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The Chairman of the Scientific Jury, Professor Bozhidar Violinov Bozhinov DSc for awarding the educational and scientific degree "Doctor" field of higher education: 3. Social, economic and legal sciences professional field: 3.8. Economics Doctoral Program "Finance, Money Circulation, Credit and Insurance (Finance)" Dimitar Apostolov Tsenov Academy of Economics - Svishtov

REVIEW

by Professor Sava Hristov Dimov PhD

for awarding an educational and scientific degree "D o c t o r" to PhD student Borislav Krasimirov Kirov, D020217155, under an open procedure for public defense of a dissertation

I. Reference information.

| 1. | Reason for writing the review. | Order №1036, Svishtov, 02-12-2021 of the Rector of S "D. A. Tsenov"- Svishtov Professor Dr. Mariar Bozhinova. | |
|----|--------------------------------|---|--|
| 2. | Author of the dissertation. | PhD student Borislav Krasimirov Kirov, D020217155 | |
| 3. | Dissertation topic. | "Investing in mortgage bonds". | |

II. General presentation of the dissertation.

| № | Indicators | Contents | Reviewer's rating | Poin ts |
|----|-----------------------------|--|--------------------------------------|-------------|
| 4. | Subject of the research. | The retrospective, diagnostic and prognostic analysis of the mortgage market for the period 2010-2020 in the context of its transformation into a covered bond market. (p. 7 of the Dissertation) | Very high. | 10 (max) |
| 5. | Volume of the dissertation. | The dissertation has a volume of 174 pages, which covers introduction, three chapters, conclusion, cited sources, appendix and other reference information. | Very high. The volume is sufficient. | 10 |
| 6. | Structure. | Logically justified structure, which includes: <i>Introduction</i> Principally includes - object and subject of research, thesis, main goal, research tasks and methods used. First chapter Analysis of current financial practices in collateral for mortgage bonds. (pp.11-56) Chapter Two | Very high. | 10 |

| | | International regulatory standards and their impact on mortgage lending and investment in mortgage and covered bonds. (p.57-85) Chapter three Credit and investment risk management in mortgage and covered bonds. (p.86-145) Conclusion The author presents the conclusions and results of the research in 8 fields. Cited and used sources Applications - 7 independently. Reference information - Declaration of authenticity and originality of the dissertation Author's publications on the topic of the dissertation. | | |
|----|------------------|--|---|----|
| 7. | Research thesis. | PhD student Kirov verifies the thesis "that achieving an optimal balance in the development of the real estate market, mortgage loans, regulatory rules and investments in mortgage/covered bonds is an important factor for achieving long-term stability of credit institutions, financial markets and the economy." | Very high. A reasoned thesis. | 10 |
| 8. | Used literature. | ✓ The cited and used sources are listed on pages 151-161. According to my calculations, they are as follows: - Cyrillic = 83 pieces, (56.08%); - Latin (English) = 45, (30.40%); - Regulatory framework = 10, (6.76%); - Internet sources = 10, (6.76%). Total: 148 ✓ In my opinion, the empirical material used in places is "outdated", for example, in vol.4, Chapter 3, Fig. 11.12, pp. 131, 133; Table 2, 3, pp. 138, 139. (2010) | Good. Some adjustments are acceptable, namely: • a certain standard for citation has not been used, especially in web resources. See: Citation & Referencing: Harvard Style (Citation & Referencing: Harvard Style). • the display of information resources is chaotic, without numbering, in a broken alphabetical order; • incomplete writing of the literature and websites used. | 5 |

| 9. | Applications | There are 7 applications, namely: | Very high. | 10 |
|----|--------------|---|------------|----|
| | | - Appendix 1. Press release of the BNB of | , , | |
| | | September 30, 2021 | | |
| | | - Appendix 2. Review of asset quality. | | |
| | | - Appendix 3. Different risk and return for | | |
| | | different investors. | | |
| | | - Appendix 4. Repurchased mortgage bonds | | |
| | | from the Fed in the period 2009-2020. | | |
| | | - Appendix 5. Dynamic changes in interest | | |
| | | rates on mortgage loans in the period 2009- | | |
| | | 2020. | | |
| | | - Appendix 6. Disposable income from labor, | | |
| | | wealth, change in loans, consumption. | | |
| | | - Appendix 7. Disposable income from labor, | | |
| | | wealth, change in loans, relative price, | | |
| | | consumption. | | |
| | | | | |

III. Assessment of the form and content of the dissertation.

| 10. | Assessment of the relevance of the scientific problem developed in the dissertation. | The topicality of the problem studied in the dissertation is respectable. The author has managed to discover new trends, covering investments in mortgage / covered bonds. The impact of the 2008-2009 crisis and the covid pandemic has been shown. | Very high. | 10 |
|-----|--|---|------------|----|
| 11. | Analysis of the degree of development of the researched issues. | PhD student Kirov could differentiate Literature review (Discussion) to the individual chapters of the dissertation. This has only been done in some parts of the dissertation. | Very good. | 6 |
| 12. | Opinion on the volume of the dissertation. | In my opinion, the achieved volume is quite sufficient to show the results of the study. | Very high. | 10 |
| 13. | Opinion on the quality and number of proposed illustrative material. | The author of the dissertation has used many diagrams, schemes, tables and figures. In this endeavor, he borrowed some non-author's diagrams ("photographs") and figures, for example on pp. 21, 38, 41130, 133. | Good. | 5 |
| 14. | Attitude in scientific, linguistic and stylistic editing. | The materials provided to me for scientific review are easily intelligible. In places, there are grammatical errors, pp. 4, 5, 35, 48, 61, 72127, 148. The British-American terminology used should be checked. | Good. | 5 |

| 15. | Assessment of the correctness and the need for statistical processing of empirical data. | It is necessary that the dissertation has gone through a style revision. PhD student Kirov has correctly used statistical information in processing empirical data. | Very high. | 10 |
|-----|---|--|------------|----|
| 16 | Opinion on the extent to which the candidate has followed the rules of scientific ethics. | I personally have not established plagiarism or "theft" of other people's scientific work, thoughts, ideas and their presentation as the author's own. | Very high. | 10 |
| 17. | Opinion on the extent to which the abstract accurately and fully reflects the work. | The abstract is 48 pages long. It follows the main content of the dissertation. It reflects the researched problems, results and evidence from the research in abbreviated form. | Very high. | 10 |
| 18. | Other scientific production related to the dissertation. | SCIENTIFIC INDICATORS show that PhD student Kirov meets the minimum requirements for the award of educational and scientific degree "Doctor", as follows: > Indicator 1 = 50 points > Sum of indicators from 4 to 10 = 40 points, which include: - 1 article = 10 points; - 3 individual reports (plus 1 co-authored with Assoc. Prof. Dr. Valentin Milinov) = 30 points; > Indicator 9, 1 study = 15 points. Total for group of indicators D = 55 points. (REFERENCE for fulfillment of the minimum national requirements) | Very high. | 10 |

IV. Scientific and scientific-applied contributions of the dissertation.

| 19. | New scientific idea and results. | a. Analysis of mortgage lending, which performs an important socio-economic function. | Very high. | 10 |
|-----|----------------------------------|---|------------|----|
| | | b. Study of the possibilities for balanced development and the impact of modern international regulatory standards on the dynamically developing mortgage market. | | |

| | | c. Carrying out a prognostic-identification analysis of the risks and benefits for credit institutions, after the adoption of the new European legal framework for covered bonds. | | |
|-----|---|---|------------|----|
| | | d. Preparation of recommendations and conclusions about possible effects and risks for institutional investors. | | |
| | | e. Critique of the wrong approach to US-adopted "structural securitization". | | |
| 20. | Echo and vocation in the specialized scientific literature. | | Very high. | 10 |

V. Total points collected.

| Maximum number of points | Points awarded by the reviewer | Percentage of the maximum |
|--------------------------|--------------------------------|---------------------------|
| 170 points. | 151 points. | 88.82% |

VII. Critical notes, questions and recommendations on the dissertation.

| 24. | Critical remarks. | I have no other serious critical remarks on the dissertation of doctoral |
|-----|-------------------|--|
| 24. | Critical remarks. | student Borislav Krasimirov Kirov. |
| 25. | Questions. | In the specialized financial literature, the opinion (Stéphane Hadet and Christian Azoulay, December 21, 2021) that "Covered bonds are debt obligations issued by credit institutions and secured against a ring-fenced pool of assets which offer a dual recourse protection for bondholders: they have direct recourse as preferred creditors and, at the same time, they remain entitled to claim against the issuing entity as ordinary creditors". How could you comment on that? Do you share this opinion, or not? 2nd question. Could you point out some of your arguments in favor of your position that the terms "mortgage" and "covered" bonds are synonymous? (p. 9, Abstract) |

VIII. Summary assessment of the dissertation and conclusion.

<u>Summary assessment (Conclusion)</u>: completely positive, including the viewpoint - I, as a member of the scientific jury, will definitely vote with a clear "YES" for awarding the educational and scientific degree "DOCTOR" in the professional field: 3.8. ECONOMICS to BORISLAV KRASIMIROV KIROV. After the general vote, I would like to congratulate the supervisor - Associate Professor Dr. Valentin Ivanov Milinov.

Date: December 27, 2021.

BFU - Burgas

Prepared a scientific review: (Professor Dr. Sava Dimov)