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Structural Barriers and Opportunities for Financial Inclusion of Women in Kazakhstan

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ABSTRACT

Despite steady growth in banking resources in Kazakhstan, female engagement in credit markets remains uneven and constrained by structural imbalances. The current study aims to assess the impact of structural features of the banking sector in Kazakhstan on financial accessibility and women's involvement in credit relations. To measure structural accessibility, a composite indicator was developed using two groups of variables: resource-based indicators (interbank deposits, loans received, and customer deposits) and concentration indicators (top-5 banks' share of assets, loan portfolios, and customer deposits). The statistical materials on the regulation and development of the financial market and the National Bank of Kazakhstan and Bureau of National Statistics for 2013-2023 were used as initial data. The study results show that credit availability for women has not increased proportionally despite the steady growth of banking resources. The theoretical availability index decreased to 0.487 in 2023 due to the high concentration of the banking sector, and correlation analysis confirmed the absence of a statistically significant relationship between structural opportunities and the actual volume of women's loans. Periods with strong resource growth and moderate theoretical accessibility, such as 2018, coincided with peak credit issuance to women despite high sectoral concentration. These findings highlight the need to account for institutional, behavioral, and policy-driven factors when evaluating financial inclusion outcomes. Further research should focus on a detailed analysis of the impact of government programs and initiatives and the study of behavioral and institutional factors limiting women's financial activity.

KEYWORDS: Women, Gender, Gender Economics, Women's Business, Women's Entrepreneurship, Bank, Banking Sector, Business Environment, Financial Accessibility

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1. INTRODUCTION

Women's financial inclusion is considered one of the key indicators of sustainable socio-economic development, affecting not only personal well-being and the level of autonomy but also the overall sustainability of the economy. Approaches to ensuring women's access to finance vary significantly. In countries with a developed institutional environment, digital and technological solutions dominate, while in developing economies, basic access mechanisms, microfinance, and local initiatives are of particular importance. International experience shows that there are no universal solutions - financial inclusion is formed under the influence of the regulatory environment, behavioral factors, and the structure of the banking sector. The problem of women's financial inclusion is becoming more acute in emerging economies and countries where large-scale programs to eliminate gender inequality in access to finance are being implemented. Of particular interest is the experience of India, where women's financial activity was strengthened through the development of microfinance initiatives and self-help groups (Harvard International Review, 2023). Besides the possibility of obtaining loans, there was developed a platform for social mobilization and collective entrepreneurship. Participation in SHG significantly increases women's financial inclusion, develops resource management skills, and strengthens economic autonomy, especially in rural areas (Maldonado-Castro et al., 2024).

Despite significant attention to inclusion issues, countries with formally developed banking systems still face deep-seated limitations: high bank concentration, lack of tailored products, poorly targeted programs, distrust of financial institutions, limited skills, and entrenched social barriers. One such example is Kazakhstan, where, despite the stable growth of the banking resource base, the volume of client deposits increased from 9.7 trillion tenge in 2013 to more than 33 trillion tenge in 2023 – women's actual participation in lending remains limited. Thus, despite the growth of the overall credit potential, the volume of loans issued to women decreased from 43 billion tenge in 2018 to 24 billion tenge in 2023, and the number of loans issued decreased by more than 2.5 times over the same period (Eurasian Bank. 2023). This points to a discrepancy between formally available financial opportunities and real access for women, suggesting structural and behavioral limitations persist in the banking system. The issue of women's financial inclusion is closely linked to the nature of their participation in the economy. As regional experience in Eastern and Southern Africa shows, women are significantly more likely to be employed in informal and low-paid sectors, which reduces their chances of receiving formal financial services and credit products (UN Women, 2023). Uneven labor force participation, income instability, and limited access to social guarantees create institutional barriers that are not eliminated even with formally accessible financial infrastructure. At the same time, half of the gender income gap remains unexplained, indicating the persistent influence of discriminatory norms and practices. Women are clearly unequal in an environment where financial instruments are primarily based on confirmed employment and stable income. Thus, women's employment ceases to be an exclusively social indicator and acquires significance as a key indicator of economic resilience and the inclusiveness of the financial system.

The study aims to identify discrepancies between the banking system's potential and women's involvement in the financial sector and to form prerequisites for refining the mechanisms of gender-oriented financial policy.

2. LITERATURE REVIEW

Research on financial inclusion focuses on the relationship between the formal conditions of access to financial services and the social context of women's participation in the

economy. Women's employment is treated as a result of a complex interaction between poverty, opportunities, and the institutional environment rather than a homogeneous phenomenon. In this context, Mammen and Paxson (2000) distinguished between forms of women's employment: forced - in the absence of alternatives and low incomes - and voluntary, conditioned by economic opportunities. It is noted that income growth and economic development do not automatically guarantee women's inclusion in the formal labor market or the financial sector. Levine (2002) pointed out that the degree of efficiency of the financial system directly depends on the institutional context and the level of infrastructure development. Moreover, the level of centralization and the structure of the financial sector affect the distribution of resources, including access to credit. Sarma and Pais (2011) proposed a multidimensional concept of financial inclusion, including such dimensions as access, use, and regularity. It is marked that the presence of banking infrastructure and services does not mean the actual inclusion of the population, especially vulnerable groups. Anand and Chhikara (2013) complemented this approach by considering financial inclusion as a channel for the inclusion of new economic actors in the formal economy. Fernández-Olit et al. (2020) identified key barriers: the digital divide, spatial heterogeneity, low levels of trust, and weak adaptation of financial products to the needs of marginalized groups, including women. In developed economies, women's financial exclusion is often institutional and behavioral. In this context, Ozili (2021) emphasized that sustainable inclusion results are achieved only with targeted strategies considering specific groups' behavioral and social characteristics.

Several studies consider women as a structurally vulnerable group in terms of financial inclusion, emphasizing that financial inclusion, in their case, cannot be reduced to the formal ability to use banking services. Gender inequality is interpreted as the result of a set of institutional, cultural, normative, and attitudinal barriers that do not automatically resolve with rising incomes or the expansion of banking networks. Beck et al. (2009) and De Vita et al. (2014) found that women, particularly in emerging economies, systematically face limited access to financial products despite the availability of banks and services. Swamy (2014) showed that women in poor households' experience more significant barriers to accessing formal financial services and that financial reforms alone are ineffective without considering gender. Cámara et al. (2015) revealed that educational attainment, lack of proper documentation, and distance from financial institutions are key barriers in Peru, with women, particularly in rural areas, facing these barriers more acutely. In Nigeria, Adeyemi and Abdulmumin (2019) showed that women lag significantly behind men on all key financial inclusion indicators, from opening accounts to accessing savings and credit. The reasons cited include income and institutional discrimination, ingrained cultural attitudes, and the lack of targeted programs. In turn, the study by Omar and Inaba (2020) stated that the positive effects of financial inclusion are only seen where vulnerable groups are targeted. Women's inclusion is seen not just as an element of social justice but as a factor directly affecting poverty reduction, reducing inequality, and ensuring macroeconomic sustainability.

Some studies have comprehensively examined the constraints women face in financial and entrepreneurial inclusion, emphasizing that even in the presence of formally favorable conditions, without removing cognitive, institutional, and behavioral barriers, real accessibility for women remains limited. Wu et al. (2019) and Ariffin et al. (2020) identified key combinations of factors under which women's entrepreneurship is least realized: lack of financing, weak government support, lack of professional training, and limited access to markets. The authors emphasize that combinations of barriers, rather than individual factors, form a persistent pattern of exclusion. The study by Andriamahery and Qamruzzaman

(2022) complements this finding, focusing on the relationship between access to finance, technical competence, and financial literacy. Thus, formal access without basic skills and knowledge does not lead to entrepreneurial realization but can increase the dependence and vulnerability of women's economic position. In turn, Llados-Masllorens and Ruiz-Dotras (2022) emphasized that the level of financial knowledge affects not only the practical skills of handling resources but also confidence, trust in financial institutions, and willingness to take risks, making financial literacy not an auxiliary but a structural element of inclusion. A systematic review by Saluja et al. (2023) allowed classifying barriers at three levels: institutional (discriminatory norms, limited access to services), behavioral (low trust, lack of initiative), and technological (digital divide, weak adaptation of products). In addition, Mishra and Sahoo (2025) showed that sustainable entrepreneurial intention is formed when digital access to financial products is combined with long-term educational support. All studies emphasize that without simultaneously eliminating institutional constraints, improving financial competencies, and creating sustainable motivational attitudes, ensuring women's full and effective integration into the financial system is impossible.

The review revealed an essential gap in the literature: while there is a significant amount of research on institutional, behavioral, and social barriers, insufficient attention has been paid to the relationship between macro-level parameters of the banking system and women's actual financial activity. Most studies focus either on the social and normative component of access or on assessing individual behavior, while the structural features of the financial sector itself are considered fragmentarily.

Based on the review, key indicators were identified that reflect the banking sector's resource endowment, the level of its concentration, and the actual financial activity of women. The first group of indicators characterizes the scale and sources of liquidity in the system: these are the volumes of interbank financing, attracted loans, and client deposits, which determine the potential of banks to provide loans. The second group reflects the degree of market concentration, expressed through the share of assets, loan portfolio, and client deposits concentrated in the five largest banks. The third group covers direct empirical indicators: the volumes and number of loans issued to women due to the implementation or limitation of opportunities inherent in the system's structure. These three groups of indicators formed the basis for subsequent quantitative analysis aimed at identifying discrepancies between potential conditions and the actual involvement of women in the financial sector.

3. RESEARCH METHODS

The methodological approach is based on studies aimed at constructing integral indicators of financial inclusion, analyzing the structure of the banking sector, and comparing structural conditions with actual engagement results. The approach proposed by Sarma and Pais (2011) substantiates the need for a multidimensional assessment of financial inclusion, including dimensions such as access, use, and regularity, which formed the basis for identifying and normalizing macroeconomic indicators. The model solution by Anand and Chhikara (2013), using aggregate indices and quantitative indicators in conjunction with economic growth, became the conceptual basis for calculating integral indicators of banking resources and concentration. Fernández-Olit et al. (2020) and Ozili (2021) emphasize the importance of comparing formal conditions of access with actual manifestations of financial activity of vulnerable groups, which justified the inclusion of comparative-dynamic analysis and correlation comparison between theoretical potential and actual indicators of lending to women. The choice of variables, the logic of their combination into categorical blocks, and the standardization procedure are based on these theoretical and applied approaches. In Figure 1, the research design is resented.

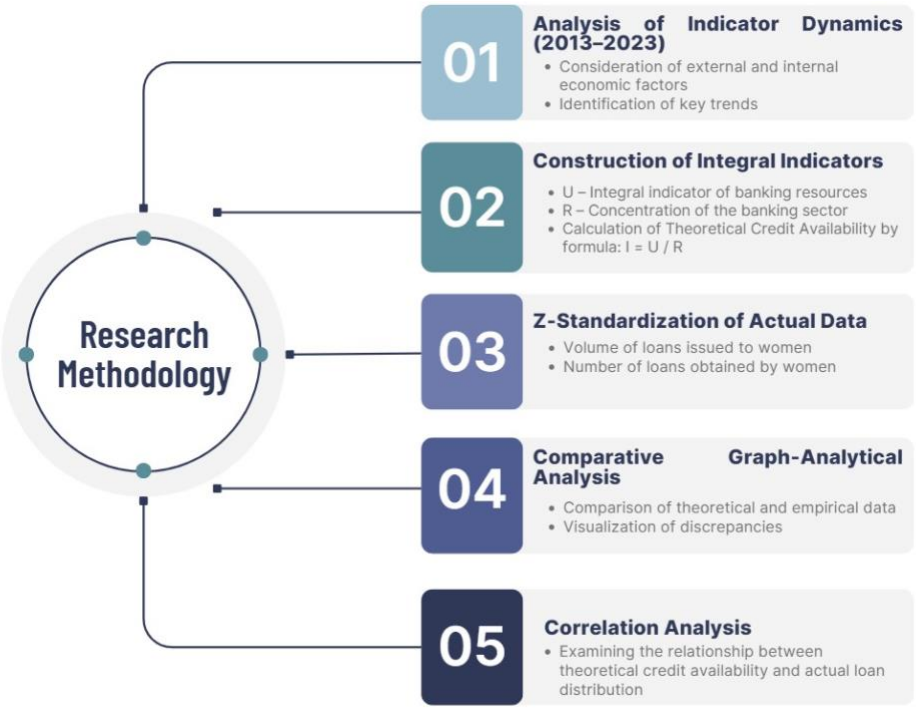


FIGURE 1. Research methodology design

The study analyzed the dynamics of key indicators characterizing the state of the banking sector and the level of women's credit activity in Kazakhstan for 2013–2023. The data sources were official statistical publications of The Agency of the Republic of Kazakhstan for Regulation and Development of Financial Market and the Bureau of National Statistics of the Republic of Kazakhstan (Bureau of National Statistics, 2024). For subsequent analysis, all indicators were classified by substantive categories: banking resources, concentration of the banking sector, and indicators of women's lending. Table 1 presents the distribution of the indicators used in the research.

TABLE 1. Structural classification of indicators for assessing gender accessibility of bank lending

No.	Indicator	Unit	Category
1	Interbank deposits	Billion tenge	Banking Resources
2	Loans received	Billion tenge	Banking Resources
3	Customer deposits	Billion tenge	Banking Resources
4	Top-5 Banks assets share	Percentage	Sector Concentration
5	Top-5 Banks loan portfolio share	Percentage	Sector Concentration
6	Top-5 Banks customer deposits share	Percentage	Sector Concentration
7	Loans to women	Billion tenge	Women’s Credit Activity
8	Number of loans to women	Number	Women’s Credit Activity

Note: compiled by authors

The indicators were grouped into categories, after which aggregate values were calculated based on normalization using the min-max method and subsequent calculation of arithmetic mean values. The following were determined: an integral indicator of banking resources, as an aggregate assessment of the funding volume; an integral indicator of

banking sector concentration, as a generalized measure of the centralization of financial assets and credit flows.

Further, the research methodology was based on physical and economic modeling. It was calculated as the ratio of U to R, by analogy with Ohm's law, where I is interpreted as a theoretical "current strength," a conditional level of availability of loans in a given market structure, according to the following formula (1):

$$I = \frac{U}{R} \qquad (1)$$

where:

U – the integral indicator of banking resources, reflects the overall level of liquidity and funding;

R – the integral indicator of concentration of the banking sector, characterizes the degree of centralization of financial flows in the largest banks;

I – the indicator of the availability of lending to women.

The calculated value of I (the indicator of the availability of lending to women) will allow assessing the extent to which the banking system's resource capacity—when adjusted for its structural concentration—creates conditions that either facilitate or constrain women's access to credit. This indicator will reflect the degree of alignment between the system's structural potential and its actual realization regarding female financial participation.

4. FINDINGS AND DISCUSSION

4.1 RESULTS OF THE STRUCTURAL ASSESSMENT OF CREDIT ACCESSIBILITY FOR WOMEN

Despite formally favorable conditions, women's financial inclusion remains one of the least sustainable elements in the banking lending system. The growth of resource volumes and infrastructure development are not always accompanied by an expansion of real access, which indicates the presence of hidden constraints that are not directly reflected in macroeconomic indicators. In such conditions, it is essential not only to assess the financing volume but also to analyze how the structural features of the banking sector affect the distribution of opportunities. The presented analysis aims to establish the relationship between the availability of finance and the actual participation of women, as well as identify factors that limit equal inclusion even in the presence of economic potential.

Figure 1 presents the dynamics of banking sector resources in Kazakhstan between 2013 and 2023.

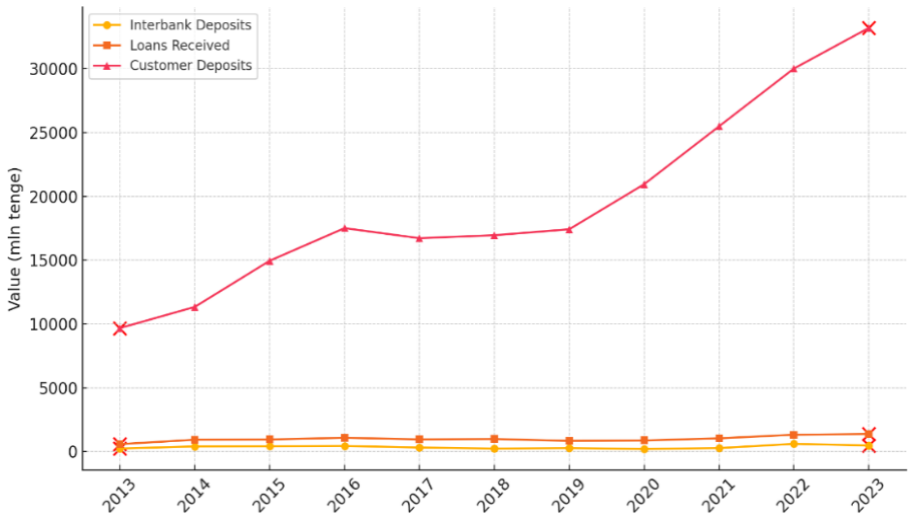


FIGURE 2. Dynamics of banking sector resources

The general trend of Kazakhstan's banking resources for the period under review (2013–2023) demonstrates stable growth, primarily due to customer deposits. If their volume was 9,678 million tenge in 2013, then by 2023, it had grown more than threefold, reaching 33,204.2 million tenge. Against the background of this trend, interbank deposits and loans demonstrated volatility and less pronounced dynamics but also had a general upward trend with periodic declines.

Several significant events considerably influenced the dynamics of the indicators. Between 2014 and 2015, the devaluation of the tenge caused a short-term change in the structure of banking resources. Thus, an increase in the inflow of customer deposits was observed due to increased uncertainty and devaluation expectations. Next, the COVID-19 pandemic (2020) had a crucial impact, resulting in a short-term decline in interbank deposits and loans associated with the uncertainty and caution of the financial sector. Despite the crisis, customer deposits continued to grow steadily. The population tended to keep funds in banks even during a crisis. When it comes to global crises, such as the Wells Fargo (2016) and Goldman Sachs scandals, it can be noted that the Kazakh economy and banking sector weakly reflected these global shocks. Instead, the dynamics of banking resources were more strongly influenced by domestic macroeconomic events and regional crises, including sharp fluctuations in oil prices and exchange rate changes in the national currency. The Kazakh economy generally responded primarily to domestic economic conditions and oil shocks rather than global financial scandals and crises.

Next, in Figure 3, there is a dynamic of banking sector concentration.

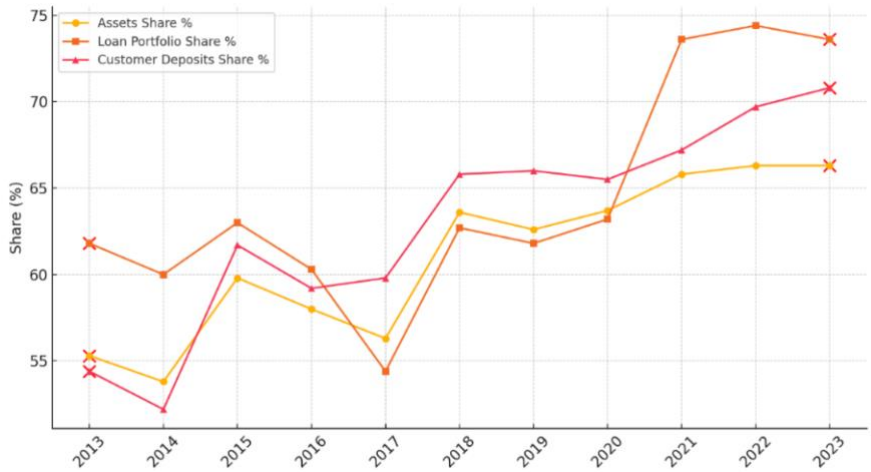


FIGURE 3. Dynamics of banking sector concentration

Overall, there has been a steady trend towards increasing concentration in the banking sector in Kazakhstan from 2013 to 2023. The share of the five largest banks in assets, loan portfolio, and customer deposits have been growing systematically: for example, assets increased from 55.3% in 2013 to 66.3% in 2023, while the share of loans reached peak values in 2021–2022 (up to 74.4%). The data reflects the growing dominant position of leading banks in the country's financial system.

The most noticeable increase in concentration occurred after 2016, including global events such as the aftermath of the Wells Fargo and Goldman Sachs scandals and global changes in bank regulation. The strengthening of the largest banks' positions is likely related to increased regulatory requirements and asset consolidation, especially after the

reorganization of several Kazakh banks in 2017. The situation had sharply worsened since the onset of the COVID-19 pandemic when market leaders began consolidating their capital in the context of global instability. Considering the connection with the global economy, it is worth noting that although global banking shocks did not directly impact, Kazakhstan followed the universal trend of strengthening resilience through concentration.

The growing share of large banks in the system means that more and more financial transactions, assets, and client resources are concentrated in a limited number of institutions. Centralization of risks. In conditions of uncertainty and crises (for example, a pandemic or instability in global markets), it is more difficult for small banks to withstand shocks. Large banks with greater capitalization and access to reserves can redistribute risks within a diversified portfolio, including between sectors and regions, reducing the likelihood of systemic failures. Large banks are the first to gain access to anti-crisis mechanisms from the state and the National Bank (preferential refinancing, regulatory relaxations, etc.). Moreover, stability becomes the key to the sustainability of the entire banking system, especially when a quick response to a crisis is important. During periods of crisis, clients tend to transfer funds to more reliable banks, which increases the concentration trend as money "flows" to large banks, strengthening their role and affecting macroeconomic stability.

Consequently, strengthening large banks is a cause of economic policy and a protective reaction to internal and external shocks, creating "anchors of stability." However, it can simultaneously reduce the competitiveness and accessibility of services for vulnerable groups, including women and small businesses.

Next, in Figure 4, there is a dynamic of loans issued to women.

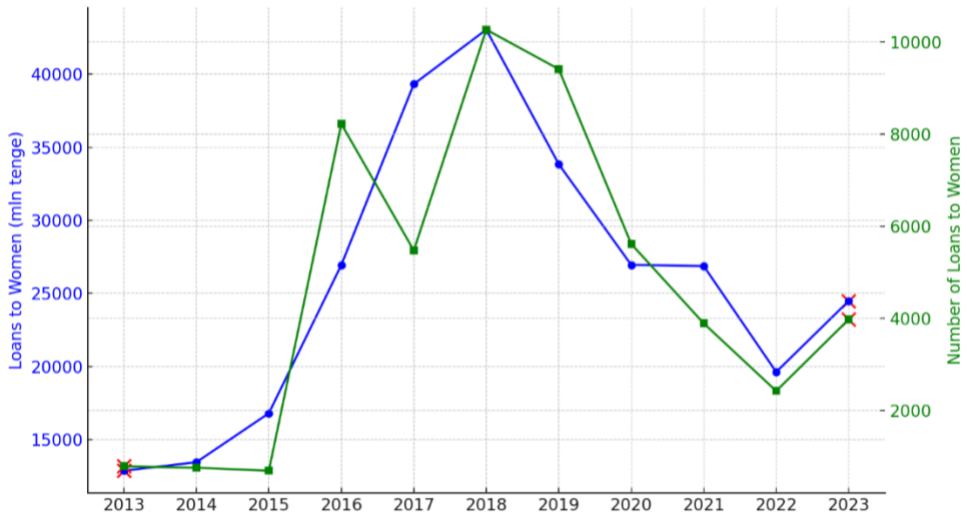


FIGURE 4. Loans issued to women: amount and quantity

The dynamics of lending to women in Kazakhstan from 2013 to 2023 demonstrates an upward trend in general until 2018: during this period, both the amounts and the number of loans issued grew steadily, and both indicators reached their peak values in 2018b, which coincides with the period of intensification of state programs to support women's entrepreneurship and expand microfinance opportunities, which created favourable conditions for involving women in financial and economic activity. However, since 2020, against the backdrop of the COVID-19 pandemic, a sharp decline in the volume and number of loans began, which continued until 2022, the weakest year in the period under review, which indicates the high vulnerability of women to global shocks, especially in

sectors where they traditionally dominate: small business, services, informal employment. In 2023, a partial recovery was observed, but the indicators remain below the 2018 level. A comparison with the previous graphs suggests that the increased concentration of the banking sector and the growth of its resources do not guarantee equal access to financing for all groups, including women. On the contrary, in the context of bank consolidation and the strengthening of risk-oriented policies, access to credit for vulnerable categories may decrease.

Thus, the analysis of three groups of indicators - banking sector resources, their concentration, and the dynamics of lending to women shows that structural changes in the banking system of Kazakhstan and external crises had different effects on different parts of the financial field. Despite the growth of total resources and the strengthening of the positions of the largest banks, the women's sector turned out to be especially sensitive to external shocks and internal transformations. It is necessary to assess the theoretical availability of loans for women based on the physical analogy with Ohm's law, which will allow a more visual and justified assessment of the correspondence between the potential of the banking system and its actual inclusiveness.

Table 2 shows results for the calculations of integrated indicators, including the results for theoretical credit accessibility indicators for women.

TABLE 2. Integrated indicators of banking resources, concentration and theoretical availability of lending to women in Kazakhstan for 2013–2023

Year	Bank resources (U)	Bank concentration (R)	Theoretical credit accessibility indicator for women (I)
2013	0,345487	0,571667	0,60435
2014	0,349291	0,553333	0,631249
2015	0,345425	0,615	0,561666
2016	0,34586	0,591667	0,584553
2017	0,34623	0,568333	0,609203
2018	0,348301	0,640333	0,543936
2019	0,34439	0,634667	0,542631
2020	0,344071	0,641333	0,536494
2021	0,343415	0,688667	0,498667
2022	0,341448	0,701333	0,486856
2023	0,342481	0,702333	0,487633

Note: compiled by authors based on calculations

The overall analysis of the theoretical credit accessibility indicator for women (I) calculated based on Ohm's model demonstrates a steady downward trend in the availability of credit resources in the context of increasing concentration in the banking sector. Despite the relative stability of total banking resources in Kazakhstan during 2013–2023 (U fluctuates in a narrow range from 0.341 to 0.349), the I value gradually decreases — from 0.631 in 2014 to 0.487 in 2023. Consequently, the growing share of assets, loan portfolio and deposits concentrated in the hands of the five largest banks (R) plays a key role in shaping the conditions for access to credit. Thus, even with a sufficient resource base, the overall availability of credit for women is theoretically declining due to the system's growing structural “resistance”. Against this background, the years demonstrating deviations from the general model are of particular interest, as they allow us to identify the influence of foreign policy and non-standard support mechanisms.

Two years deviate from the expected behaviour predicted by the model and are of particular analytical interest. The first is in 2018, when, despite one of the highest levels of banking resources over the entire period (U = 0.3483), the structural accessibility index based on the balance of resources and concentration levels in the banking sector was only 0.5439, significantly lower than the previous year

(0.6092 in 2017). The decrease in I is due to the increase in the concentration of the banking sector (R = 0.6403), which, according to the model, should have reduced access to credit. However, 2018 saw record values for the actual number and volume of loans issued to women. This discrepancy indicates that, in this case, the model calculation does not fully reflect reality. Thus, the results showed that the impact of external factors, particularly government programs to support women's entrepreneurship, which could compensate for the structural constraints inherent in the banking system and temporarily increase the inclusiveness of financial services, is also crucial. The second abnormal year is 2023. The credit availability indicator (I = 0.4876) is practically no different from the 2022 value despite a slight decrease in concentration (R decreased from 0.7013 to 0.7023) and a slight increase in the resource base (U increased to 0.3425). In 2023, a partial recovery in the activity of the women's sector is observed. Both the amount and the number of loans began to grow after a decline in 2020-2022, confirming the discrepancy between the model availability and the actual market behaviour and indicating the emergence of new incentive instruments from the state or a reorientation of the banking strategy towards retail lending. Another explanation may be the increased resilience of the women's sector to economic fluctuations after adapting to the crisis. Thus, despite the overall explanatory power of the model, individual anomalies show that in practice, the availability of credit is formed not only under the influence of quantitative resources and the structure of the banking sector but also taking into account social policy, support programs and strategies of the financial institutions themselves.

Table 3 presents standardized data on the amount and number of loans for women and calculates theoretical indicators.

TABLE 3. Comparison of theoretical credit availability with Z-standardized actual data on the amount and number of loans to women for 2013–2023

Year	Standardized amount of credits (Z)	Standardized number of credits (Z)	Theoretical credit accessibility indicator for women (I)
2013	-1,368	-1,178	0,60435
2014	-1,306	-1,187	0,631249
2015	-0,953	-1,207	0,561666
2016	0,117	1,07	0,584553
2017	1,422	0,239	0,609203
2018	1,815	1,689	0,543936
2019	0,844	1,429	0,542631
2020	0,117	0,282	0,536494
2021	0,109	-0,239	0,498667
2022	-0,655	-0,683	0,486856
2023	-0,143	-0,214	0,487633

Note: compiled by authors based on calculations

An analysis of the comparison between standardized actual lending indicators for women and the theoretical credit accessibility indicator for women (I), calculated based on the Ohm model, reveals both stable patterns and significant discrepancies between the potential capabilities of the banking system and actual results. During 2013–2023, the value of the constructed indicator of accessibility demonstrates a steady decline – from 0.631 in 2014 to 0.488 in 2023 – with relatively stable banking resources, reflecting the growth of concentration in the banking sector and the formation of institutional barriers to accessing financing. Thus, the I indicator indicates structural potential, allowing diagnosing periods in which credit market conditions were objectively more or less favourable for women's economic activity. However, a direct comparison with actual indicators reveals

discrepancies of particular analytical interest. Thus 2018, with one of the lowest values for the constructed accessibility indicator (0.544), record values were recorded for the amount and number of loans issued to women (Z = 1.815 and 1.689, respectively). The model does not consider the influence of exogenous factors, primarily government support programs, subsidies, and concessional financing mechanisms. Similarly, at the beginning of the study period (2013–2014), despite high theoretical accessibility, actual indicators were extremely low, likely due to demand-side constraints: low levels of awareness, financial literacy, or institutional barriers. Since 2020, both approaches have experienced a decline due to the pandemic; however, in 2023, there has been a partial recovery. At the same time, the calculated access index stayed limited, indicating a possible reliance on policy-driven support.

Thus, the I model is effective as a diagnostic tool: it identifies periods and areas in which the system could provide access and compares them with actual implementation. Deviations from the model indicate where additional interventions were necessary or where external incentives were effective. This does not diminish the model's value but instead emphasizes its analytical function - as a basis for building a more flexible and comprehensive forecasting tool. In the future, the model can be expanded by considering political, behavioural and macroeconomic factors, from the specifics of state support to indicators of trust and financial involvement of women. This approach will provide a deeper understanding of the mechanisms of financial inclusion and the sustainability of the women's sector in transforming the banking space.

Table 4 shows the results of the correlation analysis.

TABLE 4. Correlation relationships between theoretical availability of credit and actual indicators of women's activity

Variable	Pearson's Correlation	Loans_amount_(Z)	Loand count (Z)	Theoretical_credit_accessibility_for_women (I)
1. Loans_amount_(Z)	Pearson's r	-	-	-
	p-value			
2. Loand count (Z)	Pearson's r	0.867	-	-
	p-value	< .001		
3. Theoretical_credit_accessibility_for_women	Pearson's r	-0.148	-0.151	-
	P-value	0.665	0.658	
* p < .05, ** p < .01, *** p < .001				

Note: compiled by authors based on calculations

The correlation analysis shows that there is a weak negative relationship between the theoretical indicator of women's access to credit and the standardized values of the amount (r = –0.148) and quantity (r = –0.151) of issued loans, which is not statistically significant (p > 0.65), indicating a discrepancy between the structural potential of the banking system (estimated through the $I = U/R$ model) and the actual credit activity of women. In contrast, there is a strong positive relationship between the amount and quantity of loans (r = 0.867, p < .001). The results revealed the logical dependence: as the total volume of lending increases, the number of issued loans also increases. Thus, the model indicator I effectively reflects the conditions of the system. However, I cannot fully explain the actual results without considering additional factors such as government support, bank behaviour, and social restrictions.

4.2 DISCUSSION OF STRUCTURAL AND INSTITUTIONAL FINDINGS

A comprehensive analysis of the data for 2013-2023 confirms several findings in the literature while revealing some discrepancies.

Sarma and Pais (2011), Anand and Chhikara (2013) find that the resource base alone does not ensure equal access to finance. In the Kazakhstani context, the results show that the growth of bank resources, especially customer deposits, was accompanied by unstable dynamics of women's financial activity, especially during periods of external shocks, consistent with the findings of Ozili (2021). The author emphasizes the limitations of structural models without considering behavioral and social factors. The most significant discrepancy between the theoretical potential and the actual results was observed in 2018 when the sharp increase in lending to women did not coincide with improving institutional conditions, which is in line with the findings of Swamy (2014) and Saluja et al. (2023) on the role of external interventions and support programs in overcoming barriers. The results showed no consistent relationship between structural conditions and women's participation, which is also emphasized in the works of Beck et al. (2009), Adeyemi and Abdulmumin (2019). As pointed out by Levine (2002), a high concentration of the banking sector can create systemic barriers to equal distribution of access, which was also confirmed by the analysis results. At the same time, studies by Mishra and Sahoo (2025) and Llados-Masllorens and Ruiz-Dotras (2022) show that the formation of sustainable financial participation of women is possible only with a combination of infrastructural conditions with long-term educational and motivational support. Thus, the obtained results allow us to conclude that there is a need to revise the financial policy mechanism. In addition to assessing the liquidity and sustainability of the banking system, it is necessary to institutionalize targeted measures to ensure equal access, develop women's microfinance programs, reduce transaction and information barriers, and create specialized financial products).

5. CONCLUSIONS

The analysis confirmed the stated objective of the study — persistent discrepancy between the formally available financial resources in the banking system and the actual level of women's participation in credit relations. Despite sufficient liquidity, developed infrastructure, and growth in customer deposits, indicators of actual credit activity among women do not demonstrate stable improvement. The estimated indicator of accessibility, based on the relationship between the volume of resources and the degree of concentration, shows that even during periods of high theoretical accessibility (according to the model), the volume and number of loans received by women remained low or decreased. The results confirm the existence of systemic constraints beyond macroeconomic indicators. Consequently, it can be concluded that women's financial activity is not a derivative of economic processes. Moreover, women's economic activity has become an indicator of the sustainability and inclusiveness of growth. The indicator of women's financial inclusion is becoming a criterion for the quality of economic development since it directly reflects the ability of the financial system to ensure equal access to resources in the context of a global reorientation towards the principles of sustainability and inclusiveness. In the context of implementing the Sustainable Development Goals (SDGs), expanding women's access to finance affects not only individual economic autonomy but also sthe level of household wealth, income distribution, the dynamics of social mobility, and the sustainability of domestic consumption markets. The highest level of credit activity among women was recorded in 2018 — a period not accompanied by institutional or macroeconomic failures, the effect of the successful implementation of support programs. Further, women became less economically active, which correlates with Kazakhstan's transition to new tax mechanisms: joining the World Trade Organization, introducing electronic tax reporting, and revising the mandatory declaration system. Introducing reforms aimed at increasing transparency and tax discipline has created additional administrative and procedural barriers, which strongly affect

women engaged in entrepreneurial or self-employed activities in conditions of incomplete formalization. At the same time, excluding government programs, the banking sector has demonstrated low adaptability in lending to women, remaining fragmented and irregular. This situation indicates the need to revise the financial support model.

Increased concentration in the banking sector was accompanied by a narrowing of credit opportunities for vulnerable groups despite the growth of liquidity. The distribution structure of financial flows had a restraining effect on the implementation of potential access opportunities. Calculating the structural indicator of accessibility revealed inconsistency between theoretical parameters and actual results, especially when women's activity reached a maximum against the background of formally restrained conditions.

Comparing the theoretical indicator with empirical data, there is no direct relationship between the characteristics of the banking system and women's actual participation in credit relations. High activity rates were recorded mainly during periods of external support programs and not due to changes in conditions in the system itself. Thus, equal access to finance requires a liquidity balance and a stable institutional environment.

Along with credit measures, institutional support for women's economic activity is required: creating accessible forms of running a micro business, introducing simplified reporting for women with children, and developing tax regimes that do not depend on marital status. Particular attention should be paid to eliminating informal indicators of unreliability from financial practice - such as participation in social programs or a low declared income - which automatically reduce the chances of receiving financial services. Women's involvement should not be considered an object of compensation policy but a full-fledged sign of maturity and sustainability of the financial system. Eliminating institutional and status barriers becomes a task of social justice and a condition for systemic sustainability and economic growth.

Women's participation in the financial sector is determined by a combination of factors: market structure, level of competition, availability of adapted products, and targeted support mechanisms. If the focus is maintained exclusively on resource indicators, despite the formal stability of the banking system, there is a risk of reproducing inequality of access.

AUTHOR CONTRIBUTION

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