

REVIEW

by Acad. Ivan P. Popchev - BAS

of dissertation for acquiring the educational and scientific degree "Doctor"

In professional direction 3.8 "Economy science"

Doctoral Program "Finance and accounting"

Titled: "**Financial and economic effects of stimulation climate-neutral growth**"

by **Todor Slavchev Anev**

By order № РД-21-2369/19.12.2024 of prof. Rumen Mladenov, PhD - Rector, in accordance with Act on Development on the Academic Staff in the Republic of Bulgaria and by decision of the Faculty Council of the Faculty of Economic and social sciences in connection with the procedure for acquiring the educational and scientific degree "Doctor" in professional direction 3.8 "Economy science", Doctoral Program "Finance and accounting" by Todor Slavchev Anev with a PhD thesis on "Financial and economic effects of climate-neutral growth", I am appointed a member of the Scientific jury.

For the evaluation of the dissertation paper, the conditions of the Act on Development of Academic Staff in the Republic of Bulgaria (ADASRB) and the Regulation on the Implementation of the Development of Academic Staff in Republic Act (RIDASRBA) (Decree № 202 of 10.09.2010, amend and suppl. SG 15/19 February 2019) will therefore be accurately transmitted:

1. Pursuant to Art. 6 (3) of the ADASRB "The dissertation paper must contain scientific and applied science results being and original contribution to science. The dissertation paper must show that the applicant got deep theoretical knowledge in the respective speciality and the capacity for independent scientific research".
2. According to Art. 27 (2) of the RIDASRBA "The dissertation paper must be presented in a form and volume corresponding to the specific requirements of the primary unit. The dissertation paper must contain: a title page, contents, introduction, presentation, conclusion - summary of the obtained results with declaration for originality, bibliography.

The **scientific supervisor** of the dissertation is prof. Stanimir Kabaivanov, PhD.

The dissertation objective on page 11 is "to derive a quantitatively described changes in financial flows in the national economy after setting regulatory limits for greenhouse gas emissions which creating added value in the national economy in the short run".

In order to solve the main problem and **objective** of the study, the following **tasks** were set (pp. 11-12):

1. Derivation of statistically significant quantitative relationships between the value added for the national economy and the value added in the selected industries.
2. Analysis of the relationships between value added in the industries and negative environmental effects.

3. Establishing quantitative relationships between value added and various financial indicators, divided into business and public.
4. Derivation of a stationary distribution of the stochastic elements of these relationships.
5. Determination of linearly achievable mathematical dependencies and their application for optimization with respect to normative constraints.
6. Calculation of the quantitative effects of normatively specified constraints on negative environmental effects.
7. Calibration of financial instruments for resource reallocation after constraints are introduced.
8. To identify methodologies for mathematical modelling and automation (data mining) with a view to inferring significant algebraic and geometric dependencies.
9. Systematizing the inferences and explaining the likelihood of their predictive power, and developing a structure and methodology for applying the models to economic and financial policy.

Following the aim and tasks, the dissertation in the volume of 224 pages includes:

- Contents (3-5).
- Introduction (Chapter 1, pp. 7 - 15).
- Theoretical basis of the study (Chapter 2, pp. 16 - 64).
- Assessment of the effects of climate-neutral growth (Chapter 3, 65 - 201).
- Conclusion (201 - 210).
- Opportunities for future research (210 - 212).
- Annex 1 - ESA nomenclature (214).
- Annex 2 - Terms and notations used (215 - 217).
- 202 sources used (218 - 224).

On page 11 (abstract) is a "List of publications by the PhD student". Analysis of these publications shows the following:

- 1 publication is in a journal (No. 2);
- 1 publication is in the scientific works of FESSI-PU "P. Hilendarski" (No. 3);
- 1 publication is in the proceedings of a scientific conference (No. 1).

The conditions of the RIDASRBA for the educational and scientific degree "Doctor" in professional direction 3.8 "Economy science", Doctoral Program "Finance and accounting".

Pursuant to Article 6 (3) of the ADASRB "**the dissertation thesis must contain scientific and applied science results being an original contribution to science**". In the dissertation paper (p. 210) are formulated contributions, for which it is not determined whether they constitute an original contribution to science.

In short, the **results** in the dissertation can be systematized as follows:

1. A **model** for assessing the effects of changes towards climate-neutral growth. The focus is on the effects of moving out of polluting industries and towards climate-neutral technologies.
2. **Models and tools**, which allow the effects of targeted climate-neutral growth policies to be distinguished from the influence of economic phases and random factors, together with specialized synthetic debt instruments (Credit Default Swaps, CDS), deserve attention as they allow more precise and high-frequency monitoring of economic development.
3. Models and tools can be used to assess European policies for green transition and sustainable climate-neutral growth.

Critical remarks:

1. According to Art. 6 (3) of ASRBA "the dissertation must contain scientific or scientific-applied results", not "contributions" (p. 210).
2. In the dissertation are publications written incompletely. For example: no pages, ISSN or ISBN, etc.

Questions on the dissertation paper:

1. According to Art. 6(3) of ASRBA, what exactly are the "scientific or scientific-applied results that represent an original contribution to science"? What are criteria for originality in the science?
2. Is it possible to mark the upcoming research and applied directions of the dissertation topic over time?

The abstract is in Bulgarian (32 pages) and in English (32 pages).

Conclusion

The dissertation paper meets the conditions of the ADASRB and RIDASRBA.

I give a positive conclusion for acquisition of the educational and scientific degree "Doctor" of **Todor Slavchev Anev**.

I propose to the Scientific Jury to vote unanimously on Todor Slavchev Anev the educational and scientific degree "Doctor" on professional direction professional direction 3.8 "Economy science", Doctoral Program "Finance and accounting".

13.01.2025

Reviewer:

/Acad. Ivan P. Popchev/