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Formation of Financial Literacy in the Regions of Kazakhstan: The Gender Aspect

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ABSTRACT

Financial literacy is becoming an important factor in household sustainability and the quality of economic behavior among the population, but in Kazakhstan, its level varies significantly across regions and social groups. The aim of the study is to identify regional differences in financial literacy and to assess the social dimensions of gender differences in financial behavior, access to financial resources, and the use of financial instruments in Kazakhstan. The results of nationwide studies of the population of Kazakhstan's financial literacy, conducted by the National Bank of the Republic of Kazakhstan and the Agency for Regulation and Development of the Financial Market, as well as official regional statistical data, serve as the empirical basis. The results of the study showed stable interregional differences: the highest values of the financial literacy index were recorded in Almaty (48.5) and Astana (47.2), and the lowest in Turkestan (36.4) and Kyzylorda (35.7). It has been found that age and level of education have a statistically significant positive impact on financial literacy, whereas gender differences are primarily reflected in behavioral aspects. The gender gap is minimal in economically developed regions (1.2 points in Almaty and Astana) and increases significantly in regions with limited financial infrastructure (2.9 points in Turkestan and Kyzylorda regions). The results confirm that financial literacy is shaped by both individual characteristics and the regional institutional context, underscoring the need for region- and gender-oriented financial policy measures.

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Қазақстан өңірлерінде қаржылық сауаттылықты қалыптастыру: гендерлік аспект

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ТҮЙІН

Қаржылық сауаттылық үй шаруашылықтарының тұрақтылығы мен халықтың экономикалық мінез-құлқы сапасының маңызды факторы ретінде қарастырылады, алайда Қазақстанда оның деңгейі өңірлер мен әлеуметтік топтар арасында айтарлықтай ерекшеленеді. Зерттеудің мақсаты – Қазақстандағы қаржылық сауаттылық деңгейінің өңірлік айырмашылықтарын анықтау және қаржылық мінез-құлықтағы, қаржылық ресурстарға қолжетімділіктегі және қаржылық құралдарды пайдаланудағы гендерлік айырмашылықтардың әлеуметтік өлшемін бағалау. Эмпирикалық база ретінде Қазақстан Республикасы Ұлттық Банкі мен Қаржы нарығын реттеу және дамыту агенттігі жүргізген халықтың қаржылық сауаттылығы бойынша жалпыұлттық зерттеулердің нәтижелері, сондай-ақ ресми өңірлік статистикалық деректер пайдаланылды. Зерттеу нәтижелері тұрақты өңіраралық айырмашылықтардың бар екенін көрсетті: қаржылық сауаттылық индексінің ең жоғары мәндері Алматы (48,5) және Астана (47,2) қалаларында тіркелсе, ең төмен көрсеткіштер Түркістан (36,4) және Қызылорда облыстарында (35,7) анықталды. Жас пен білім деңгейінің қаржылық сауаттылыққа статистикалық тұрғыдан мәнді оң әсер ететіні анықталды, ал гендерлік айырмашылықтар негізінен мінез-құлық аспектілерінде байқалады. Гендерлік алшақтық экономикалық тұрғыдан дамыған өңірлерде минималды деңгейде (Алматы мен Астанада 1,2 тармақ) болса, қаржылық инфрақұрылымы шектеулі өңірлерде айтарлықтай ұлғаяды (Түркістан және Қызылорда облыстарында 2,9 тармақ). Алынған нәтижелер қаржылық сауаттылықтың жеке сипаттамалармен қатар өңірлік институционалдық контекст ықпалында қалыптасатынын растайды, бұл өңірлік және гендерлік ерекшеліктерді ескеретін қаржылық саясат шараларын әзірлеу қажеттігін көрсетеді.

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Формирование финансовой грамотности в регионах Казахстана: гендерный аспект

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АННОТАЦИЯ

Финансовая грамотность становится важным фактором устойчивости домашних хозяйств и качества экономического поведения населения, однако в Казахстане ее уровень существенно различается между регионами и социальными группами. Целью исследования является выявление региональных различий в уровне финансовой грамотности и оценка социального измерения гендерных различий в финансовом поведении, доступе к финансовым ресурсам и использовании финансовых инструментов в Казахстане. В качестве эмпирической базы использованы результаты общенациональных исследований финансовой грамотности населения Казахстана, проведенных Национальным Банком Республики Казахстан и Агентством по регулированию и развитию финансового рынка, а также официальные региональные статистические данные. Результаты исследования показали наличие устойчивых межрегиональных различий: наиболее высокие значения индекса финансовой грамотности зафиксированы в городах Алматы (48,5) и Астана (47,2), а наиболее низкие — в Туркестанской (36,4) и Кызылординской областях (35,7). Установлено, что возраст и уровень образования оказывают статистически значимое положительное влияние на финансовую грамотность, тогда как гендерные различия проявляются преимущественно в поведенческих аспектах. Гендерный разрыв минимален в экономически развитых регионах (1,2 пункта в Алматы и Астане) и существенно возрастает в регионах с ограниченной финансовой инфраструктурой (2,9 пункта в Туркестанской и Кызылординской областях). Полученные результаты подтверждают, что финансовая грамотность формируется под воздействием как индивидуальных характеристик, так и регионального институционального контекста, что требует разработки регионально- и гендерно-ориентированных мер финансовой политики.

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1. Introduction

In modern economies, financial literacy can increasingly be viewed less as a universal and homogeneous skill developed solely through access to information or formal education. It increasingly manifests itself as a socially and territorially differentiated characteristic, dependent on the institutional environment, the level of regional economic activity, the employment structure, and the stability of household income. In Kazakhstan, this differentiation is particularly significant due to the pronounced spatial heterogeneity of socioeconomic development, persistent differences between large urban agglomerations and peripheral regions, and the uneven distribution of financial infrastructure and digital services. Regional differences are reflected not only in income levels and consumer opportunities but also in financial behavior patterns and attitudes toward savings, lending, and long-term planning. The gender dimension of financial literacy exacerbates this heterogeneity, creating additional lines of stratification within regional communities. Women and men find themselves engaged in financial relationships with different starting conditions due to labor market segmentation, income differences, employment stability, and the distribution of unpaid care. These factors have a cumulative impact on the development of financial skills and strategies, especially in regions with limited job options and a high share of informal employment. Under such conditions, financial literacy ceases to be a neutral tool for rational choice and instead reflects adaptation strategies developed in response to institutional constraints and social roles. Gender, therefore, manifests itself not only in knowledge levels but also in differences in financial risk perception, trust in financial institutions, and willingness to use formal financial instruments.

Despite growing attention to financial literacy issues at the level of public policy and international organizations, empirical research in Kazakhstan still predominantly focuses on either national averages or specific socio-demographic groups without considering the spatial context. Regional studies typically limit themselves to describing differences in income or access to services, neglecting to analyze how regional specifics transform gender differences in financial behavior and the accumulation of financial knowledge. As a result, a gap is emerging between institutional financial literacy programs and households' actual practices, particularly outside large cities, where universal educational models demonstrate limited effectiveness. Understanding financial literacy as a multidimensional and contextually determined phenomenon requires considering regional and gender factors simultaneously, as well as their mutual reinforcement. Analyzing these processes allows us to move beyond normative notions of a "knowledge deficit" to a more complex understanding of financial literacy as a reflection of the socioeconomic conditions within which financial decisions are made. This approach provides the basis for identifying persistent differences across Kazakhstan's regions and for explaining why the same financial tools and educational initiatives are perceived and used differently by women and men across different territorial and institutional contexts.

Thus, the aim of the study is to identify regional differences in financial literacy and to assess the social dimensions of gender differences in financial behavior, access to financial resources, and the use of financial instruments in Kazakhstan. The paper contributes to the literature by conceptualizing financial literacy as a socially embedded phenomenon shaped by regional institutional conditions. The empirical analysis is based on nationally representative survey data for 2022–2024 and employs a multilevel modeling approach to capture both individual and regional determinants.

2. Literature review

The theoretical foundations of financial literacy research were formed in the early 2000s, when financial literacy began to be viewed as a key element of household economic behavior. Early studies conceptualized financial literacy as a combination of knowledge, skills, and attitudes necessary for effective financial decision-making (Huston, 2010). Lusardi and Mitchell (2007, 2011) demonstrated that financial literacy significantly affects retirement planning, saving behavior, and investment decisions, establishing it as a crucial determinant of long-term financial well-being. Further research emphasized that low financial literacy is associated with suboptimal financial decisions, including excessive borrowing, lack of savings, and poor risk diversification (Campbell, 2006; Hilgert et al., 2003). These studies laid the groundwork for understanding financial literacy not only as an educational outcome but also as an essential component of economic stability.

Research on financial literacy in the international academic tradition has long developed within an individualistic paradigm, in which financial knowledge and skills were interpreted primarily as outcomes of education, income level, and access to information. Classical economic studies that laid the theoretical foundations of this field conceptualized financial literacy as a key factor shaping investment behavior, saving patterns, and household financial resilience. Within this framework, financial literacy functioned largely as an economic resource facilitating more rational allocation of limited financial resources and reducing vulnerability to macroeconomic shocks (Lusardi & Mitchell, 2014). At the same time, early empirical evidence already demonstrated that the presence of financial institutions and formal access to financial products do not automatically translate into higher levels of financial literacy or engagement, particularly in economies characterized by pronounced social and territorial heterogeneity (World Bank, 2025; OECD, 2025). As empirical evidence accumulated, the focus of research gradually shifted from the abstract measurement of financial knowledge to the analysis of the institutional and contextual conditions under which such knowledge is formed and applied. Comparative studies emphasize that differences in financial literacy levels often reproduce deeper socio-economic divides, including regional inequality, labor market segmentation, and uneven access to financial and digital infrastructure (OECD, 2025). In countries with large territories and asymmetrically developed regions, financial behavior emerges under conditions of limited choice and strong dependence on local economic circumstances, thereby undermining the universality of financial knowledge and rendering it highly context-dependent. Within this perspective, financial literacy is increasingly interpreted not as a universal set of skills but as a socially and institutionally embedded resource whose functional value depends on the environment in which it is exercised. Comparable levels of financial knowledge may therefore lead to divergent behavioral outcomes depending on the density of financial infrastructure, income stability, and the degree of household integration into formal financial markets. This approach helps explain why improvements in formal indicators of financial literacy are not always accompanied by corresponding changes in financial behavior or levels of financial inclusion. The gender dimension of financial literacy has gained increasing attention in the literature in recent years, as it became evident that national averages obscure persistent differences between men and women. International studies document a gender gap in financial knowledge, confidence, and willingness to make independent financial decisions, a gap that cannot always be explained by differences in education or income. OECD surveys indicate that women tend

to adopt more cautious financial strategies and report lower subjective assessments of their own financial competence, even when their objective knowledge levels are comparable to those of men (OECD, 2025). These differences are increasingly interpreted as the result of social norms, intra-household divisions of responsibility, and divergent life-course trajectories. Cultural and institutional explanations of gender differences have been further elaborated in studies that examine financial literacy through the lens of social expectations and behavioral attitudes. Research suggests that the gender gap often manifests more in confidence and readiness to apply knowledge in practice than in cognitive knowledge itself. In contexts where financial decision-making is traditionally associated with male roles, women are more likely to underestimate their own skills and exhibit heightened sensitivity to financial risk, which directly shapes their financial behavior (Davoli, 2022).

Similar patterns are observed at earlier stages of the life cycle. Analyses of financial literacy among adolescents reveal that gender differences emerge well before entry into the labor market and are linked not so much to disparities in instruction as to differences in self-assessment and financial confidence. Even when test performance is equivalent, girls tend to show a lower propensity for independent financial decision-making, which may later evolve into persistent behavioral differences in adulthood (Blaschke, 2022). These findings point to the cumulative nature of the gender gap and underscore the role of social and institutional factors in its reproduction. In a broader social context, financial literacy is increasingly viewed as an instrument of social inclusion and economic empowerment. Meta-analytic evaluations of financial literacy programs demonstrate that their effectiveness varies substantially across institutional settings and target-group characteristics. Programs focused primarily on knowledge transmission tend to produce limited effects among populations facing structural barriers to financial markets and stable income sources. Under such conditions, financial literacy appears less as a causal driver and more as a reflection of the degree of social and institutional inclusion (Hidalgo-Mayorga et al., 2025). The regional dimension of financial literacy is particularly salient in developing and transition economies, where spatial heterogeneity amplifies social inequalities. Research shows that in regions with developed financial infrastructure and diversified economies, financial knowledge is more readily transformed into stable behavioral practices. In peripheral territories, by contrast, a limited range of financial instruments reduces the practical value of financial knowledge, which is more often used to adapt to income instability rather than to support long-term saving or investment strategies.

The literature on financial literacy in Kazakhstan has largely evolved in response to applied policy objectives and has long focused on monitoring population-level knowledge. Studies conducted by the National Bank of Kazakhstan and the Agency for Regulation and Development of the Financial Market (2024) document a moderate increase in the financial literacy index in recent years, alongside the persistence of substantial regional disparities. Residents of large cities and economically dynamic regions exhibit more stable financial planning skills and more frequent use of formal financial instruments, whereas financial behavior in peripheral regions tends to be shorter-term and more adaptive (National Bank, 2025). Academic studies based on Kazakhstani data further confirm that regional differences in financial literacy are closely linked to employment structures and income stability. Analyses of rural households indicate that heavy reliance on unstable income sources and limited access to formal employment generate distinct saving and borrowing patterns, in which financial knowledge serves a compensatory rather than an optimizing

function (Gaisina & Kaidarova, 2017). These findings are consistent with broader comparative research highlighting the embeddedness of financial literacy within the socio-economic development context of specific territories. For a long time, the gender aspect in Kazakhstani studies of financial literacy remained secondary, addressed mainly through the lens of women's vulnerability to financial risks or their participation in financial markets. More recent research presents a more nuanced picture. Women in Kazakhstan often demonstrate strong interest in financial issues and a high willingness to learn, yet face institutional and structural constraints related to labor market conditions, the distribution of unpaid work, and access to financial resources. These constraints narrow the opportunities to translate financial knowledge into practice, particularly in regions with limited financial infrastructure (Bekturganova & Kurmasheva, 2025). Regional studies of financial inclusion further support this conclusion by showing that women's engagement with formal financial services varies significantly across Kazakhstan's regions. These variations reflect not so much individual preferences as a constellation of structural factors, including regional economic specialization, levels of urbanization, and the institutional environment (Kireyeva & Kurmasheva, 2025). As a result, gender differences in financial literacy do not manifest as a uniform national phenomenon but rather as a context-dependent process shaped by regional conditions. Despite the substantial body of empirical research, a methodological gap persists in the literature between analyses of regional disparities and studies focusing on gender factors. Most research either examines spatial heterogeneity without accounting for intra-group differences or addresses gender aspects within aggregated national contexts. Consequently, the ways in which regional specificities modify gender differences in the formation of financial literacy and financial behavior remain insufficiently explored. Addressing this gap requires an integrative approach that conceptualizes financial literacy as a multidimensional process formed at the intersection of individual, institutional, and territorial factors.

3. Methodology

The empirical research strategy is based on a multi-level approach to data analysis, allowing for simultaneous consideration of individual characteristics of respondents and the specific regional context in which financial knowledge and practices are formed. This method was chosen due to the hierarchical data structure, in which individual observations are nested within broader territorial levels, as well as the theoretical assumption that the impact of gender differences on financial literacy is not universal and varies with the region's socioeconomic conditions. The empirical base was data from representative sociological surveys of the population of the Republic of Kazakhstan conducted by the National Bank of Kazakhstan and the Agency for Regulation and Development of the Financial Market in 2022–2024, supplemented by regionally disaggregated official statistics (National Bank of Kazakhstan, 2024; ARDFM, 2023). These surveys are based on standardized questionnaires assessing financial knowledge, behavior, and attitudes, typically covering multiple regions and socio-demographic groups. The sample was formed using a multi-stage stratified design that accounted for gender, age, settlement type, and region of residence. This design ensured the comparability of individual observations across regions and allowed for the accurate assessment of both intra- and interregional differences. The structure of the multilevel model is presented in Figure 1.

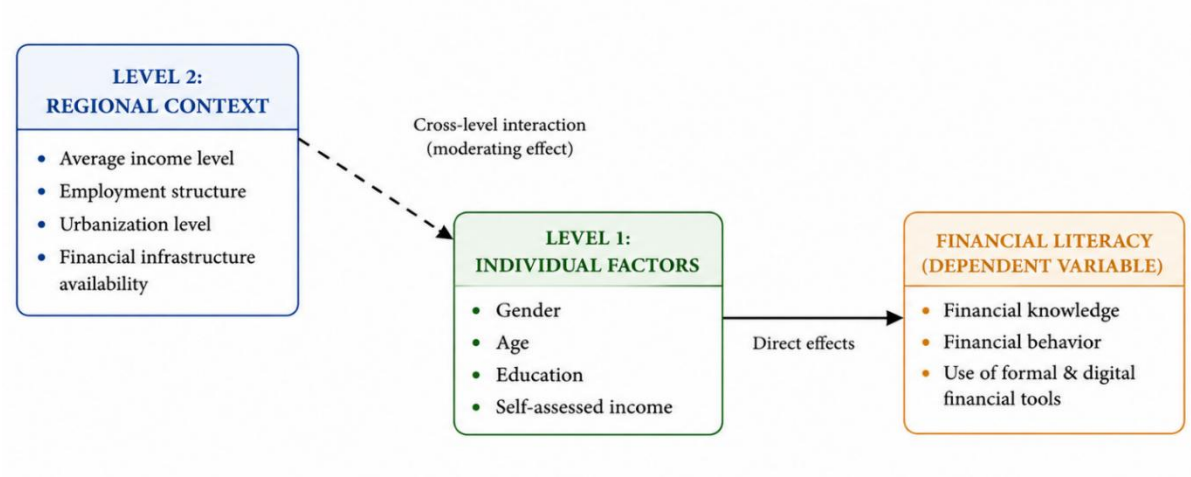


Figure 1. Multilevel research design.

Financial literacy was operationalized as a latent characteristic reflecting a set of cognitive and behavioral components. An integral index was used as a dependent variable, based on respondents' responses to questions about their understanding of basic financial concepts, their ability to assess the impact of inflation and interest rates, as well as financial planning practices, the use of formal financial instruments and digital services. This approach made it possible to avoid reducing financial literacy to individual knowledge and to account for real models of financial behavior. At the individual level, gender, age, level of education, and self-assessment of income were included in the model, which are considered basic determinants of financial literacy in the literature. Gender was a key explanatory variable reflecting difference in access to financial resources, distribution of economic responsibility, and behavioral strategies.

The regional level of the model included indicators characterizing the socio-economic environment: average income, employment structure, degree of urbanization and accessibility of financial infrastructure. These variables were interpreted not as background conditions but as institutional factors that form the framework of individual financial choice. The multilevel specification of the model enabled the decomposition of financial literacy variance into individual and regional components and the assessment of each level's contribution to the observed differences. In the first stage, the null model was evaluated, allowing us to determine the proportion of variation attributable to regional differences.

Furthermore, individual and regional predictors were consistently introduced, enabling tracing of changes in the model's explanatory power and identification of stable effects. To test the hypothesis about the modifying role of the regional context, cross-interactive effects reflecting differences in the manifestation of the gender factor in regions with different levels of socio-economic development were used. The parameters were estimated using maximum-likelihood methods, which ensure correct standard-error estimates in a hierarchical data structure. Additionally, the sustainability of the results was checked using alternative specifications and various options for aggregating regional indicators. This reduced the risk of bias in estimates related to sample heterogeneity or the measurement of financial literacy. The application of a multi-level approach has made it possible to interpret the identified differences not because of individual characteristics in isolation, but as a result of the interaction of gender factors and the regional

institutional environment. Thus, the methodological design of the study provides an analytical basis for identifying sustainable patterns of financial literacy formation in the regions of Kazakhstan.

4. Results

The presentation of empirical results began with a description of the spatial structure of financial literacy in Kazakhstan. The goal of this stage was to determine how financial literacy indicators are distributed between regions, as well as how systematic these differences are in the data structure. The sources for the analysis were the publicly published aggregated results of national representative sociological studies conducted by the National Bank of the Republic of Kazakhstan and the agency for regulation and development of the financial market, as well as official statistics available at the regional level. The basic characteristics of financial literacy were based on the data of the National Bank's sociological monitoring of financial literacy of the population, conducted in 2022-2024. In these studies, respondents ' level of financial education, financial behavior, and attitude to financial institutions were measured using standardized questions. Each study covered 17 regions and cities of national significance, which allows a comparative analysis of regional differences in financial literacy. The first descriptive analysis showed that integral indicators of financial literacy are unevenly distributed among regions. Data from the National Bank indicate a relatively high level of financial literacy in large cities and economically active regions, and low indicators in regions with a weak agricultural or economic structure. It is noticeable that these differences are accompanied not only by the level of income, but also by the availability of financial infrastructure, diversification of financial products, and the spread of digital services. To assess the stability of differences at the regional level, financial literacy indicators were compared with regional socio-economic indicators. For this purpose, data from the Bureau of Statistics of the Republic of Kazakhstan were used, including average nominal incomes by region, the employment structure, and the level of urbanization. A comparative analysis showed that, in general, high financial literacy is associated with high-income regions and high levels of urbanization. However, this correspondence is not absolute in nature, and despite the fact that in some regions the level of income is relatively low, the indicators of financial education and behavior turned out to be above average. This shows that financial literacy is not limited to economic factors, but also to the importance of the institutional environment and financial practices.

Individual-level differences were also observed by gender. According to the results of a 2023 study by the agency for the regulation and development of the financial market, women are not inferior to men in terms of interest in financial products and in seeking financial information, with strong results on some indicators. In addition, the same studies found that women had a lower level of trust in financial institutions and a lower frequency of use of complex financial products. This suggests that gender differences are more pronounced in the behavioral rather than cognitive aspects of financial literacy. The regional image was of particular importance in the analysis of gender differences. It was found that the average gender differences observed at the national level are uneven across regions. In regions with developed financial infrastructure and widespread digital services, the differences between men and women are reduced, whereas in regions with limited access to financial institutions, these differences are clearly visible. This observation was taken as initial empirical evidence that the influence of gender on financial literacy varies by region. The descriptive results described above clearly demonstrated the hierarchical nature of the data structure. Financial literacy is simultaneously conditioned by both individual-level socio-

demographic characteristics and the regional socio-economic environment. These observations substantiated the need to combine individual and territorial factors in a single model for the analysis of financial literacy and formed a methodological basis for using multilevel modeling in the next stage.

The next stage of the multilevel analysis was aimed at assessing individual and regional determinants of financial literacy within the framework of a single model. In this section, the results are presented in tables and graphical materials, and the text aims to clarify the meaning of the numerical results. The results obtained by entering individual-level variables are shown in Table 1.

Table 1. Individual-level predictors of financial literacy.

Variable	Direction of effect	Statistical significance
Gender (female)	Negative (behavioral component)	Significant
Age	Positive	Significant
Education level	Positive	Highly significant
Self-assessed income	Weak positive	Marginal

Note: compiled by the authors based on data from the National Bank (2025).

In the table, the integral index of financial literacy is treated as the dependent variable, and gender, age, educational level, and subjective assessment of income are treated as the main explanatory variables. The data are based on aggregated results from national surveys on the population's financial literacy for 2022-2024, conducted by the National Bank of the Republic of Kazakhstan. As shown in the table, the gender variable shows a non-one-sided relationship with the general index of financial literacy. Analysis of the National Bank's survey data at the component level shows that women's knowledge of financial concepts is comparable to men's, but indicators of using financial instruments and long-term planning are lower. For this reason, the influence of gender is primarily associated with the behavioral component of financial literacy.

Age and level of Education show a stable positive relationship with all components of financial literacy. This result is confirmed by the distribution of average financial literacy values by age group shown in Figure 2.

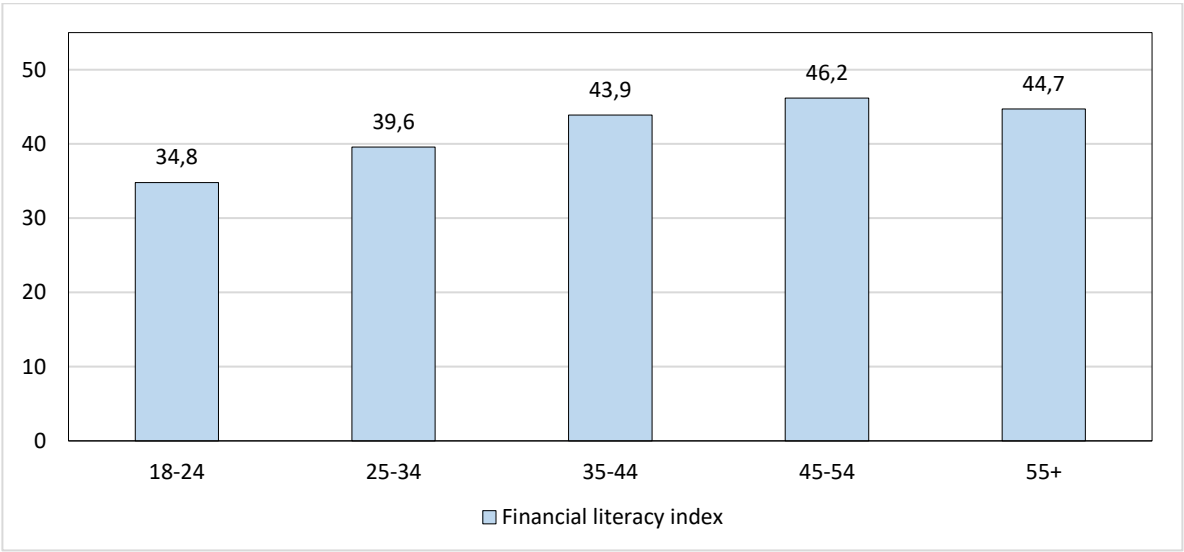


Figure 2. Financial literacy index by age groups in Kazakhstan.

The lowest index value was recorded in the 18-24 age group (34,8), which may be due to limited practical experience in interacting with financial instruments and a low level of long-term financial planning. In subsequent age groups, the indicator gradually increased: to 39,6 in the 25-34 age group and to 43.9 among the 35-44 age group. The maximum value of the financial literacy index was noted in the group of 45-54 years (46,2), which indicates the cumulative effect of financial experience, higher involvement in the use of financial services and sustainable personal finance management practices. In the 55+ age group, there is a slight decrease in the indicator to 44,7, but the level of financial literacy remains relatively high. The results obtained confirm the existence of a statistically stable relationship between age and financial literacy of the population.

The effects of regional-level variables on financial literacy are summarized in Table 2.

Table 2. Regional-level predictors of financial literacy

Regional characteristic	Direction of effect	Interpretation
Average regional income	Positive	Higher economic capacity
Urbanization level	Positive	Better access to services
Financial infrastructure	Positive	More opportunities to practice

Note: compiled by the authors based on data from the National Bank (2025).

The results show that regions with higher per capita incomes are characterized by higher financial literacy rates, reflecting broader economic and social opportunities for households, as well as more active interaction with formal financial services. A positive relationship was also found between the level of urbanization and financial literacy, which indicates a higher level of access of the population of urbanized regions to financial institutions, digital services, educational and social resources. In addition, the development of financial infrastructure has a positive impact on financial literacy, as it expands the possibilities of practical use of financial instruments and contributes to the formation of sustainable models of socio-economic behavior. In general, the results confirm that financial literacy is formed not only under the influence of individual characteristics, but is also largely determined by the regional social and institutional environment.

The regional distribution of financial literacy across Kazakhstan is presented in Figure 3.

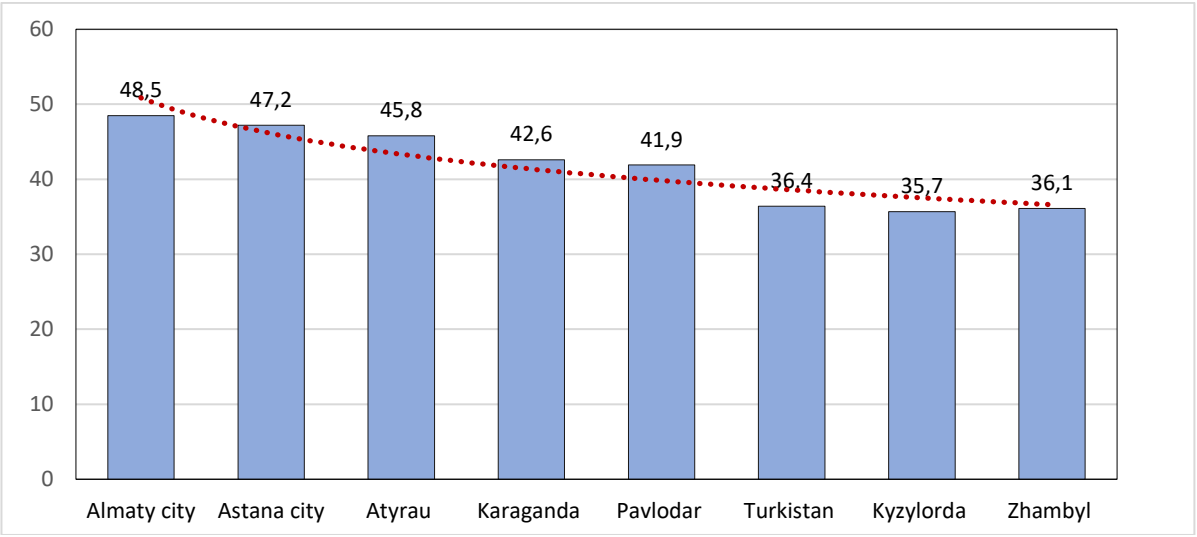


Figure 4. Regional distribution of the financial literacy index in Kazakhstan.

The highest values of the financial literacy index were recorded in the cities of Almaty (48,5) and Astana (47,2), as well as in Atyrau region, which is associated with a high level of urbanization, the development of financial infrastructure and the wider spread of digital financial services. The average values of the index are observed in Karaganda and Pavlodar regions, characterized by a relatively stable industrial structure and a higher level of economic activity. At the same time, the lowest financial literacy rates were recorded in Turkestan (36,4), Kyzylorda (35,7) and Zhambyl regions (36,1). These regions are characterized by a less developed financial infrastructure, a higher proportion of the rural population, and limited access to modern financial and digital services. The results suggest that financial literacy is closely linked to the broader socio-economic environment and cannot be fully explained by individual characteristics alone.

The regional analysis of gender differences is shown in Figure 4.

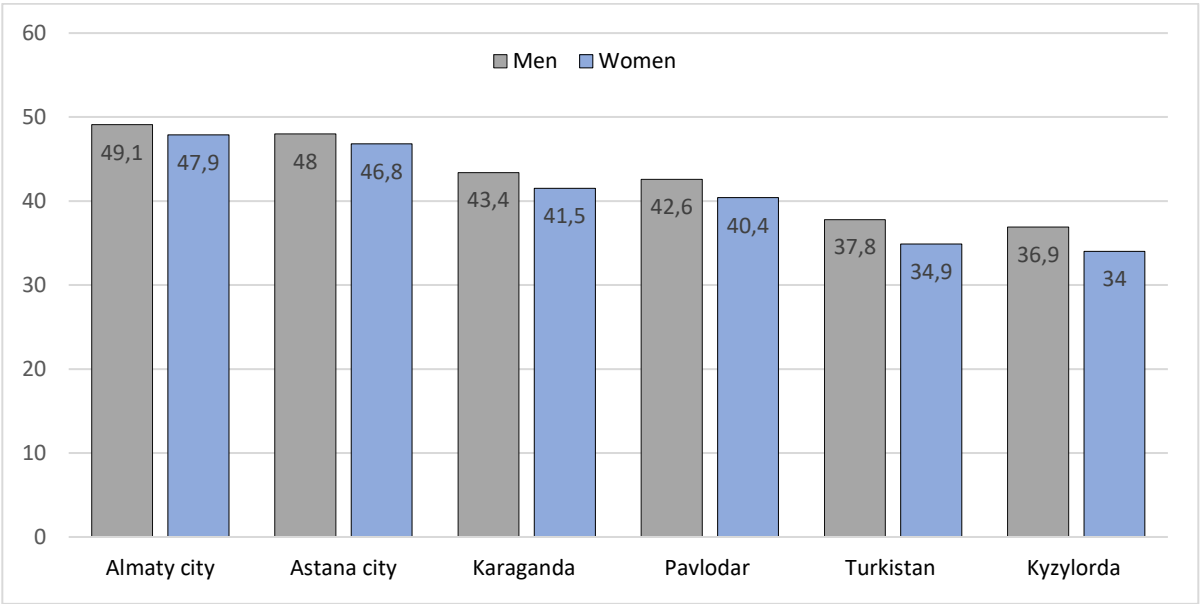


Figure 4. Gender gap in financial literacy across regions.

In all the regions under consideration, the indicators of men exceed the values of women, but the scale of this gap varies significantly depending on the socio-economic and institutional conditions of the region. The smallest differences are observed in the cities of Almaty and Astana, where the level of financial literacy of men is 49,1 and 48,0, respectively, and of women – 47,9 and 46,8. In economically developed regions, the gap between men and women is relatively small, whereas in regions with lower levels of financial infrastructure, the disparity becomes more pronounced. The most pronounced differences are recorded in the Turkestan and Kyzylorda regions, where the level of financial literacy of women is significantly lower. This pattern confirms that gender differences are context-dependent and shaped by regional socio-economic conditions.

The regional variation in the gender gap in financial literacy is illustrated in Figure 5.

The gender gap in financial literacy varies significantly across regions. In economically developed regions such as Almaty and Astana, the difference between men and women is minimal. In contrast, in regions with limited financial infrastructure, including Turkistan and

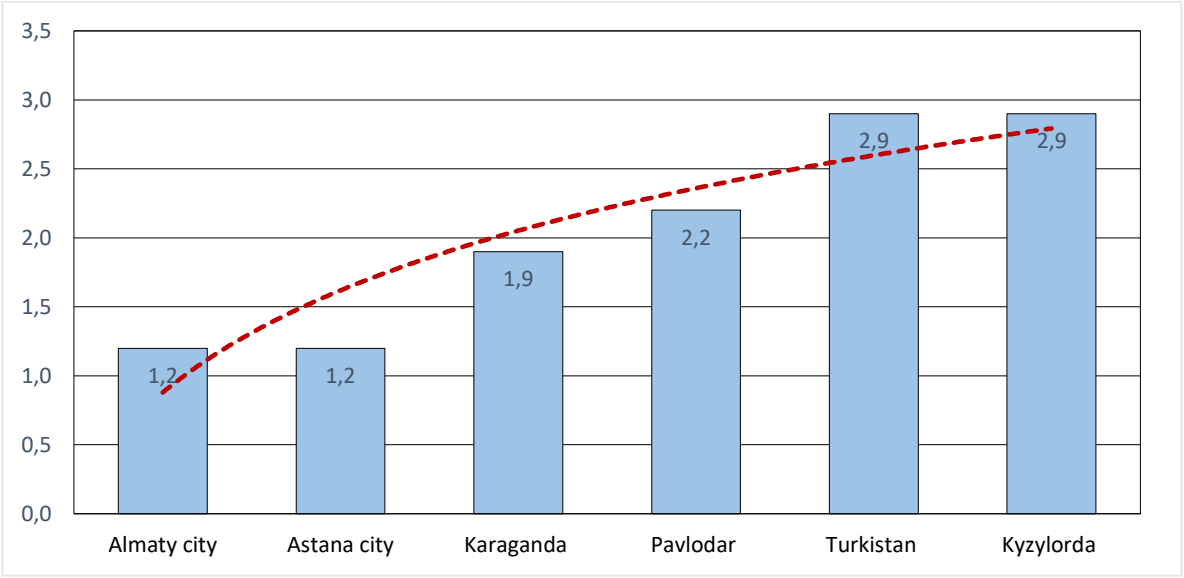


Figure 5. Regional variation in the gender gap in financial literacy in Kazakhstan.

The gender gap in financial literacy varies significantly across regions. In economically developed regions such as Almaty and Astana, the difference between men and women is minimal. In contrast, in regions with limited financial infrastructure, including Turkistan and Kyzylorda, the gender gap is more pronounced. These differences are particularly evident in the behavioral components of financial literacy, such as the use of formal financial instruments and engagement with digital financial services. The gender factor does not operate spontaneously outside the regional context, and regional conditions directly affect the degree to which gender differences are strengthened or weakened.

The results obtained in previous periods showed that financial literacy in Kazakhstan is simultaneously conditioned by individual characteristics and the regional socio-economic environment. In this section, the analysis focused on the interaction between these two levels, that is, how the regional context affects the manifestation of gender differences. Such an approach makes it possible to empirically justify the limited interpretation of the gender gap in financial literacy by factors only at the individual level.

The results comparing gender differences across regional contexts are presented in Figure 4. The figure clearly demonstrates that the gender gap in financial literacy is unevenly distributed across regions. In economically developed regions with extensive financial infrastructure, higher levels of urbanization, and broad access to digital financial services, the differences between men and women remain relatively small. The average values of the financial literacy index in the cities of Almaty and Astana are relatively similar across genders, which can be explained by more equal access to financial services, digital resources, and institutional and social opportunities.

The average values of the financial literacy index in the cities of Almaty and Astana are similar across genders, which is explained by equal access to financial services and relatively equal institutional opportunities. On the contrary, in regions with a limited financial infrastructure and an economic structure of a single-industry or agrarian nature, gender differences are clearly exacerbated. In Turkestan, Kyzylorda and regions with a similar socio-economic profile, the index of financial literacy of women is formed at a lower level compared to men. These differences are

especially evident in the behavioral components of financial literacy-the use of formal financial instruments, long term financial planning, and the frequency of resorting to digital services. Thus, the findings suggest that the gender gap is driven not by a lack of financial knowledge itself, but rather by regional social and institutional constraints that limit the opportunities to transform knowledge into practical financial behavior.

The distribution of the regional financial literacy index, presented in Figure 3, further supports this conclusion. The differences between the regions differ not only in absolute levels, but also in the structure of financial literacy. In economically active regions, financial knowledge, combined with behavior, leads to constant interaction with the financial market. And in regions with weak infrastructure, financial education often remains declarative and is not transformed into real financial decisions. This situation is clearly felt for women, as they are more exposed to social and institutional restrictions.

The results obtained in relation to the age factor (Figure 3) also indirectly indicate the modifier role of the regional context. Although the trend of increasing financial literacy with age remains the same in all regions, the rate of this growth varies by region. In regions with developed financial services, the difference between age groups is gradual and stable, while in regions with weak infrastructure, these differences are fragmented and there is stagnation in some age groups. Such a pattern overlaps with gender differences and reinforces the limitation of financial literacy, especially for women in middle and adulthood. Combining the results at the individual and regional levels, several important empirical conclusions can be drawn. First, gender differences in financial literacy are not a homogeneous phenomenon across Kazakhstan, and national averages hide the real scale of these differences. Secondly, the regional socio-economic environment acts as an active moderator that enhances or weakens the influence of the gender factor on financial literacy. Thirdly, lower indicators of women's financial literacy are largely associated with limited financial infrastructure and narrow opportunities for interaction with the formal financial market. These results show that it is not enough for policies and programs aimed at improving financial literacy to be universal in nature. Measures that ignore regional and gender differences, although formally increasing the level of financial education, may not lead to its behavioral transformation. The results empirically justify the need for a comprehensive approach that takes into account regional specifics, includes infrastructural and institutional factors to promote gender equality through financial literacy. Thus, the results obtained in the three parts of the results section consistently show that financial literacy in Kazakhstan has a multilevel and context-dependent character. Individual knowledge and skills are not formed outside the regional environment, and gender differences are reproduced through the structural features of that environment. These conclusions are the basis for analyzing the results obtained in the next section, comparing them with international and national literature, and discussing their theoretical and practical consequences.

5. Conclusion

The obtained empirical results show that financial literacy is not a homogeneous and universal phenomenon in the conditions of Kazakhstan. It manifests itself more as a complex structure that is formed in the regional socio-economic environment, closely connected with institutional opportunities and social roles, than as a set of individual knowledge and skills. The persistent nature of interregional differences testifies that it is insufficient to explain financial literacy solely

through national averages and suggests the need for an analytical approach that accounts for spatial inequalities.

The results of the study also make it possible to reconsider the nature of gender differences in financial literacy. The generalized explanation that women are less financially literate is not supported by factual data; rather, it has been found that the differences are related to the possibilities of financial education becoming a practice. These opportunities depend on the regional context and are formed through the development of financial infrastructure, the structure of the labor market and the availability of digital services. In such a situation, gender differences do not appear as a result of individual choice or risk-taking, but as a result of adaptation to specific socio-economic constraints.

The analysis of the interaction between regional and gender factors clearly demonstrates the extent to which the behavioral dimension of financial literacy depends on the institutional environment. In regions with broad access to financial services, financial education is transformed into sustainable behavior patterns and is accompanied by active engagement with the financial market. And in regions with weak infrastructure, financial education often remains declarative and has a limited impact on specific decisions. These differences are clearly felt for women, making financial literacy more of a tool to soften social inequality, and in some cases a mechanism to reproduce it.

These results lead to important conclusions regarding the content of policies aimed at improving financial literacy. Universal educational programs do not bring the expected results if they do not take into account regional and gender differences. The effective formation of financial literacy should not be limited to the provision of information, but should be accompanied by the development of financial infrastructure, ensuring equal access to digital services and reducing structural inequalities in the labor market. Such an integrated approach makes it possible to exclude financial literacy from the level of personal responsibility and consider it as an integral part of regional development and social policy.

The study also provides a foundation for future empirical research by offering an analytical perspective that integrates regional and gender dimensions into the analysis of financial literacy. The use of microdata, deeper analysis of social groups within regions, and examination of the long-term social consequences of financial literacy represent promising directions for further research. From this point of view, financial literacy should be considered not just an indicator of economic behavior, but also an important analytical tool for explaining and reducing socio-economic inequalities.

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