ИКОНОМИЧЕСКИ УНИВЕРСИТЕТ – ВАРНА
СЕРТИФИЦИРАНА СИСТЕМА ЗА УПРАВЛЕНИЕ НА КАЧЕСТВОТО ISO 9001:2015

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REVIEW

By: Prof. Georgi Shinkov Zabunov, PhD
University f National and World Economy
Professional Field 3.8 „ Economics "
Scientific specialty: Economics and Management (Real Estate)

Subject: dissertation work for acquiring an educational and scientific degree "doctor" in professional field 3.8. " Economics ", Doctorate program "Economics and Management (Construction and Real Estate)"

Reason for presenting the review: appointed as a participant in a scientific jury on the basis of order №RD 06-77/05.06.2024 of the Rector of Economic University - Varna.

Author of the dissertation: ALEKSANDAR DEYANOV YORDANOV
Dissertation topic: DEVELOPMENT OF THE RESIDENTIAL REAL ESTATE MARKET IN THE CONDITIONS OF A GLOBAL PANDEMIC
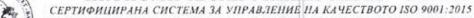
1. Information about the dissertant

The dissertant was trained in the PhD programme in Economics and Management (Construction and Real Estate) at the Department of Economics and Management of Construction (later renamed to the Department of Business, Investment, Real Estate) according to the Order No. RD 17-417/ 02.023.2021 of the Rector of the University of Economics - Varna. The training was carried out in the period 01.03.2021 - 01.03.2024 in full-time form. The dissertant was discharged with the right to defend until 01.03.2029 by the Order of the Rector of the University of Economics - Varna № RZ 17-52/ 26.02.2024.

Alexander Deyanov Yordanov was born in 1997. In 2015 he graduated from the Dr. Petar Beron Mathematical High School in Varna. In 2019, he graduated with a Bachelor's degree in Business Economics at the Varna University of Economics, and in 2020 - with a Master's degree in the same specialty at the same university.

From April 2020 to the end of 2021, the dissertant worked at UKG INC. - Weston, Florida, USA - initially as an application manager of the company's products and later as an application consultant. He is fluent in English. He uses Russian and German.

2. General characteristics of the presented dissertation work

The dissertation has a total length of 223 pages, of which 178 pages are main text. It is structured in an introduction, three chapters, conclusion,

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appendices and references. The abbreviations used are presented at the beginning in a comprehensive list. The work is illustrated with 33 figures and 15 tables.

The relevance of the topic is defended by highlighting the importance of the real estate market for the development and functioning of the national economy and its sectors.

The object and subject of the study are clearly and precisely defined. The object of research of the dissertation is the residential real estate market in the Republic of Bulgaria, and the subject of research are the processes and the trends in the residential real estate market. Special consideration is given to the peculiarities manifested in the conditions of a global pandemic.

The main objective of the dissertation is a comprehensive study of the residential real estate market in theoretical and practical-applied aspects to reveal opportunities for development in a global pandemic (using COVID-19 as an example). This complex objective is achieved by addressing four research tasks. These tasks relate to the theoretical underpinnings of the residential real estate market, correlations to examine the impact of COVID-19 on the residential real estate market, construction of an integrated model for residential real estate market development, and recommendations for residential real estate market development in a post-pandemic environment. The main thesis of the dissertation is that the global pandemic of COVID-19 affects the residential real estate market in the short term without particularly changing the established development trend in the study period.
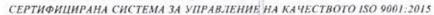
The list of used literature contains 152 references, including 110 scientific publications (in Bulgarian, Russian, Ukrainian and English), 30 normative documents in Bulgarian and 12 official websites.

Methodologically, the research is based on the systematic approach, methods of analysis and synthesis, methods of induction and deduction and statistical-mathematical methods.

A clear and focused research design is a prerequisite for a thorough study.

3. Evaluation of the obtained scientific and scientific-applied results
The main scientific and applied scientific results and findings of the study are:
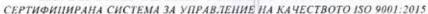
- The nature and specifics of the residential real estate market are clarified through a thorough review of the definitions of a number of authors.
- On the basis of the presented definitions an author's definition of the real estate market is formulated and an author's classification of the objects of the real estate market is developed.

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- The specifics of the real and financial real estate markets in the residential segment are outlined, as well as the main key differences between these two markets.
- The impact of the health crisis on the processes of the residential real estate market and the real estate operations sector is examined.
- It is argued that the impact of the pandemic on the real sector is more significant than on the financial sector.
- It is argued that, in the context of PESTE analysis, macroeconomic factors have a major importance and influence on the development of the residential real estate market.
- A methodology is proposed that allows analysis to determine the significance levels of selected correlations.
- An analysis of regulatory documents in the real estate transactions sector is made. A large number of laws regulating real residential real estate and a much smaller number of laws regulating the financial market are found.
- Differences between the legislation in Europe and Bulgaria in the field of residential real estate are identified. The main differences concern the levels of taxation and how they are determined.
- Similarly to the situation in the global housing markets, Bulgaria experienced an initial market downturn in the immediate aftermath of the pandemic, which was offset by significant growth later.
- The study shows a strong correlation between the Consumer Price Index and the House Price Index for the period 2016-2022.
- The security of some key markets, such as real estate, as well as the stability of the financial sector, have been shown to be a key prerequisite for the rapid recovery from the effects of the COVID-19 crisis compared to 2008.
- It has been found that there is currently no consolidated indicator in Bulgaria that characterises the ability of population groups to purchase real estate.
- It is proposed to use the affordability ratio to further investigate the purchasing ability of specific population groups and their impact on the residential real estate market.
- The concept of financialisation of the real estate market is analysed and the threatening trend of widening inequality and increasing economic and social vulnerability is identified.
- A matrix model is proposed to forecast the development of the housing market and to suggest remedial actions.
- The need to monitor the development of the housing market in the country and its accessibility to specific at-risk sector groups is identified.

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- Possible regulatory actions concerning amendments to the Law on Local Taxes and Fees, the Law on Value Added Tax, the Law on Personal Income Taxes and the Law on Territorial Administration are proposed.
- The need to solve problems related to population density in densely populated areas is pointed out. A potential solution is to measure population density in specific urbanized regions. If a legal standard is exceeded, building permits could be reduced. Accordingly, construction in specific regions where population densities are significantly below average should be incentivised.
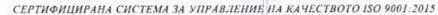
In conclusion, the author summarizes the results and indicates the fulfillment of the goals and objectives of the research plan.

4. Evaluation of scientific and scientific-applied contributions

In this review I would like to pay special attention to the contributions of the thesis. From the outset, I would like to stress that I accept the substance of the author's contributions. In addition to this, however, I cannot help but note that he has, in my opinion, shown unnecessary modesty. In brief, the dissertant has indicated the following contributions, which he himself has defined as theoretical and practical:

1. The concept of "residential real estate market" is refined and an improved classification of real estate types is proposed.

2. Correlations between significant characteristics of the residential real estate market with selected macroeconomic aggregates are investigated.

3. Based on the affordability coefficient, an adapted model is proposed to diagnose market development opportunities in a global pandemic and post-pandemic environment.

4. On the basis of the model defended in the dissertation, pragmatic amendments and additions to the current legislation are proposed to support the regulation of the housing market in the Republic of Bulgaria.

My personal opinion regarding the first contribution mentioned is that it is clearly a full-fledged authorial definition, not a refinement of other people's definitions. For the purposes of the study, the author's attention is focused on the relevant characteristics of the residential real estate market and the definition is derived on that basis. Very interesting is also the question of the classification of the types of real estate derived by the author. Classification is a strong cognitive tool, as is, by the way, the definition. They are often underestimated, especially if they are not directly linked to the purpose of scientific knowledge. In this case, this is far from being the case. Both definition and classification are the first step towards successful research, as developed in chapters two and three. The author uses them to analyse a multitude of processes and phenomena occurring in the context of the financial crisis, the pandemic and its aftermath.

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E.g., the author examines the impact of proptech and financialisation on housing markets. The former is a tool used to increase the competitiveness of companies, while the latter is an objective trend that strongly influences the state of the market. These two different but relevant phenomena are united by something. And it is that both are knowable with the help of the tools outlined in the first chapter of the thesis - the definition of the market and the classification of market objects. Of course, these two phenomena are only brought out as an example, since the author analyses many other processes and phenomena related to the COVID-19 pandemic.

It should be emphasized, however, that the Bulgarian scientific literature has not addressed the issues of the financialization of residential real estate and its impact on housing prices and affordability. In this sense, the study is innovative and poses new research problems.

In conclusion, I believe that the contributions of the thesis can be formulated as follows:

1.   An author's definition of the term "residential real estate market" is formulated for the purpose of the study.

2.   The author's classification of the types of real estate is derived.

3.   Correlations between significant characteristics of the residential real estate market and selected macroeconomic aggregates are investigated.

4.   Based on the affordability coefficient, an adapted model is proposed to diagnose market development opportunities in a global pandemic and post-pandemic environment.

5.   On the basis of the model defended in the dissertation, pragmatic amendments and additions to the current legislation are proposed to support the regulation of the housing market in the Republic of Bulgaria.

I define the first two contributions as scientific and the following ones as scientifically applied.

5. Evaluation of dissertation publications

The doctoral candidate has submitted four publications on the topic of the dissertation, which have been published in the period 2021-2023. All publications are independent and written in Bulgarian.

The titles of the publications cover different aspects of the topic and research of the dissertation. By publishing them, the PhD student has informed the scientific community about an essential part of his search and research results.

6. Evaluation of the Abstract

An Abstract in a total of 42 pages has been submitted for review of the thesis. The abstract contains four structural components: a general description of

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the dissertation, a short table of contents, a reference to the contributions and publications on the topic of the dissertation.

The abstract is well structured. The level of coverage of the dissertation content in the abstract is sufficient to form a general picture of the research conducted.

7. Criticisms, recommendations and questions

My critical comments on the thesis are the result of my personal conviction that any phenomenon can be analyzed and studied from different perspectives. In this sense, my remarks do not express disagreement with the author, but are a view from a different angle. I also have critical comments on the format of presentation, layout of tables and figures, etc. They are not significant and do not change the overall positive perception, so I will not pay attention to them.

It will be interesting for readers to see how the PhD student sees the role of financialisation in the residential property market in the future. My impression from the presentation is that the author considers this to be a negative trend, leading to speculative price rises, reducing the affordability of residential property and forming social inequalities. In this context, I would like to ask the doctoral candidate two questions:

1. Are we justified in considering the financialisation of the residential property market as a consequence of the COVID-19 pandemic?

2. What should be the actions of public authorities if they seek to pursue social policy for affordable housing under these conditions?

8. Conclusion

The proposed dissertation by Alexander Deyanov Yordanov on "Development of the Residential Real Estate Market in the Conditions of a Global Pandemic" meets the requirements of the Academic Staff Development Act in the Republic of Bulgaria (ASDA) and its Implementing Regulations.

The dissertation is an independently completed study. The research objectives have been fulfilled and the goal has been achieved. The results and contributions warrant a high evaluation of the dissertation.

On the basis of the above, I confidently recommend to the esteemed members of the Scientific Jury to award Alexander Deyanov Yordanov the educational and scientific degree of Doctor in the professional field 3.8 Economics, scientific specialty 3.8 Economics and Management (Construction and Real Estate) at IU - Varna.

31.08.23/ Sofia   Signature:

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(Prof. Georgi Zabunov)

R E V I E W

For the dissertation work of doctoral student Alexander Deyanov Yordanov on the topic "Development of the residential real estate market in the conditions of global pandemic" for the acquisition of educational and scientific degree "Doctor" in professional field 3.8. Economics, scientific specialty - Economics and Management (Construction and Real Estate)

Reviewer: **Prof. Dr. Plamen Blagov Iliev** from the University of Economics - Varna, field of study 3.8. "Economics"

Dear members of the Scientific Jury,

On the basis of the Order No. RD-06-77/05.06.2024 of the Rector of the University of Economics - Varna and the decision of the Scientific Jury of 10.06.2024 for the appointment of reviewers, I present the review of the dissertation of Alexander Deyanov Yordanov on "Development of the residential real estate market in the conditions of global pandemic" for the degree of Doctor of Education and Science in the professional field 3.8. Economics, scientific specialty - Economics and Management (Construction and Real Estate). The review complies with the requirements of the Academic Staff Development Act in the Republic of Bulgaria (ASDA) and the Regulations for its implementation (RASDA), as well as with the Rules for the Conditions and Procedure for the Acquisition of Scientific Degrees and the Holding of Academic Positions at the University of Economics - Varna.

1. Details of the applicant

Alexander Deyanov Yordanov has completed his higher education at the University of Economics - Varna (Bachelor of Business Economics in 2019 and Master of Business Economics in 2020). The PhD student starts his business career in 2020 at UKG INC. - Weston, Florida, USA, as a consultant and implementations manager, a position he still holds.

After being enrolled in a full-time PhD program (Order No. RD-17-417/02.03.2021) in 2021, the PhD student successfully passed the exams of the individual plan.

It can be summarized that Alexander Deyanov Yordanov fully complies with the general requirements set forth in the Law on Research and Development and the Rules for the Acquisition of Scientific Degrees and Academic Positions at the University of Economics - Varna.

2. General presentation of the dissertation

The chosen topic of the study is characterized by relevance and importance for the theory and practice due to the place of the real estate sector in the national economy and especially the dynamics of the residential real estate market in Bulgaria.

The choice of the research topic is timely (hitherto unknown conditions of a global pandemic), the issue is insufficiently developed in theoretical and practical-applied aspect internationally and in Bulgaria in particular.

In order to conduct the research on the chosen topic, the candidate has successfully formulated its object, subject and purpose, which are well linked and meet in their scope and nature the requirements for dissertation research. A research thesis has been formulated, a rich methodological toolkit has been used, a model has been developed to determine the opportunities for development of the residential real estate market and possible regulatory actions in this market have been indicated.

In the dissertation, a total of 110 literature sources in Bulgarian, Russian and English (31 in Cyrillic and 79 in Latin, respectively), as well as 30 sources representing laws and regulations of the current Bulgarian legislation are mentioned. Bulgarian and foreign websites (29 sources) were used. 15 tables, 33 figures and 8 annexes are correctly formatted. The above mentioned gives grounds for the conclusion that the PhD student knows the specialized literature and the achievements in the specific scientific field, which is a prerequisite for discovering unsolved problems, for systematizing and forming scientific theses, successfully conducting a comprehensive study and presenting it comprehensibly and accurately.

Based on the above, it can be summarized that the presented study meets the requirements for acceptance as a complete dissertation.

3. Assessment of the structure and content of the dissertation

Structurally, the dissertation includes an introduction, three chapters, a conclusion, appendices, and sources used. The exposition within the mentioned structure is logically sound and supports the achievement of the formulated aim and the solution of the specific tasks. The total length of the dissertation is 224 pages, including a table of contents and preface of 9 pages, a main text of three chapters with a total of 179 pages (chapter one of 73

pages, chapter two of 62 pages and chapter three of 44 pages), a conclusion of 5 pages and appendices and references and websites used of 31 pages. The structure of the study can be described as relatively balanced and meeting the requirements for a dissertation.

The introduction clearly states the object and subject of the study (p. 7). The formulated aim in the dissertation shows that the purpose of the conducted scientific research is clearly and argumentatively expressed and the same can be accepted as significant for the theory and practice in Bulgaria. The main aim is specified in four research tasks, which are successfully solved in the three chapters of the dissertation.

The methods used in the research are in the context of the systematic approach, are largely determined by the nature of the research and include systematic and comparative analysis, the statistical-mathematical method (when processing and systematizing statistical data), the methods of induction and deduction and others.

In Chapter one, the main theoretical aspects of the real estate market are discussed. It explores the nature of some basic concepts in the field of real estate, arriving at a refined definition of the term "residential real estate market" and presenting a classification of real estate market entities, as well as clarifying the relationships and interactions between real estate market entities (§1.1. and §1.2.). In the third paragraph the factors influencing the functioning of the residential real estate market are highlighted. A particular point in this paragraph is the system of indicators used for the purpose of sector analysis by applying a broad-spectrum model (PESTE) including political, economic, social, technological and environmental aspects.

The results of the research in chapter one are framed and presented in a comprehensible, logical and precise manner and the PhD student resolves the first scientific task within the dissertation.

Chapter two covers the study of the regulatory framework of the Bulgarian residential property market, presenting comparative data on this type of regulation in other European countries (Italy, France and Germany) - § 2.1. The second paragraph examines the impact of the COVID-19 pandemic on selected macroeconomic indicators and the residential real estate market in Bulgaria and leading countries worldwide. A number of indicators, such as building permits issued and residential buildings commissioned, changes in the number of transactions and residential property prices, etc., are examined with a view to correlating them with the impact of COVID-19 on them, and several important conclusions are drawn regarding the impact of the pandemic on the residential real estate market. The third paragraph of Chapter

two is devoted to the study of correlations between selected macroeconomic aggregates and indicators determining the trends in the housing market. The author justifies the linkage of the housing market to leading macroeconomic factors, making it relatively predictable. Along with this, several factors such as disrupted supply chains, population density, and building material prices are highlighted to be highly correlated with the effects of the pandemic, leading to difficulties in predicting future market trends. The author's ability to work with the statistical software SPSS stands out.

There is an attempt to systematize and take a reasoned position, and this is especially evident in the reasoned generalizations resulting from the broad macroeconomic analysis. The PhD student has solved the second scientific task in the research.

Chapter three of the dissertation presents solutions of an applied nature concerning the opportunities for the development of the residential property market in Bulgaria in the post-pandemic period. In the first paragraph, leading global practices for assessing the state of the housing market are presented, focusing on the post-pandemic period. A particular emphasis in this chapter is the model proposed by the PhD student for determining the opportunities (direction) for the development of the residential real estate market, which is based on the relationship between household income through the affordability ratio and the residential real estate price index (§ 3.2.). The third paragraph presents the author's view on possible regulatory actions at national level to influence the development of the housing market in Bulgaria.

In chapter three of the dissertation the doctoral candidate has highlighted a number of unresolved or partially resolved issues on the specific problematic, taking a reasoned position, which allowed him to solve the third and fourth main task of the research.

In the conclusion, the author has presented in good faith and accurately the main scientific results obtained from the overall research in the dissertation.

4. *Identification and evaluation of the scientific and applied contributions in the dissertation*

On the basis of the overall dissertation, it can be judged that the four contributions mentioned in the author's summary of the dissertation faithfully reflect the achievements of the PhD candidate. They are expressed in the following:

- an extensive literature review has been carried out and a number of theoretical generalizations have been made (completed definition of the concept of "residential real estate market", proposed improved classification of types of

real estate, clarified relationships and interactions between the subjects of the real estate market - § 1.1. and § 1.2.,) which is a theoretical contribution of the candidate, representing an expansion and enrichment of existing knowledge;

- the correlations of the residential real estate market with selected macroeconomic aggregates are examined (§ 2.3.) and an adapted model proposed for diagnosing the opportunities for housing market development in a global pandemic and post-pandemic environment, based on the relationship between household income through the affordability ratio and the residential real estate price index (§ 3.2.), which is a theoretical contribution that represents an extension and enrichment of existing knowledge as this has allowed to obtain new significant theoretical and practical scientific facts;

- the results of the analysis and the study of good international practices (chapter three) outline possible regulatory actions at national level to stimulate the development of the housing market in Bulgaria (§ 3.3.), which qualifies as a scientific and applied contribution.

5. Publications and participation in scientific forums

Together with the dissertation the PhD student has submitted:

- one article with a total length of 10 standard pages and three reports, all publications are independent and reflect the main points of the dissertation;
- a summary of the dissertation of 42 pages (including a reference to the scientific and applied results in the dissertation), which is well structured and gives a reasonably complete and correct picture of the dissertation.

6. Plagiarism found or not found in the dissertation and summary

No plagiarism was found in the dissertation and summary.

7. Critical comments, recommendations and questions

The following critical comments, recommendations and questions can be addressed to the PhD student:

- the tasks mentioned in the preface of the dissertation could be reduced into three by merging the third and fourth tasks. In this way the three tasks would correspond to the three chapters in the thesis (p. 8);

- regarding the broad-spectrum model (PESTE) presented in § 1.3, including political, economic, social, technological and environmental factors, and given the peculiarities of the post-pandemic period in Bulgaria, it is necessary for the author to express a position on the degree of influence and significance of individual groups of factors;

- based on the thoroughly presented methodological toolkit for determining the development of the real estate market in § 3. 2 and given the emergence of indications of rising unemployment in some major economies in the world and the state of recession in some European economies, it would be beneficial for the author to present his assumption on the trends in the development of the housing market in Bulgaria in the next one-year period, i.e. which are the possible scenarios from the four quadrants of the matrix presented in Fig. 25 (p. 160);

- with regard to the options for changes in the regulatory framework for the functioning of the housing market discussed in the third chapter (§ 3.3.), the candidate should point out which of the discussed European practices could be applied in Bulgaria.

8. Conclusion

The dissertation submitted for review shows that the doctoral candidate has chosen for his research an actual and significant for the science and public practice economic problem. Within the framework of the presentation, he has given his views, findings, conclusions and recommendations in a well-reasoned way. As a result, the study contains a number of scientific and scientifically applied contributions.

It is with conviction that I recommend the members of the Scientific Jury to vote for the award to **Alexander Deyanov Yordanov** of the educational and scientific degree "**Doctor**" in the scientific specialty - Economics and Management (Construction and Real Estate).

Varna, 30.08.2024

Reviewer:

Заличена информация съгласно ЗЗЛД и регламент (EC) 2016/ 679

(Prof. Dr. Plamen Iliev)