SAB). On the basis of the identified deviations between the forecasts and the actual implementation of the budget of the Republic of Bulgaria for a period of 20 years, the need to overcome (or limit) the influence of the cyclical development of the economy when forecasting the budget values is substantiated - a problem that is solved in international practice by means of calculating a cyclically-smoothed budget balance (SAB). After a comparative analysis of the applied, at different levels, models for calculating the cyclically-smoothed budget balances, the author proposes the use of a stress test to assess the influence of the main macroeconomic variables on the values of the cyclically-smoothed budget balance.

The results of the conducted empirical studies, to establish the "errors" and "deviations" of the budget forecasts compared to the actual reported results, are adequately interpreted. The uniqueness of the scientific research is in the applied toolkit - a stress test - to assess the effect of one of the main macroeconomic parameters - the output gap on the value of the cyclically-smoothed budget balance (SAB).

In the proposed dissertation, PhD doctoral Julian Voinov demonstrates a good presentation style, analytical thinking, good knowledge of economic theory, and precise handling of specific financial terminology. The author openly claims the ability to derive interdependent factors influencing economic processes and phenomena, as well as scientifically based interpretation of the results of the conducted empirical studies.

The theoretical concepts are well-described and interpreted for the purposes of the study. The precisely formulated subject, object, objectives of the research, and working thesis in the dissertation have created a good prerequisite for the implementation of an analytical study with a number of contributions of a scientific and scientific-applied nature.

The author's opinion is categorically stated, both when examining the specifics of the models for calculating the cyclically smoothed budget balances, and when interpreting the interdependence between the factors, indicators, and dependencies analysed for the purpose of the study. To fulfil the goals set in paper, a suitable econometric toolkit was applied.

The abstract correctly reflects the main structural elements of the dissertation work, gives an idea of the objectives of the scientific research, the methods, and approaches to analysis, the main results of the scientific research, and precisely brings out the contributing points.

III. Scientific and scientific-applied contributions of the dissertation

The following scientific and scientific-applied contributions can be derived from the dissertation work proposed for review:

First, the theoretical propositions regarding the need to stress test financial variables affecting the cyclically-adjusted budget balance (CAB) are enriched.

Second, on the basis of comparative analysis, the differences between the models for estimating errors in the budget forecasts applied in the European Union and the results obtained from the calculation of the main fiscal parameters determining the fiscal policy of the member-states have been derived, analysed, and scientifically substantiated.

Third, the specifics are brought out and the differences between the models used by the European Commission for risk assessment and the alternative model, which measures the effect of the applied fiscal policy in the EU, are analysed.

Fourth, on the basis of an empirical model built by the author for assessing errors in budget forecasts, the reasons for the errors made in the budget forecasts of the Republic of Bulgaria for the period 2000-2020 have been established and analysed.

Fifth, a model was constructed for calculating a cyclically-smoothed budget balance (SBA) and based on a stress test, as a result of a shock on one of the main macroeconomic parameters - the output gap, the effect on SAB was estimated.

Sixth, the degree of reliability of the results of the constructed empirical model for calculating the cyclically-smoothed budget balance was established and the deviations between the results obtained from the model and those applied by the Ministry of Finance were identified and "assessed".

IV. Critical notes, questions and recommendations on the dissertation

In the context of the issues of discussed in the dissertation and the current processes in the direction of optimizing the mechanisms of the future of the fiscal management of the EU, I allow myself to pose the following questions:

1. The COVID-19 pandemic and the pressure it has placed on the public finances of the Community Member States necessitated the suspension of the EU's fiscal rules laid down in the Stability and Growth Pact (SGP). Once fiscal rules are reactivated, how do you think the European Commission's model-based assessments of "structural" balance sheets, in the context of the COVID-19 shock, will contribute to the shaping of fiscal space in individual EU Member States and, in particular, in Bulgaria?

2. What do you think, should be changed in the fiscal rules included in the Stability and Growth Pact (SGP) to resolve the potential conflict between the policies needed in the face of a cyclical or structural change in the growth rate and what kind the future fiscal strategy should be: more expansionary policies or a return to fiscal stability?

V. Summary evaluation of the dissertation work and conclusion

Julian Voinov' doctoral dissertation is a scientific study, which, as a topic, theoretical summaries, conclusions and recommendations, has indisputable importance for the development of financial theory and practice.

PhD candidate Julian Hristov Voinov has indisputable skills for carrying out independent research work, the proof of which is the quality of the three independent scientific publications - one study, one article and one scientific report.

On the basis of the indisputable scientific qualities of the presented dissertation work, I propose to the respected members of the scientific jury to award Julian Hristov Voinov the educational and scientific degree "Doctor".

Date: **23.02.2023**

Prepared the opinion:

Assoc. Professor A. Radulova, PhD