

REVIEW

of the official reviewer for dissertation work of Zhai Xuan on the topic « Current state and prospects of cooperation between Kazakhstan and China in the natural gas sector» presented for the degree of Doctor of Philosophy (PhD) in the educational program «8D04101 – World Economy»

№	Criteria	Eligibility (one of the options must be checked)	Justification of the position of the official reviewer
1.	The topic of the thesis (as of the date of its approval) corresponds to the directions of development of science and /or state	1.1 Compliance with priority areas of science development or government programs: 1) The thesis was completed within the framework of a project or target program financed from the state budget (indicate the name and number of the project or program); 2) The thesis was completed within the framework of another state program (indicate the name of the program); 3) The dissertation corresponds to the priority direction of the development of science, approved by the Higher Scientific and Technical Commission under the Government of the Republic of Kazakhstan (indicate the direction).	The dissertation research of Zhai Xuan on “Current state and prospects of cooperation between Kazakhstan and China in the natural gas sector” in the educational program “8D04101 – World Economy”, for awarding a PhD degree, is of high scientific significance and corresponds to the state priorities of the Republic of Kazakhstan in the field of science and socio-economic development. The research was prepared as part of the implementation of the Joint Statement of the People’s Republic of China and the Republic of Kazakhstan dated May 18, 2023, as well as the Notification of the publication of the Strategy for the Revolutionary Development of Energy Production and Consumption (2016-2030), published by the National Development and Reform Commission. One of the key directions of the state strategy is the expansion of energy cooperation with other countries. The topic of the dissertation is fully consistent with the strategic directions of the Comprehensive Plan for the Development of the gas industry of the Republic of Kazakhstan. The research solves important scientific tasks related to:

			- studying the complementarity of Kazakhstan's advantages related to gas resources and China's needs for natural gas; - conducting an empirical study of natural gas trade between China and Kazakhstan, focusing on the impact of population growth, economic development, complementarity of gas resources, and gas production and consumption; - offering practical recommendations for improving the effectiveness of economic cooperation between Kazakhstan and China. The dissertation of Zhai Xuan is distinguished by its logical coherence, high level of novelty and scientifically based argumentation. The presented research fully meets the criteria for PhD dissertations and complies with both academic standards and long-term strategies of the Republic of Kazakhstan.
2.	Importance for science	The work makes / does not make a significant contribution to science, and its importance is well disclosed /not disclosed.	This work makes a significant contribution to science, and its importance is convincingly revealed. The research has a pronounced applied orientation: the presented conclusions and recommendations have significant practical value for stimulating the development of the gas industry, in particular for diversifying energy sources to China and strengthening Kazakhstan's position in the international energy market. The use of methods of economic and mathematical models meets modern scientific standards and improves the quality of the study of strategic planning.
3.	The principle of independence	Self-reliance level: 1) high; 2) medium; 3) low;	The author conducted the research independently, as demonstrated by the work carried out within the dissertation and author's contributions as the corresponding author in each publication.

		4) no independence.	The main provisions, conclusions and results of the dissertation work were reflected in 15 scientific publications, including 4 articles in journals recommended by the Science and Higher Education Quality Assurance Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan, 4 articles in international peer-reviewed scientific publications indexed in Scopus databases and (or) in the Web of Science, as well as 7 publications in the proceedings of international scientific and practical conferences. The author developed a unique methodological approach for evaluating the optimal cooperation framework and transportation strategy for Kazakhstan in different scenarios and conducted multiple empirical studies using both primary and secondary data. The results of the research have passed the necessary scientific approbation, which indicates their reliability, validity and recognition by the scientific community.
4.	The principle of inner unity	4.1 Justification of the relevance of the thesis:	This dissertation is highly relevant as it addresses critical challenges in natural gas cooperation between Kazakhstan and China, including unstable gas supply, transportation system and external competition. It develops a comprehensive methodology using comparative analysis, regression analysis, and trade gravity model to optimize cooperation framework, while integrating gas pipeline systems for greater transparency and efficiency. Conducted within the framework of the Kazakhstan Gas Sector Development Plan for 2022-2026 (Government Order of the Republic of Kazakhstan, issued on July 18, 2022, No. 488.), this research
		1) justified;	
		2) partially justified;	
		3) not justified.	

			supports national policies on gas industry modernization. Its findings contribute to improving gas industry, developing gas transit transportation capacity and reducing inefficiencies in gas cooperation with China.
		4.2 The content of the thesis reflects the topic of the thesis:	Content of the thesis closely reflects its topic. The structure systematically develops the research objectives, beginning with theoretical and methodological foundations, followed by an analysis of the current state of joint natural gas projects and infrastructure and concluding with proposed priorities and economic mechanisms for development. The inclusion of methodological methods, comparative analysis, and scenario assumptions (such as the Central Asian natural gas hub) ensures a comprehensive review of the economic benefits of Kazakhstan and China's cooperation in the natural gas sector.
		1) reflects ;	
		2) partially reflects;	
		3) does not reflect.	
		4.3. The purpose and objectives correspond to the topic of the thesis:	The purpose and objectives of the dissertation fully correspond to its topic. The research is focused on developing recommendations and an organizational-economic mechanism for improving cooperation between Kazakhstan and China in the natural gas sector. This directly aligns with the broader goal of enhancing Kazakhstan's economic competitiveness in domestic and international energy markets. Each research objective logically supports the overall purpose, covering theoretical analysis, international energy cooperation, assessment of current conditions, development of gas transportation models, and evaluation of economic efficiency. The inclusion of external competitive mechanisms and Central Asian gas hub further reinforces the study's practical
		1) correspond ;	
		2) partially correspond;	
		3) do not correspond.	

			relevance. Overall, the purpose and objectives are well-structured, relevant, and fully aligned with the dissertation topic.
		4.4 All sections and provisions of the thesis are logically interconnected:	All sections and provisions of the dissertation are logically and completely interconnected , demonstrating strong internal integrity and coherence. The work is presented in precise scientific language, ensuring clarity and academic rigor. Each subsection seamlessly transitions to the next, creating a cohesive narrative that supports the overall research objectives. The relationship between sections and the sequential stages of the study is clearly defined, reinforcing the systematic approach of the research.
		1) completely interconnected ;	
		2) the interconnection is partial;	
		3) there is no interconnection.	
		4.5 The new solutions (principles, methods) proposed by the author are reasoned and evaluated in comparison with the known solutions:	This research presents innovative solutions to enhance cooperation between Kazakhstan and China in the natural gas sector. By analyzing the economic benefits and pricing mechanisms of Chinese investments in Kazakh gas projects, it assesses Kazakhstan's competitive advantages in China's gas market. To address the issue of insufficient gas supply, the study advocates establishing a centralized Central Asian gas hub and integrating natural gas resources from Turkmenistan and Russia to maximize economic efficiency. Additionally, the government is advised to improve gas infrastructure to ensure investment in the gas industry and enhance operational efficiency.
		1) there is a critical analysis ;	
		2) partial analysis;	
		3) the analysis does not represent one's own opinions, but quotes from other authors;	
		4) there is no analysis.	
5.	Scientific novelty principle	5.1 Are the scientific results and provisions new?	The scientific results and provisions are partially new. In general, the degree of novelty can be estimated at 75%. The result 1 "The theoretical content of the development of international cooperation in energy sector has been clarified with an emphasis on the role of geopolitical relations in the development of
		1) completely new;	
		2) partially new (25-75% are new) ;	
		3) not new (less than 25% are new).	

			regional energy cooperation.” is given - partially new, as it relies on the results of similar previous studies. The result 2 “The complementarity between gas resource advantages of Kazakhstan and natural gas demand of China has been conducted based- on the theories of comparative advantage and factor endowments.” – is new, since the author assessed the state of gas reserves, production and transportation infrastructure of Kazakhstan, the energy deficit of China is proposed based on the energy consumption elasticity coefficient. The result 3 “The history of natural gas cooperation and the importance of bilateral agreements between China and Kazakhstan has been analyzed” - partially new, since it based on the legal and national documents of Kazakhstan and China. The results 4, 5, 6 and 7 are new, since the analysis of security index of import gas supply and the bargaining model were carried out to assess the advantages and disadvantages of Kazakhstan in the natural gas cooperation with China, based on internal and external factors, priorities for the integration of gas pipeline system and the development of gas infrastructure were proposed.
		5.2 Are the dissertation findings new?	The originality of the work lies in improving the efficiency of natural gas cooperation between Kazakhstan and China from economic aspects by integrating production, investment, policy guidance and external cooperation. A multi-stage methodology for optimizing cooperation model (Central Asian gas hub) combines comparative analysis, regression analysis, game models, and the mathematical transportation models to reduce inefficiencies.
		1) completely new;	
		2) partially new (25-75% are new);	
		3) not new (less than 25% are new).	

		5.3 Technical, technological, economic or management decisions are new and reasonable:	The research introduces three new and well-founded decisions in industry, economic, and investment aspects. These three decisions are of vital importance for improving the cooperation between Kazakhstan and China in the field of natural gas. By optimizing investment in natural gas projects through tax adjustments, it can encourage investment, avoid resource waste, and enhance geopolitical advantages. The author's method of analyzing the economic aspects, trade impact factors and pricing mechanisms of natural gas projects can be recommended for use by countries in formulating the development direction and trade strategies of the natural gas industry. It can also be referred to by state-owned oil and gas enterprises when deciding to invest in natural gas projects. Establishing the framework for Central Asian natural gas resources can help integrate natural gas resources, reduce energy security risks, and encourage investment in modern natural gas transportation system solutions. Tax incentive models for different natural gas projects can attract investment, enhance cooperation efficiency, and ensure the sustainable development of infrastructure. These measures jointly build a more resilient, transparent and efficient natural gas transportation system, promoting economic growth and competitiveness improvement.
		1) completely new ;	
		2) partially new (25-75% are new);	
		3) not new (less than 25% are new).	
6.	The validity of the main findings	All main conclusions are /are not based on scientifically significant evidence or well-grounded (for qualitative research and areas of training in the arts and humanities).	The main conclusions of the thesis are based on scientifically significant evidence, as they rely on established analytical methods and empirical data. The conception of Central Asian gas hub is supported by a multi-stage methodology combining comparative analysis, regression analysis, game models, and the mathematical transportation models. The proposed

			cooperation framework for natural gas sector is grounded in industry best practices and the need for gas resources integration, validated by scenario hypothesis and market analysis. Together, these methods create a more resilient and efficient gas cooperation model, fostering economic benefits and competitiveness.
7.	The main provisions for the defense	It is necessary to answer the following questions for each provision separately:	The provision (1) about the theoretical basis of energy cooperation expresses the expansion of cooperation in the gas sector contributes to strengthening regional economic integration and meets the development needs of both countries. pipeline-based natural gas trade can establish a stable and cost-effective energy relationship between the two countries. This provision is reflected in the author's publications: 1) Zhai X., Juman J., Makulova A.T., Khamzayeva A.V., Du B.H. Research on relationship between energy consumption and GDP in Kazakhstan // Economies, Volume 12 (8), Issue 212: 1-17. 2) Zhao C.Y., Zhai X., Liu Z.G., Song C.C. Enlarging or narrowing? Exploring the impact of energy poverty on carbon inequality in China // Utilities Policy, 92 (2025), 101859. 3) Zhai X., Juman J., Khamzayeva A.V. Status and prospects of gas transportation to China from Kazakhstan // Bulletin of National Academy of Sciences of the Republic of Kazakhstan, Volume 3, №409 (2024), pp.490–506. 4) Zhai X., Saparbayev A.D. China is the main driver of the global oil and gas market // German
		7.1 Is the provision proven?	
		1) proven ;	
		2) rather proven;	
		3) rather not proven;	
		4) not proven;	
		5) in the current formulation, it is impossible to verify the validity of the statement.	
		7.2 Is it trivial?	
		1) yes;	
		2) no ;	
		3) in the current formulation, it is impossible to verify the validity of the statement.	
		7.3 Is it new?	
		1) yes ;	
		2) no;	
		3) in the current formulation, it is impossible to verify the validity of the statement.	
		7.4 Application level:	
		1) narrow;	
		2) medium;	
		3) wide ;	

		4) in the current formulation, it is impossible to verify the validity of the statement.	International Journal of Modern Science. 2022. -№47. -pp.9-12. This scientific novelty forms the foundation of the cooperation model developed by the author, which aims to achieve sustainable natural gas cooperation by establishing stable and secure natural gas transportation routes and supply chains. The provision (2) about the key factors affecting the supply and demand for natural gas. Kazakhstan and China are making joint investments in pipeline infrastructure and gas production. The scientific novelty of this provision reflects on the proposed China's investment strategy of “investment in exchange for natural gas supplies” and the concept of forming a “community with a shared future” through the establishment of joint ventures. This concept reflects a shift in the model of natural gas cooperation from commercial investment to policy-driven initiatives, ensuring the sharing of economic benefits from the gas cooperation with the aim of mitigating risks. The main provision (2) is confirmed by the results of the research published in the following articles: 1) Du B.H., Juman J., Khamzayeva A.V., Zhai X. Energy cooperation between Kazakhstan and China under “One Belt and One Road”: current state, challenges and perspectives // BUKETOV BUSINESS REVIEW. 2024, 11429(2), pp. 7–18. 2) Zhai X., Saparbayev A.D. Analysis of the gas market and gasification levels of the Republic of Kazakhstan // IX International Scientific-Practical Conference «Quality Management Search and
		7.5 Is it proven in the article?	
		1) yes;	
		2) no;	
		3) in the current formulation, it is impossible to verify the validity of the statement.	

		Solutions». Dallas, USA. 22-24 Nov. 2023. -pp.153-160. 3) Zhai X., Juman J. Analysis of the situation for pipeline gas supply in Central Asia // The X International Scientific-Practical Conference «Science, Engineering and Technology» Gaziantep, Turkey. 01-03 May 2025 -pp.139-144. The provision (3) about the analysis of the key elements influencing the determination of natural gas prices in gas cooperation. The scientific novelty of this provision presents the author's original model of the natural gas price negotiation between Kazakhstan and China. This model simulates the bidding strategies and bargaining thinking of Kazakhstan and China during natural gas price negotiations, reflecting the equilibrium of interests between the two parties in the bargaining process. This provision is reflected in the author's publications: 1) Zhai X., Juman J., Makulova A.T. Current state and prospects of the Chinese gas market // Central Asian Economic Review. 2023, Vol.6, №153, pp. 53-65. 2) Zhai X., Juman J. Natural gas markets of Central Asian countries // International Scientific Conference of Students and Young Scientists «Farabi Alemi», 04-06 April 2024, pp.21-25. The provision (4) about the development of the main factors of natural gas trade between Kazakhstan and China. The scientific innovation of this research lies in that the author employed the extended trade gravity model to conduct an empirical analysis of the natural gas trade between Kazakhstan and China. The analysis demonstrates the significant potential for natural gas trade between the two
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			countries and examines the key factors influencing this trade to provide insights for further evaluating the economic benefits of natural gas cooperation between Kazakhstan and China. The main provision (4) is confirmed by the results of the research published in the following articles: 1) Du B.H., Juman J., Makulova A.T., Khamzayeva A.V., Zhai X. Analysis of the Competitiveness, Complementarity, and Trade Combination of Kazakhstan and China in the Oil and Gas Trade // Economies, Volume 12 (7), Issue 182: 1-14. 2) Zhai X., Saparbaev A.D. Analysis of the gas market and gasification levels of the Republic of Kazakhstan // IX International Scientific-Practical Conference «Quality Management Search and Solutions». Dallas, USA. 22-24 Nov. 2023. -pp.153-160. 3) Zhai X., Juman J. Analysis of the situation for pipeline gas supply in Central Asia // The X International Scientific-Practical Conference «Science, Engineering and Technology» Gaziantep, Turkey. 01-03 May 2025 -pp.139-144. The theoretical and empirical data presented in these publications allows us to consider this provision proven and reliable. The provision (5) about the development of a theoretical and methodological model for assessing investment opportunities in the gas industry. The scientific novelty of this provision emphasizes the need to adjust tax policies and operational models in response to the development status of different natural gas projects to ensure stable project revenue and natural gas production and identifies future natural gas production as a potential indicator for expanding
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			natural gas cooperation between Kazakhstan and China. This provision is reflected in the author's publication: 1) Zhai X., Saparbaey A.D. Risk of foreign economic activity and their solution – in the view of oil and gas cooperation between Kazakhstan and China // I International Scientific Conference. Vienna. Austria. December 15-16, 2022. - pp.29-33. The provision (6) about the development of a competitive model and a mathematical model for gas transportation from Kazakhstan to China. The scientific novelty of the models shows that the best option for Kazakhstan is to continue exporting natural gas from Chinese oil companies in order to maintain its competitiveness in the market and use its geographical advantages to create a hub for exporting natural gas from Russia and Central Asia to China. The main provision (6) has been tested in the following publications: 1) Zhai X., Juman J., Khamzayeva A.V. Status and prospects of gas transportation to China from Kazakhstan // Bulletin of National Academy of Sciences of the Republic of Kazakhstan, Volume 3, №409 (2024), pp.490–506. 2) Zhai X., Juman J., Khamzayeva A.V. Cooperation between China, Russia and Central Asian countries in the natural gas sector // Bulletin of National Academy of Sciences of the Republic of Kazakhstan, Volume 3, №415 (2025), pp.509–524. These publications contain relevant analytical materials, static data, and author's conclusions. This indicates a sufficient degree of its scientific validity.
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			The provision (7) about the development of practical proposals aimed at improving the effectiveness of cooperation between Kazakhstan and China in the gas industry. The provided suggestions open prospects for increasing the effectiveness of cooperation between Kazakhstan and China in the gas industry. For the possible areas of gas cooperation, the introduction of coalbed gas and the natural gas chemical industry were offered. This provision (7) is reflected in the author's publication: 1) Zhai X., Juman J., Du B.H. Cooperation of China and Central Asia in renewable energy // World Economy and International Relations, 2025, vol.69, no.2, pp. 76–84. 2) Zhai X. Prospects for Caspian gas supply and exports // International Scientific-Practical Conference “Topical issues of development of international relations, international law and world economy at the present stage: search for possible solutions”, 06 December 2024, pp.71-75. In general, all the main provisions submitted for defense are reflected in the author's published scientific papers, and can be considered justified and proven.
8.	The principle of reliability.	8.1 Choice of methodology – is justified or the methodology is described in sufficient detail:	Yes. The choice of methodology is justified as it integrates multiple analytical approaches to address key challenges in the cooperation between Kazakhstan and China in the natural gas sector. The combination of comparative analysis, regression analysis, game models, and mathematical transportation models ensures a comprehensive and data-driven approach to
	Reliability of sources and information provided	1) yes;	
		2) no.	

			optimizing cooperation strategy, increasing gas production, and improving transportation performance. The proposed cooperation framework for natural gas sector is grounded in industry best practices and the need for gas resources integration, validated by scenario hypothesis and market analysis. This methodological approach provides scientifically sound and practical solutions for sustainable development of energy cooperation between Kazakhstan and China.
		8.2 The results of the thesis were obtained using modern methods of scientific research and methods of processing and interpreting data using computer technologies:	Yes. The results of the thesis were obtained using modern scientific research methods, data processing, and interpretation techniques supported by computer technologies. The optimization of gas cooperation strategy was conducted using advanced analytical tools, including energy consumption elasticity coefficient model, comparative analysis, regression analysis, game theory models, and mathematical transportation models. The research also leveraged digital modeling and simulation techniques to assess logistics efficiency and cold chain management.
		1) yes;	
		2) no.	
		8.3 Theoretical conclusions, models, identified relationships and patterns have been proven and confirmed by experimental research (for areas of training in pedagogical sciences, the results have been proven on the basis of a pedagogical experiment):	
		1) yes;	
		2) no.	Yes. The research's theoretical conclusions, models, and identified relationships have been proven and confirmed through experimental research. The choice of methodology is justified as it integrates multiple analytical approaches to address key challenges of cooperation between Kazakhstan and China in the natural gas sector. The combination of comparative analysis, regression analysis, game models, and mathematical transportation models ensures a comprehensive and data-driven approach to optimizing cooperation strategy, increasing gas production, and improving transportation

			performance. The structured competitive model has been tested through scenario analysis, proving its viability for securing investments and ensuring sustainable logistics infrastructure development. These findings reinforce the study's scientific validity and practical applicability.
		8.4 Important statements are confirmed / partially confirmed / not confirmed by references to current and reliable scientific literature.	Key statements are supported by references to current, reliable scientific literature. The bibliography includes 161 sources cited throughout the dissertation, with primary scientific literature from the past ten to five years (2014-2024).
		8.5 Used literature sources are sufficient / not sufficient for a literature review.	The literature sources used in this dissertation are sufficient and relevant, providing a comprehensive foundation for the research. They cover key theoretical and empirical studies, ensuring a well-rounded understanding of the topic. Additionally, the selected sources include recent publications and authoritative works, which enhance the credibility and depth of the analysis.
9	Practical value principle	9.1 The thesis has theoretical value:	Yes. The study expands theoretical and methodological approaches to the analysis of cooperation between Kazakhstan and China in the natural gas sector. The theoretical significance of the dissertation research is revealed by the following provisions: the current state and development trends of the natural gas cooperation were studied through bibliometric analysis with the specification of the terms of the international energy cooperation; scientific approaches to complementarity between gas resource advantages of Kazakhstan and natural gas demand of China were streamlined to develop a scientific base and enrich the methodological tools; the history of natural gas cooperation was given; the
		1) yes ;	
		2) no .	

			evaluation has been carried out regarding the present condition of natural gas initiatives funded by Chinese oil corporations in Kazakhstan based on collected data; regression analysis has been applied to empirically evaluate the oil and gas trade between China and Kazakhstan, and factors that might affect trade volume have been described. The solution to the problem of gas infrastructure integration and additional value increasement makes it possible to implement the Kazakhstan Gas Sector Development Plan and the Joint Statement of the People's Republic of China and the Republic of Kazakhstan in the China-Central Asia Summit, to determine long-term investments in the development of potential natural gas projects. The methodology and conceptual stipulations in this study can be applied to further scientific research to enhance the efficiency of energy cooperation, optimize natural gas infrastructure, and strengthen Kazakhstan's competitiveness in the global energy market.
		9.2 The thesis is of practical importance and there is a high probability of applying the results obtained in practice:	The practical significance of the dissertation research is as follows: literature review analysis of scientific publications reflects the main areas of research in the field of international energy cooperation; a systematic methodological approach allows assessing the state and potential of the gas cooperation methodological tools; data analysis allows investigating the existing situation and carrying out future empirical investigations; the proposed measures for the development of gas infrastructure and the pricing mechanism for the development of cooperation between Kazakhstan and China represent a practical tool.
		1) yes;	
		2) no	

		9.3 Are the practice suggestions new?	The practical suggestions in the dissertation are completely new, including the establishment of a comprehensive natural gas infrastructure and an economic mechanism for the operation of natural gas projects, as well as the methodological approaches for formation and development. Moreover, the paper hypothesizes the methodology for the construction of the Central Asia natural gas hub. These suggestions and proposals will help enhance the competitiveness of Kazakhstan's economy in both domestic and international energy markets. The practical suggestions are based on the scientific foundation and methodology analysis of the research on the China-Kazakhstan natural gas cooperation project, while also taking into account its applicability and effectiveness in Central Asian countries.
		1) completely new ;	
		2) partially new (25-75% are new);	
		3) not new (less than 25% are new).	
10.	The quality of writing and design	Academic writing quality:	The dissertation is written in a clear and well-structured academic style, making the content accessible and comprehensible. Both the content and formatting align with the requirements for a PhD thesis. While there are some typographical and formatting errors, they do not significantly affect the overall quality of the work.
		1) high ;	
		2) average;	
		3) below average;	
		4) low.	
11.	Comments on a thesis	The dissertation work of Zhai Xuan is assessed as a completed scientific study. It has been prepared at a high competence level. The results of the dissertation research are novel and of practical significance. Nevertheless, along with the undoubted advantages of the work, the following comments on the content of the dissertation can be made. 1. Focus on natural gas: The title is limited to the entire oil and gas sector, but the core of the paper only focuses on natural gas. There is a deviation in the research scope. It is suggested to shorten the title to "Theoretical Foundation of China-Kazakhstan Natural Gas Sector Cooperation", eliminating the unrelated theories related to oil, and focusing on the research topic. 2. Expansion of trade gravity model: In addition to trade data, it is necessary to expand to various dimensions of economic impacts such as the industrial chain, employment, finance, energy security, and foreign exchange	

		balance; at the same time, identify the actual factors that restrict the release of trade potential, such as trade barriers, logistics shortcomings, and settlement obstacles. 3. The proposal section should include a description of the cooperation risks (geopolitical risks, market risks, technical risks, policy risks, operation and maintenance risks) and the corresponding risk response plans. These remarks are advisory in nature and do not detract from the undoubted merits of the thesis. They are aimed at further improving the qualitative research that has already been performed and can be taken into account by the author in future scientific research.
12.	Scientific level of the doctoral student's articles on the topic of research	The results of the scientific research have been published in 20 scientific publications, including six articles published in international journals indexed in the Scopus database, and four articles in publications recommended by the Committee for Quality Assurance in Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan, 10 articles presented at international conferences. The scientific level of each PhD student's article on the research topic meets the requirements for the defense of doctoral dissertations.
13.	Decision of the official reviewer (pursuant to paragraph 28 of the present Model Regulations)	The dissertation of Zhai Xuan meets the established requirements for dissertations for the degree of Doctor of Philosophy (PhD) in in the educational program «8D04101 – World Economy».

Official Reviewer:

Candidate of economic sciences, PhD, Professor of School of Creative Industries, Astana IT University (Astana, Kazakhstan)

(place of work, academic title)



(signature)

Salykova Leila Nurtleuovna

(Full Name)