APPROVED
Vice-Rector for Scientific Research
of the West Ukrainian National University
_____ Mykola DYVAK
24.12 2024

CONCLUSION

on the scientific novelty, theoretical and practical significance of the results of the dissertation by Zhong Demin on the topic: "Benchmarking the formation of circular clusters", submitted for the degree of Doctor of Philosophy in the field of knowledge 29 - International Relations in the specialty 292 - International Economic Relations

EXTRACT

from the minutes of the meeting of the professional seminar of the Department of International Economics
of the West Ukrainian National University
of "December 23", 2024, No. 10

PRESENT: Head of the Department of International Economics, Doctor of Economics, Professor Zvarych I.; Professor of the Department of International Economics, Doctor of Economics, Professor Saveliev E.; Head of the Department of International Economic Relations, Doctor of Economics, Professor Zvarych R.; Professor of the Department of International Economics, Doctor of Economics, Professor Kurylyak V.; Professor of the Department of International Economics, Doctor of Economics, Professor Lishchynsky I.; Professor of the Department of International Economics, Doctor of Economics, Professor Lyzun M.; Associate Professor of the Department of International Economic Relations, Candidate of Economics, Zhyvko M.; Deputy Director of the NNIIPI, Doctor of Economics, Borisyak O.; Associate Professor of the Department of International Economics, Candidate of Economics Associate Professor Herman L.; Associate Professor of the Department of International Economics, Candidate of Economics, Associate Professor Karas O.; Senior Lecturer of the Department of International Economics, Candidate of Economics, Kurylyak M.; Lecturer of the Department of International Economics, PhD, Ivashchuk O.; Postgraduate Student Vankevych I.; Postgraduate Student Drapak T.

AGENDA

Discussion of the dissertation research of the doctoral candidate Zhong Demin on the topic: "Benchmarking the formation of circular clusters", submitted for the degree of Doctor of Philosophy in the field of knowledge 29 - International Relations in the specialty 292 - International Economic Relations regarding its recommendation for defense.

LISTENED TO:

1. Report by PhD candidate Zhong Demin on the results of the dissertation research on the topic "Benchmarking the formation of circular clusters".

Zhong Demin reported on the results of the research, substantiated the relevance of the topic, revealed its goal, objectives, object and subject of the research. He noted that the research offers a new approach to the scientific assessment of progress in the high-tech zone of Xinyu city. The circular economy and the global economy are growing rapidly together with industrial clusters.

The purpose of the dissertation is to deepen the theoretical concepts of the formation of circular clusters and develop applied recommendations for improving the level of development and quality of industrial clusters as a result of empirical research. The main objectives of the research are to build a system for assessing the circular economy, develop a method for assessing industrial clusters, and conduct a case study to analyze the formation of circular clusters and the level of their development. The object of the research is the city of Xinyu, Jiangxi Province, China. The subject of the study is benchmarking management in the formation of a circular economy using the example of Xinyu City in Jiangxi Province.

Zhong Demin outlined the scientific novelty and practical value of the results obtained, emphasized that the modern globalized world is impossible without a thorough and effective study of the circular economy, reuse, reduction and recycling of waste; noted that the study consists of a substantiated model of the circular economy industrial cluster, consisting of three subsystems: the natural circulation subsystem, the business cycle subsystem, and the comprehensive circulation system, which is called the "Natural Economy". The creation of an indicator system of the circular economy and assessment methods, including the general welfare index, the method for assessing the strength of industrial clusters and the environmental index, is proposed. The work systematizes China's many years of success in the development of the circular economy, and also substantiates the need for "fresh" ideas in the face of new economic challenges to make this economy sustainable and efficient. A comparison of resource and environmental indicators was conducted. It was found that the formation of circular clusters contributes to the sustainable and efficient development of the economy.

It is argued that the success of the Xinyu High-Tech Zone has made significant progress in the development of the circular economy, but faces difficulties and challenges. The development paths of the circular economy in the Xinyu High-Tech Zone are analyzed, and a significant increase in the economic index over the past decade and the achievement of peak indicators and a gradual decline in the development indices of resources and ecology are revealed, which indicates the need for sustainable use of resources and environmental protection.

A comparative analysis of the correlation index between the Xinyu Industrial Park and domestic and international industrial parks is conducted.

The need to implement a strategy to increase the efficiency of resource use by the Xinyu zone and create a circular economy model is argued.

New approaches to solving environmental and economic problems are proposed.

In the process of scientific research, other scientific results were also obtained that are distinguished by scientific novelty and have important practical and theoretical significance.

The dissertation also indicated the testing of the obtained research results, their practical implementation and the main publications on the topic of the dissertation.

1. Questions to the dissertation.

The dissertation was asked questions by the participants of the meeting, in particular:

1) Deputy Director of the NNIIPI, Doctor of Economics, Borisyak O.:

- What benchmarking-based assessment indicators do you propose in your work to analyze the effectiveness of the regional development of circular clusters in China?
- What advantages do the circular economy strategies you propose for the formation of circular clusters in China have: government support, technological innovations, improving market mechanisms and increasing the level of education of the population?

2) Professor of the Department of International Economics, Doctor of Economics, Professor Lishchynsky I.:

- Explain in more detail the general scheme of planning a circular economy in high-tech zones (Fig. 3.10). How can circular clusters be applied?
- In the third section, you propose a "New Model of the Circular Economy". What is your personal contribution to this model?

3) Associate Professor of the Department of International Economic Relations, Candidate of Economics, Zhyvko M.:

- How are different theories of the circular economy interconnected and what are their limitations in solving complex formations of industrial clusters?
- What are the main challenges you identified when developing a system of assessment indicators for the development of a clustered circular economy, and how does this system ensure comparability between different industries?

4) Head of the Department of International Economic Relations, Doctor of Economics, Professor, Zvarych R.:

- How does the system of assessment indicators for regional development of the circular economy differ from traditional metrics of sustainable development, and what advantages does it offer for policymaking??
- In the case of the high-tech zone of the city of Xinyu, how do local socio-economic and environmental factors influence the evolution of the development path of the circular economy?

5) Professor of the Department of International Economics, Doctor of Economics, Professor Saveliev E.

- What systemic barriers exist in the high-tech zone of the city of Xinyu that hinder the successful implementation of the principles of the circular economy, and how can they be overcome through innovative political or technological solutions?

6) Associate Professor of the Department of International Economics, Candidate of Economics, Associate Professor Herman L.:

- How can the benchmarking model proposed for the new circular economy be adapted to promote interregional cooperation and knowledge exchange between similar industrial zones?

The PhD candidate, Zhong Demin, gave comprehensive and thorough answers to the questions posed, which characterizes his scientific maturity.

1. Conclusion of the scientific supervisor of the head of the Department of International Economics, Doctor of Economic Sciences, Professor Zvarych Iryna (conclusion presented).

Zvarych I. emphasized the relevance of the topic of the dissertation research, its practical significance, because the scientific substantiation of benchmarking as a management tool to support the formation of a circular economy in the face of global challenges. The obtained results of the study by Zhong Demin are characterized by scientific novelty and are the basis for further development of theoretical and practical aspects of resource efficiency and waste management, thus promoting the formation and development of circular clusters. In the process of research, a mathematical apparatus was used, which makes it possible to evaluate and verify the hypotheses put forward, as well as to build predictive models.

The supervisor noted that for the first time, the work developed a methodological approach that reflects the assessment of the development of the regional circular economy. through a system of indicators to classify it by characteristics in the provinces of China, and conducted a spatial distribution of the circular economy and classified regions accordingly by the use of China's resources; a model for the development of the regional circular economy was developed and an analysis of the evolution of the development path of circular economy clusters was carried out.

The supervisor emphasized that a new method for assessing the development of the regional circular economy was presented using the primary index system to highlight the main components and increase scientific significance using AHP assessment. It comprehensively assesses the economy, resources, efficiency and various aspects of the development of the regional circular economy using AHP hierarchical analysis. The dissertation work on this topic is quite multifaceted and complex.

The supervisor noted that the doctoral candidate in his research emphasizes that clusters are defined as factors of the circular economy and efficient use of resources. Companies strive to increase competence and create competitive advantages in the conditions of global competition, and this can be achieved by using a common and accessible pool of resources, information and demand for innovation, which means that companies can profit from belonging to a cluster.

In general, the work is carried out at the proper scientific and applied levels, has a clear structure and logic of the presentation of the material. While working on the scientific research, the author has studied a large amount of Chinese and international literature, which indicates a thorough approach of the applicant to the selection of materials on the topic of the dissertation. The work in terms of content, form and title - complies with the specialty 292 "International Economic Relations", the requirements of the Procedure for Awarding the Degree of Doctor of Philosophy and the Cancellation of the Decision of the One-Time Specialized Academic Council of an Institution of Higher Education, a Scientific Institution, approved by the Resolution of the Cabinet of Ministers of Ukraine dated January 12, 2022 No. 44.

Speakers:

Reviewer, Doctor of Economics Borisyak O. noted that the topic of Zhong Demin's dissertation "Benchmarking the formation of circular clusters" is relevant in two aspects. First, the study is devoted to the circular economy, in particular the formation of circular clusters, which serves as a springboard for sustainable development. Limited access to natural resources, especially natural energy resources, agricultural resources, as well as the increasing impact of climate change require a review of approaches to environmental management. The principles of resource efficiency and climate neutrality are priorities for the global economy. The transition to circular resource use is aimed at achieving sustainable development. Secondly, to conduct the study, the applicant uses benchmarking tools aimed at studying the best global practices in the formation of circular clusters. The results obtained are valuable for China, which promotes a policy of a circular economy and faces such problems as low resource efficiency and pollution. Therefore, referencing global benchmarks and adapting strategies to the Chinese context are strategically important.

The applicant analyzed the circular economy index system as an important basis for assessing the development level of the circular economy in China. Index systems reflect the development of the circular economy from many dimensions and provide a scientific basis for policy development and decision-making. The structure of the thesis is logical. It includes research on the theoretical foundations of the circular economy, benchmarking the circular economy for cluster formation, constructing an indicator system for evaluating the development of the cluster circular economy, empirically analyzing the development of the circular economy within the framework of the evaluation system, the path of evolution, indicating the objects of Xinyu City for the formation of circular clusters, and proposing a benchmarking model of a new circular economy model. The thesis explores the relationship between benchmarking in the circular economy and scientific planning, providing theoretical ideas for both research and practice.

The reviewer noted several comments that could improve the work:

It is advisable to indicate evaluation indicators for analyzing the effectiveness of the regional development of circular clusters in China based on benchmarking;

It is recommended to describe the benefits of the following circular economy strategies for the formation of circular clusters in China: government support, technological innovation, improvement of market mechanisms and public education;

It would be advisable to detail the strategic directions for implementing the proposed new circular economy model based on benchmarking for other Chinese cities;

It would be advisable to develop support measures for the system of interaction between enterprises, industrial parks and the government at the micro level of regional circular economy development in China;

The value of the results would increase if models were used in Section 2 to compare the example of not only the high-tech zone in Xinyu City, but also other Chinese cities. The reviewer noted that the above remarks are of a clarifying nature and do not diminish the positive assessment of Zhong Demin's dissertation, which is an

independently completed scientific work and is recommended for defense for the degree of Doctor of Philosophy in the specialty 292 "International Economic Relations".

The reviewer, Candidate of Economic Sciences Zhyvko M., noted that this dissertation is a significant contribution to the understanding of the formation and development of circular clusters through the application of benchmarking. The study enriches the theoretical basis of the circular economy by integrating the principles of cluster development with benchmarking methods, contains a comprehensive overview of circular economy theories and their application to sustainable regional development. It is demonstrated that benchmarking is an effective tool for the formation and improvement of circular clusters. The study identifies key indicators of successful clusters, which are valuable guidelines for regions seeking to transition to a closed-loop economy. The dissertation presents a multi-factor system of assessment indicators that considers environmental, economic and social aspects. This system offers a structured approach to assessing the performance of a circular cluster, allowing stakeholders to track progress and identify areas for improvement. The thematic study of the Xinyu High-Tech Zone highlights both opportunities and challenges in implementing circular economy initiatives. It serves as a practical example of how clusters can develop and succeed in specific regional contexts, providing a roadmap for other regions. The study identifies critical barriers to circular cluster development, including regulatory gaps, insufficient funding, and lack of stakeholder awareness. Addressing these challenges is essential for the widespread adoption of circular economy practices. Practical suggestions are provided to facilitate the development of circular clusters, which include strengthening infrastructure, improving stakeholder collaboration, and leveraging advanced technologies to drive innovation. The proposed benchmarking model integrates global best practices including regional specificities, making it a versatile tool for assessing and promoting circular economy initiatives in different settings. The results of the dissertation offer a theoretical framework for further research and practical application in the development of circular economy.

The reviewer noted that the above remarks are of a clarifying nature and do not diminish the positive assessment of the dissertation work of Zhong Demin, which is an independently completed scientific work, which he supports and recommends for defense for the degree of Doctor of Philosophy in specialty 292 "International Economic Relations".

The following took part in the discussion of the dissertation:

D.Sc. in Economics, Professor, Professor of the Department of International Economics Saveliev E., who noted that, assessing the relevance of the topic, the analytical part, the results and methodology of the research, as well as the use of mathematical methods, there is every reason to believe that the work is thorough and very important today. A reliable system of evaluation indicators for the development of a cluster circular economy has been developed, which serves as the basis for a thorough analysis. The importance of this system lies in the multidimensional nature of the circular economy, including economic, resource and environmental aspects. Taking into account global economic and environmental trends, the work will be of an applied nature and will play an important role in the implementation of a circular economy in the Xinyu High-Tech Zone. Therefore, I believe that Zhong Demin's dissertation is interesting, and the problem raised by the applicant and the supervisor is relevant and significant.

Candidate of Economic Sciences, Associate Professor, Associate Professor of the Department of International Economics Herman L. noted the relevance of the topic and its practical direction. The work successfully emphasized the system of creating a circular economic industrial structure and its key industries, and also made a comparison between the circular economy and the industrial cluster.

Doctor of Economic Sciences, Professor, Head of the Department of International Economic Relations Zvarych R., who noted that the topic is extremely relevant and interesting, because we live in a time of climate change and its direct impact on the economic and socio-political situation in the world. Zvarych R. emphasized that Zhong Demin clearly described the problems and expressed his own proposals for the development of a circular economy using the example of the city of Xinyu. An analysis of the evolution of the development path of a circular economy in this region was carried out, and the problems of its implementation were outlined. This study can also be implemented in Ukraine, because Ukraine is facing infrastructure reconstruction and attracting investments and technologies. The dissertation is innovative with elements of scientific novelty and deserves attention.

Based on the results of the discussion, those present at the meeting

DECIDED:

To adopt the conclusion on the dissertation work of Zhong Demin on the topic: "Benchmarking the formation of circular clusters", submitted for the degree of Doctor of Philosophy in the field of knowledge 29 – International Relations in the specialty 292 – International Economic Relations as meeting the requirements stated for the dissertation, and to propose to the Academic Council of the university to approve the conclusion of the professional seminar.

CONCLUSION

on the scientific novelty, theoretical and practical significance of the results of the dissertation by Zhong Demin on the topic: "Benchmarking the formation of circular clusters", submitted for the degree of Doctor of Philosophy in the field of knowledge 29 – International Relations in the specialty 292 – International Economic Relations

Justification of the choice of the research topic and its connection with the plans of the university's scientific work. At the current stage of development, the global economy faces a number of problems, including rapid population growth, resource scarcity, pollution and degradation of ecosystems, which brings the need for sustainable development to the forefront. One of the key areas for solving these problems is the circular economy. An important role in this is played by the use of benchmarking for managing the circular economy. The circular economy is aimed at maximizing the use of resources and minimizing waste through reduction, reuse and recycling. The index system of the circular economy is an important basis for assessing the level of its development. The cluster circular economy operates within industrial clusters, which is extremely relevant for China, a country that needs to implement models and strategies of a "green" economy. Given the above, the issue of forming a

circular economy and using its tools in the context of the transformation of the world order becomes relevant.

The dissertation is part of a fundamental scientific research project on the topic "National Concept of Eco-Security of Society and Inclusion of the Circular Economy in Pandemic Conditions" (state registration number 0121U109485); fundamental scientific research on the topic "Concept of Recovery and Green Reconstruction of Ukraine" (state registration number 0124U000003); implementation of an international project (Erasmus+ Jean Monnet Module) on the topic "European Inclusive Circular Economy: Post-War and Post-Pandemic Module for Ukraine" (registration number 101085640); Geoeconomic and civilizational challenges of the development of the global economy (state registration number 0121U111077).

Purpose, tasks and methods of the study. Object and subject of the study. The purpose of the dissertation is to deepen the theoretical concepts of the formation of circular clusters and develop applied recommendations for improving the level of development and quality of industrial clusters as a result of empirical research.

In accordance with the stated purpose, the following tasks were identified and solved in the research process:

- to substantiate the role of benchmarking in the practice of the circular economy and provide recommendations for the sustainable development of Xinyu and the wider region;
- to identify the impact of benchmarking on the formation of a circular economy in Xinyu, analyzing strategies for optimizing resources and the efficiency of their use;
- to investigate innovative models and practices of benchmarking in the circular economy of Xinyu, summarizing successful experience for other regions;
- to analyze the impact of benchmarking on the economic competitiveness of Xinyu, emphasizing the role of the circular economy in balancing economic and environmental growth;
- to empirically substantiate the feasibility for governments and departments to formulate precise circular economy policies, promoting healthy development;
- to form a mechanism for analyzing benchmarking in the circular economy:
- to investigate the resource recycling system and the effect of benchmarking based on the analysis of resource optimization strategies and efficiency of their use in Xinyu;
- to analyze the regional adaptability of innovative benchmarking models based on the study of innovative models and benchmarking practices of the circular economy in Xinyu;
- investigate strategies for increasing economic competitiveness from the perspective of the circular economy: analysis of the impact of benchmarking management on the competitiveness of the economy of Xinyu.

Research methods. To achieve the specified goal, the dissertation uses a combination of theoretical, historical, empirical and other research methods. In particular, the dissertation applies: the method of theoretical generalization - to substantiate the theoretical concepts of the circular economy and form the conceptual

apparatus of the study; qualitative and quantitative analysis method to identify the essence of the problem through deductive reasoning; analysis and synthesis methods – to identify circular economy assessment systems, which allows to accurately and objectively reflect the development of the region through data-based calculations; monitoring method – to identify changes in cluster analysis; SWOT analysis method – to identify strengths and weaknesses of the implementation of the circular economy in the region; data processing methods, in particular: statistical analysis method, assessment system with interdependent indicators comprehensively reflects the assessment requirements in a hierarchical structure. Assessment of the development of the circular economy involves assessing the state of the region, determining the weight of indicators and comprehensive analysis. Scientific assessment is important for promoting development. Methods of correlation and regression analysis – to identify dependencies between indicators, cluster analysis – the study uses principal component analysis and AHP to assess the level of development of the circular economy; tabular and graphical methods – to visualize data, main provisions and research results.

The object of the study is benchmarking of circular economy management in Xinyu City, Jiangxi Province.

The subject of the study is the formation of circular clusters when applying benchmarking in Xinyu City, Jiangxi Province.

Scientific provisions developed personally by the dissertation candidate and their novelty. The scientific results characterizing the novelty of the conducted research are as follows:

first:

•a methodological approach was developed, reflected through a system of indicators for assessing the development of regional circular economy for its classification by characteristics in the provinces of China, on the basis of which a spatial distribution of the circular economy was carried out and regions were classified accordingly by the use of China's resources;

•a system of indices for assessing the regional development of circular economy clusters has been proposed based on current legislation, regional experience and 35 indicators in three dimensions of "economy-resource-environment" (indices of economic production (C1), industrial structure (C2), resource consumption (C3), use (C4), waste discharge (C5) and pollution control (C6), as well as their development paths). On this basis, a model for the development of the regional circular economy has been developed and an analysis of the evolution of the development path of circular economy clusters has been carried out;

improved:

•conceptual justification and theoretical positioning of industrial clusters in the circular economy system in the projection of global benchmarking of the formation of circular clusters;

•a system of interaction between enterprises, industrial parks and the government at the micro-level of regional development of the circular economy and a method for measuring the degree of development of industrial clusters;

•the circular economy assessment system of Xinyu High-tech Zone based on benchmarking and three-dimensional characteristics of the circular economy and

resource consumption indicators (B3) and (B4), on the basis of which a matrix of resource use indicators was developed;

further developed:

•conceptualization of key issues in the implementation and operation of circular clusters, in particular in the Xinyu High-tech Zone, including the challenges faced by enterprises, parks and the government in the planning and development of the regional circular economy;

•an ecological mechanism for assessing the transformation of the Xinyu High-tech Zone towards the rapid development of green, low-tech zones, a carbon circular economy and achieving coordinated development of the economy and the environment;

•proposals for the development of circular economy in Xinyu High-tech Zone for planning the industrial chain of the new steel industry of circular economy and the industrial chain scheme of the coal and chemical industry of circular economy based on the used correlation index between Xinyu High-tech Industrial Park and domestic and foreign industrial parks.

The validity and reliability of the scientific propositions, conclusions and recommendations that are defended. The dissertation is an independently performed scientific research. All scientific results presented in the dissertation and submitted for defense were obtained by the author personally. The scientific propositions, conclusions, recommendations formulated in the dissertation are theoretically justified and reliable. The scientific validity and reliability of the main propositions of the dissertation, the obtained results, conclusions and formulated recommendations are ensured through the use of general scientific and special methods of scientific research.

The dissertation is based on the use of a wide factual base and analytical materials of the United Nations, the World Bank, the World Trade Organization (WTO), the United Nations Conference on Trade and Development (UNCTAD).

The reasoning, reliability and validity of the conclusions and recommendations made in the dissertation are confirmed by a deep analysis of the professional literature. In the process of research, a significant number of literary sources were processed - 220, including foreign ones, including scientific articles by Ukrainian and foreign scientists, monographs, Internet resources. This confirms the high degree of validity of the scientific provisions, conclusions and recommendations of the dissertation work.

Practical significance of the work. The dissertation presents a new method for assessing regional circular economy development. It comprehensively assesses the cost-effectiveness, resources, efficiency and various aspects of the development of the regional circular economy using the AHP hierarchical analysis; strengthening the regional development of the circular economy by assessing 31 provinces of China, municipalities and autonomous regions. Provides information on the current state of the circular economy in the provinces, helping governments, enterprises and the public to understand the regional development of the circular economy and provide recommendations to improve their condition.

Completeness of the presentation of the dissertation materials in publications and the author's personal contribution to them. Of the scientific works published in co-authorship, the dissertation uses only those ideas and propositions that are the result of the applicant's personal work. The main results of the author's research were published in 7 scientific works, including 1 work in a publication included in the international

scientometric database Scopus; 4 works in scientific professional publications of Ukraine; 2 works in other publications based on conference materials. The results of the applicant's research were reported and discussed at international scientific and practical conferences.

List of publications of the applicant on the topic of the dissertation: in which the main scientific results of the dissertation are published:

Scientific works in which the main scientific results of the dissertation are published:

Zhong, D. (2021). Development of circular economy model: the case of China. Journal of European Economy, 20(2), P. 280–302. https://doi.org/10.35774/jee2021.02.280 (1.63 p. p.)

Zhong, D., Zvarych, I., & Brodovska, O. (2022). Analysis on the business model of waste market-oriented operation and management in China's JX region based on the perspective of circular economy. Economics of Development, 21(4), P. 37-47. https://doi.org/10.57111/econ.21(4).2022 (0.41 p. p.)

Zhong, D., Zvarych, I., Brodovska, O., & Ye, X. (2022). Global economic decoupling: case of China. Journal of European Economy, 21(3), P. 323–342. https://doi.org/10.35774/jee2022.03.323 (0.25 p. p.)

Zhong, D., & Zvarych, I. (2022). Benchmarking of the circular economy in the world. Economic Space, (179), P. 164-171. https://doi.org/10.32782/2224-6282/179-25 (0.61 p. p.)

Romanyata, Eduard & Kachan, Igor & Demin, Zhong. (2024). Current trends and countermeasures of international waste trade between China and Ukraine. Economic Space. P. 28-34. https://doi.org/10.30838/EP.192.28-34 (0.28 p. p.)

Zhong Demin, Iryna Zvarych. (2022). Analysis on the business model of waste market-oriented operation and management in China's jx region based on the perspective of circular economy. Materials of the XIX International Scientific and Practical Conference of Young Scientists "Economic and Social Development of Ukraine in the XXI Century: National Vision and Challenges of Globalization" (Ternopil, May 13, 2022). – P. 38 – 40 (0.28 p. p.)

Zhong Demin, Iryna Zvarych. (2022). Circular economy model: practice and function in china's economic application. Materials of the International Scientific and Practical Conference of Students and Young Scientists "International Economy in the Context of Climate Change: Pandemic and Post-Pandemic Period". (April 11, 2022) – Ternopil, 2022. – P. 54 – 55 (0.20 p. p.)

The text of the dissertation was checked for text borrowings by Turnitin Similarity. According to the results of the check, the absence of text borrowings without proper reference to the source was found and it was established that Zhong Demin's dissertation on the topic: "Benchmarking the Formation of Circular Clusters" complies with the principles of academic integrity.

Approbation of the research results. The main results of the dissertation were published at 2 all-Ukrainian and international scientific conferences: XXI International Scientific and Practical Conference "Economic and Social Relations of Ukraine in the XXI Century: (Ternopil, May 13, 2022); International Scientific and Practical Conference named after. Students of that young event "International Economics in

Understanding Climate Change: After the Pandemic Transition". (Ternopil, April 11, 2022);

Assessment of the language and style of the dissertation. The dissertation is written in business Ukrainian with adherence to the scientific style of presenting its content, is characterized by semantic completeness, logical consistency of the issues considered, accuracy of the use of special terminology, clarity, clarity and objectivity of the presentation of the research materials. The style of presentation of the research materials, scientific provisions, conclusions and recommendations is understandable and accessible to its perception.

Correspondence of the content of the dissertation to the specialty in which it is submitted for defense.

In terms of relevance, degree of novelty, validity of the results obtained, theoretical and methodological tools used, scientific and practical significance of the results obtained, completeness of presentation of the dissertation materials in scientific publications, Zhong Demin's dissertation on the topic: "Benchmarking the formation of circular clusters" complies with the specialty 292 - International Economic Relations and the requirements of the Procedure for Awarding the Degree of Doctor of Philosophy and Cancellation of the Decision of the One-Time Specialized Academic Council of an Institution of Higher Education, a Scientific Institution on Awarding the Degree of Doctor of Philosophy, approved by the Resolution of the Cabinet of Ministers of Ukraine dated January 12, 2022 No. 44. The professional seminar recommends submitting Zhong Demin's dissertation on the topic "Benchmarking the formation of circular clusters" in the specialty 292 - International Economic Relations for defense to the One-Time Specialized Academic Council.

As a result of the consideration of the dissertation of Zhong Demin and the completeness of the publication of the main research results.

APPROVED:

1. To propose to the Academic Council to approve the following composition of the one-time specialized academic council:

To appoint Ihor Orestovych Lishchynsky, Doctor of Economics, Professor, Professor of the Department of International Economics of the West Ukrainian National University, as the Chairman of the one-time specialized academic council.

Reviewers:

Borysiak Olena, Doctor of Economics, Deputy Director of the Educational and Scientific Institute of Innovation, Environmental Management and Infrastructure, Senior Lecturer of the Department of Transport and Logistics of the West Ukrainian National University;

Zhyvko Maksym, Candidate of Economics, Deputy Director of the Educational and Scientific Institute of International Relations named after B.D. Havrylyshyn, Associate Professor of the Department of International Economic Relations of the West Ukrainian National University.

Opponents:

Orekhova Tetyana, Doctor of Economic Sciences, Professor, Dean of the Faculty of Economics of the Vasyl Stus Donetsk National University;

Chala Veronika, Doctor of Economic Sciences, Associate Professor, Professor of the Department of Economic Theory and International Economic Relations of the Dnieper State Academy of Construction and Architecture.

2. To recommend to the newly established one-time specialized academic council to accept the dissertation for defense.

The chairperson of the meeting is
Candidate of Economic Sciences, Associate Professor,
Associate Professor of the Department of
International Economics Lyudmila Herman