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To the Head

of the Department of "Control and Analysis of Economic Activities"

D. A. Tsenov Academy of Economics – Svishtov

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R E V I E W

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From: Assoc. Prof. Ph.D. Rositsa Hristova Koleva, academic specialty "Accounting, Control, and Analysis of Economic Activities," Department of "Control and Analysis of Economic Activities" at the D. A. Tsenov Academy of Economics – Svishtov

Subject: Competition for the academic position of "Associate Professor" in the professional field 3.8. Economics, academic specialty "Accounting, Control, and Analysis of Economic Activities (Analysis)" for the needs of the Department of "Control and Analysis of Economic Activities" at the D. A. Tsenov Academy of Economics – Svishtov

1. Presentation of the candidate participating in the competition, the academic specialty, and the department for which the competition is announced

The competition is for the academic position of "Associate Professor" for the needs of the Department of "Control and Analysis of Economic Activities" at the D. A. Tsenov Academy of Economics – Svishtov, according to an announcement in the State Gazette, issue 11 of 06.02.2024, in the field of higher education 3. Social, Economic, and Legal Sciences, professional field 3.8. Economics, academic specialty "Accounting, Control, and Analysis of Economic Activities (Analysis)."

The sole candidate in the competition is Chief Assistant Dr. Krasimir Georgiev Kulchev, a lecturer in the Department of "Control and Analysis of Economic Activities" at the D. A. Tsenov Academy of Economics – Svishtov.

2. Basis for writing the review

The review is prepared based on the Decision of the Faculty Council of the Faculty of "Economic Accounting" at the D. A. Tsenov Academy of Economics – Svishtov, Protocol

No. 9/04.04.2024, Order of the Rector No. 243/09.04.2024 of the D. A. Tsenov Academy of Economics for determining the composition of the scientific jury and the decision from the first meeting of the scientific jury held on 18.04.2024.

The basis for writing the review is determined in Art. 5, para. 1, and Art. 121, para. 1 and 2 of the Regulations for the Application of the Law on the Development of the Academic Staff in the D. A. Tsenov Academy of Economics – Svishtov.

3. Personal characteristics of the candidate

Krasimir Georgiev Kulchev was born in 1979 in the town of Svishtov. He completed his secondary education at the State Commercial High School "Dimitur Hadzhivasilev" – Svishtov in the specialty "Banking, Insurance, and Social Security" in 1998. In the same year, he enrolled as a student in the specialty "Accounting and Control" at the D. A. Tsenov Academy of Economics – Svishtov, and in 2004 he obtained a master's degree.

In 2007, he was appointed as an assistant in the Department of "Analysis of Economic Activities" at the D. A. Tsenov Academy of Economics, where his academic development continued. In 2009, he became a senior assistant, and in 2011 – a chief assistant. Between 2012 and 2014, he studied independently to obtain the educational and scientific degree "Doctor" at the D. A. Tsenov Academy of Economics (diploma No. 2015014/01.04.2015), which he acquired after defending a doctoral dissertation on the topic "Theoretical and Applied Problems of Physical Distribution Analysis."

Further in this paragraph of the review, the compliance with the requirements of Article 116, paragraph 2, items 1-4 of the Regulations for the Development of the Academic Staff at D. A. Tsenov Academy of Economics – Svishtov is described.

From the attached reference 93.00-8/07.02.2024, it is evident that Senior Assistant Dr. Krasimir Kulchev reports an engagement over the last five academic years, which exceeds the requirement for an average annual engagement of 400 teaching hours, as specified by D. A. Tsenov Academy of Economics.

From the attached certificate of service, issued on 22.02.2024, it is clear that the candidate has acquired 17 years of professional experience in the specialty as an "assistant" and "senior assistant" at the higher education institution, with a minimum requirement of five years.

In the Register for Academic Positions and Dissertations of NACID, Senior Assistant Dr. Krasimir Georgiev Kulchev has 42 publications.

From Certificate No. 155/20.02.2024, issued by the Institute for Scientific Research, it is clear that the candidate has participated in three research projects, one infrastructure project, and two projects for partial funding of scientific forums.

In addition to his teaching activities, Krasimir Kulchev is also engaged with duties as an academic mentor under the project "Student Practices" – phases 1 and 2 during the period 2016 – 2020, as well as an expert on educational documentation for joint programs under the project "Economic Education in Bulgaria 2030."

I assess the documents presented for the competition as fully meeting the requirements for holding the academic position of "Associate Professor."

4.   Quantitative and qualitative evaluation (analysis) based on the criteria and indicators for teaching work and compliance with the requirements

The candidate presents for review in the competition two academic textbooks co-authored, in connection with the requirement of Article 116, paragraph 2, item 5.1 of the Regulations for the Development of the Academic Staff at D. A. Tsenov Academy of Economics – not less than two published academic textbooks as a co-author, discussed and approved by the Departmental Council with two internal reviewers. A List of the academic textbooks presented for review is attached in the competition documents:

• Mihailov, M. & Kulchev, K. (2022). Management Analysis. Svishtov, AI Tsenov, 179 p., ISBN 978-954-23-2339-6;

• Mihailov, M., Koleva, R. & Kulchev, K. (2022). Analysis of Agribusiness. Svishtov, AI Tsenov, 246 p., ISBN 978-954-23-2275-7.

According to Article 116, paragraph 2, item 5.1 of the cited regulations, two educational materials titled "Efficiency Analysis" and "Economic Analysis" – both co-authored – are also added.

Regarding the requirement of Article 116, paragraph 2, item 5.2 of the cited regulations, the candidate must have developed a lecture course in an academic discipline, independently or in co-authorship, for student training in the "Bachelor" or "Master" degree in regular, part-time, and distance learning. In the competition documents, a Reference for developed and taught lecture courses for the "Bachelor" degree in the following disciplines is attached:

• "Business Analysis and Control," studied by students specializing in "Industrial Business and Entrepreneurship," a joint development with Associate Professor Dr. Silvia Kostova.

• "Industrial Business Analysis," studied by students specializing in "Industrial Business and Entrepreneurship," a joint development with Associate Professor Dr. Rositsa Koleva.

The taught discipline "Management Analysis" is studied by students in the Master's program in "Financial Analysis and Control," developed by Senior Assistant Dr. Krasimir Kulchev.

The next requirement under Article 116, paragraph 2, item 6 of the Regulations for the Development of the Academic Staff at D. A. Tsenov Academy of Economics is that candidates must have at least one scientific publication in refereed journals indexed in Scopus and/or Web of Science. The candidate's publication is titled Kulchev, K. (2023). Improving the assessment of the solvency of Authorized Economic Operators in Bulgaria. World Customs Journal, 17(2), 79-92. ISSN: 1834-6707 (Print), ISSN: 1834-6715 (Online). https://worldcustomsjournal.org/archive/ Indexing: SCOPUS (Elsevier).

The publications presented under Article 116, paragraph 3 of the Regulations for the Development of the Academic Staff at D. A. Tsenov Academy of Economics for participation in the competition do not repeat those presented for obtaining the educational and scientific degree "Doctor." In the competition documents, a List of the publications by Senior Assistant Dr. Krasimir Georgiev Kulchev, presented for acquiring the Ph.D. degree, is attached, in accordance with NACID. It is evident from the document that the publications required for the defense of the doctoral dissertation do not repeat those presented for evaluation in the current competition.

5.   Quantitative and qualitative evaluation (analysis) based on the criteria and indicators for research activity and compliance with the requirements

Based on information from the Reference for the fulfillment of the minimum national requirements for field 3. Social, Economic, and Legal Sciences, PN 3.8. Economics under Article 2b of the Law for the Development of the Academic Staff in the Republic of Bulgaria, the candidate reports the following publications, summarized by groups and number of points:

-   Group A – Dissertation work – 50 points;
-   Group B – Habilitation work – 100 points;
-   Group G – 12 publications – 200 points;
-   Group D – 15 citations – 105 points;

or a total of **455 points** (with a minimum requirement of 400 points).

For the competition, a monograph is presented for review with the following bibliographic description: Kulchev, Krasimir (2023). Assessment of the Risk of Insolvency of

Enterprises. Svishtov, AI Tsenov, Library "Economic World," issue 149, 176 pages, ISBN: 978-954-23-2412-6.

The monograph was reviewed and published by the Library "Economic World" of the Academic Publishing House "Tsenov" in 2023 and is registered with NACID. The work is dedicated to finding solutions to problems related to models for assessing the risk of insolvency and expanding knowledge on the applicability of existing analytical models, as well as enriching the tools for assessing the risk of insolvency.

The object of the study is the assessment of the risk of insolvency of Bulgarian capital trading companies with non-manufacturing activities using special analytical models. The author aims to test existing models for assessing the risk of insolvency of enterprises, thereby gaining insight into the possibilities of applying the models in Bulgarian practice in their original or adapted form and including their elements in the construction of new analytical models. To achieve this goal and prove the research thesis, working hypotheses are adopted, and main tasks are formulated. Some restrictive conditions of the study are set in advance, given the use of analytical models for assessing the risk of insolvency.

The increasing competition, the lack of a national-level warning system for circumstances likely to cause insolvency, slow and inefficient insolvency proceedings, and the negative consequences of its occurrence (including unemployment) give the examined issue macroeconomic significance. Solutions to minimize the risk of insolvency in the described environment should be sought at the enterprise level through an adequate analytical toolkit for risk assessment. These findings confirm the first of the working hypotheses – timely assessment of the risk of insolvency of enterprises in Bulgaria is a significant macroeconomic problem, whose solution is currently sought mainly at the micro level.

The methodological apparatus of the analysis provides opportunities for early detection of increased risk of insolvency, as insolvency is often preceded by numerous warning signals. This applies especially to analytical models specifically designed to predict the future financial condition of enterprises. The conclusions made confirm the working hypothesis that analytical models for assessing the risk of insolvency can provide adequate solutions to some of the problems in the Bulgarian socio-economic environment, namely – not only diagnosing but also predicting the financial condition of enterprises.

The use of analytical models for assessing the risk of insolvency, however, is accompanied by problems arising from the need for their testing and adaptation to a specific business environment. The challenge of creating new models with high predictive capabilities, which include key components of already existing analytical models, has not escaped the attention of Senior Assistant Dr. Krasimir Kulchev. In the review of specialized

literary sources and practical research conducted, the analytical models of Professor Altman, Professor Springate, and the Polish Academy of Sciences are distinguished by their high predictive accuracy, which is the main reason for their thorough investigation in the monographic work. After testing the selected models, the relatively high predictive capabilities of the Polish analytical model are outlined. It can be used in its original form, as can Professor Altman's model, in assessing the risk of insolvency of capital trading companies engaged in non-manufacturing activities.

In assessing the risk of insolvency of individual enterprises using analytical models together, it is noted that the synchronous change of their integral indicators is an important indicator of changes in the financial condition. Therefore, it should be monitored as carefully as the recommended threshold values of the integral indicators corresponding to the applied analytical models. In risk assessment, the tested analytical models show different predictive capabilities, partly due to the conditions under which they were constructed. This last observation confirms the working hypothesis – the different socio-economic conditions under which the analytical models were created imply differences in their predictive capabilities when applied to assess the risk of insolvency of enterprises in Bulgaria.

The Springate model can be applied in its original form but requires adaptation by adjusting the threshold value of its integral indicator. Another way to adapt the model is through modification, changing the weight coefficients of the financial indicators that compose it. When adapted in the first way, the predictive capabilities of the model increase by 15%, and in the second way – by 5%. Using the logic of construction and components of existing models for assessing the risk of insolvency, five new analytical models are created to predict the financial condition of enterprises engaged in non-manufacturing activities. In the study, the newly created models show higher predictive capabilities (92.5% relative share of correctly classified enterprises in the last year) compared to the three empirical equations tested in their original form and the adapted versions of the Springate model.

The relatively higher predictive capabilities of the adapted versions of the Springate model (compared to the predictive capabilities of this model in its original form) and the relatively higher predictive capabilities of the new analytical models (compared to the predictive capabilities of the three analytical models tested in their original form and the two adapted versions of the Springate model) confirm the last working hypothesis. This hypothesis suggests that the different predictive capabilities of existing analytical models create favorable conditions for their improvement through adaptation to the Bulgarian business environment or by incorporating their elements into the construction of new analytical models. Confirming the working hypotheses proves the research thesis of the

monographic work, namely – the logic of creation and elements of existing models for assessing the risk of insolvency of enterprises can serve as a solid basis for constructing new analytical models, tailored to the Bulgarian business environment, which have higher predictive capabilities compared to their prototypes.

The publications in accordance with the minimum national requirements for the field of higher education 3. Social, Economic, and Legal Sciences are as follows:

- A book based on a defended dissertation titled "Theoretical and Applied Problems of Physical Distribution Analysis" in 2023, 157 pages;

- Nine articles and papers in non-refereed journals with scientific peer review. Some of the works explore economic analysis tools with a focus on the Bulgarian tourism market, product rating assessment, or comparative analysis of distributors. Other works investigate models for analyzing the financial stability of enterprises, particularly Polish analytical models. The author shows significant interest in approaches to analysis and key elements of financial stability models, culminating in a publication on digitizing analytical models for assessing the financial stability of enterprises. Another section of the publications addresses issues of profitability and cash flows of non-manufacturing enterprises;

- A co-authored study dedicated to analyzing models for assessing the financial stability of enterprises.

The submitted scientific publications for the competition are sufficient in volume and meet the requirements of the regulatory framework. Their qualitative characteristics, in-depth exploration of the topics, methodological rigor, numerous contributions, and broad applicability in practice attest to the presence of a prepared, motivated, and scientifically developed candidate for the competition.

I declare that the author of the publications submitted for review has complied with the requirement of Article 116, Paragraph 2, Item 2 of the Rules for the Development of the Academic Staff at D. A. Tsenov Academy of Economics and no plagiarism is found in the scientific works.

6. Compliance of contributions with scientific requirements

In the Report on Scientific and Applied Scientific Contributions in the publications and materials submitted for review under Article 118, Paragraph 1, Item 17 of the Rules for the Development of the Academic Staff at D. A. Tsenov Academy of Economics by Senior Assistant Dr. Krasimir Kulchev, two main directions of scientific contributions are highlighted.

In the first direction, entirely scientific contributions are structured. These are related to defining concepts such as "insolvency," "risk of insolvency," "financial crisis," "inability to pay," "over-indebtedness." Signs for early recognition of indebtedness are highlighted, as well as a classification of analytical models for risk assessment and a working algorithm. Indicators related to the predictive capabilities of the models, such as the degree of correct classification and the degree of synchronous dynamics, are specified.

Key financial ratios included in the new analytical models for assessing the risk of insolvency of enterprises are selected. It is established that approaches to assessing the risk of insolvency and the financial ratios themselves successfully find application in predicting the financial stability of enterprises.

Some scientific contributions are related to analytical tools for making marketing management decisions in product rating assessment to improve their competitiveness and in analyzing the distribution network. Related to this contribution is the scientific achievement in the developed methodological apparatus for analyzing physical distribution, proposing technical tools for analyzing its quality. In the concluding stage of the research related to the problems of physical distribution, two of the methods for making comprehensive assessments are refined.

In the second direction, applied scientific contributions are highlighted. The first stems from the monographic work and is related to models tested for assessing the risk of insolvency of Bulgarian capital companies engaged in non-manufacturing activities. A four-year period is covered, and the predictive capabilities of the selected analytical models are derived. Tools for adapting an analytical model with low predictive capabilities are introduced, and the behavior of all analytical models in relation to their predictive capabilities for assessing the risk of insolvency of enterprises is summarized.

Based on information from the financial reports of forty non-manufacturing enterprises – twenty financially stable and twenty declared bankrupt – the average levels of key profitability ratios and cash flow-related ratios are established. Emphasis is placed on the practical application of these ratios in financial analysis, as well as in distinguishing financially stable business organizations from enterprises with an increased risk of insolvency.

Specific guidelines are provided for applying analytical models for assessing the financial stability of enterprises in customs control, internal control, and external audit.

The next applied scientific contribution is related to traditional economic analysis tools when applying a balanced approach to the necessary informational environment combined with effective management of tourism activities.

The applied toolkit for analyzing and evaluating physical distribution yields results in forming final assessments of physical distribution systems in Bulgarian enterprises – manufacturers of baby food. Strengths and Weaknesses of the Physical Distribution Systems and Adequate Management Decisions for Quality Improvement.

7. Characterizing the academic reputation of the candidate

In the academic community and beyond, Senior Assistant Dr. Krasimir Kulchev is known for his ability to communicate professionally and responsibly with students, researchers, lecturers, and practitioners. This undoubtedly contributes to the high quality of his teaching and research activities.

From the provided citation report, it is evident that Dr. Krasimir Kulchev has been cited twice in scientific publications or reviews referenced and indexed in globally recognized scientific information databases, or in monographs and collective volumes; cited twice in monographs and collective volumes with scientific peer review; and cited or reviewed 11 times in non-refereed scientific journals, totaling 15 citations.

It is worth noting the candidate's active participation in international scientific and practical conferences and the development of scientific and educational projects. This indicates a corresponding level of recognition for acquiring the academic position of "associate professor".

8. Critical notes and recommendations

No critical remarks are formulated. As recommendations for the future activities of Dr. Krasimir Kulchev, I offer the following, which are entirely well-intentioned and do not undermine the achieved results: despite the pursuit of further developing ideas, some publications show repetition of the author's theses; participation in teaching mobility for training and teaching purposes is encouraged.

9. Summary conclusion and opinion

The analysis of the teaching activities and scientific publications of the candidate for the competition confirms that they fully meet the regulatory requirements for the academic position of "associate professor." The presented reports, evidence, documents, and scientific output submitted for the competition contain indisputable scientific and applied scientific contributions.

The above gives me grounds to provide a categorical positive assessment of the candidate, Senior Assistant Dr. Krasimir Georgiev Kulchev, and to vote for his selection in

the announced competition for the academic position of "associate professor" in the field of higher education 3. Social, Economic, and Legal Sciences, professional field 3.8. Economics, scientific specialty "Accounting, Control, and Analysis of Economic Activities.

Svishtov,   Reviewer:

20.05.2024   (Assoc. Prof. Rositsa Koleva)