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Gender-Based Socio-Economic Vulnerability amid Migration-Driven Growth in Almaty

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Abstract

The rapid growth of large cities driven by migration changes the conditions under which the labor market and social infrastructure operate, and the resulting socio-economic risks may manifest differently for women and men. The study aims to assess gender-based socio-economic vulnerability in the context of migration-driven growth in Almaty by analyzing gender differences in the labor market and comparing them with migration dynamics. The methodology includes comparative and dynamic analysis, calculation of relative migration indicators, gender gaps in economic activity, unemployment, and wages, as well as indices of changes in social infrastructure relative to population growth. The initial information base consisted of official statistical data from the Bureau of National Statistics of the Republic of Kazakhstan for 2015–2025. The population of Almaty increased from 1,707,439 to 2,348,103 people. Between 2015 and 2025, the migration turnover increased from 146,838 to 517,423 people, and the share of the migration balance in the total migration turnover decreased from 27.75% to 7.04%. At the same time, pronounced gender differences in the labour market persisted: in 2024, the labour force participation rate was 80.1% among women and 86.2% among men. The results show that Almaty's migration and demographic growth are accompanied by persistent gender differences in the labor market and uneven adaptation rates across individual elements of the social infrastructure.

Keywords: Gender, Gender Vulnerability, Gender Inequality, Migration, Urban Migration, Labor Market, Social Infrastructure

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1. INTRODUCTION

Major cities serve as migration magnets because they concentrate economic activity, educational opportunities, jobs, and social resources. At the same time, intense migration alters the size and structure of the urban population, increasing the demand for employment, housing, social services, and infrastructure. In Kazakhstan, Almaty is a primary hub for internal migration. The city's steady population influx and demographic growth make it essential to study the socio-economic changes occurring amidst high migratory mobility.

The social significance of migration-driven growth depends not only on the scale of population movement but also on the urban environment's capacity to adapt to rising demand for resources and services. Population growth can be accompanied by shifts in the labour market and an increased need for preschool facilities, healthcare services, and social support. However, different elements of urban infrastructure develop at uneven rates. Consequently, the socio-economic consequences of population growth may vary across different groups, depending on their labour market position, income levels, and access to social resources.

Migration is a gender-differentiated process, as the opportunities, constraints, and consequences associated with mobility can differ for women and men (Anastasiadou et al., 2024). Gender disparities manifest in labor force participation, employment, unemployment, wages, and occupational status (Qin et al., 2016; Wu et al., 2021). For women, economic constraints may be compounded by family responsibilities and the need to balance paid employment with caring for children and other family members (Cukrowska-Torzewska & Matysiak, 2020). Therefore, analysing migration-driven growth in a major city requires accounting for existing gender disparities and the social contexts in which they manifest. Research on internal migration in Kazakhstan examines migrants' socio-demographic characteristics, patterns of territorial mobility, and the transformation of major cities (Bissenova, 2017; Januzakova & Serikzhanova, 2023). However, comparatively less attention is paid to the gender aspects of the socio-economic changes accompanying migration-driven growth. Limited literature analyses migration dynamics alongside gender disparities in the labour market and changes in social infrastructure. A combined analysis of these areas can broaden the understanding of the socio-economic conditions driving migration growth in Almaty and their gender dimension.

The study aims to assess gender-based socio-economic vulnerability in the context of migration-driven growth in Almaty by analyzing gender differences in the labor market and comparing them with migration dynamics. Its scientific contribution lies in integrating three interconnected dimensions: migration and demographic dynamics, gender differentiation in the labour market, and changes in social infrastructure. Comparing these indicators within a single timeframe makes it possible to assess the structural context in which gender-based socio-economic vulnerability emerges during rapid urban growth. The study does not seek to establish a direct causal relationship between migration and gender inequality; rather, it examines their concurrent dynamics and identifies potentially significant structural imbalances.To achieve this objective, the following research questions were formulated:

RQ1. How did the scale and intensity of migration processes in Almaty change between 2015 and 2025?

RQ2. How did gender disparities in labour force participation, unemployment, and wages evolve during the period under review?

RQ3. To what extent did the trends in specific social infrastructure indicators align with Almaty’s population growth rates?

RQ4. What socio-economic disparities are revealed through a combined analysis of migration dynamics, gender differences in the labour market, and social infrastructure development?

2. LITERATURE REVIEW

Theoretical approaches to migration evolved significantly in the late 20th century. Classical concepts explained migration processes primarily through economic, demographic, and structural factors. Key theories of international migration were systematised, including the neoclassical approach, the new economics of labour migration, segmented labour market theory, world-systems theory, and migration networks (Massey et al., 1993). These approaches offered varying explanations for the causes and mechanisms of spatial mobility. However, for a long time, gender differences did not occupy a central place in migration theory.

Incorporating a gender perspective transformed understanding of migration behaviour. Pedraza (1991) showed that women's migration experiences are driven by more than economic incentives; family relationships, the gendered division of labor, and women's status in the public and private spheres play significant roles. This approach treated gender as an analytical category that influences migration decisions and outcomes.

The gender approach later evolved, shifting the focus from women's participation in migration to the mechanisms that create differences between women and men. Mahler and Pessar (2006) view gender as a system of social relations that shapes opportunities and constraints at various stages of the migration process. It influences access to resources, decision-making, and migrants' status after relocation. This perspective was further developed by integrating feminist theory into migration studies (Nawyn, 2010), linking gender differences to the distribution of power, resources, and responsibilities. Consequently, gender came to be viewed not merely as an additional characteristic of the migrant, but as a structural factor within the migration process.

A distinct area of research has emerged around migration decision-making within the household. Traditional models often assumed that household members' interests were aligned. However, migration strategies can take shape amidst an unequal distribution of resources and bargaining power. Research on rural-to-urban female migration in Ghana shows that the decision to relocate does not always result from family consensus (Pickbourn, 2022). Women's individual interests may conflict with other household members' preferences. This broadens the understanding of migration as a process linked not only to economic rationality but also to intra-household gender relations.

Contemporary studies confirm the persistence of gender differences but do not reduce them to a single model. Anastasiadou et al. (2024) synthesized findings from 170 quantitative studies on the gender aspects of migration. The authors identified differences between women and men at several stages of the migration process-specifically during the formation of migration intentions, decision-making, and the actual relocation. The nature of these differences depends on the type of migration, marital status, socio-economic characteristics, and the institutional environment. Consequently, researchers must examine the gender dimension of migration within its specific social context.

This issue is particularly relevant for Kazakhstan, given the country's high levels of internal mobility and population concentration in major cities. Januzakova and Serikzhanova (2023) investigated the socio-demographic characteristics of internal migrants in Almaty. Their findings indicate a significant female presence in the city's migration flows. Women of working age-including those arriving from rural areas-constitute a notable segment of internal migrants. These data suggest that internal migration in Almaty must be analysed with due regard for its gender structure.

A study of external labor migration among Kazakhstan's economically active population examines gender differences in greater detail (Omarova et al., 2026). The authors identified disparities between women and men in migration experiences and intentions; caregiving responsibilities emerged as a greater constraint for women. Gender

differences also manifested in risks associated with employment and informal work.

Despite differing theoretical approaches, the studies reviewed converge on the recognition that gender influences migration decisions and outcomes. However, the depth of analysis regarding this influence varies. Early studies emphasized family and social relationships, while contemporary work examines gender differences alongside migration type and the institutional environment.

The evolution of migration studies reflects a progressive broadening of theoretical perspectives. Classical concepts laid the groundwork for explaining migration through economic, structural, and network mechanisms. Gender studies have supplemented this foundation by analysing power dynamics, resources, family relations, and inequality. Contemporary literature demonstrates that migration decisions and their consequences can differ significantly between women and men, yet the social and institutional context shapes the nature of these differences. In Almaty, this approach allows analysis of migration-driven growth in relation to gender-based disparities in the population's socioeconomic status.

Gender is a crucial factor in the socioeconomic status of migrants, yet its influence should not be viewed in isolation. Opportunities and constraints are shaped by the interplay of gender with social class, ethnicity, age, background, marital status, and other characteristics. The institutional conditions under which migration occurs are also significant. Consequently, women occupying different social positions may exhibit varying levels of vulnerability, even under similar migration conditions.

The concept of intersectionality provides the theoretical foundation for this understanding. Crenshaw (1991) demonstrated the limitations of approaches that treat gender and racial inequality as independent categories. Their intersection can create specific forms of social inequality that neither factor alone can explain. A key consequence of this approach was rejecting the notion of women as a homogeneous social category. Gender identity alone does not imply a uniform social position, access to resources, or experience of discrimination.

The further development of the intersectional approach has heightened attention to the interrelationship between social categories and power relations. Social differences are examined through the interplay of gender, ethnicity, class, and other bases of inequality (Anthias, 2008). Their significance depends on the specific social and institutional context. This approach makes it possible to analyse vulnerability not as the result of a single individual characteristic, but as a consequence of a person's position within the system of social relations.

In migration studies, the intersectional approach has enabled researchers to account for the interplay of gender with social position, ethnicity, age, and migration status. Bürkner (2012) shows that this approach allows analysis of social inequality among migrants without reducing their situation to gender, ethnicity, or origin in isolation.

Anthias (2012) explains changes in social position during migration through the concept of “translocational positionality”. Social position is not static and can transform as individuals move between territories, labour markets, and institutional systems. Resources that provided specific advantages before migration may take on different significance after relocation. At the same time, constraints linked to origin, family responsibilities, socioeconomic status, or access to institutions may intensify. Bastia (2014) develops an intersectional approach within migration studies. The author demonstrates that gender inequality can intersect with class, racial, and ethnic differences. These interactions influence migration decisions, mobility opportunities, and post-migration status. Consequently, women's migration experiences are shaped by more than gender alone; the combination of social positions and the structural conditions under which migration occurs plays a crucial role.

The theoretical development of intersectionality is linked to a broader understanding of the mechanisms of social inequality. Intersectionality is viewed as a field of knowledge, an analytical strategy, and a critical practice (Collins, 2015). Central to this approach are interconnected power relations and their role in reproducing inequality. In this framework, gender, class, ethnicity, age, and other social categories do not operate independently; rather, they mutually shape social positions and determine disparities in access to resources and opportunities.

The approaches discussed reject the idea that vulnerability stems from a single social characteristic. However, they differ in their analytical focus: some studies emphasise the intersection of inequality categories, while others examine shifts in social position during the migration process. This distinction shows that intersectionality can analyze the structure of inequality and explain its transformation in the context of mobility.

Applied to migration, an intersectional perspective avoids viewing women's vulnerability as a static trait directly determined by gender. Vulnerability can take shape and evolve based on a combination of socioeconomic status, age, background, family circumstances, and the institutional environment. Some characteristics may tighten constraints, while others can expand access to resources and opportunities for adaptation. As a result, women with different social characteristics may have distinct migration experiences and face varying socioeconomic risks. This theoretical perspective is fundamental to the study of Almaty. It allows for the interpretation of observed gender differences not merely as a direct consequence of migration, but as a manifestation of a more complex interplay between social and institutional factors. Amidst migration-driven and demographic growth, disparities in women's status may be linked to access to the labour market, economic resources, and social infrastructure. Thus, an intersectional approach provides a theoretical framework for analysing gender-based vulnerability without assuming that women constitute a homogeneous social group.

Contemporary literature views migrant integration as a multidimensional process that cannot be assessed through a single socioeconomic indicator. Modern studies employ a combination of objective and subjective indicators to evaluate integration, reflecting various facets of migrants' inclusion in the host society. These indicators characterise migrants' labour market status, material well-being, social ties, language proficiency, civic engagement, and sense of belonging to the host society. Differences between approaches stem primarily from the selection of specific dimensions and the methods used to quantify them.

One of the most comprehensive approaches is the multidimensional integration index developed by Harder et al. (2018). The authors identify six dimensions: economic, social, political, psychological, linguistic, and navigational. Economic integration is assessed through employment, income, satisfaction with one's labour market position, and the ability to cope with unexpected expenses. The social dimension reflects interactions with members of the host society and participation in organisations. Psychological integration is characterised by a sense of belonging and a connection to the host country. Language proficiency, political engagement, and the ability to navigate the institutional environment are assessed separately. This approach shows that economic adaptation is crucial, but not the only, component of integration.

Research demonstrates the need to consider the characteristics of the place of residence. Kearns and Whitley (2015) measured migrants' social integration through trust and safety, social relationships, and a sense of belonging to the local community. Alongside these indicators, the authors analysed education, employment, language proficiency, and length of residence. The results showed that residential area characteristics are linked to differences in social integration. This allows the urban environment to be viewed not merely

as a place where migrants live, but as a context that shapes opportunities for social inclusion.

Material circumstances represent another important dimension of integration assessment. Studies employ indicators such as income, employment, education, health status, housing conditions, and resource availability. Petzke (2021) shows that quantitative integration monitoring systems often compare migrants' socioeconomic outcomes with those of the host population, using indicators such as education, unemployment, income, health, housing, and civic participation. At the same time, the author highlights the methodological limitations of this approach; differences between groups cannot always be interpreted as a direct result of insufficient integration.

In urban studies, researchers also examine integration through migrants' participation in local community life. Zhang et al. (2023), synthesising findings from urban integration research, identify three key components of participation: social capital, the use of public space, and strategies for local community engagement. Social ties and participation can expand migrants' access to information and support while facilitating psychological adaptation. However, inclusion in a local community does not necessarily equate to full integration into the host society; outcomes depend on the nature of social contacts and urban environmental conditions.

The city's social infrastructure also plays a significant role. Accessible urban institutions and public spaces can serve as infrastructure that facilitates migrant settlement and integration (Wessendorf & Gembus, 2024). They create opportunities to obtain information, build social connections, and access everyday resources. In this regard, integration depends on more than just the migrant's individual human capital; the characteristics of the residential area and the accessibility of urban infrastructure play a significant role.

For internal migrants, integration into the urban environment has its own specific features. Relocation occurs within a single state and typically does not involve a change in citizenship. However, this does not rule out socio-economic, spatial, and institutional barriers. Research on rural-to-urban migration indicates that registration status, employment conditions, housing, and host-city characteristics can all influence the situation of internal migrants. Consequently, analytical approaches to urban integration apply beyond international migration, although the relevant indicators require adaptation to the national context.

In Kazakhstan, the interplay between internal migration and urban transformation is particularly evident in the largest cities. Population mobility in Almaty and Astana is linked to shifting social boundaries and changing perceptions of urban belonging (Bissenova, 2017). A study by Januzakova and Serikzhanova (2023) specifically characterises the socio-demographic profile of internal migrants in Almaty. A significant portion of the migrant population consists of working-age individuals, with a notable presence of women and people from rural areas. These characteristics underscore the importance of analysing the conditions under which they integrate into the city's socio-economic environment.

A comparison of the studies reviewed reveals differences in how migrant integration is operationalised. Some approaches measure it through individual economic and social outcomes, whereas others emphasise neighbourhood characteristics, public spaces, and access to urban infrastructure. Nevertheless, the studies agree that employment and income levels are insufficient for a comprehensive assessment of integration. The fundamental distinction lies in whether integration is viewed primarily as a characteristic of the migrant's status or as the result of their interaction with the host urban environment.

The present study does not directly measure individual migrant integration, as official statistics for Almaty do not allow for the identification of the population's migration status alongside the socioeconomic characteristics under consideration.

Consequently, the analysis focuses on the urban environment's structural conditions. These include gender disparities in labour force participation, unemployment, and wages, as well as trends in preschool and healthcare infrastructure and targeted social assistance. While these indicators characterize the conditions under which Almaty's migration-driven and demographic growth occurs, they do not directly measure individual integration among female migrants.

Contemporary research on migrant integration has shifted from assessing isolated socioeconomic indicators to using multidimensional models that encompass various aspects of migrants' inclusion in the host society. Beyond employment and income, researchers consider factors such as social ties, a sense of belonging, language proficiency, housing conditions, and access to urban infrastructure. In the context of the study in Almaty, this conceptual framework enables an assessment not of migrants' individual integration level, but of the socioeconomic conditions of the host urban environment and their potential implications for gender-based vulnerability.

The economic consequences of migration largely depend on how migrants integrate into the labour market. Relocating to economically developed cities can expand access to jobs and income sources. However, these new opportunities are distributed unevenly between women and men. Gender differences manifest in labour force participation, employment status, occupational distribution, and wages. Therefore, the economic impact of migration must be analysed with due regard for the labour market's gender structure.

Studies on internal migration indicate that spatial mobility does not necessarily reduce existing gender disparities. Research by Qin et al. (2016) in Chinese cities found that female labour migrants have a lower probability of paid employment and earn less than their male counterparts. These disparities persist even after controlling for various individual and family characteristics. Consequently, expanded access to urban labour markets can reproduce gender-based economic inequality.

Wages represent one of the most significant dimensions of this inequality. Among rural-to-urban migrants in China, the gender wage gap stands at approximately 16-18% (Wu et al., 2021). This gap is linked to factors such as sectoral distribution, education, and accumulated work experience. However, much of the gap stems from differences in returns to the socioeconomic characteristics of women and men. These findings demonstrate that equal access to migration does not yield comparable economic outcomes for workers of different genders.

Another mechanism at play is occupational segregation. Migrant men and women are unevenly distributed across professions and economic sectors. Drawing on data from European countries, Palencia-Esteban (2022) finds more pronounced occupational segregation among female immigrants than among their male counterparts. Cross-country differences are only partially explained by individual worker characteristics; the institutional environment, integration policies, and national labour market specificities can also play a significant role. Consequently, gender inequality is shaped not only by individual human capital but also by the structure of available employment opportunities.

The combined influence of gender and migrant background is particularly evident in wage analyses. Studies in Germany show that gender- and migration-based pay disparities are not merely the sum of two independent factors; rather, their interaction creates specific economic advantages and constraints for distinct groups of workers (Sprengholz & Hamjediers, 2024). This underscores the need to consider both gender and migrant status simultaneously when assessing labour market inequality.

Similar patterns have been observed in the Japanese labour market. Institutional employment characteristics can limit skilled migrants' economic integration and reduce the returns to their human capital. Moreover, high

levels of gender inequality impose additional constraints on migrant women (Holbrow & Nagayoshi, 2018). This highlights the significant role the institutional environment plays in shaping migration outcomes.

Women's economic standing is also linked to family responsibilities. Childbearing and child-rearing can lead to employment interruptions, reduced work experience, and a shift to lower-paying jobs. In a meta-analysis of research on the "motherhood penalty," Cukrowska-Torzewska and Matysiak (2020) identified a persistent decline in earnings among mothers compared to women without children. A significant portion of the gap is linked to lost work experience during career breaks and women's occupational distribution. For migrant women, family responsibilities can interact with additional constraints regarding access to employment and social resources.

Broader comparative analysis also reveals the heterogeneity of migrant women's situations. Their labour market participation depends on human capital, marital status, the presence of children, migration trajectories, and host-economy characteristics (Schieckoff & Sprengholz, 2021). Therefore, economic vulnerability cannot be explained solely by gender or migration status; interconnected factors and institutional labour market conditions shape it.

The studies reviewed show a general trend toward a less favourable position for migrant women across a range of labour market indicators. However, explanations for the observed differences vary. Some studies attribute them to human capital and sectoral distribution, while others emphasise occupational segregation, family responsibilities, and institutional constraints. Consequently, gender inequality in migration cannot be reduced to a single economic mechanism.

Thus, migration can expand economic opportunities while also reproducing existing forms of gender inequality. The outcome depends on employment structures, occupational segregation, wage-setting mechanisms, family responsibilities, and institutional regulations. Contemporary research examines the economic consequences of migration not only in terms of access to employment but also in terms of job quality and the distribution of labour income.

In Kazakhstan, this issue remains under-researched in major cities. Studies on internal migration primarily characterise the scale of movement, flow directions, and migrants' socio-demographic composition. Significantly less attention is paid to how rapid migration-driven growth intersects with gender disparities in the urban labour market. Research also rarely examines employment, unemployment, and wages for women and men simultaneously.

This study addresses this gap using Almaty as a case study. The study assesses the economic dimension of gender vulnerability by analyzing trends in labor force participation, unemployment, and wages among women and men. These indicators are compared with changes in the city's migration patterns between 2015 and 2025. While this approach does not allow for establishing a causal link between migration and gender inequality or determining the migration status of individual workers, it does make it possible to ascertain whether gender disparities in the labour market persist amidst rapid migration and demographic growth.

3. METHODOLOGY

The study is based on a comparative analysis of socio-economic indicator dynamics for Almaty from 2015 to 2025. The data came from aggregated official statistics from the Bureau of National Statistics of the Republic of Kazakhstan (Bureau of National Statistics, 2025). The analysis incorporates indicators regarding population size and migration, male and female labour force participation, unemployment, and average monthly wages. To characterise the social environment, the analysis used additional indicators on

preschool education, healthcare, and targeted social assistance in Almaty.

Migration processes were analysed based on the number of arrivals and departures, net migration, and the city's total population. To account for population changes, we calculated rates of arrival, departure, and net migration growth per 1,000 inhabitants in accordance with the Bureau of National Statistics' methodological approach.

To assess the relationship between net migration and the total volume of migration flows, the share of net migration within total migration turnover was calculated (1):

$$EM = \frac{M}{MO} \times 100\% \quad (1)$$

where:

M – net migration;

MO – migration turnover.

Gender differences in the labour market were analysed across three dimensions: labour force participation, unemployment, and average monthly wages.The gender gap in labour force participation was defined as the difference between the rates for men and women, while the unemployment gap was defined as the difference between the rates for women and men. Both indicators were expressed in percentage points. To assess changes in the gender unemployment gap, we compared average values for 2015-2019 and 2020-2024.

The gender gap in average monthly wages was calculated as the percentage deviation of women's wages from men's wages (2):

$$GG = \frac{W_m - W_f}{W_m} \times 100 \quad (2)$$

where:

GG – gender gap in average monthly wages, %;

W_f – average monthly wages of women;

W_m – average monthly wages of men.

The resulting value indicates how much women's average monthly wage falls below men's. This calculation method aligns with the general principle for measuring the gender pay gap used in international labour statistics (ILO, 2022).

To analyse social infrastructure, the following indicators were examined: the number of preschool institutions, the number of children attending them, the number of children per 100 places, the number of doctors, and the number of healthcare facilities. First, the percentage change in each indicator between 2015 and 2025 was determined (3):

$$\Delta X = \frac{X_{2025} - X_{2015}}{X_{2015}} \times 100\% \quad (3)$$

where:

ΔX – percentage change in each indicator;

X_{2015} – value of the corresponding indicator at the beginning of the study period;

X_{2025} – value of the corresponding indicator at the end of the study period.

To compare the dynamics of social infrastructure with changes in population size, an index of change relative to population growth was calculated (4):

$$I = \frac{X_{2025} \times P_{2015}}{X_{2015} \times P_{2025}} \quad (4)$$

where:

I – index of the indicator's change relative to population growth;

X_{2015} – value of the corresponding social infrastructure indicator at the beginning of the study period;

X_{2025} – value of the corresponding social infrastructure indicator at the end of the study period;

P_{2015} – population of Almaty at the beginning of the study period;

P_{2025} – population of Almaty at the end of the study period.

An index value greater than 1 indicates the indicator increased faster than the population. A value below 1 indicates a slower rate of

change relative to population growth. The index was not calculated for the "number of children per 100 places" metric, as this indicator is already expressed in relative terms.

The analysis of targeted social assistance covered the number of recipients and the average monthly payment amount. To assess trends in the number of recipients, the annual rate of change relative to the previous year was calculated. A positive value indicated an increase in recipients, while a negative value indicated a decrease. Additionally, the analysis compared changes in the number of recipients and payment amounts across specific periods.

4. ANALYSIS AND RESULTS

The analysis of socio-economic changes in Almaty from 2015 to 2025 is based on a sequential examination of migration processes, gender disparities in the labour market, social infrastructure, and targeted social support. Comparing these areas makes it possible to track migration dynamics and population size alongside indicators of women's and men's status, as well as changes in specific components of the city's social environment.

Assessing the socio-economic context of gender vulnerability requires accounting for the scale and intensity of migration processes within the urban environment. Almaty is a key center of migration attraction in Kazakhstan, where migration significantly influences population size and structure. At the same time, increased migration mobility can be accompanied by a simultaneous rise in both population inflow and outflow. Consequently, analysing migration processes requires considering not only the absolute volumes of movement but also their intensity and outcomes. Table 1 presents the dynamics of the relevant indicators over the study period.

Table 1. Dynamics and intensity of migration processes in Almaty for 2015-2025

Year	Population, persons	Arrivals, persons	Departed, persons	Net, persons	Arrival rate, %	Departure rate, %	Net migration rate, %	Migration turnover, persons	Share of net migration in total migration turnover, %
2015	1707439	93790	53048	40742	54,93	31,07	23,86	146838	27,75
2016	1755935	98692	71060	27632	56,2	40,47	15,74	169752	16,28
2017	1806609	123293	93096	30197	68,25	51,53	16,71	216389	13,95
2018	1859288	110647	79565	31082	59,51	42,79	16,72	190212	16,34
2019	1921499	142277	102179	40098	74,04	53,18	20,87	244456	16,4
2020	1981992	124457	85107	39350	62,79	42,94	19,85	209564	18,78
2021	2101485	119051	91150	27901	56,65	43,37	13,28	210201	13,27
2022	2161901	133149	96622	36527	61,59	44,69	16,9	229771	15,9
2023	2228675	166938	123729	43209	74,9	55,52	19,39	290667	14,87
2024	2292055	238565	197381	41184	104,08	86,12	17,97	435946	9,45
2025	2348103	276930	240493	36437	117,94	102,42	15,52	517423	7,04

Note: compiled by the authors

As Table 1 shows, migration processes in Almaty between 2015 and 2025 were characterized by significant changes in scale and intensity. The city's population grew from 1.71 million in 2015 to 2.35 million in 2025, a 37.5% increase. The average annual number of arrivals during the study period was approximately 148.0 thousand people. The minimum figure was recorded in 2015 at 93.8 thousand, while the maximum reached 276.9

thousand in 2025. Overall, arrivals increased by 195.3% over the period under review.

The average annual number of departures was about 112.1 thousand. The minimum figure was also observed in 2015, at 53.0 thousand. By 2025, this figure peaked at 240.5 thousand. Over the period, departures rose by 353.3%, far faster than the growth rate of arrivals.

Net migration remained positive throughout the study period, averaging about 35.9 thousand people annually. The lowest level was recorded in 2016 (27.6 thousand), and the highest in 2023, when the net migration figure reached 43.2 thousand. Subsequently, the figure declined to 36.4 thousand in 2025.

Calculating relative indicators allowed assessment of the intensity of migration processes while accounting for changes in the city's population size. The arrival rate increased from 54.93‰ in 2015 to 117.94‰ in 2025, more than doubling. Over the same period, the departure rate rose from 31.07‰ to 102.42‰, more than tripling. Both indicators rose sharply in 2024-2025.

A different pattern was observed regarding the net migration rate. In 2015, it stood at 23.86‰, whereas in 2025, it was 15.52‰. Throughout the study period, this indicator fluctuated unevenly, with no sustained upward trend.

Migration turnover increased from 146.8 thousand people in 2015 to 517.4 thousand in 2025-a 3.5-fold increase. The most significant acceleration occurred toward the end of the study period: migration turnover was 290.7 thousand people in 2023 and 435.9 thousand in 2024, before exceeding 517 thousand in 2025.

The share of net migration within total migration turnover fell from 27.75% in 2015 to 7.04% in 2025. Thus, the rise in migration turnover was accompanied by a decline in the proportion of net migration relative to the total volume of registered migratory movements. A particularly notable reduction was observed in 2024-2025. These trends in migration processes require further examination of the city population's socio-economic characteristics. A gender-based analysis of the labour market makes it possible to compare the situations of women and men amid Almaty's rapid migration-driven growth. To this end, indicators regarding labour force participation, unemployment, and wages are examined. Analysing these factors together allows identification of key parameters of gender differentiation in the labour market and tracking their changes over time. Table 2 presents the relevant data.

Table 2. Gender differences in labor force participation and unemployment in Almaty for 2015-2025

Year	Labor force, %		Gender gap, p.p.	Unemployment, %		Gender gap, p.p.
	Women	Men		Women	Men	
2015	76,7	82,6	5,9	5,6	4,8	0,8
2016	76,6	83,8	7,2	5,7	4,9	0,8
2017	77	83,9	6,9	6,2	4,2	2
2018	76	85,7	9,7	6,2	4,1	2,1
2019	77,8	84,9	7,1	5,8	4,3	1,5
2020	78,1	84,4	6,3	5,7	4,6	1,1
2021	76,9	85,2	8,3	6,3	3,9	2,4
2022	77,5	85,4	7,9	6,2	3,9	2,3
2023	78,3	84,1	5,8	5,4	4,1	1,3
2024	80,1	86,2	6,1	5,7	3,4	2,3
2025	–	–	–	5	3,9	1,1

Note: compiled by the authors

Data from Table 2 show persistent differences between women and men in the labor market characteristics under review. From 2015 to 2024, the average labour force

participation rate was 77.50% for women and 84.62% for men. For women, the minimum value was recorded in 2018 (76.0%) and the maximum in 2024 (80.1%). Among men, the rate ranged from 82.6% in 2015 to 86.2% in 2024.

The calculated gender gap in labour force participation persisted throughout the observation period. It stood at 5.9 percentage points in 2015 and 6.1 percentage points in 2024. The widest gap was recorded in 2018, reaching 9.7 percentage points. In subsequent years, the figure fluctuated unevenly and showed no consistent downward trend.

Unemployment rates also differed. From 2015 to 2025, the average rate for women was 5.80%, ranging from 5.0% to 6.3%. Among men, the average unemployment rate was 4.19%, ranging from 3.4% to 4.9%. Throughout the study period, female unemployment exceeded male unemployment. The gender gap in unemployment was 0.8 percentage points in 2015 and reached 2.4 percentage points in 2021. By 2025, the gap had narrowed to 1.1 percentage points. A comparison of five-year periods shows that the average gap widened from 1.44 percentage points in 2015-2019 to 1.88 percentage points in 2020-2024.

These differences in labour force participation and unemployment reflect gender disparities in economic activity and employment. However, women's and men's positions in the labour market are determined not only by the opportunity to participate but also by wage differentials. Therefore, the next stage of the analysis compared average monthly wages for women and men and assessed the gender gap in labor income. Table 3 presents the relevant results.

Table 3. Gender differences in average monthly wages in Almaty for 2015-2025

Year	Wages, KZT		Gender gap, p.p
	Women	Men	
2015	138641	172014	19,4
2016	143169	181130	21
2017	160576	197368	18,6
2018	169694	213158	20,4
2019	175818	227531	22,7
2020	198092	251330	21,2
2021	223799	273403	18,1
2022	268462	326241	17,7
2023	320140	393959	18,7
2024	385014	471609	18,4
2025	372232	518259	28,2

Note: compiled by the authors

The data in Table 3 indicate persistent differences in average monthly wages between women and men throughout the study period. In 2015-2025, women's average salary was 232.3 thousand tenge, and men's was 293.3 thousand tenge. The minimum values for both groups were registered in 2015 and amounted to 138.6 and 172.0 thousand tenge, respectively. The maximum salary for women was set in 2024 at 385.0 thousand tenge, while for men it reached 518.3 thousand tenge in 2025.

From 2015 to 2025, women's nominal wages rose 168.5%, while men's rose 201.3%. Until 2024, wages for both groups trended upward. In 2025, the trends diverged: women's wages fell by 3.3% from the previous year, while men's rose by 9.9%.

The gender pay gap has varied unevenly. In 2015, it was 19.4%, and in 2019 it reached 22.7%. The rate dropped to 17.7% in 2022

before remaining relatively stable in 2023-2024. In 2025, the gender gap widened to 28.2%, the most pronounced change during the period under review.

A joint analysis of labour force participation, unemployment and wage indicators shows that gender differences in the Almaty labour market persisted throughout the study period. Women had lower labour force participation rates and higher unemployment rates compared to men. At the same time, the reduction in year-to-year gaps did not create a stable trend toward equalizing women's and men's positions. The average gender gap in unemployment increased from 1.44 percentage points in 2015-2019. to 1.88 percent in 2020-2024, and the pay gap in 2025 reached 28.2%. Thus, the most persistent gender differences appeared simultaneously in access to employment and labor income levels.

The identified labour market differences must also be considered in the context of social infrastructure, which can influence the ability to combine employment and family responsibilities. Access to preschool education is important in this regard, since developing appropriate infrastructure is associated with opportunities for parents, especially women, to participate in economic activity. Therefore, the next stage of the analysis assessed the dynamics of Almaty's preschool and medical infrastructure. Table 4 presents the results.

Table 4. Dynamics of social infrastructure indicators in Almaty for 2015-2025

Year	Children per 100 places in preschool institutions	Preschool institutions, unit	Children in preschool institutions, persons.	Doctors, person	Healthcare organizations, unit
2015	108,8	401	53212	12720	76
2016	105,38	506	56734	16332	79
2017	103,43	617	62983	13267	79
2018	100,91	774	67224	13298	87
2019	89,17	869	69325	13052	92
2020	83,02	825	65108	13450	91
2021	86,6	860	71664	13884	91
2022	88,5	899	78585	13859	77
2023	88,96	947	82419	14256	88
2024	87,35	1022	85480	14681	100
2025	83,53	1065	85877	14717	88

Note: compiled by the authors

The trends in targeted social assistance (TSA) in Table 5 showed significant fluctuations. Between 2015 and 2025, the average number of recipients was approximately 18.0 thousand people. The minimum figure was recorded in 2017 at 376 people, while the maximum -63.2 thousand people was reached in 2019.

The author's calculations reveal a sharp shift in the number of recipients during 2018-2019. In 2018, the number of recipients rose by 639.6% compared to the previous year, followed by a further increase of 2,171.2% in 2019. After peaking, the trend reversed; in 2020, the number of recipients fell by 52.4%. This decline continued through 2021-2025, accelerating in the final three years: a 21.7% drop in 2023, 29.8% in 2024, and 32.0% in 2025. Consequently, by 2025, the number of recipients was 84.0% lower than in 2019.

The average monthly TSA amount over the period under review was approximately 7.1 thousand tenge. The lowest figure was recorded in 2015 (2.8 thousand tenge), and the

highest in 2019 (12.5 thousand tenge). Subsequently, the assistance amount fell to 7.6 thousand tenge in 2022, before rising to 9.8 thousand tenge by 2025. Compared with 2022, this was a 28.6% increase; however, in 2025 it remained 21.9% below the 2019 level.

Thus, the number of Targeted Social Assistance (TSA) recipients declined steadily after 2019. Trends in benefit amounts were less uniform: following a decline between 2020 and 2022, the figure generally rose in subsequent years.

Overall, the results indicate that population growth and migration activity in Almaty occurred against a backdrop of persistent gender disparities in the labour market. Throughout the period under review, women had lower labour force participation, higher unemployment rates, and lower average monthly wages than men. At the same time, social infrastructure development was uneven: the preschool sector expanded faster than the population, while medical infrastructure indicators grew more slowly. The number of TSA recipients also steadily declined after peaking in 2019. These findings characterise a socioeconomic environment in which gender disparities persist amid Almaty's rapid migration-driven and demographic growth.

5. DISCUSSION

The results indicate that Almaty's migratory and demographic growth is occurring against a backdrop of persistent gender differentiation in the labour market and uneven development of social infrastructure. This allows gender vulnerability to be viewed not as a direct consequence of migration, but as part of the interplay between migratory mobility and existing socio-economic disparities. Such an interpretation aligns with contemporary gender-focused approaches to migration, which emphasise access to employment, resources, and opportunities for adaptation within the host environment (Nawyn, 2010).

A significant increase in migration turnover, coupled with a declining share of net migration within that total volume, points to intensified population movement. At the same time, migration-driven growth must be viewed in broader terms than demographic change alone. Integration into the urban environment is linked to employment opportunities and access to social institutions and basic services. Therefore, for Almaty, critical factors include not only the scale of migration flows but also the urban socio-economic environment's capacity to adapt to population growth.

The most persistent disparities were identified in the labour market. Female labour force participation remained lower than men's, while the female unemployment rate was consistently higher throughout the period. A gender pay gap also persisted, reaching 28.2% in 2025. These findings align with research on internal migration showing that expanding urban economic opportunities does not necessarily eliminate gender inequality (Qin et al., 2016). Women may still occupy less favourable positions in employment and wages, even within a growing urban labour market. The distribution of family responsibilities can perpetuate these disparities. Research indicates that childcare responsibilities constrain women's employment and earnings more than men's. In this context, the observed expansion of preschool infrastructure in Almaty is a positive development, as it may lower one barrier to women's economic participation. However, available data do not reveal the extent to which migrant women utilise these facilities.

A different trend emerges in the healthcare sector, where growth in the number of doctors and healthcare facilities has lagged behind population growth. Studies on urban integration identify access to health and social services as a crucial component of migrant inclusion in the host environment. Consequently, these trends may signal a potential strain on medical infrastructure, though they do not provide insight into the actual accessibility of healthcare for specific population groups.

The decline in recipients of targeted social assistance since 2019 also requires cautious

interpretation; it cannot be viewed simply as evidence of reduced social vulnerability. Social assistance coverage depends on eligibility criteria, institutional regulations, and social protection mechanisms. Research on the post-Soviet region also highlights the significance of such institutions for migrants' access to urban resources.

Taken together, these findings confirm the multidimensional nature of gender-based vulnerability. Gender does not operate in isolation from social standing, family status, background, or available resources (Crenshaw, 1991; Collins, 2015). Furthermore, translocational positionality suggests that movement between locations can alter an individual's access to economic and social resources (Anthias, 2008, 2012). Therefore, the growth of migration to Almaty should be viewed as a context in which existing gender disparities may take on added significance.

When interpreting the results, it is necessary to consider the study's limitations. Aggregated official statistics do not allow separate identification of female migrants or comparison of their situation with other population groups. Consequently, the observed differences do not prove a causal link between migration and gender-based vulnerability. The findings characterise the socio-economic environment in which Almaty's migration growth is taking place and identify directions for future research based on individual-level data.

6. CONCLUSION

The study integrated three lines of analysis regarding socio-economic changes in Almaty: migration dynamics, gender disparities in the labour market, and the development of social infrastructure. Between 2015 and 2025, the city experienced significant population growth and high migration levels. These processes unfolded against a backdrop of persistent gender disparities in economic activity, unemployment rates, and wages. At the same time, different components of social infrastructure developed at varying rates relative to population growth.

A combined analysis of these trends reveals that gender vulnerability emerges within a complex urban socio-economic environment. Population growth and high migration mobility increase demands on the city's labor market and social infrastructure. Under these conditions, persistent gender disparities can create additional risks for women's economic well-being. Women face lower labour force participation, higher unemployment rates, and a persistent wage gap compared to men. Access to social infrastructure also plays a crucial role in enabling women to balance employment with family responsibilities. Thus, gender vulnerability manifests not through a single indicator, but through a combination of the urban environment's economic and social conditions.

The study's scientific contribution lies in integrating migration-demographic, gender, and infrastructure dimensions into a unified analytical framework. This approach moves beyond the separate analysis of migration processes and gender inequality. It shows that assessing the consequences of rapid urban growth requires considering existing labor market disparities and the capacity of social infrastructure to adapt to demographic change. In doing so, the study deepens the understanding of the structural conditions underlying gender vulnerability in Kazakhstan's major cities.

The practical significance of the findings relates to improving urban social and gender policies. The persistence of gender disparities in the labour market highlights the need for systematic monitoring. When planning social infrastructure, it is essential to consider not only the absolute increase in facilities and services but also population growth. Preschool and healthcare infrastructure require particular attention. Their accessibility is significant for the quality of the urban environment and the population's opportunities to participate in economic activity. The study's findings can inform social policy priorities in Almaty and

help assess the gender-related aspects of that policy.

The official statistics used are presented primarily at an aggregated level. Consequently, they do not allow for a direct assessment of the situation of migrant women or a comparison with women who have no migration history. Furthermore, the available data do not provide a basis for establishing a direct causal link between migration-driven growth and gender inequality. Accordingly, this article evaluates the structural conditions underlying gender-based socio-economic vulnerability rather than the individual experiences of migrant women.

Future research could verify the identified patterns using individual-level and panel data. A promising avenue is to compare migrants with the non-migrant population across indicators such as employment, income, and access to social services. It is important to account for factors such as gender, age, marital status, the presence of children, and length of residence in the city. Supplementing statistical analysis with qualitative methods would help uncover individual adaptation strategies and barriers to urban integration. This would shift the focus from assessing structural conditions to more precisely explaining the mechanisms that generate gender-based vulnerability.

AUTHOR CONTRIBUTION

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REFERENCES

Anastasiadou, A., Kim, J., Şanlitürk, A. E., de Valk, H. A. G., & Zagheni, E. (2024). Gender differences in the migration process: A narrative literature review. *Population and Development Review, 50*(4), 961–996. https://doi.org/10.1111/padr.12677

Anthias, F. (2008). Thinking through the lens of translocational positionality: An intersectionality frame for understanding identity and belonging. *Translocations: Migration and Social Change, 4*(1), 5–20.

Anthias, F. (2012). Transnational mobilities, migration research and intersectionality: Towards a translocational frame. *Nordic Journal of Migration Research, 2*(2), 102–110. https://doi.org/10.2478/v10202-011-0032-y

Bastia, T. (2014). Intersectionality, migration and development. *Progress in Development Studies, 14*(3), 237–248. https://doi.org/10.1177/1464993414521330

Bissenova, A. (2017). The fortress and the frontier: Mobility, culture, and class in Almaty and Astana. *Europe-Asia Studies, 69*(4), 642–667. https://doi.org/10.1080/09668136.2017.1325445

Bureau of National Statistics. (2025). Official statistical data. Retrieved May 30, 2026 from https://stat.gov.kz/en

Bürkner, H.-J. (2012). Intersectionality: How gender studies might inspire the analysis of social inequality among migrants. *Population, Space and Place, 18*(2), 181–195. https://doi.org/10.1002/psp.664

Collins, P. H. (2015). Intersectionality's definitional dilemmas. *Annual Review of Sociology, 41*, 1–20. https://doi.org/10.1146/annurev-soc-073014-112142

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review, 43*(6), 1241–1299. https://doi.org/10.2307/1229039

Cukrowska-Torzewska, E., & Matysiak, A. (2020). The motherhood wage penalty: A meta-analysis. *Social Science Research, 88–89*, 102416. https://doi.org/10.1016/j.ssresearch.2020.102416

Harder, N., Figueroa, L., Gillum, R. M., Hangartner, D., Laitin, D. D., & Hainmueller, J. (2018). Multidimensional measure of immigrant integration. *Proceedings of the National Academy of Sciences of the United States of America, 115*(45), 11483–11488. https://doi.org/10.1073/pnas.1808793115

Holbrow, H. J., & Nagayoshi, K. (2018). Economic integration of skilled migrants in Japan: The role of employment practices. *International Migration Review, 52*(2), 458–486. https://doi.org/10.1111/imre.12295

International Labour Organization. (2022). *Global Wage Report 2022–23: The impact of inflation and COVID-19 on wages and purchasing power*. International Labour Office. Retrieved June 02, 2026 from https://www.ilo.org/publications/flagship-reports/global-wage-report-2022-23-impact-inflation-and-covid-19-wages-and

Januzakova, A., & Serikzhanova, S. (2023). Current urban migration dynamics in Almaty: A sociodemographic analysis of internal migrants. *The Journal of Psychology & Sociology, 86*(3), 85–93. https://doi.org/10.26577/JPsS.2023.v86.i3.08

Kearns, A., & Whitley, E. (2015). Getting there? The effects of functional factors, time and place on the social integration of migrants. *Journal of Ethnic and Migration Studies, 41*(13), 2105–2129. https://doi.org/10.1080/1369183X.2015.1030374

Mahler, S. J., & Pessar, P. R. (2006). Gender matters: Ethnographers bring gender from the periphery toward the core of migration studies. *International Migration Review, 40*(1), 27–63. https://doi.org/10.1111/j.1747-7379.2006.00002.x

Massey, D. S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., & Taylor, J. E. (1993). Theories of international migration: A review and appraisal. *Population and Development Review, 19*(3), 431–466. https://doi.org/10.2307/2938462

Nawyn, S. J. (2010). Gender and migration: Integrating feminist theory into migration studies. *Sociology Compass, 4*(9), 749–765. https://doi.org/10.1111/j.1751-9020.2010.00318.x

Omarova, A., Sarybayeva, I., Shedenova, N., Aryn, D., & Zhakypbek, A. (2026). Gender aspects of external labor migration of the economically active population of Kazakhstan. *Gender, Work & Organization, 33*(4), 1504–1515. https://doi.org/10.1111/gwao.70143

Palencia-Esteban, A. (2022). Occupational segregation of female and male immigrants in Europe: Accounting for cross-country differences. *International Labour Review, 161*(3), 341–373. https://doi.org/10.1111/ilr.12207

Pedraza, S. (1991). Women and migration: The social consequences of gender. *Annual Review of Sociology, 17*, 303–325. https://doi.org/10.1146/annurev.so.17.080191.001511

Petzke, M. (2021). Measures and their countermeasures: Reflexivity and second-order reactivity in quantifying immigrant integration. *Sociological Forum, 36*(1), 206–225. https://doi.org/10.1111/socf.12668

Pickbourn, L. (2022). Is migration in Africa always a household decision? Consensus and contestation in the rural–urban migration decisions of Ghanaian women. *Feminist Economics, 28*(2), 64–92. https://doi.org/10.1080/13545701.2022.2042473

Qin, M., Brown, J. J., Padmadas, S. S., Li, B., Qi, J., & Falkingham, J. (2016). Gender inequalities in employment and wage-earning among internal labour migrants in Chinese cities. *Demographic Research, 34*, 175–202. https://www.jstor.org/stable/26332032

Schieckoff, B., & Sprengholz, M. (2021). The labor market integration of immigrant women in Europe: Context, theory, and evidence. *SN Social Sciences, 1*, 276. https://doi.org/10.1007/s43545-021-00279-3

Sprengholz, M., & Hamjediers, M. (2024). Intersections and commonalities: Using matching to decompose wage gaps by gender and nativity in Germany. *Work and Occupations, 51*(2), 249–286. https://doi.org/10.1177/07308884221141100

Wessendorf, S., & Gembus, M. (2024). The social front door: The role of social infrastructures for migrant arrival. *Journal of Ethnic and Migration Studies, 50*(12), 2822–2838. https://doi.org/10.1080/1369183X.2024.2305276

Wu, Y., Pieters, J., & Heerink, N. (2021). The gender wage gap among China's rural–urban migrants. *Review of Development Economics, 25*(1), 23–47. https://doi.org/10.1111/rode.12680

Zhang, Y., You, C., Pundir, P., & Meijering, L. (2023). Migrants' community participation and social integration in urban areas: A scoping review. *Cities, 141*, 104447. https://doi.org/10.1016/j.cities.2023.104447

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