

## **Review**

**From:** Professor Dr. Svetlana Aleksandrova- Zlatanska, Department of “International Economic Relations and Business”, University of National and World Economy.

Professional area 3.8. Economics, scientific specialty “Economy and International Economic Relations” in UNWE “”

**Subject:** Competition for Associate Professor in the professional field 3.8. Economics, Scientific Specialty” Statistics, econometrics and economic modeling”, in Sofia University “St. Kliment Ohridski”.

### **1. Information for the competition**

The competition was announced for the needs of “Faculty of Economics and Business Administration, Sofia University "St. Kliment Ohridski”, according to meeting minutes of the Faculty Council №10/ 13 May 2022.

I am a member of the scientific jury for the competition in compliance with Order №38-277/ 6 June 2022 of the Rector Sofia University "St. Kliment Ohridski - Prof. Dr. Atanas Gerdzhirov

### **2. Brief information about the competition applicants**

The applicant for the announced competition is Andrey Vassilev, who is currently a part –time lecturer at the Faculty of Economics and Business Administration - Sofia University, since 2003. The applicant graduated from the "International Economic Relations and Business" major at UNSS." Graduated a master's degree in Applied Mathematics, Sofia University "St. Kliment Ohridski

He defended his dissertation on " Mathematical models of economic phenomena in space" in 2008 and received an educational and scientific degree "Doctor" in the professional field 3.8. Economics.

He has gained considerable experience as an analyst at the Agency for Analyzes and Forecasts and the Bulgarian National Bank (BNB). After graduating higher education, he worked as an analyst at the Agency for Analyzes and Forecasts, Raiffeisen Bank and he has worked as a head of the "Macroeconomic Research" department at the BNB. Since 2018, he has been the manager of the "Research at Development" unit - Del Ventures Ltd.

### **3. Fulfillment of the requirements for occupation of the academic position**

#### *3.1.Fulfillment of quantitative requirements*

The attached to the documents Card for the fulfillment of the quantitative requirements for occupation of the academic position of "Associate Professor" in the Faculty of Economics and Business Administration shows that the applicant fulfills the National Minimum

Requirements, according to the Law on the Development of the Academic Staff in the Republic of Bulgaria (Article 2b) and the Rules for its application (Article 1a, paragraph 1). In almost all groups of requirements there is a registered exceeding of the criteria, he fulfills the requirements for an Associate professor, the number of points is 627 points.

### *3.2 Fulfillment of qualitative requirements*

Andrey Vassilev works actively as a researcher and analyst in the public sector and participates as a researcher in a range of research and applied projects, which shows that over the years he has developed research skills and the ability to work in a team. He fully satisfies the quantitative and qualitative requirements adopted by the University in accordance with the current legal and regulatory framework for academic development.

## **4. Assessment of the educational and teaching activity**

Dr. Vassilev has considerable teaching experience - more than 10 years and research experience around 20 years. He lectures in one of the most complex economic and statistic areas – "Econometrics", "Macroeconomics I", "Macroeconomics II", (Faculty of Mathematics and Informatics), "Statistical and Mathematical Methods", "Applied Economic Modeling with Python", "Applied Econometrics II", "Macroeconomic Modeling" and "Microeconomic Modeling" (Faculty of Economics)

The content and specifics of the courses taught by Andrey Vassilev are in accordance with the subject of the announced competition for the academic position of "associate professor" at the Faculty of Economics and Business Administration.

I firmly state that he is a competent lecturer, respected and valued by students. He has accumulated a lot of experience and teaching skills required to hold the academic position of Associate professor in the announced competition.

## **5. Brief description of the submitted scientific works/ publications of the candidate**

Dr. Vassilev has submitted 34 scientific publications for participation in the completion and for reviewing, including main monograph entitled ""Strategic models of trade in conditions of protectionism". For the competition, a collective monographic study on Preparation of medium-term and long-term forecasts the labor market development. Most publications are co-authored and published in foreign recognized scientific publications (refereed and indexed scientific publications). His publications on scientific and applied projects are impressive. All publications are distinguished by the author's mathematical modeling of the topics covered in them. There are 7 articles in indexed journals with Scopus index. The remaining publications are in peer-reviewed journals. A total of 13 collective studies published in peer-reviewed scientific journals.

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Specific scientific contributions of the candidate could be group in several main areas of study; 1) macroeconomic modeling; 2) strategic models clarifying dependencies in international trade in conditions of protectionism, 3) spatial economy; 4) development of specialized modeling tools. The main areas include sub-groups: macroeconomic modeling

is focus on models of small open economies, including with a monetary board (issues of determining the equilibrium exchange rate, of the labor market (developed framework for forecasting the demand and supply of labor, expected imbalances, impact of policies on the labor market labor), impact assessment and economic policy analysis. In terms of strategic models, the author has studied emerging Nash equilibria and description of different options of price dynamics as exogenous variables in trade models.

The issues of applying mathematical modeling for the study of dependencies in macroeconomics, foreign trade and the labor market, as well as the development of statistical models for forecasting and spatial economics are the research interests. The publications of the applicant are an evidence of his professional competence and accumulated knowledge in economic and spatial modeling.

Important, essential and debatable issues in the field of macroeconomics, strategic models of foreign trade under protectionism are analyzed in publications. It is worth highlighting the publications for developed models and simulations for the economic agents' behavior.

I accept all publications as relevant for participation in this competition, they are directly related to the topic and direction in which it was announced.

The total citations are 17, all of them come from publications in well-known reference science journals.

The main monographic habitation work "Strategic models of trade under protectionism", with a total volume of 146 pages, of which the main text is 108 pages, the rest pages are bibliography and appendices. It is dedicated to an extremely topical issue of strategic relations in foreign trade under the various forms of protectionism.

The monograph consists of four main chapters, which outline theoretical and practical aspects of models for market structures with a limited number of buyers and the author present the dynamic modeling of foreign trade strategic relations, the structure of Nash equilibria used to clarify the strategies of economic agents.

The monograph is a summary of the previous ones' studies of strategic models of interaction of local consumers and price dynamics, and trade modeling.

The monograph consists of four main chapters, which outline theoretical and practical applied aspects of the foreign trade modeling in case of strategic relationships. It studies situations, where foreign trade takes place under various forms of protectionism.

**Chapter 1** is a review of the literature related to the studied issues related to applications of game theory and dynamic modeling in the context of international trade. The author presents models of market structures with a limited number of buyers and dynamic stochastic general equilibrium models are explored too.

**Chapter 2** named "Models with full protection of the local user from two regions" presents a dynamic model of a local consumers from two regions that are in strategic interactions and seek to maximize their utility. The object of research is the price dynamics in the regions for given production, financial resources and transport costs. The author used tools of spatial economy.

The concept of Nash equilibrium is used to describe the optimal behavior of economic agents in game-theoretic interaction.

**Chapter 3** is logically linked to the second chapter and a continuation of the presented Nash equilibrium model, and the existence of Nash equilibrium. He expanded the topic under consideration for consumers from different countries (regions) who compete for limited quantities of goods on the market, with a constant income. The chapter concludes with various equilibrium functions and theorems applied in the context of the considered models. The existence of Nash equilibrium is proved.

**Chapter 4** presents additional options to the developed models in the previous chapters, stochastic elements have been introduced in that chapter. The chapter developed situations of price changes and the motivation and decisions of the producers of the commodities. The author makes some conclusion in part 4.4 of the chapter to trade modeling. The Nash equilibrium for strategic interactions (in traditional game situations) is proved. The chapter concludes some discussed issues related to price change dynamic in different situations where the functioning of the market is not efficient and it may lead to various forms of breakdown in economic relationships.

The whole monograph is of interest to both theorists and practitioners in the in the field of macroeconomic and trade modeling. It is worth to mention involving the elements of game theory in trade modeling under conditions of protectionism.

It is written in a professional and competent manner, as exhaustive and systematic as possible. I appreciate positively Andrey Vassilev's effort to focus his efforts in a difficult area of economics, namely application of mathematical modeling, dynamic models for analysis and forecasting. Andrey Vassilev has an excellent command of statistics and mathematics and successfully applies them to specific economic and financial issues.

## **6 Synthesized assessment of the candidate's major scientific and practical contributions**

Scientific publications show consistency, systematicity in macroeconomic modeling, spatial economics, statistical and forecasting tools.

I assess positively the overall scientific research work, which is evidence of a thorough and systematic approach to the study of economic issues by using macroeconomic and spatial modeling.

I recommend Andrey Vassilev to continue to deepen and expand his research in this field of knowledge. I recommend Andrey Vasilev to continue and deepen and expand his research in this field of knowledge.

## **7. Critical comments and recommendations**

I do not have critical comments to the presented by the applicant scientific publications for the participation of the competition.

## **8. Conclusions**

The assessment of the scientific publications have convinced me to state that the submitted application fully complies with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Rules for the implementation of this law and the Rules for the organization and conducting competitions for the acquisition of a scientific degree and for the occupation of academic posts at the “Faculty of Economics and Business Administration. , Sofia University "St. Kliment Ohridski”.

I am confident with the positive vote of the candidate in the competition Dr. Andrey Vassilev to take the academic position of "Associate professor" in Sofia University "St. Kliment Ohridski” scientific specialty in the professional field 3.8. Economics, scientific specialty " “Statistics, econometrics and economic modeling “.

Professor Dr. Svetlana Aleksandrova

25.08.2022