

STATEMENT

by Prof. Dimitar Nenkov, Department of Finance, University of National and World Economy (UNWE), Doctor in Finance, Monetary Circulation, Credit and Insurance, Professional Field 3.8 "Economics",
on a dissertation for the award of the scientific degree "Doctor of Science"
in the Field of Higher Education 3. Social, Economic and Legal Sciences, Professional Field 3.8. Economics

Author of the dissertation: Prof. Dr. Andrey Boyanov Zahariev

Topic of the dissertation: "Revaluation of Housing in Bulgaria: Factors, Models, Trends"

On the basis of Order No. 322 of 24.07.2026 of the Rector of the University of Insurance and Finance (UIF), Corresponding Member Prof. Dr. of Law Boris Velchev, I have been assigned to participate as a member of the scientific jury for conducting a procedure for the defense of a dissertation on the topic "Revaluation of Housing in Bulgaria: Factors, Models, Trends" for the award of the scientific degree "Doctor of Sciences" in the Field of Higher Education 3. Social, Economic and Legal Sciences, Professional Direction 3.8. Economics. The author of the dissertation is Prof. Dr. Andrey Boyanov Zahariev - candidate from the Department of Finance and Insurance at UIF. By decision of the scientific jury from its first meeting, I have been assigned to prepare a statement on the procedure.

9. General description of the materials presented

For the purpose of this opinion, I was provided with an electronic copy of the dissertation, prepared in Bulgarian in a volume of 390 pages, of which 328 pages are the main text, 30 pages are appendices and 32 pages are references and the title page. The accompanying set of materials contains a declaration of originality, a list of publications on the topic of the dissertation, a certificate of compliance with the requirements of the Regulations for the Implementation of the Act on the Development of Academic Staff in the Republic of Bulgaria (ADASRB), a scientometric certificate, the candidate's CV and a copy of the diploma for the educational and scientific degree "doctor", and all of them are arranged in a clear and systematic manner, which significantly facilitates their study and assessment. For the purpose of the procedure, the candidate offers a total of 32 publications on the topic of the dissertation, published in the period 2012–2026 and distributed according to the indicators of the Act on the Development of Academic Staff in the Republic of Bulgaria (ADASRB), as follows: 4 articles in publications, refereed and indexed in Scopus / Web of Science (indicator G6); 22 articles and reports in non-refereed publications and collections (indicator G7); 2 studies in publications, referred and indexed in Scopus / Web of Science (indicator D8); and 4 studies in non-refereed publications (indicator D9).

10. Brief biographical information about the candidate

Prof. Dr. Andrey Boyanov Zahariev was born on March 19, 1971 and obtained a Master's degree in Economics at the D. A. Tsenov Academy of Economics - Svishtov, majoring in "Economics and Industrial Management", in the period 1989–1994. In 1999, he defended his educational and scientific degree "Doctor" in scientific specialty 05.02.05 "Finance, Money Circulation, Credit and Insurance", thereby meeting the requirement under Art. 12, para. 1 of the Law on the State of the Republic of Bulgaria, and his academic career has successively passed through the positions of assistant (1999), chief assistant (2000), associate professor (2001) and professor (since 10.12.2012) at his native Academy in Svishtov; Since November 2024, he has been a visiting professor, and since June 2025,

a full professor at the University of Insurance and Finance (UIF), where he teaches the courses "Fundamentals of Finance and Economic Theories", "Financial Risk Management", "Portfolio Management", "Business Planning" and "European Projects and Investments". His administrative and managerial experience is also rich - he was a coordinator and director of distance and master's education centers, vice-rector for "Master's Education and Doctoral Studies" (2007–2010), head of the Department of "Finance and Credit" (in two terms - 2012–2015 and 2016–2020) and dean of the Faculty of "Finance" (2020–2024) at the "D. A. Tsenov" University of Insurance, and his scientific achievements have been recognized with the honorary titles of Doctor Honoris Causa of Donetsk National University "Vasyl Stus", Ukraine (2017) and Professor Honorificus of Artifex University, Bucharest (2024). In addition to his participation in 37 national and international projects, he has an impressive scientometric presence – 281 registered publications in NACID, h-index 8 in Scopus (with 12 articles and 100 citations) and h-index 5 in Web of Science (with 9 articles and 49 citations), and as a scientific supervisor he has successfully defended 18 doctoral students before joining UIF and is currently supervising four more, three of whom are international.

11. Characteristics and evaluation of the dissertation work

The chosen topic of the dissertation research is undoubtedly relevant and socially significant, as it places the process of housing revaluation in Bulgaria in the context of the country's accession to the eurozone from January 1, 2026 - the culmination of a nearly thirty-year journey of currency convergence, which began with the introduction of the currency board in 1997, with the author convincingly arguing for an existing research niche related to the absence of systematized empirical models for the sustainability of housing price determinants in the event of prolonged currency convergence; the aim of the work - analysis of growth factors and modeling of the dynamics and acceleration of price adjustments in the period 2015–2025 - finds a logical continuation in three correctly formulated working hypotheses and three research tasks, corresponding to the three structural chapters. The depth of the research is evident from the impressive volume of 316 sources (269 in Latin and 47 in Cyrillic), organized in five thematic areas in a chronological range from 1990 to the present day, combined with a rich empirical toolkit of 54 predictors, grouped into five thematic blocks and supported by data from Eurostat, NSI, BNB and the World Steel Association. The methodological apparatus combines induction and deduction, comparative analysis, clustering of predictors, descriptive statistics, regression- correlation modeling, stationarity tests (ADF, PP, KPSS), autoregressive integrated models with exogenous variables (ARIMAX) and diagnostic tests (Ljung – Box, Shapiro – Wilk, Kolmogorov – Smirnov, ARCH LM), with a particularly valuable contribution being the original five-step procedure for ARIMAX modeling, specially adapted for studying the acceleration of revaluation in limited-volume quarterly samples – the chosen methodology is relevant, well-argued and fully corresponds to the tasks set. In terms of structure, the work includes an introduction with clearly defined relevance, object, subject, thesis, hypotheses, goal, tasks, methodology and limitations, followed by three chapters: the first offers an original multi-criteria classification of research into five thematic areas and a five-period periodization of the academic discourse on housing prices since 1990; the second unfolds the empirical analysis of the fifty-four predictors through descriptive statistics, correlation analysis and the author's alpha-beta comparative method for 41 quarters (2015Q4–2025Q4); the third, representing the core of the dissertation, builds and verifies three ARIMAX models – for GHPI ($R^2 = 0.727$, MAPE = 1.026%), for HPIED ($R^2 = 0.735$) and for HPIND ($R^2 = 0.418$), all of which successfully passed the full set of diagnostic checks, with an indicative conclusion being the loss of statistical significance of the classical macroeconomic aggregates at the expense of sector-specific factors. The final part synthesizes the results into nine scientific contributions and ten directions for future research, and the overall presentation is distinguished by clarity, correct and consistent academic expression and logical connectivity between the individual structural elements, supported by rich illustrative material.

12. Contributions and significance of the development for science and practice

The author summarizes and states nine contributions of the dissertation work, which have theoretical and practical significance:

- 1) An original multi-criteria analytical framework has been developed for a critical synthesis of the academic literature on housing pricing factors, uniting five thematically focused groups.
- 2) Period chronological periodization of the academic analysis of housing prices from 1990 to the present day and an author's systematization of the scientific contributions to the housing market in Bulgaria are proposed.
- 3) An original theoretical framework has been developed and verified, positioning housing in the five-component systematization of national wealth and in its three-layer structure by economic agents.
- 4) An original methodological approach for simultaneous parametric estimation of two alternative single regression models (alpha-beta comparative analysis) was developed and verified, applied to 54 predictors and three dependent variables.
- 5) Correlation framework was built and verified, systematizing 54 predictors into five thematic groups, and the empirical hierarchy of their impact on three measures of the housing price index was established.
- 6) Based on a comparative analysis of the HPI for all 27 EU member states, it has been established that the growth of housing prices in Bulgaria is 2.2 times higher than the EU27 average, and the specific institutional factors for this have been identified.
- 7) Five-step methodological procedure for ARIMAX modeling, adapted to study the acceleration of revaluation in small samples of quarterly data, has been developed and applied.
- 8) For the first time in Bulgarian scientific literature, three independent ARIMAX models have been constructed and verified for the three dimensions of the housing price index – GHPI, HPIED and HPIND.
- 9) The sector-specific determinants of the accelerated revaluation of housing in Bulgaria have been identified, while aggregated macroeconomic indicators have been rejected as statistically significant price predictors.

These contributions position the development among the scientific studies that build on and deepen scientific knowledge in the field of dynamics in household wealth, and hence of the state (the scientifically substantiated positioning of housing in the structure of national wealth), the regulation and monitoring of financial stability at the macro level under the new currency regime, the development of sectoral policies by the responsible institutions. The significance of the contributions from a scientific point of view is expressed in the author's designed theoretical and methodological framework for the study of housing wealth. In this framework, the pioneering verified ARIMAX models of the housing price index, derived by Prof. Zahariev through a five-step procedure, stand out. Here I also add the comprehensive study of the scientific literature on the problem of justified periodization from 1990 to 2026, made in the first chapter.

From a practical perspective, I find a wide range of significant implications from this study. Here, I relate the clustering and metricization of the influence of 54 determinants (both through alpha-beta regressions and ARIMAX models) with the econometric rejection of aggregate macroeconomic indicators as predictors of housing revaluation during the transition to the exchange rate regime.

13. Assessment of dissertation publications

The basis for the analysis is the attached inventory of 32 publications on the topic of the dissertation for the acquisition of the scientific degree "Doctor of Science" in the professional field 3.8 Economics. Below is a structured breakdown by type of publication:

Type	Number	Title
Articles	7	21.9%
Reports	19	59.4%
Studies	6	18.75%
Total	32	100.00%

The articles (7 items) cover the four publications from indicator G6 (in journals, refereed and indexed in Scopus / WoS) plus three articles from indicator G7, published in journals outside these databases (G7.2, G7.17, G7.18). The remaining 19 items from G7 represent reports from scientific conferences, round tables and symposia. The studies (6 items) combine the two publications from indicator G8 (in indexed journals) and the four from indicator G9 (in the Almanac of Scientific Research and the Yearbook of the Academy of Economics "D. A. Tsenov").

It can be concluded that nearly 60% of the production under the procedure of Prof. Andrey Zahariev is in the form of conference reports, which shows a strong personal presence of the author in scientific forums. The share of articles and studies in refereed publications (a total of 10 out of 32, or 31.25%) forms the core of the internationally visible production. I would like to specially note that all publications submitted under the competition are publicly available in the candidate's personal profile on the open science portal - ResearchGate .

Scopus / Web publication significance assessment based on impact factor and quartile of Science focuses on the six publications indexed in Scopus and/or Web of Science (indicators G6 and G8). They are distributed as follows according to the current rankings of SCImago (SJR) and Journal Citation Reports (JCR):

No.	Edition	Publication	Quartile (SJR)	Note
D6.1	Entrepreneurship and Sustainability Issues	Zahariev and al . (2020)	Q1	Scopus and WoS
D6.2	Risks (MDPI)	Zarkova and al . (2023)	Q2	SJR≈0.40; IF 1.5–2.5
D6.3	Entrepreneurship and Sustainability Issues	Zahariev and al . (2021)	Q1	Web of Science
D6.4	Management Theory and Studies for Rural Business ...	Laktionova and al . (2019)	Q4	ESCI (WoS), Business – Q4
D8.1	Journal of Risk and Financial Management (MDPI)	Zahariev and al . (2026)	Q2	SJR≈0.51; IF≈3.3
D8.2	Sustainability (MDPI)	Shin and al . (2026)	Q1 (SJR) / Q2 (JCR)	Scopus , SCIE and SSCI

The data from the table show that 5 of the 6 refereed and indexed publications (or 83% according to the procedure) are in issues ranked in Q1 by at least one of the leading scientometric indicators (CiteScore on Scopus or SJR on SCImago), and 1 publication (17%) is in an issue from Q4 (according to the JCR/ESCI ranking on Web of Science). It is important to note that for the three MDPI publications (Risks , Journal of Risk and Financial Management and Sustainability) their highest

CiteScore position is Q1, which is a high recognition of the scientific productivity and subsequent citationability of Prof. Andrey Zahariev.

The candidate's output demonstrates a solid international presence, with 6 of the 32 publications (18.75%) indexed in Scopus and/or Web of Science - the leading scientometric databases for assessing scientific significance. Of these, 5 publications (83%) reach Q1 ranking by at least one of the leading indicators (CiteScore or SJR), which places the majority of the referenced production among the best-ranked publications in the relevant scientific fields. It is particularly indicative that the most recent developments on the topic of the dissertation work (2025–2026, dedicated to the housing market and the revaluation of real estate in Bulgaria) have been published in Scopus / WoS Q1 editions, which testifies to the growing international recognition and well-founded relevance of the research topic.

14. Assessment of compliance with minimum national requirements

According to the submitted scientometric report and the list of publications and citations, the minimum national requirements for acquiring the scientific degree "Doctor of Sciences" under Art. 12 of the ADASRB are met, with the candidate significantly exceeding the required thresholds. For the indicators from group D (6, 7 and 8), a result exceeding more than twice the required minimum of 100 points was achieved, and based on the citation data presented by the candidate (100 citations in Scopus, h-index 8), the requirement for group E is also met. These data, insofar as they are not subject to independent verification within the framework of this opinion, should be officially confirmed by the report prepared by the UIF, but based on the materials provided, I believe that the candidate fully meets the requirements of Art. 12, para. 4 of the ADASRB - the dissertation work must contain theoretical summaries and solutions to major scientific or scientific-applied problems, corresponding to modern achievements in science.

15. Abstract

The abstract, prepared in a volume of 50 pages, presents concisely and at the same time fully all the essential elements of the dissertation research. Here we include as important components the relevance of the topic, object, subject, thesis and working hypotheses, the goal, tasks, methodological tools and limitations, a synthesized summary of the three chapters, a listing of the scientific and applied scientific contributions, identified directions for future research, as well as a detailed reference for publications and achieved scientometric indicators. On this basis, it can be concluded that the abstract faithfully and accurately reflects both the content and the contributing nature of the dissertation work.

16. Critical notes and recommendations

The presented dissertation work is distinguished by its undoubted scientific value and convincingly confirms the author's profound research skills, which is why I do not formulate criticisms below, but rather recommendations in the perspective of developing the research. Regarding the observed difference in the explanatory potential of the three ARIMAX models, the author can derive a generalized explanation for this situation, regardless of the specifics of the three indices. For a sample with data for 41 quarters, the explanation of the slowdown in the volume of residential property transactions established by the NSI after the introduction of the Euro, combined with the preservation of the revaluation rate, is of interest. These guidelines for reasoning can be commented on at the public defense, which will enrich the excellent impressions of the indisputable scientific and scientific-applied achievements in the dissertation.

CONCLUSION

The 390-page dissertation work developed by Prof. Dr. Andrey Boyanov Zahariev on the topic "Revaluation of Housing in Bulgaria: Factors, Models, Trends" contains significant scientific and applied scientific results and meets the requirements of the Act on the Development of Academic Staff in the Republic of Bulgaria (ADASRB) and the Regulations for its implementation, as well as the specific requirements of the Rules for the Conditions and Procedure for Acquiring the Scientific Degree "Doctor of Sciences" at the University of Insurance and Finance.

Through his dissertation, Prof. Dr. Andrey Boyanov Zahariev categorically proves that he possesses in-depth theoretical knowledge and professional skills in Professional Field 3.8. Economics and the ability to independently conduct high-level scientific research.

Based on the above, I form a positive assessment of the presented dissertation, abstract, publications, results and contributions. I propose to the members of the esteemed scientific jury to make a unanimous decision and award the scientific degree "Doctor of Sciences" to Prof. Dr. Andrey Boyanov Zahariev in the Field of Higher Education 3. Social, Economic and Legal Sciences, Professional Field 3.8. Economics.

08/22/2026

Prepared the opinion:



(Prof. Dr. Dimitar Nenkov)