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The Impact of Internal Migration on the Economic Development of Kazakhstan's Regions

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ABSTRACT

Internal migration of the population has a significant impact on the socio-economic development of regions, particularly in countries with vast territories and diverse economic conditions, such as Kazakhstan. The purpose of this study is to examine the relationship between internal migration and the gross regional product (GRP) in Kazakhstan's regions. The official statistics of the Republic of Kazakhstan for the period 2013-2023, covering GRP indicators and internal migration flows of the population, were used as the initial data. The analysis included the calculation of average shares of urban and rural migration, as well as the average GRP level for each region. The results showed that at the national level, there was a moderate positive correlation between the share of urban migration and GRP (+0.411, p = 0,219), as well as a negative correlation between rural migration and GRP (- 0.411, p = 0,219), reflecting the general trend in favour of urbanization. At the regional level, the most significant correlations were recorded in the Kyzylorda region and Shymkent city. The developed typology, based on median values, revealed the existence of four stable spatial development patterns: regions with a high proportion of migrants; regions with a high percentage of urban migrants and low GRP; regions with a small proportion of urban migrants but high GRP; and regions with few urban migrants and a low GRP. Future research paths may aim to expand the model by incorporating additional variables, such as employment, education, and quality of life, in the regions.

KEYWORDS: Economy, Economic Development, Urbanization, Economic Disparities, Migration, Demography, Territorial Inequality, Regional Typology

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1.INTRODUCTION

Internal population migration remains a pressing socio-economic problem for many countries, including Kazakhstan. The movement of citizens within the country, particularly from rural areas to large cities and regional centres, has a significant impact on the spatial structure of employment, demand for infrastructure, and access to education, housing, and social services. These processes reflect regional disparities in living standards and may either exacerbate or alleviate territorial inequality. The movement of people to large cities and more developed regions is accompanied by a redistribution of labour resources and an increase in the burden on transport, housing, and social services. Attention to internal migration as a factor in sustainable development is actively supported at the international level. Organizations such as the International Organization for Migration and the United Nations Development Programme emphasize the importance of spatial balance, incorporating analysis of internal migration processes into their assessments of inclusive economic growth, access to services, and the implementation of the Sustainable Development Goals (SDGs). Their reports consider internal migration not only as a challenge but also as a tool for transforming regional policies. An approach based on the relationship between migration and regional GRP is consistent with such strategies and allows for the development of solutions that meet both national and international priorities. Internal migration in Kazakhstan is becoming an increasingly significant factor that not only affects population size but also alters the territorial structure of the economy.

In recent years, Kazakhstan has witnessed a rise in internal migration, as reflected in official statistics and the country's socio-economic agenda. According to the Bureau of National Statistics, in the first half of 2024, more than 688,000 people changed their place of residence within the country, representing a 73% increase over the same period last year. The main centres of attraction remain the cities of republican significance - Astana, Almaty, and Shymkent, which account for the largest share of migration flows. Thus, in 2024, over 195 thousand internal migrants arrived in Astana. These processes indicate a significant impact of urbanization on the country's socio-economic structure. However, the question remains open as to whether such migration activity is accompanied by uniform economic development, not only in large cities but also in the regions. Consequently, there is a need to analyze the situation at the level of all administrative-territorial units to determine how migration affects economic dynamics within regions. Given the sharp differences between regions in economic potential and population density, it is essential to understand whether increased mobility is associated with improving GDP indicators or deepening territorial inequality.

In this regard, the purpose of this study is to assess the impact of internal migration on the gross regional product (GRP) of Kazakhstan's regions from 2013 to 2023. To develop an effective regional strategy, it is necessary to assess the extent to which current migration flows contribute to or hinder economic growth in various parts of the country. For this purpose, the study examines internal migration as a potential factor influencing the level of GRP, enabling a comprehensive and empirically grounded analysis of the problem.

2.LITERATURE REVIEW

Many studies view internal migration not only as a consequence of regional differences but also as an active factor influencing the country's demographic and socio-economic structure. Elizaga (1972) was one of the first to propose a comprehensive understanding of internal migration as a process that alters population size and the distribution of human resources, thereby intensifying regional contrasts. Building on this idea, Mikačić (2000) defined migration as a mechanism of spatial restructuring that promotes centralization, increased urbanization, and, simultaneously,

depopulation of the rural periphery, with a long-term impact on infrastructure and demographic sustainability. White and Lindstrom (2005) emphasized the dual nature of migration both as a result and a cause of territorial disparities, as well as a strategy employed by households to overcome socio-economic constraints. Abreu (2012) views migration as a conscious mechanism of adaptation and spatial restructuring aimed at reducing the vulnerability of regions to economic instability. At the same time, as Amaral (2013) noted, the concentration of population in developed regions is accompanied by the depopulation of less competitive territories. Rees et al. (2017) highlighted that internal migration is a global structure-forming process that forms the demographic core of economically active zones and determines long-term trends in urbanization and deurbanization. Finally, Stawarz and Sander (2019) concluded that migration flows have an impact that extends beyond employment, affecting access to housing, the structure of urban infrastructure, and the distribution of social services. Therefore, internal migration or population mobility influences the redistribution of resources, accelerates urbanization, and contributes to the spatial transformation of regions.

Migration is a multifactorial process influenced by personal decision-making as well as broader macroeconomic and institutional contexts. Massey et al. (1994) emphasized that economic incentives, as well as the political and social environment, shape migration. Czaika (2015) noted that subjective expectations play a decisive role, encompassing the perception of the future, trust in the system, and a sense of stability. Studies by Icduygu et al. (2001) and Mendola (2012) clarified that migration occurs more often not in the poorest regions but in those where a minimum level of resources has been accumulated, allowing for movement. At the same time, the consequences of migration are ambiguous: on the one hand, it contributes to the inflow of transfers and the development of human capital; on the other hand, it leads to an outflow of labor resources, increased dependence on external income and an increase in social vulnerability. Skeldon (2012) and Dao et al. (2018) draw attention to the variability of migration patterns as incomes rise, from outgoing flows from villages to intra-urban mobility, and from permanent to circular migration. Lin et al. (2021) emphasized the impact of migration on the concentration of skilled labor, which increases economic activity in host regions but simultaneously deepens regional inequality. In turn, Peprah et al. (2019) linked the financial effect of migration to the presence of stable channels for converting transfers into investment, and de Sherbinin et al. (2022) point to the expansion of migration causes beyond the economy, including climate instability, deteriorating environmental conditions, and loss of income sources. A comparison of these approaches reveals that migration is not a one-directional response to poverty but rather a complex result of interrelated factors, including resource availability, perceptions of opportunities, and structural conditions, which can influence territorial development in various ways.

Internal migration affects urbanization through population growth and changes in the social, economic, and spatial organization of cities. Several studies show differences in the interpretation of the very nature of migration impact: Wang et al. (2017) linked migration flows with increased demand for housing in large cities, recording direct pressure on the real estate market, while Jedwab et al. (2017) draw attention to the opposite effect, "urban push," in which the cities themselves become a source of outflow due to infrastructure overload and the lack of an industrial base. Thus, migration can simultaneously increase concentration and trigger decentralization processes. In contrast to macroeconomic approaches, Mohabir et al. (2017) focused on the behavioural motives of temporary migrants, demonstrating that the decision to stay in the city is not associated with economic parameters but rather with institutional inclusion and social integration. Xu et al. (2020) contrast migration

as a numerical phenomenon with migration as an agglomeration process, noting that spatial compaction and declining quality of the urban environment are associated with the flow configuration rather than its volume. The big data approach of You et al. (2023) revealed a discrepancy between the official map of cities and the actual urban structure formed by population mobility. Therefore, migration affects the scale of urbanization and how it is recorded and understood.

The impact of internal migration on regional differences in socio-economic development is interpreted in some studies through its redistributive effect in the context of spatial asymmetry. Mohamed et al. (2016) demonstrated that high unemployment and low social spending per capita lead to increased migration flows to economically more developed regions, where a structural advantage is maintained, confirming that migration is a response to persistent inequality. While this study documents the crowding-out effect of poverty, the work of Ray and Dutta (2019) highlighted the attractive effect of urbanization and the growth of the industrial and construction sectors in the context of India's liberalization. Migration in this context reflects economic imbalances and is influenced by institutional changes that intensify spatial selectivity. At the same time, both studies raise the question of the role of urban infrastructure and institutional capacity as factors regulating the scale and direction of internal movements. Timiryanova et al. (2021) stated that some regions can transform incoming resources due to internal migration flows into sustainable growth, while others remain vulnerable to economic inertia. In turn, Calcagnini et al. (2021) demonstrated that internal migration of skilled labor can contribute to total factor productivity growth if accompanied by institutional flexibility in the labor market. However, this process has long-term negative consequences for the territorial distribution of human capital, reinforcing the effect of the "internal brain drain" and perpetuating regional differences (González-Leonardo et al., 2022). A comparison of approaches reveals that migration follows uneven development, participating in it and contributing to the consolidation or redistribution of territorial advantages.

Studies by Kazakh and foreign authors touch upon the behavioral, economic, and adaptation aspects of internal migration in Kazakhstan, with most focusing on specific groups or sectoral effects. Danzer et al. (2014) demonstrated that internal migrants in cities, despite having similar income levels to native residents, exhibit a higher subjective socio-economic status. Therefore, symbolic capital and social self-awareness are important outcomes of migration. Ryazantsev et al. (2017) situate Kazakhstan's migration processes within the framework of Eurasian integration, considering the country as one of the primary receiving centers for labor migration, alongside Russia, particularly within the EAEU. The study by Zhapakov et al. (2020) focused on the labor integration of oral means, identifying institutional and social barriers that prevent their full inclusion in the economy, which makes internal migration for this group both forced and unsustainable. Zharkynbekova et al. (2024) analyzed the transnational adaptation strategies of Kazakh repatriates studying in Kazakhstan, as well as the role of family and cultural practices in shaping their migration trajectories. From a macroeconomic perspective, Tleuberdinova et al. (2024) examined regional and sectoral wage differences, documenting persistent unevenness associated with the specifics of the economic structure and the territorial mobility of the labor force.

Based on the analyzed literature, it can be concluded that internal migration processes are not only a reaction to existing economic imbalances but also an independent factor of spatial transformation. In the works of both foreign and Kazakh authors, migration is interpreted within various theoretical and methodological frameworks, ranging from neoclassical approaches to institutional and behavioral models. Several studies highlight the dual impact of migration: on the one hand, it fosters the concentration of labor and human

resources in economically vibrant regions, stimulating growth and urbanization; on the other hand, it exacerbates territorial polarization, leading to the depopulation of peripheral and rural areas. An important element of the analysis is not only the volume of migration flows but also their structure, orientation (urban-rural) and the ability to integrate into the existing socio-economic system. Despite the significance of the identified effects, the domestic literature is dominated by micro-sociological and thematically limited approaches. At the same time, interregional analysis of the relationship between migration and macroeconomic dynamics remains underdeveloped.

3. METHODOLOGY

The conceptual choice of indicators and methodology in this study is based on the generalization of findings from the literature review, including works by both foreign and domestic authors. In particular, internal migration is considered not only as a response to socio-economic disparities but also as an active factor shaping the structure of regional development (Rees et al., 2017; Wang et al., 2017). This justifies the inclusion of the share of the population migrating to urban and rural areas in the analysis, which enables the identification of differences in movement directions and their associated economic consequences (Amara & Jemmali, 2016; Jedwab et al., 2017). The use of GRP as the primary economic variable is consistent with the widespread approach in studies of the relationship between population mobility and the level of territorial development (Dao et al., 2018; Ray & Dutta, 2019). Regression analysis and correlation are based on the empirical practice of assessing migration effects in conditions of regional heterogeneity (Calcagnini et al., 2021; Timiryanova et al., 2021). The median partitioning method for constructing the typology was adapted from studies that form regional clusters based on economic and demographic characteristics (Czaika, 2015; González-Leonardo et al., 2022).

The analysis was organized in four stages, presented in Figure 1.

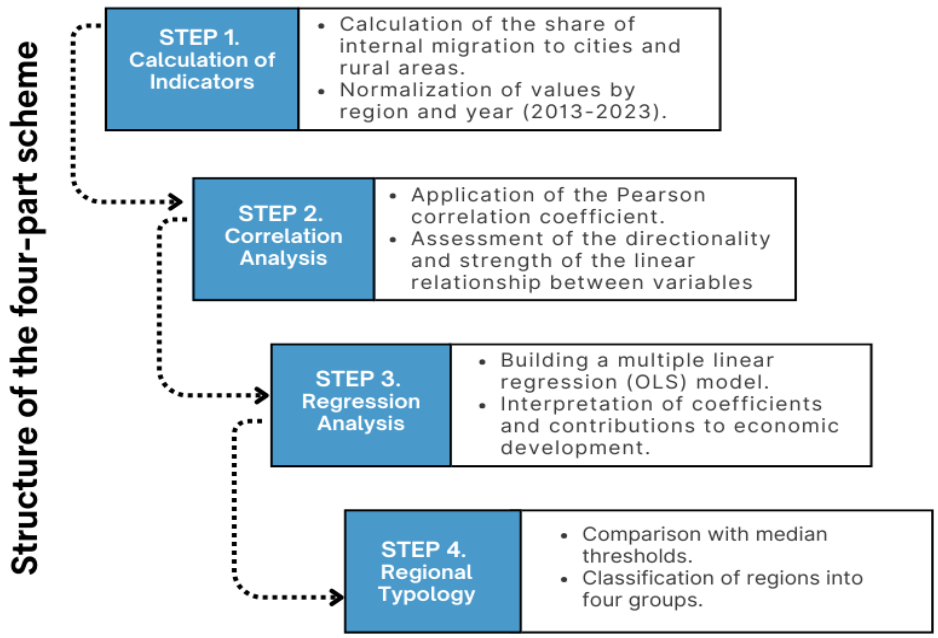

FIGURE 1. Research methodology

To analyze the relationship between internal migration and the level of economic development in Kazakhstan's regions, a comprehensive, step-by-step methodical approach was employed, integrating demographic and macroeconomic indicators. The administrative areas of Kazakhstan and the cities of national importance (Astana, Almaty, and Shymkents) were selected as the objects for empirical analysis. The period covered is from 2013 to 2023, providing sufficient dynamics to detect sustainable trends. Official statistical data published by the National Bureau of Statistics of Kazakhstan's Agency for Strategic Planning and Reforms were the primary source of information.

In the first stage of the analysis, indicators reflecting the scale and direction of migration flows were formed. To ensure comparability and eliminate large-scale differences between regions, normalized share values of internal migration were employed. In particular, the following variables were calculated: the share of internal migration directed to urban areas (SHARE_URBAN) and the share of migration to rural areas (SHARE_RURAL), with the sum of both shares equating to unity, thus capturing the full spectrum of internal migration directions, allowing for the consideration of both spatial and temporal fluctuations in migration processes. The gross regional product (GRP) was chosen as the dependent variable, reflecting the total volume of output of goods and services at the regional level and serving as an integral indicator of regional economic activity. This design allows for spatial comparability and temporal trend analysis across the 2013–2023 period.

In the second stage, a correlation analysis was conducted to assess the primary strength and direction of the relationship between migration shares and the level of GRP. The Pearson correlation coefficient was employed as the primary statistical instrument, as it enables the identification of linear relationships between continuous quantitative variables. This method is widely accepted in regional economic studies and is suitable for analyzing interregional economic disparities.

Based on the structure of the available data and the findings of the literature review, three key groups of variables were defined:

(1) GRP: measures the total volume of goods and services produced within a region (expressed in billion tenge).

(2) Share of internal migration to urban areas (SHARE_URBAN): calculated as the proportion (%) of total internal migration directed toward urban settlements.

(3) Share of internal migration to rural areas (SHARE_RURAL): defined as the complementary share to urban migration, ensuring complete coverage of internal migration directions.

For the initial assessment of the linear relationship between migration variables and GRP, the Pearson correlation coefficient was used based on the formula (1):

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})(y_i - \bar{y})^2}} \quad (1)$$

where:

r – Pearson correlation coefficient;

x_i, y_i – the values of the migration indicator;

$\bar{x}$, $\bar{y}$ – arithmetic averages of variables.

In the third stage, proportions of internal migration by destination were calculated. Based on analysis of scientific literature and structure of preliminary data, three key variables were identified: GRP, the share of internal migration to urban areas, and the share of migration from rural areas. GRP reflects total production of goods and services in a region and is measured in billions of tenge. These indicators were calculated for each region each year during the period under review. This made it possible to normalize spatial and temporal migration flows. This normalization ensured comparability between regions and allowed identification of spatial patterns and trends in internal migration over time.

The next step was to construct a multiple linear regression using the ordinary least squares (OLS) method in order to determine the

contribution of migration variables to the formation of GRP (2):

$$y_{it} = \beta_0 + \beta_{1x_{1,it}} + \beta_{2x_{2,it}} + \varepsilon_{it} \qquad (2)$$

where:

y_{it} – the dependent variable (e.g. GRP);
$x_{1,it}, x_{2,it}$ – independent variables (e.g. migration);
$\beta_0, \beta_1, \beta_2$ – model parameters;
ε_{it} – error.

The regression model enabled us to quantitatively assess the contribution of each migration direction to the regional economic development. To assess the impact of migration on the regional economy, a regression model will be built. It will enable us to determine how the change in the share of migration is related to the level of GRP and to identify which form of migration — rural or urban — makes the more outstanding contribution to the economic outcome.

In the fourth stage, a basis was formed for the typological division of regions, using average indicators of the selected variables. This approach made it possible to identify structural differences between territories and prepare them for further classification by the nature of development. The typological approach ensured the transition from element-by-element analysis to a generalized picture of regional differences, revealing areas of balanced and unbalanced relationships between migration and economic growth.

Furthermore, a typology of regions was formed based on the average values of the share of urban migration and GRP for the entire analyzed period. For this, the following formula was used (3):

$$T_i = f(x_i, y_i) = Type_i, x_i \geq \lesseqgtr Me_x \text{^} y_i \geq / < Me_y \qquad (3)$$

where:

T_i – region type;
Me_x , Me_y – median values for x and y.
x_i – one of the classification bases (average share of migration in urban and rural area);
y_i – the second classification base (average GRP);
$f(x_i, y_i)$ – a classification function that assigns a regional type to each pair of values.

A regional typology was formed to summarize the results and visualize the differences based on migration activity and economic development. Based on average values of migration shares and GRP for the period 2013–2023, regions will be grouped by type to compare them by levels of economic development and the nature of migration, as well as to identify patterns and contrasts in the distribution of resources and population. This approach will make it possible to identify stable types of territories and determine where there is consistency between internal migration and GRP and where there is a pronounced imbalance. The analysis results will allow the recording of spatial heterogeneity in the country's development.

4. RESULTS

Understanding the relationship between internal migration and economic development, as well as revealing existing dependencies and structural differences, requires a quantitative analysis. At this stage, it is necessary to assess the direction and strength of the influence of migration flows on the GRP and classify regions by type based on a combination of migration activity and the level of economic development.The conducted correlation analysis, using the Pearson coefficient, allowed us to identify the degree of connection between the share of internal migration to cities and villages and the level of economic development of Kazakhstan's regions, measured by the GRP for the period 2013–2023. The analysis covers all administrative regions and cities of national significance: Astana, Almaty, and Shymkent. In Table 2, the results are presented for all administrative regions, excluding Astana, Almaty, and Shymkent cities.

TABLE 2. Correlation between internal migration and GRP by region for 2013–2023

Region	Variable	Pearson's r	p-value
Kazakhstan	SHARE_RURAL	–0.411	0.219
	SHARE_URBAN	+0.411	0.219
Akmola	SHARE_RURAL	+0.265	0.437
	SHARE_URBAN	–0.265	0.437
Aktobe	SHARE_RURAL	+0.100	0.774
	SHARE_URBAN	–0.100	0.774
Almaty	SHARE_RURAL	+0.235	0.495
	SHARE_URBAN	–0.235	0.495
Atyrau	SHARE_RURAL	+0.380	0.256
	SHARE_URBAN	–0.380	0.256
West Kazakhstan	SHARE_RURAL	–0.501	0.122*
	SHARE_URBAN	+0.501	0.122*
Zhambyl	SHARE_RURAL	–0.100	0.774
	SHARE_URBAN	+0.100	0.774
Karaganda	SHARE_RURAL	–0.353	0.285
	SHARE_URBAN	+0.353	0.285
Kostanay	SHARE_RURAL	–0.395	0.230
	SHARE_URBAN	+0.395	0.230
Kyzylorda	SHARE_RURAL	–0.695	0.018*
	SHARE_URBAN	+0.695	0.018*
Mangystau	SHARE_RURAL	+0.182	0.596
	SHARE_URBAN	–0.182	0.596
Pavlodar	SHARE_RURAL	–0.533	0.096*
	SHARE_URBAN	+0.533	0.096*
North Kazakhstan	SHARE_RURAL	–0.391	0.235
	SHARE_URBAN	+0.391	0.235
Turkestan	SHARE_RURAL	–0.062	0.864
	SHARE_URBAN	+0.062	0.864
East Kazakhstan	SHARE_RURAL	–0.342	0.302
	SHARE_URBAN	+0.342	0.302

Note: compiled by authors

The results show that in several regions, the migration structure is meaningfully linked to GRP dynamics. In particular, statistically significant negative correlations were found between the rural migration share and GRP in Kyzylorda ($r = –0.695$, $p = 0.018$), Pavlodar ($r = –0.533$, $p = 0.096$), and West Kazakhstan ($r = –0.501$, $p = 0.122$). Interestingly, there are positive and statistically significant or borderline correlations between the urban migration share and GRP for these regions, concluding that increasing urban migration is associated with stronger economic performance.

At the national level, we observe a moderate negative correlation between the share of rural migration and GRP ($r = –0.411$) and, conversely, a positive correlation with the share of urban migration ($r = +0.411$). Even though the results overpassed the threshold ($p = 0.219$), they align with urbanization trends observed globally, where rural out-migration towards urban centers supports productivity gains, infrastructure investment, and diversified labor markets.

In other regions, such as Aktobe, Almaty (region), or Zhambyl, the relationship between migration shares and GRP appears weak and statistically insignificant. Therefore, based on the results, we can assume there is a balanced migration structure with low volatility or the presence of other dominant economic drivers,

such as natural resource extraction, public investment, or industrial development, which are not directly tied to internal migration flows.

Overall, in regions with significant out-migration from rural areas and growth in urban settlement, economic outcomes (reflected in regional GRP) tend to improve, particularly in regions undergoing urban transformation or benefiting from concentrated development policies. Notably, the Kyzylorda, Pavlodar, and West Kazakhstan regions exhibit statistically significant or borderline significant negative correlations between the share of rural migration and GRP, alongside positive correlations with urban migration. The economic structure has been shifting in these areas due to urbanization processes, reindustrialization efforts, or investment concentration in regional centres. For example, Kyzylorda has experienced sustained rural out-migration amid economic stagnation, while Pavlodar and West Kazakhstan reflect more industrial and infrastructural urban growth. These regions illustrate how internal migration dynamics, particularly toward urban areas that can reflect and potentially reinforce broader patterns of economic development.

Table 3 presents the results of the correlation analysis between the share of urban migration and GRP for the three cities of republican significance in Kazakhstan - Astana, Almaty, and Shymkent cities between 2013 and 2023.

TABLE 3. Correlation between the share of migration and GRP in the largest cities for 2013–2023

City	Variable Type	Pearson's r	p-value	Interpretation
Astana	Constant	—	—	The correlation could not be computed because the share_urban variable had a constant value across all years. (SHARE_URBAN = 1 for all years)
Almaty	Constant	—	—	The correlation is undefined due to the constant variable (SHARE_URBAN = 1 for all years)
Shymkent	Variable	0.948	0.000	Strong and statistically significant positive correlation between urban migration share and GRP

Note: compiled by authors

The analysis showed that for Astana and Almaty cities, the urban migration share remained constant at 100% throughout the observed period (2013-2023); thus, the independent variable lacks variance. Therefore, it is impossible to compute a correlation coefficient between Astana and Almaty cities and GRP. In contrast, Shymkent city underwent a significant administrative and functional transformation in 2018 following its designation as a city of republican significance. The results showed a sharp increase in the share of urban migration and the level of GRP, as well as a strong and statistically significant positive correlation between the urban migration share and GRP in Shymkent ($r = 0.948$, $p < 0.001$). The analyzed results showed that the urbanization process and administrative elevation were closely associated with accelerated economic growth.

Next, we will conduct a regression analysis to determine the impact of migration shares (urban and rural) on GRP, assessing the extent to which changes in the migration structure contribute to regional economic development (Table 4).

Regression analysis shows that SHARE_URBAN and SHARE_RURAL have a positive and statistically significant impact on the GRP. All other things being equal, an increase in the share of migration to cities by one unit (in this model, by one percentage point) is associated with an increase in GRP by an average of 1,196.4 billion tenge ($p < 0.001$) and an increase in the share of rural migration by 1,173.2 billion tenge ($p < 0.001$).

TABLE 4. Regression results of the effect of urban and rural migration shares on GRP

Variable	Coefficient	p-value	Interpretation
Constant	2369.60	< 0.001	Baseline GRP when both migration shares (urban and rural) are equal to zero
SHARE_URBAN	+1196.44	< 0.001	For every 1-unit increase in the urban migration share, the GRP increases by ~1,196 billion KZT
SHARE_RURAL	+1173.17	< 0.001	For every 1-unit increase in the rural migration share, the GRP increases by ~1,173 billion KZT

Note: compiled by authors

The model constant (2,369.6 billion tenge) represents the baseline GRP level with zero values for both migration variables. Despite the positive values of the coefficients of both variables, it is necessary to consider that the shares of migration to cities and villages are logical.

The positive impact of rural migration on GRP may be due to specific characteristics of individual regions, such as high economic activity in rural areas (e.g., the extractive sector in the Atyrau region). Thus, the model confirms a close relationship between migration dynamics and the economic development level of regions while emphasizing the importance of contextual analysis of territorial specifics.

The results of the typological distribution of regions in Kazakhstan for 2013–2023 are presented, and four steadily reproducing profiles of territorial development are identified based on a combination of the share of migration to urban areas and the average GRP level (see Table 5).

TABLE 5. Regional typology based on urban migration share and GRP for 2013-2023

Region	Avg. SHARE_ URBAN	Avg. SHARE_ RURAL	Avg. GRP (bln. KZT)	Migration–GRP Type
Kazakhstan	–1.60	3.12	3,746.3	Low Urban Migration & High GRP
Akmola	0.86	0.96	2,629.4	High Urban Migration & Low GRP
Aktobe	–0.39	1.39	3,193.3	Low Urban Migration & High GRP
Almaty (region)	1.21	–0.21	1,690.4	High Urban Migration & Low GRP
Atyrau	6.17	–5.17	12,445.7	High Urban Migration & High GRP
West Kazakhstan	–0.74	2.09	4,471.7	Low Urban Migration & High GRP
Zhambyl	0.30	0.71	1,537.3	Low Urban Migration & Low GRP
Karaganda	0.25	0.69	4,204.1	Low Urban Migration & High GRP
Kostanay	–0.60	1.63	3,370.1	Low Urban Migration & High GRP
Kyzylorda	0.26	0.87	2,246.7	Low Urban Migration & Low GRP
Mangystau	0.37	1.10	4,803.1	High Urban Migration & High GRP
Pavlodar	0.16	1.18	3,766.3	Low Urban Migration & High GRP

North Kazakhstan	–0.11	1.09	2,496.3	Low Urban Migration & Low GRP
Turkestan	0.10	0.96	988.7	Low Urban Migration & Low GRP
East Kazakhstan	0.07	0.95	3,014.8	High Urban Migration & High GRP
Astana city	1.00	0.00	6,440.3	High Urban Migration & High GRP
Almaty city	1.00	0.00	6,979.9	High Urban Migration & High GRP
Shymkent city	0.55	0.45	1,700.7	High Urban Migration & Low GRP

Note: compiled by authors

The analysis of migration indicators and the GRP for 2013–2023 revealed various forms of relationship between internal migration to urban areas and the level of economic development in Kazakhstan's regions. In some cases, a high share of migration to cities is associated with an increase in GRP, but in others, there is no such dependence. In order to systematize the results obtained, the regions were divided into four typological groups formed based on median values of the share of migration to urban areas and the average level of GRP.

The first typological group – *High Urban Migration and High GRP – includes the Atyrau, Mangistau, and East Kazakhstan regions, as well as the republican significant* cities of Astana and Almaty. In these administrative-territorial units, a high average share of migration to the urban environment and a high GRP are recorded simultaneously.

The second group – *High Urban Migration and Low GRP – includes the Akmola and Almaty regions, as well as Shymkent, a city of regional* significance. These regions are characterized by significant migration to cities with an average GRP below the median value.

The third group – Low Urban Migration and High GRP is represented by the Aktobe, West Kazakhstan, Karaganda, Kostanay, and Pavlodar regions. In these cases, urban migration is relatively low, and average GRP values are high.

The fourth group – *Low Urban Migration and Low GRP – includes the Zhambyl, Kyzylorda, North Kazakhstan,* and Turkestan regions. They are characterized by both low values of the share of migration to cities and a relatively low level of GRP.

The presented typology reflects the spatial differences in the combination of migration dynamics and economic development among Kazakhstan's regions. It can serve as a basis for the formation of regionally differentiated policies to manage internal mobility and stimulate economic growth.

5. CONCLUSION

Internal migration consistently plays a significant role in transforming Kazakhstan's socio-economic space. A redistribution of labor and human resources occurs between regions as the urban population grows. However, such migration dynamics do not always have a clear impact on economic development.

The study revealed that in Kazakhstan, multiple migration scenarios exist, where high or low migration activity can be accompanied by growth in the GRP or lack of a stable connection. The work made it possible to identify types of regions based on the relationship between migration to cities and the level of GRP, thereby identifying characteristic models of spatial development.

High migration activity has been observed in cities of national significance, including Astana, Almaty, and Shymkent. At the same time, Astana and Almaty demonstrate a stable correspondence between a high level of urbanisation and economic growth, while Shymkent is characterized by an imbalance in

these processes: migration is high, but the level of GRP remains below the threshold value.

At the regional level, economically strong regions with low migration to cities were identified, such as Aktobe, Karaganda, Kostanay, Pavlodar, and West Kazakhstan. At the same time, regions with a high share of migration to the urban environment with a relatively low level of GRP were recorded, including the Akmola and Almaty regions and the city of Shymkent, which shows a lack of regional strategies for the actual combination of migration pressure and economic potential at the local level.

A limitation of this work is its focus on quantitative indicators, excluding qualitative characteristics of migration, such as the motivation for resettlement, the demographic structure of migrants, or the institutional conditions on the ground. Additionally, factors related to external migration and cross-border flows were not considered.

Nevertheless, there is a need to more accurately assess the consequences of migration and formulate targeted territorial policies that promote the balanced development of Kazakhstan's regions. For this purpose, it is recommended that the model be expanded further by including additional variables, such as employment, level of infrastructure, investment, and quality of life, and consider the dynamics not only by region but also by inner-city and rural areas.

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