

**REVIEW**  
of the official reviewer of the dissertation of  
Kenzheali Yerkezhan Altaykyzy on the topic «The impact of gender stereotypes on the formation of the labor market in Kazakhstan: theory, assessment and development scenarios», for the degree of Doctor of Philosophy (PhD)  
on the educational program 8D04101 – «Economics»

| №<br>No. | Criteria                                                                                                                                     | Compliance with criteria (one of the answer options should be marked)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Justification of the official reviewer's position (comments in italics)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| 1.       | The topic of the dissertation (as of the date of its approval) corresponds to the directions of scientific development and/or state programs | <p>1.1 Compliance with priority directions of science development or state programs:</p> <p><b><u>1) The dissertation was carried out within the framework of a project or targeted program financed from the state budget (specify the name and number of the project or program)</u></b></p> <p>2) The dissertation was carried out within the framework of another state program (specify the name of the program);</p> <p>3) The dissertation corresponds to the priority direction of science development approved by the Higher Scientific and Technical Commission under the Government of the Republic of Kazakhstan (specify the direction)</p> | <p>The dissertation corresponds to the main priorities of state policy and strategic documents of the Republic of Kazakhstan. The research topic directly correlates with the objectives set out in:</p> <ul style="list-style-type: none"> <li>- The Address of the President of the Republic of Kazakhstan Kassym-Jomart Tokayev dated September 1, 2024, "A Fair Kazakhstan: Law and Order, Economic Growth, Public Optimism", which emphasizes the development of human capital, social justice, and equal opportunities for all citizens;</li> <li>- The Address of the President of the Republic of Kazakhstan Kassym-Jomart Tokayev dated September 1, 2023, "The Economic Course of a Fair Kazakhstan", which outlines the goals of increasing employment, developing the education system, and modernizing the economy;</li> <li>- The Concept of Family and Gender Policy in the Republic of Kazakhstan until 2030, aimed at strengthening gender equality institutions and enhancing women's participation in the economy;</li> <li>- The National Action Plan on Ensuring Equal Rights and Opportunities for Men and Women for 2024–2027, which provides for expanding women's access to quality employment and developing their entrepreneurial potential.</li> </ul> <p>In addition, the dissertation was carried out within the framework of the grant project IRN AP22784063 "Development of Strategic Directions for Expanding Opportunities and Access of Women to Quality Employment in Kazakhstan", funded from the state budget by the Committee of Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan.</p> |

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| 2. | Importance for science | <p>The work <u>does</u>/does not make a significant contribution to science, and its importance <u>is well - disclosed</u>/not disclosed.</p> | <p>The dissertation work represents a scientifically grounded study containing results that are significant for the development of economic science and gender studies. The doctoral candidate employed a comprehensive approach to analyzing the influence of gender stereotypes on the formation of Kazakhstan's labor market, which made it possible to examine this phenomenon at the macro, meso, and microlevels. The research proposes an institutional model "Gendered Pathways", adapted to the socio-economic conditions of Kazakhstan, which reflects the factors shaping gender-based constraints and their impact on women's labor mobility and economic activity. The application of economic and mathematical analysis methods ensured the validity of the conclusions and made it possible to identify interrelations between employment structure and macroeconomic indicators. Thus, the dissertation is characterized by its relevance and research depth, contributes to a deeper understanding of the impact of gender stereotypes on employment processes, and can be used for further studies of labor market issues and the improvement of social policy.</p>                                                                              |
| 3. | Principle of autonomy  | <p>Level of autonomy:</p> <p><b>1) high;</b><br/> 2) medium;<br/> 3) low;<br/> 4) no independence.</p>                                        | <p>The dissertation work demonstrates a high level of the doctoral candidate's research independence. The author has identified a socially significant research problem, substantiated the choice of theoretical and methodological approaches, and conducted a comprehensive analysis combining both quantitative and qualitative methods, which ensured the validity and reliability of the findings. The methodological framework integrates statistical, econometric, and sociological tools, allowing for a multidimensional and objective examination of the problem. The structure of the dissertation is logically organized and reflects the candidate's ability to design and implement all stages of the research process — from problem formulation and hypothesis development to model construction, data interpretation, and synthesis of conclusions. The use of econometric modeling, scenario analysis, and the institutional approach demonstrates the author's well-developed skills in independent scientific inquiry. The results of the research possess both theoretical and practical significance and can be applied to the improvement of public employment policy and the promotion of equal opportunities within the labor market.</p> |

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| 4. | Principle of internal unity | 4.1 Justification of the relevance of the thesis:                             | <p>The dissertation work addresses one of the most pressing socio-economic issues in contemporary Kazakhstan — the impact of gender stereotypes on the formation and development of the labor market. The research examines how persistent social attitudes and institutional frameworks influence the distribution of labor roles, employment levels, and professional opportunities for men and women. The relevance of the study is determined by Kazakhstan's strategic priorities in promoting economic growth and strengthening the principles of gender equality. The dissertation consistently reveals the role of gender stereotypes as institutional barriers that shape employment structures, professional stratification, and wage differentials. By employing a comprehensive combination of quantitative and qualitative methods — including factor, cluster, and scenario analysis — the author ensures the scientific validity and reliability of the results. The dissertation is distinguished by its coherent structure, methodological consistency, and well-founded conclusions, which collectively confirm its contribution to the advancement of scientific understanding of gender aspects in the labor market.</p> |
|    |                             | <u>1) justified;</u><br>2) partially justified;<br>3) not substantiated.      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|    |                             | 4.2: The content of the dissertation reflects the dissertation topic:         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|    |                             | <u>1) correspond to;</u><br>2) partially correspond;<br>3) do not correspond. | <p>The content of the dissertation fully corresponds to the stated research topic. The doctoral candidate consistently explores the theoretical, methodological, analytical, and practical aspects of the problem. The content of the dissertation research fully corresponds to the stated topic. All chapters and sections logically relate to the main issues outlined in the title of the work. The dissertation structure reflects a step-by-step development of the topic—from the theoretical and methodological foundations of analyzing gender stereotypes to their manifestations in socio-economic practice and the development of practical recommendations for improving gender balance in the Kazakhstan labor market. The doctoral candidate consistently examines the stated goals and objectives of the study, employs an adequate methodological framework, and the obtained results are directly related to the formulation of the topic and aimed at solving the stated scientific problem. Thus, the content of the dissertation fully corresponds to its topic and ensures the integrity and scientific completeness of the study.</p>                                                                                 |
|    |                             | 4.3. The purpose and objectives correspond to the topic of the dissertation:  | <p>The stated objective and set of research objectives fully correspond to the stated topic. Kenzheali Y.A. demonstrated methodological</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|  |                                                                                                                                        | <p><b><u>1) correspond to;</u></b><br/> 2) partially correspond;<br/> 3) do not correspond.</p>                                                                                                           | <p>consistency in defining the research objective, which consists of a theoretical and methodological justification and empirical analysis of the influence of gender stereotypes on the formation and functioning of the labor market in the Republic of Kazakhstan. This objective adequately reflects the core problematic of the study, meets its scientific novelty, and ensures the internal structural consistency of all sections of the dissertation. The research objectives are comprehensive and scientifically specific; each is logically linked to the overall objective and reveals a distinct aspect of the complex scientific problem. The internal logic of the work clearly demonstrates the relationship between the objective, objectives, and the overall structure of the dissertation. Each chapter represents a sequential stage in the implementation of the stated research objectives, and the cumulative results obtained ensure the achievement of the stated goal. Thus, it can be concluded that the objective and objectives of the dissertation are fully consistent with the topic of the work, ensuring the methodological integrity, scientific validity, and systematic nature of the presented study.</p> |
|  | 4.4 All sections and statements of the dissertation are logically interrelated:                                                        | <p><b><u>1) fully interrelated;</u></b><br/> 2) partially interrelated;<br/> 3) do not interrelated.</p>                                                                                                  | <p>All sections of the dissertation are logically interconnected. The transition from analysis of theoretical propositions to practical conclusions is consistent. Empirical data complements theoretical propositions, and conclusions are based on their comparison. The structure of the work maintains its internal integrity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|  | 4.5 The new solutions (principles, methods) proposed by the author are substantiated and evaluated in comparison with known solutions: | <p><b><u>1) there is critical analysis</u></b><br/> 2) the analysis is partial;<br/> 3) the analysis does not represent personal opinions, but rather quotes from other authors;<br/> 4) no analysis.</p> | <p>The doctoral student conducted a substantive assessment of the applicability of well-known theoretical and methodological approaches—from classical theories of human capital and institutional economics to modern concepts of gender stereotypes, such as pipeline theory, glass escalator, stereotype inoculation, and the SAFE model. Based on a critical assessment of these theories, she proposed an institutional model of the reproduction of gender behavioral constraints (the Gendered Pathways Model), reflecting the specifics of the national labor market and integrating both international and domestic scientific advances. The critical analysis is based not only on comparison with theoretical sources but also on empirical data, lending additional validity to the author's conclusions. Thus, the dissertation demonstrates a critical analysis, demonstrating the doctoral student's high level of scientific competence.</p>                                                                                                                                                                                                                                                                                      |
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| 5. | Principle of scientific novelty | 5.1 Are the scientific results and provisions new?                                                     | <p>The research findings presented in this dissertation are significantly innovative and represent the author's independent contribution to the development of economic science and gender studies. This innovation is evident in both the formulation of the problem and the development of the models. First, the study developed and theoretically substantiated an institutional model, the "Gendered Pathways Model", which reveals the mechanisms by which gender-based behavioral constraints are reproduced in Kazakhstan's socioeconomic system. The model integrates international concepts (pipeline theory, glass escalator, stereotype inoculation, and the SAFE model) with national labor market conditions, allowing for the presentation of a holistic system of factors—from institutional to individual cognitive—that determine the formation and reproduction of gender stereotypes. Second, a methodological toolkit for economic and statistical analysis is proposed, based on a combination of principal component analysis (PCA), cluster analysis, and classification trees. Third, the doctoral student developed a scenario analysis tool for female employment dynamics, incorporating regression relationships, analysis of variance (ANOVA), and criteria of information significance (AIC, BIC). This approach allowed for the assessment of nonlinear and threshold effects of gender factors. Fourth, the concept of "gender stereotypes" was clarified from the perspective of socioeconomic analysis: they are viewed as a set of persistent attitudes, norms, and behavioral patterns formed under the influence of institutional, cultural, and behavioral factors. Fifth, a "Roadmap for integrating gender equality principles into public and corporate governance" was substantiated and proposed. Thus, the set of presented provisions is characterized by methodological novelty.</p> |
|    |                                 | <u>1) completely new;</u><br>2) partially new (25-75% are new);<br>3) not new (less than 25% are new). |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|    |                                 | 5.2 Are conclusions of the dissertation new?                                                           | <p>The dissertation yields results of significant scientific novelty and theoretical value. It reveals patterns of influence of gender stereotypes on the development and structure of the Kazakhstan labor market, identifying their institutional and cultural determinants. Its novelty lies in the methodological synthesis of economic, mathematical, and institutional analytical methods. The use of principal component analysis (PCA), cluster analysis, classification trees, and analysis of variance (ANOVA), combined with interpretation, allowed us to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|    |                                 | <u>1) completely new;</u><br>2) partially new (25-75% are new);<br>3) not new (less than 25% are new). |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|    |                                           |                                                                                                                                                                           | identify nonlinear relationships and threshold effects of gender factors on macroeconomic indicators.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|    |                                           | 5.3 Technical, technological, economic or management decisions are new and justified:                                                                                     | The doctoral student developed a system of approaches to analyzing and regulating gender differences in the labor market, based on a combination of quantitative methods and institutional theory. These include the development of an index for assessing the gender pay gap, the use of scenario analysis to forecast the consequences of gender policy implementation, and recommendations for improving labor market regulation mechanisms. The doctoral student's proposed tools for economic and statistical modeling and scenario analysis are based on quantitative and analytical methods. The economic and statistical modeling tool includes principal component analysis (PCA), cluster analysis, and classification trees, which allows for the identification of hidden patterns in the reproduction of gender stereotypes and the structural features of the distribution of female employment across various economic sectors. The scenario analysis tool involves the development of models for forecasting female employment dynamics using regression relationships, analysis of variance (ANOVA), and information criteria (AIC, BIC). This approach allows for the assessment of the effectiveness of economic scenarios and the identification of threshold effects of gender factors on the labor market. |
|    |                                           | 1) <b>completely new</b> ;<br>2) partially new (25-75% are new);<br>3) not new (less than 25% are new).                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 6. | Validity of the main conclusions          | All key findings are <u>based</u> /not based on sound scientific evidence or are reasonably well substantiated (for qualitative research and arts and humanities majors). | The findings are supported by statistical calculations and survey results. The doctoral candidate uses correlation, cluster, and regression analysis methods, and also tests the reliability of the models using the AIC, BIC, and Durbin-Watson criteria. The data sources used include data from the Bureau of National Statistics and the university's own student survey. This ensures the reliability of the results obtained and their alignment with the stated objectives.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7. | The main provisions submitted for defense | The following questions must be answered for each position separately:                                                                                                    | Proposition 1.<br>This paper proposes a definition of gender stereotypes as a system of social beliefs and behavioral norms that shape differences in the labor force participation of men and women. The doctoral candidate views                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|    |                                           | 7.1 Has the position been proven?                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|  |  | <p><b>1) proven;</b><br/> 2) most likely proven;<br/> 3) most likely not proven;<br/> 4) not proven;<br/> 5) in its current formulation, it is impossible to verify the provenness of the proposition.</p> | <p>stereotypes not as individual attitudes, but as stable elements of the institutional environment that influence access to professions, wage levels, and career prospects. This approach demonstrates that gender differences are not reducible to personal preferences but are shaped by social structures and norms. This definition clarifies the concept and makes it applicable to economic analysis of the labor market.</p>                                                                                                                                                                                                |
|  |  | 7.2 Is it trivial?                                                                                                                                                                                         | Proposition 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  |  | <p>1) yes;<br/> <b>2) no;</b><br/> 3) In the current formulation, it is impossible to verify the triviality of the position.</p>                                                                           | The doctoral candidate developed a system of analytical tables combining statistical and normative indicators across countries. They reflect data on employment rates, wage gaps, legislative measures, and social programs aimed at achieving equality. This format allows for comparison of international experience and identification of factors that contribute to the reduction of gender asymmetries.                                                                                                                                                                                                                        |
|  |  | 7.3 Is it new?                                                                                                                                                                                             | Proposition 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  |  | <p><b>1) yes;</b><br/> 2) no;<br/> 3) In the current formulation, it is impossible to verify the triviality of the position.</p>                                                                           | This dissertation proposes an analytical framework that encompasses three levels: national (macro), institutional (meso), and individual (micro). At the macro level, economic and employment trends are examined; at the meso level, the specifics of organizational functioning and HR systems are considered; and at the micro level, employee attitudes and behavior are considered.                                                                                                                                                                                                                                            |
|  |  | 7.4 Level of application:                                                                                                                                                                                  | This approach allows for a comprehensive examination of gender differences, identifying the interrelations between economic and social factors. It provides a holistic understanding of the nature of inequality and creates a basis for developing measures to reduce it. The model can be used to evaluate the effectiveness of existing programs and develop new employment strategies.                                                                                                                                                                                                                                          |
|  |  | <p>1) narrow;<br/> 2) medium;<br/> <b>3) wide;</b><br/> 4) in its current wording, it is impossible to verify the level of application of the provision.</p>                                               | Proposition 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  |  | 7.5 Is it proven in the article?                                                                                                                                                                           | The author proposes an institutional model that describes how gender differences are formed and reinforced at different stages of the educational and professional trajectory. The model demonstrates that inequality does not arise at a single level, but is the result of the cumulative impact of social, economic, and organizational factors. The paper identifies key stages in the formation of differences—occupational choice, employment, career advancement, and pay. This approach helps understand how institutional practices contribute to the persistence of differences between men and women in the economy. The |

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|    |                                                 |                                                                                                                                                                                                       | <p>model can be applied to labor market analysis, the evaluation of equal opportunity programs, and the development of educational strategies. Proposition 5.</p> <p>The author uses a scenario method to assess possible directions of change in the labor market situation. Three scenarios have been developed—baseline, moderately reformist, and transformational—varying in the pace and depth of measures implemented. Each scenario includes forecast estimates based on statistical data and modeling results. This approach allows for the assessment of the consequences of various policy decisions and the identification of the most effective options. The presented scenarios can be used by government agencies and research centers in planning and monitoring gender policy.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 8. | Principle of reliability.                       | 8.1 The choice of methodology – is justified or the methodology is described in sufficient detail:                                                                                                    | <p>The research methods were selected in accordance with the objectives and rationale of the study. Statistical, econometric, and sociological methods of analysis were employed. The research procedure was clearly described, ensuring its reproducibility. The choice of methodology was driven by the interdisciplinary nature of the topic, which lies at the intersection of economics, sociology, and gender studies. The study appropriately applied methods of systemic and comparative analysis, institutional modeling, and quantitative techniques, including principal component analysis (PCA), clustering, classification trees, regression modeling, analysis of variance (ANOVA), and assessment of information criteria (AIC, BIC). This combination of tools allowed us not only to identify latent relationships between socioeconomic and gender factors but also to substantiate the empirical validity of the results.</p> <p>The dissertation utilizes a wide range of modern analytical methods and tools, ensuring the scientific reliability and reproducibility of the results. The author demonstrates a strong command of modern statistical processing and data interpretation technologies, drawing on systems, institutional, and economic-mathematical approaches. To address the research objectives, multivariate data analysis methods were employed, including principal component analysis (PCA), cluster analysis, and classification tree construction. Combined with regression modeling, analysis of variance (ANOVA), and assessment of information criteria (AIC, BIC), these methods allowed us to identify structural patterns in</p> |
|    | Reliability of sources and information provided | <u>1) yes;</u><br>2) no.                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|    |                                                 | 8.2 The results of the dissertation were obtained using modern scientific research methods and data processing and interpretation techniques using computer technologies:<br><u>1) yes;</u><br>2) no. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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|  |  |                                                                                                                                                                                                                                                                                            | the reproduction of gender differences and quantify their impact on labor market parameters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  |  | 8.3 The 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):<br><u>1) yes;</u><br>2) no. | The empirical basis of this dissertation is based on national statistics and the author's own sociological survey of university students. This combination of sources allowed us to validate the hypotheses and confirm the reliability of the results. Comparing theoretical propositions with actual data allowed us to identify consistent trends and patterns characterizing gender differences in the labor market. The study established statistically significant relationships between gender stereotypes, institutional mechanisms, and employment indicators, demonstrating the validity of the methods used and the reliability of the findings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  |  | 8.4 Important claims are <u>supported</u> /partially supported/not supported by references to relevant and reliable scientific literature.                                                                                                                                                 | The dissertation is distinguished by a high level of theoretical development and substantiation of its conclusions. Most key points are supported by references to modern and reliable sources. The doctoral candidate draws on the results of current empirical research and recognized theoretical concepts, ensuring the reliability and validity of the presented conclusions. Where original interpretations are provided, logical evidence and comparisons with existing approaches are provided, lending credibility and scientific integrity to the argument.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|  |  | 8.5 The literature sources used are <u>sufficient</u> /not sufficient for a literature review.                                                                                                                                                                                             | The literature review in this dissertation is distinguished by its depth, breadth of coverage, and analytical nature. The author demonstrates a good knowledge of modern theoretical and methodological approaches to the study of gender stereotypes, relying on both classical and new studies by Russian and foreign authors. The dissertation systematizes the main areas of scientific analysis of the phenomenon of gender stereotypes: cognitive-structural, social-role, professional-leadership, and cultural-normative approaches. A detailed analysis of the works of such authors as K. Deaux, L. Lewis, G.V. Savinov, G.V. Sabitova, J.K. Swim, L.J. Sanna, M. Biernat, B. Six, T. Eckes, E.F. Kuznetsova, L.A. Rudman, P. Glick, A.H. Eagly, S.J. Karau, E. Lopez-Zafra, R. Garcia-Retamero, T. Hentschel, J. Bosak, S. Sczesny, A.M. Koenig, N. Ellemers, A.J.C. Cuddy, E.B. Wolf, M.I. Norton, A.V. Merenkov, K.G. Priyashantha, and others. The author consistently identifies the key characteristics of gender stereotypes—stability and schematic nature—and conducts a comparative analysis. Particular attention is paid to |

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|   |                              |                                                                                                                               | identifying the limitations of existing theoretical approaches, in particular, their focus primarily on the stability and obvious forms of manifestation of stereotypes with insufficient elaboration of their dynamics, hidden mechanisms, and intercategory intersections (gender × ethnicity × socioeconomic status). It is separately emphasized that in the context of Kazakhstan, the gap manifests itself in the lack of tools linking theoretical constructs with the institutional characteristics of employment, the structure of labor segregation, and the gender wage gap. Thus, the literary sources used are sufficient and representative for revealing the topic.                                                                                                                                                                                                                                                                                                                               |
| 9 | Principle of practical value | 9.1 The dissertation has theoretical significance:                                                                            | This dissertation makes a theoretical contribution to the development of labor economics and gender studies. The analysis revealed that gender stereotypes are one of the key factors determining the structure and dynamics of the labor market and also influence the socioeconomic behavior of the population. The doctoral student proposed a conceptual model describing the formation and change of gender trajectories—the professional and social development paths of men and women. The study encompasses three analytical levels: institutional, reflecting the influence of legislation, norms, and public policy; behavioral, related to individual attitudes and choices; and macroeconomic, characterizing general trends and structural changes in the labor market. This approach provides a comprehensive understanding of the nature of gender differences in the economy and creates a foundation for further research combining economic, sociological, and behavioral methods of analysis. |
|   |                              | <u>1) yes;</u><br>2) no.                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                              | 9.2 The dissertation has practical significance and there is a high probability of applying the obtained results in practice: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                              | <u>1) yes;</u><br>2) no.                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|     |                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | potential, and expanding women's participation in the country's digital and innovative economy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|     |                                                                                                                                                                                                                   | 9.3 Are the practice offering new:                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | The dissertation presents new practical solutions, including: the development of an institutional model, the "Gendered Pathways Model", reflecting the mechanisms of reproduction of gender stereotypes in the Kazakhstani labor market; the creation of methodological tools for economic and statistical analysis (PCA, clustering, classification trees) to identify gender imbalances in employment; the implementation of a scenario approach to forecasting female employment based on regression and dispersion models (ANOVA, AIC, BIC); the development of a "Roadmap for the integration of gender equality principles into the public and corporate governance system," including step-by-step measures to improve personnel policy, monitoring mechanisms, and evaluating the effectiveness of employment programs. |
|     |                                                                                                                                                                                                                   | <b>1) completely new;</b><br>2) partially new (25-75% are new);<br>3) not new (less than 25% are new).                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 10. | Quality of writing and design                                                                                                                                                                                     | Quality of academic writing:                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Kenzheali Y.A. demonstrates a confident command of scientific style, clearly formulates concepts, and correctly uses economic and sociological terminology. Her formulations are precise and informative, contributing to the clarity and persuasiveness of her presentation. Her scientific argumentation is based on a logical sequence—from problem statement to analysis, interpretation, and synthesis of results. Sources are used correctly, references are formatted according to academic standards, and the language of the work meets the requirements for dissertations in the humanities and socioeconomics. Therefore, the quality of her academic writing is assessed as high, and her writing style meets the requirements for scientific research at this level.                                               |
|     |                                                                                                                                                                                                                   | <b>1) high;</b><br>2) average;<br>3) below average;<br>4) low.                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 11. | Comments on the dissertation                                                                                                                                                                                      | Comments are specific and focus on specific formulations, without affecting the content or scientific merits of the dissertation. The style of presentation is consistent with academic traditions and is characterized by clarity and consistency. The review objectively reflects the main findings of the study without excessive value judgments. Overall, the level of the presented work meets the established requirements for PhD dissertations.                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 12. | The scientific level of the doctoral student's articles on the research topic (in the case of defending a dissertation in the form of a series of articles, official reviewers comment on the scientific level of | The doctoral student has published nine research papers, including one article in a Scopus-indexed journal (percentile > 85). The topics of the publications are fully consistent with the content of the dissertation research. The published materials reflect both theoretical and applied results of the work, demonstrating its comprehensive nature. The publications presented confirm the validation of the dissertation's main provisions and conclusions within the scientific community. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|     | each article of the doctoral student on the research topic)                                    |                                                                                                        |
| 13. | Decision of the official reviewer (in accordance with paragraph 28 of the Standard Provisions) | Awarding of the degree of Doctor of Philosophy (PhD) in the educational program 8D04101 – «Economics». |

The dissertation work of Kenzheali Yerkezhan Altaykyzy entitled “The impact of gender stereotypes on the formation of the labor market in Kazakhstan: theory, assessment, and development scenarios” meets the requirements for dissertations submitted for the degree of Doctor of Philosophy (PhD), and its author deserves to be awarded the degree of Doctor of Philosophy (PhD) in the educational program 8D04101 – “Economics”.

#### Official Reviewer

PhD, Head of Department of Business,  
Kazakh -American Free university

Bordiyanu I.V

