

OPINION

By: Associate Professor Kaloyan Ganev, PhD, Sofia University “St. Kliment Ohridski”

Regarding: Competition for filling the academic position of an Associate Professor at the Sofia University “St. Kliment Ohridski”, Scientific Area 3 “Social, Economic and Legal Sciences”, Professional Track 3.8 Economics (Statistics, Econometrics, and Economic Modelling (in Bulgarian and in English)).

1 Information on the Competition

The competition for filling the academic position of an Associate Professor at the Sofia University “St. Kliment Ohridski”, Scientific Area 3 “Social, Economic and Legal Sciences”, Professional Track 3.8 Economics (Statistics, Econometrics, and Economic Modelling (in Bulgarian and in English)) was officially published in State Gazette, issue 30/15 April 2022. My participation in the scientific jury is based on Order RD 38-277/06 June 2022 of the Rector of Sofia University “St. Kliment Ohridski”.

2 Brief Information on the Participants in the Competition

Only one candidate has applied for participation in the competition: Andrey Andreev Vasilev, PhD. He graduated from the University of National and World Economy in 1999 with a major in International Economic Relations. In 2002 he obtained a Master’s Degree in Applied Mathematics (Applied Statistics specialization) from the Faculty of Mathematics and Informatics of Sofia University “St. Kliment Ohridski” after defending a Master’s thesis entitled “Non-parametric Bayesian Estimation of the Spectral Density of Stationary Stochastic Processes”. His doctoral degree he also obtained from the Faculty of Mathematics and Informatics of Sofia University “St. Kliment Ohridski” after defending a dissertation on the topic “Mathematical Models of Spatial Economic Phenomena” in 2008.

His teaching career started in 2003 as a lecturer at the Faculty of Mathematics and Informatics of Sofia University “St. Kliment Ohridski” in Econometrics, Macroeconomics I, and

Macroeconomics II. He has been a lecturer at the Faculty of Economics and Business Administration of the Sofia University in Statistical and Mathematical Methods, Applied Economic Modelling with Python, Applied Econometrics II, Macroeconomic Modelling, and Microeconomic Modelling since 2016. Detailed references on the teaching load of the candidate are provided by the administrative bodies of the Faculty of Economics and Business Administration and the Faculty of Mathematics and Informatics of the Sofia University “St. Kliment Ohridski”.

Besides his academic experience, Dr. Vassilev possesses rich experience from practice, too. From 1999 to 2001 he took expert positions at the Agency for Economic Analysis and Forecasting subordinated to the Minister of Finance of the Republic of Bulgaria, and from 2001 to 2003 he was the head of the Macroeconomic Modelling and Policy Department of the same institution. At the same time (from 2001 to 2002), he was also a part-time analyst at Raiffeisenbank Bulgaria EAD. From 2003 to 2018, he worked as head of the Macroeconomic Research Department at the Bulgarian National Bank. From 2018 to 2020 he headed the Research and Development Unit of Dill Ventures OOD.

He has worked as an expert/key expert throughout the execution of a large number of national and international applied scientific projects, the majority of which have been directly related to the area of economic and econometric modelling.

3 Compliance with the Requirements for Filling the Academic Position

According to the presented reference document for compliance with the national minimum requirements following Art. 26 of the Law on the Development of Academic Staff concerning Professional Track 3.8. Economics for filling the academic position of an Associate Professor, 627.01 points correspond to Dr. Vassilev’s publications, while the required minimum number of points is 400. The points are distributed as follows:

- Group A: Dissertation for awarding the educational and scientific degree “doctor”: 50 points
- Group C: Habilitation work, monograph: 100 points
- Group D: A published monograph not presented as main habilitation work: 100 points
- Group D: Articles and reports published in refereed scientific periodicals indexed in world-known databases of scientific information: 95 points
- Group D: Articles and reports published in refereed but non-indexed journals, or in edited collective volumes: 59.99 points
- Group D: Studies published in refereed but non-indexed journals or in edited collective volumes: 92.02 points

- Group E: Citations or reviews in refereed scientific publications indexed in world-known databases of scientific information or in monographs and collective volumes: 30 points
- Group E: Citations in refereed monographs and collective volumes volumes: 10 points
- Group E: Citations or reviews in refereed but non-indexed journals: 70 points
- Group F: A published university textbook or a textbook used in the school network: 20 points

The co-author scientific contribution separation records of Dr. Vassilev are correctly presented.

4 Evaluation of Teaching Activities

The teaching activities of the candidate are substantial both with respect to their time span (over 19 years) and with respect to the range of taught courses at two of the leading faculties of the Sofia University “St. Kliment Ohridski”. On the basis of my own observations, and on the basis of the results that his students achieve, my evaluation of the candidate’s quality of teaching is excellent – both with respect to content and with respect to the teaching methods used.

5 Brief Assessment of the Presented Scientific Works / Publications

The candidate has presented a total of 34 publications for his participation in the competition. The monographic habilitation work is entitled “Strategic Models of Trade Under Protectionism”. It was published in 2022 by the Avangard Prima Publishing House, and has a volume of 144 pages, ISBN 978-619-239-713-5 (print) and e-ISBN 978-619-239-714-2 (electronic). It is devoted to the mathematical modelling of selected aspects of international trade, specifically models of trade of protectionism on behalf of the involved countries. I have had the opportunity to be a reviewer of this monograph, and here I allow myself to repeat my conclusion that it is an original work of the author, devoted to an interesting and live topic of modern economic analysis. It demonstrates both an excellent knowledge of the matter by the author, and also his long-term devotion to the range of issues discussed in it. The content of the book clearly shows his original contributions in the chosen subject area. A considerable share of those contributions have been gradually achieved through the years, and have been reflected in other author’s publications preceding the monograph, too.

Dr. Vassilev is a co-author of another monographic work presented for the purposes of the competition. It was published in 2014 and bears the title “Elaboration of Medium-term and Long-term Forecasts of the Labour Market Developments and the Future Needs

for Knowledge and Skills in Bulgaria”. The study reflects the efforts to elaborate a forecasting model designed to aid the formulation and the implementation of labour market policies for the purposes of government. I have had the opportunity to team with Dr. Vassilev in the realization of the large-scale project that has led to this publication; I can certify that the part of the model that he developed is extremely important for the entire forecasting framework and requires a high level of both theoretical economics knowledge, and professional familiarity with modern empirical tools for software implementation.

The candidate has presented also 7 co-authored publications (articles) published or accepted for publication in refereed journals indexed in the Scopus database. A part of them are topically related to the presented habilitation work. Another part is devoted to macroeconomic modelling, specifically to small open economies, including Bulgaria. A third part of those publications relates to growth functions, as well as to dynamic systems and their applications.

Also, 11 articles and 13 studies published as a single author or in co-authorship in journals and volumes not indexed in Scopus or Web of Science have been presented. The topical areas of those publications correspond to the ones pointed above: macroeconomic modelling, labour market (forecasting and ex-post impact assessment of conducted policies), spatial economic modelling, trade models. However, other topics such as artificial intelligence and its applications, and digital transformation are present, too.

The candidate has also presented for participation in the competition a published co-authored university textbook bearing the title “An Introduction to Macroeconomics”. The textbook was published in 2016 by the University Publishing House “St. Kliment Ohridski”. It combines fundamental knowledge of mathematical modelling in macroeconomics with concepts of macroeconomic science which makes it suitable for both Economics students and students of Mathematics who intend to specialize in the area of economic modelling.

6 Concise Evaluation of the Main Scientific and Applied Scientific Contributions of the Candidate

The author’s reference document concerning his original scientific contributions contains thorough information on what he has achieved – individually or in co-authorship – in each of the publications. The contributions are of two types: theoretical and applied scientific ones. The most notable among them are related to:

- Theoretical and applied modelling of the currency board arrangement in Bulgaria within which the influence of fiscal policy in the form of fiscal rules has been also studied
- Theoretical modelling of output in a small open economy operating as a member of a currency union
- Development (and update/extension on a later stage) of a theoretical model for forecasting the labour market in Bulgaria for the purposes of government and public poli-

cies, as well as its subsequent software implementation, calibration, estimation, and generation of outputs

- Estimation of a Phillips curve for the economy of Bulgaria based on a structural time series model in state-space form using Bayesian methods
- Construction of a theoretical macroeconomic model derived from micro-foundations for carrying out of net impact assessment of active labour market policies in Bulgaria (for the purposes of government and public policies)
- Empirical modelling of the determinants of labour market participation in Bulgaria through statistical methods and machine learning methods
- Macro-level impact assessment of the implementation of various measures targeted at the barriers before the efficient functioning of the EU economy, on the basis of a computable general equilibrium model specially calibrated for the purpose
- Using game theory, elaboration and extension of models of trade under protectionism in which an element of strategic behaviour is built-in
- Development of various versions of a model in which economic agents make decisions not only on consumption and saving but also on spatial positioning, depending on the economic benefits and costs associated with one or another point in the respective space. The dynamic aspects of solutions are studied, too, both in the discrete-time and in the continuous-time cases
- Theoretical derivation of a no-arbitrage condition in a given system of fixed exchange rates
- Derivation of important aspects of the solutions of dynamic optimization problems with explicit controls in discrete time. More specifically, from a suitable Bellman equation, the algorithmic rules implying the construction of a Lagrangian are derived, and a sufficient condition for optimality in the explicit controls case is proved.

7 Main Critical Notes and Recommendations

I have no critical notes for the candidate. The main recommendation I allow myself to make is that in the future he channels the results of his scientific research work mainly to journals having the highest possible rank and indexed in the most prestigious databases (e.g. Scopus or Web of Science), as they possess all the qualities to find presence there.

8 Conclusion

I have personally known Dr. Andrey Vassilev for over 20 years. I have had the opportunity to work for a while with him in the already closed Agency for Economic Analysis and Forecasting, and after that for about 7 years in the framework of the cooperation between the

Agency and the Bulgarian National Bank. I know perfectly well his work within a number of applied scientific projects, the results of which are analytic publications and economic models – including models for forecasting the labour market, for assessment of the active labour market policies, for impact assessment of EU funds (the so-called SIBILA model), a simulation macroeconomic model for the assessment of effects on key macroeconomic and fiscal variables for the purposes of the Ministry of Finance, etc.

On the basis of my direct observations on our mutual work, as well as on the basis of presented material in the framework of the current competition for filling the position of an Associate Professor, I can confidently say that Dr. Vassilev is a researcher who is exceptionally disciplined and responsible with respect to the work process and its results; he has been scrupulous and ethical with respect to his partners and the teams he has been part of. He possesses both an exceptionally high level of theoretical preparation in the area of mathematical modelling in Economics, and a rare for our country practical experience in real-life applications. His teaching experience is rich and also marked with high quality. I believe that all this evidences a complex of qualities which are not only sufficient but in some respects are above the levels required for filling the position to which he aspires.

With full confidence I allow myself to recommend to the respectable Scientific Jury to vote positively for awarding the scientific rank of an Associate Professor to Dr. Andrey Andreev Vassilev in Scientific Area 3 “Social, Economic and Legal Sciences”, Professional Track 3.8 Economics (Statistics, Econometrics, and Economic Modelling (in Bulgarian and in English)).

Sofia,
August 22, 2022

.....
(Assoc. Prof. Kaloyan Ganev, PhD)