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# INTERNAL MIGRATION AND ITS IMPACT ON POPULATION INCOME IN DIFFERENT SECTORS OF ECONOMY

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Abstract. In view of the effect of the COVID-19 pandemic on migration processes, especially in developing nations, it is crucial for government officials to balance intrastate migration surges to avoid social discontent and stabilize an already crippled economy. This article tested the hypothesis about the impact of internal migration on the income of the population in different sectors of the economy. The connection between globalization processes and internal migration of developing countries was confirmed on the example of Kazakhstan using the methods and tools of economic, statistical, and financial analysis. It was revealed that transnational corporations owning assets in the developing nations' basic and raw-material sectors of the economy could create the co-called "migration centers" within the country, which attract the residents of less developed regions and cities to get higher incomes. These "centers" are often represented by capitals, financial hubs, the entire industrial regions, or individual cities. The conducted study revealed that people living or working in such migration centers have higher incomes and, in general, the level of such regions' well-being is better. The examination outcomes allowed substantiating that a developing country (for example, Kazakhstan) should improve the information and analytical mechanism for global and national data exchange, collection, and analysis to be able to manage migration flows. In summary, the paper introduces a model of such a mechanism and recommends creating a separate national analytical agency dealing with migration issues.

**Keywords:** developing countries; income; information and analytical mechanism for migration control; internal migration; Kazakhstan; transnational corporations; welfare.

JEL Classifications: F22; O15; R23.

**Declarations** 

Availability of data and materials. Data will be available on request.

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

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abroad: approaches to the regulation of educational and labor migration of youth".

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#### Introduction

The current volatile situation in developing low and middle-income economies is perceived by the international community and citizens as a norm of life. Such a perception model is facilitated by dynamic changes in lifestyle, information technology, gadgets and further deepening of globalization (Aluchna et al. 2020; An et al. 2017). Even though it may seem opposite, today, the globalization processes act as a powerful driver of migration. However, unfortunately, not all nations have effective and flexible governing mechanisms at their disposal for managing migration and combating its negative manifestations (Charles-Edwards et al. 2019; Kim and Lee 2019).

Recent world events that have arisen against the backdrop of a pandemic demonstrate that in order to control large social masses, an effective mechanism with strong information and analytical functionality must be created. In particular, difficulties in understanding the nature of modern processes associated with migration and possibilities of its management can lead to wrong migration policies, management mechanisms, and their implementation. In view of this, it becomes extremely important how the algorithm of fighting adverse manifestations of migration (including those of internal one) should be created and from what components effective regulatory mechanisms should be formed to deal with its consequences (Kleemans and Magruder 2018; Long 2015; Porumbescu 2015).

External migration exerts a considerable impact on internal migration and establishes preconditions for its transformation. Large industrial corporations buy out promising assets in different sectors of the economy. Most often, this concerns the industrial sector, including such developed industries in the countries of the Commonwealth of Independent States (CIS) as agriculture, oil and gas, metallurgy, energy, mechanical engineering, and the light industry (Bodaukhan et al. 2018; Jussibaliyeva et al. 2019; Shen 2018; Zhao et al. 2018). By setting the level of wages above the average for the region (or even for the country, depending on the labor market), transnational corporations (TNCs) can manage the differentiation of their local employees' incomes. Thus, these corporate structures provoke the "runoff" of citizens to cities or regions comprising their main assets, which increases the gap between the regions' well-being and provokes social discontent. This thesis is confirmed by analytical and statistical studies on

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

migration processes described in reports-surveys of international organizations (International Organization for Migration, Organization for Economic Co-operation and Development, the United Nations organization, etc.) (International Organization for Migration 2019; OECD 2018). In addition, business analysts and official reports of world corporations show that recently there has been a tendency to take-over large transnational business structures from developed countries with weaker economies but rich in resources (land, industry, and water resources). It makes no sense for foreign corporations to set high wages for employees in economically weak countries, and people have to look for opportunities to make money in other regions.

The statistical reporting of the International Organization for Migration concerning the changes in the number of migrants by region of origin indicates that an increase in migration and the formation of new migration flows are more intensely influenced by climate changes, military conflicts, and crime. Nowadays, the most affected by these reasons are the countries of the Asia-Pacific region, Latin America, and Africa (Gonzalez-Barrera andConnor 2019; Donato and Massey 2016).

The global epidemiological crisis associated with the spread of coronavirus disease also made its adjustments to migration processes in 2020. On the one hand, COVID-19 temporarily reduced migration flows. On the other, it had dramatically harmed national economies, especially weak ones, and created new reasons for external and internal migration. In connection with harsh quarantine restrictions, people experience a lack of new business opportunities and means to live a dignified life; therefore, they are faced with the need to work in another area (region of the country).

The introduction of coronavirus-related restrictions on the movement of individuals, for example, in Kazakhstan, resulted in a decrease in internal migration. According to the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, in the first half of 2020, the number of residence registrations in the country decreased by 40% (Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan 2019). At the same time, a notable drop in incomes of almost all categories of Kazakhstani citizens and businesses is seen, which fully corresponds to the current situation in the world.

The key to the problems associated with intraregional and intrastate migration in developing nations lies in strengthening the regulatory framework. It often happens that in developing countries, the information function of state systems regulating migration is rather weak. Both of these factors make it difficult to resist the commercial strategies of TNCs imposing differentiation of citizens' incomes.

This study aimed to test the hypothesis about the impact of internal migration on the income of the population in different sectors of the economy. Therefore, the research objectives were as follows:

- Investigate the reasons, factors, and drivers affecting internal migration both in developing economies and in a particular country (using the example of Kazakhstan);
- Assess the impact of TNCs set in Kazakhstan on the differentiation of incomes of citizens living (working) in their assets' location by means of correlation and regression analysis;
- Investigate the peculiarities of internal migration in the context of its negative and positive manifestations;
  - Reveal the impact of COVID-19 pandemic on internal migration in Kazakhstan;

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

- Develop information and analytical data management mechanism to improve the work of state bodies in addressing the negative impact of TNCs on internal migration in developing economies (on the example of Kazakhstan).

#### **Materials and Methods**

# Research design

In accordance with the tasks set, the study was divided into several stages:

- $Stage\ I$  assessment of the influence of TNCs on the dynamics of incomes of Kazakhstan regions' citizens and internal migration indicators (using financial analysis methods, in particular, analysis of financial KPIs of corporations and their structural assets);
- *Stage II* development of a model of managing differentiation of citizens' incomes and internal migration flows in regions with a developing economy by regions of developed countries (based on the previous stage results);
- *Stage III* creation of a model of information and analytical mechanism for improving the work of state bodies of a developing country to address the negative impact of TNCs on internal migration.

In order to perform these stages successfully, the study used economic, statistical, and financial analysis, as well as a detailed modeling approach. Research hypothesis was tested through the analysis of internal migration and the impact of TNCs on the incomes of Kazakhstan citizens.

#### **Materials**

As stated by the Kazakh information web resources and reports on socio-economic indicators of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, in 2019, the Kazakhstan population (hereinafter the country name is referred to as the RK) comprised about 18.5 million people. Compared to 2018, it increased by 235.5 thousand inhabitants (by 1.31%) and in total constituted 10.8 million people of the urban population (58.2%) and 7.7 million people of the rural population (41.81%) (Agency for Strategic planning and reforms of the Republic of Kazakhstan 2020; Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan 2019).

As for the structure of migration exchange between the RK and other nations, the central role in terms of the number of migrants is assigned to the post-Soviet countries (Russia, Ukraine, CIS). Thus, in the first half of 2019, about 90.5% of Kazakhs migrated to Ukraine and CIS member states (Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan 2019). In 2019, the number of internal migrants moving within the country, including within the framework of the state program for the resettlement of citizens from regions with a surplus of labor, increased by 22.7% compared to the year of 2018. A positive internal net migration rate (excess of the number of immigrants over the number of emigrants) in 2019 was recorded in Shymkent – 36 376 people, Nur-Sultan – 28 208 people (data since 23 March 2019), Almaty – 33 025 people, Astana – 23 978 people (data until 23 March 2019), and Mangystau Region (256 people) (Official website of the President of the Republic of Kazakhstan 2018).

In other regions of the RK, the internal net migration rate was negative (Figure 1). According to the data of state monitoring of internal migration and Kazakh analytical agencies, in 2018-2019, about 88.2-89.1% of all migrants were intraregional and 11.2-10.9% interregional. Besides, in 2018, more than 830 thousand citizens of the RK were registered at the place of residence, of which 722 thousand received permanent registration and 112 thousand – temporary.

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

After the introduction of quarantine restrictions in the country to limit the spread of COVID-19, in the spring of 2020, citizens of the RK who did not manage to timely register at their place of residence or place of temporary stay were not regarded as subjects to administrative liability.

In this context, one cannot fail to note the general trend of the population decrease in the RK over the past few years. In 2020, the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan indicated a decrease in the population of 6 out of 14 regions of the RK as of the end of 2019. In particular, the number of citizens living in the East Kazakhstan Region decreased by 8 879 people, North Kazakhstan Region – by 5 509 people, Kostanay Region – by 4 258 people, Akmola Region – by 1 812 people, Pavlodar Region – by 1 531 people, Karaganda Region – by 1 331 people. As one of the main reasons for such indicators, Kazakhstan authorities cite population migration.

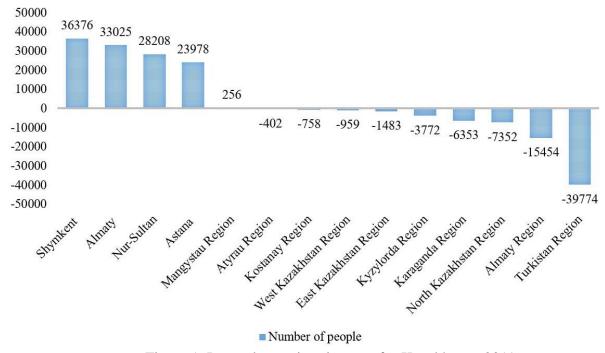


Figure 1. Internal net migration rate for Kazakhstan, 2019

Source: developed by the authors based on data retrieved from Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (2019)

Note: due to the renaming of the capital of Kazakhstan in 2019, the data for Astana was taken for the period until 23 March 2019, and the data for Nur-Sultan since 23 March 2019.

In the meantime, over the past few years, the number of internal migrants in the RK has almost doubled (as noted by the Institute of World Economy and Politics of the RK). Sociologists believe that such a leap reflects the differentiation of regions in the economic and social aspects, primarily in terms of income and unemployment. In the southern regions of the state, there is a threat of overpopulation, in connection with which a surplus of labor has been formed. For example, today, the number of citizens of the Turkistan Region alone is comparable to the number of inhabitants in three northern regions. It is remarked that state authorities' measures to implement the resettlement program are unsystematic and, unfortunately, chaotic and uncontrollable (Kraler and Reichel 2011). The recent intensification of internal migration processes is characterized by higher mobility of the population within regions than across the country. In parallel, regions with a negative internal net migration rate for in 2018-2019 (Figure 1) failed to compensate for the number of citizens moving to other regions.

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

#### Results

Table 1 below presents a range of financial indicators of TNCs from the main industrial segments of the economy of Kazakhstan (mining, oil and gas, construction) that own assets in the RK. The corresponding data are presented in dynamics. The chosen business segments were selected based on Kazakhstan's main specialization as a post-Soviet state, which corresponds to the mechanisms and integration strategies of TNCs. Besides, this sample includes the largest taxpayers of the RK, which allows studying the correlation between the growth rates of tax payments to the payroll of TNCs in the regions of their location with the growth rates of GDP and citizens' incomes.

**Table 1.** Dynamics of financial indicators for large corporations of Kazakhstan for 2016-2019

0.	Name /Economy Sector	Location of TNC's assets in the RK	Location of TNC's parent company	Growth rate of			Growth rate of tax				
				revenue (EBIT), %			payments for payroll, %				
				01 6	01 7	01	019	016	017	01	019
	KAZ Minerals /Mining	Almaty, Aktau (Mangystau Region), Bozshakol and others	EU (London, UK)	5.1	17. 1	0	.81	2.5	2.2	2.4	.55
	Karachaga nak Petroleum Operating B.V./Oil and gas	Nur-Sultan, Aksay, Oral	EU (Italy); Russia; Kazakhst an	.8	5.2	.7	6.13	0.5	0.4	6.3	.83
	ArcelorMi ttal Temirtau /Mining	Temirtau	Netherla nds	.2	2.5	.95	7.3	.8	4.5	2.9	.25
	TNC Kazchrom e JSC (ERG) /Mining	Shymkent, Nur-Sultan	Luxemb	.9	2.2	.3	4.2	.2	8.7	.9	.2
	BI Group JSC/ Constructi on	Almaty, Nur- Sultan, Shymkent, Atyrau	Saudi Arabia, Turkey, Russia	3.8	2.5	2.9	.5	.4	1.5	.25	.15

Source: developed by the authors based on data adapted from Arcelor Mittal (2020), BI Group (2020), KAZ Minerals (2020), KPO (2019)

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

As can be seen from Table 1, the main parent companies of TNCs (representing centers of profit, investment, and management) are located in the EU countries, Russia, and the Middle East. At the same time, the location of their local administrative and industrial assets corresponds to the cities of the RK with the highest internal net migration rates. This is the first confirmation of the tested hypothesis and confirms the reliability of the developed model of managing differentiation of citizens' incomes and internal migration flows in regions with a developing economy by regions of developed countries (Figure 1).

Table 2 presents socio-economic indicators of the RK in dynamics.

Table 2.

Dynamics of socio-economic indicators of Kazakhstan for 2016-2019

Year	Growth rate of citizens' net income, %	GDP growth rate,	Internal migration growth rate, %			
indicator	meome, 70		Intraregional	Interregional		
2016	0.8	1.1	19.16	17.2		
2017	2.2	4.1	32.25	5.5		
2018	2.4	4.1	-5.26	11.4		
2019	6.4	4.4	-7.21	-9.25		

Source: developed by the authors based on data retrieved from Bodaukhan (2018), Jussibaliyeva et al. (2019), and Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (2019)

Further, by means of the correlation-regression analysis, the degree of the relationship between the indicators from Table 1 and Table 2 was determined. The corresponding results are exposed in Table 3.

**Table 3.**Results of correlation analysis of data related to macroeconomic indicators (GDP), financial KPIs of the top 5 corporations of Kazakhstan, and internal migration processes in the country

THE IS OF the top 3 corporations of Trazakiista		8		
Correlation coefficient Year	2016	2017	2018	2019
Growth rate of revenue (EBIT) of the top 5 Kazakhstan TNCs – GDP growth rate	0.91	0.95	0.89	0.92
Growth rate of revenue (EBIT) of the top 5 Kazakhstan TNCs – Growth rate of tax payments for payroll	0.98	0.99	0.995	0.91
Growth rate of revenue (EBIT) of the top 5 Kazakhstan TNCs – Growth rate of citizens' net income	0.89	0.91	0.875	0.891
Growth rate of revenue (EBIT) of the top 5 Kazakhstan TNCs – Growth rate of internal migration	0.83	0.87	0.89	0.88

Source: developed by the authors

Given the high values of the correlation coefficients between the groups of indicators, it is apparent that the hypothesis about the influence of TNCs on the incomes of citizens of developing

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

countries is valid. In particular, one can note that a certain mechanism of income differentiation is functioning. Regions of TNC location (Almaty, Nur-Sultan, Shymkent, etc.) have higher income, whereas regions with less developed large businesses have a surplus in labor (as declares the statistical service of the RK). That is, by managing the level of wages in the areas of their presence in developing countries (like in Kazakhstan), TNCs can manage flows of internal migration of the population, not always in favor of the latter, but following their own commercial and political interests or strategies.

Based on the results obtained, Figure 2 displays a model of managing differentiation of citizens' incomes and internal migration flows in regions with a developing economy by regions of developed countries. The model explains how the regions of developed nations affect the incomes of citizens living in developing countries, where the assets of developed countries are located, and how the prerequisites for internal migration are created both within the region and within a separate state.

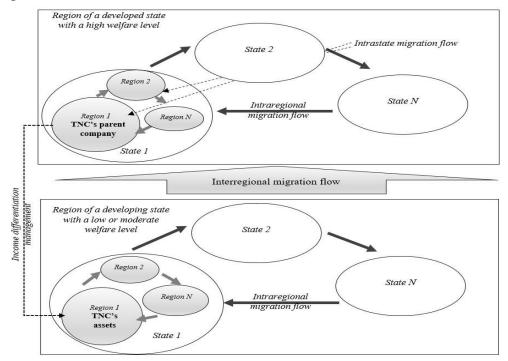


Figure 2. Model of managing differentiation of citizens' incomes and internal migration flows in regions with a developing economy by regions of developed countries

Source: developed by the authors

As the model shows, TNCs from developed countries of the world, buying out assets attractive for businesses from various sectors of the economy in low and middle-income developing countries, create specific centers attracting other regions' residents. This is often caused by higher salaries for TNCs' employees than the domestic market proposes; however, they are still significantly lower than fair wages of those working in the parent company. This situation gives impetus to the internal migration of residents from poorer cities and regions (those with no successful industries or insufficiently developed business sectors) seeking a higher level of income and better living conditions. This model is valid both for internal migration between regions of several countries (for example, residents of the CIS countries tend to migrate to Europe seeking to increase their personal income, and thereby the income of an EU country), within the broad geographic region (when Kazakhstan citizens migrate to Russia), or within the state (concentration

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

of citizens of Kazakhstan in large cities where TNCs' assets are located – as in case of the Karachaganak Petroleum Operating B.V.).

The low efficiency of managing the processes related to internal migration control in developing countries usually testifies to weak information and analytical capacity. This prevents collecting data in the required time and volume and complicates their further exchange between departments. The results of the analysis of the effectiveness of the current Kazakh legal regulation mechanism monitoring the migration situation revealed its insufficient effectiveness. Therefore, this study proposes to improve the information and analytical mechanism of the work of state bodies to counter the negative influence of TNCs on internal migration. It is assumed that this mechanism will help the state to react to changes, forecasts, and prerequisites for the emergence of waves of internal migration quickly as well as facilitate the provision of measures to counteract situations contradicting the overall balance, the country's welfare, and the stability of citizens' life.

This mechanism is based on the experience of developed countries of the world, particularly those of the EU and the US. It proposes to create a separate national analytical agency under the Committee of Migration Service of the Ministry of Internal Affairs of the RK (Figure 3). The mechanism model is supposed to be divided into three infrastructure blocks. The first block covering the domestic infrastructure includes all state authorities, departments, organizations, and services involved in work on migration. The second block includes organizations related to migration affairs in foreign states. The third block covers international councils, unions, associations, organizations, and foundations. The primary function of this mechanism is data storage and exchange to provide the basis for the analysis of processes related to migration (including internal). By virtue of the obtained analytical data, more accurate forecasts can be developed, which will assist in taking prompt and effective measures to counter migration waves and, if necessary, reduce the number of migrants. The work of the mechanism can also improve the regulatory system functioning and international government relations, as well as contribute to the country's participation in implementing international laws regarding the actions of the world community to combat illegal migration. It will also leave its mark on the regulatory framework on this issue.

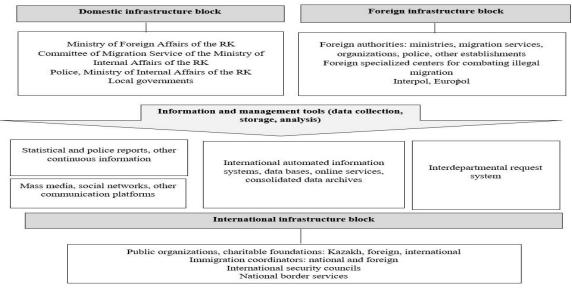


Figure 3. Information and analytical mechanism for improving the work of state bodies of a developing country to counter the TNCs' negative influence on internal migration *Source: developed by the authors* 

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

Among the main functions of the proposed mechanism, the following should be noted:

- Data collection, storage, and exchange;
- Monitoring and analyzing the socio-political and migration situation in the RK and the world;
- Cooperation with international public institutions and organizations, ensuring interaction and coordination of work between organizations and departments of all mechanism infrastructure blocks;
- Conducting a SWOT analysis in the field of internal migration management, developing measures to counter negative impacts of TNCs;
- Planning strategic measures for integrated border management to prevent the undesirable consequences of migration;
- Assistance in coordinating cooperation between central and local government bodies concerning migration management (including its internal issues);
  - Ensuring national security and maintaining public order;
- Raising awareness of citizens, as well as providing clear information to potential migrants about possible risks and consequences.

#### **Discussion**

The conducted analysis of researchers' works related to the study of factors causing internal migration in developing countries (such as Russia and Kazakhstan) allows the conclusion that most authors mainly turn to internal reasons for migration and focus on the situation in the domestic market. Scholars rarely pay enough attention to external factors (in particular, the influence of TNCs on controlled assets in developing countries), which have a more than significant impact on migration waves and the level of income of citizens in the regions (Aluchna et al. 2020; An et al. 2017; Betts and Kainz 2017; Buchenrieder et al. 2019). Attempts to impede and completely control migration processes can limit the positive results and opportunities that globalization presents, including scientific and cultural exchange and resource integration. On the other side, attempts to set an enormous control over the migration processes can increase the level of dissatisfaction with state migration policy and cause chaotic bursts of internal migration. For this particular reason, a revision of the traditional migration policy is of paramount importance. Thus, a new strategy that would consider the global nature of migration processes, normative and regulatory changes in the international and domestic socio-political environment should be chosen. This strategy is to be based on an effective and flexible data analytics mechanism to ensure data coordination and exchange between migration departments (Islyami 2020; Jayanthakumaran et al. 2019). For this particular reason, this study recommends improving the information and analytical function of state authorities in the management of internal migration. The generality of the research methodology described in this article unites the use of economic, statistical, correlation, and regression analysis methods, while many papers are limited to analyzing only socio-economic and macroeconomic indicators of the country over the past few years (Caliendo et al. 2019; Kim and Lee 2019; Long 2015).

Even though this research, as well as numerous others, regard internal migration as a phenomenon that often carries a number of adverse consequences (especially in developing countries), the available survey results indicate that some share of developed nations' citizens (e.g., those from Western Europe, the US, or Australia) consider internal migration to have

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

predominantly positive results (Gonzalez-Barrera and Connor 2019; International Organization for Migration 2019).

The practice of solving migration challenges suggests that the measures taken should be based on a clear understanding of migration nature and reasons. This understanding is crucial when studying the set of processes that facilitate internal migration since it helps develop a holistic and effective mechanism for neutralizing the negative manifestations of this process.

In 2020, the Kazakh economy has experienced a double shock, external and internal. The main external source of risk for the country is the economy's excessive dependence on the oil and gas market (Islyami 2020). The internal shock was represented by the implementation of quarantine measures amid the COVID-19 pandemic and the subsequent slowdown in economic activity, which sharply affected practically all business sectors. Future processes in the economy, which is faced with various factors of uncertainty, will largely depend on the efficacy of monetary and fiscal support measures, as well as their capacity to mitigate the negative consequences of the shocks.

Already in the first half of 2021, Kazakhstan may face a recession. Forecasts for real GDP growth rates correspond to the level of -2-3%. Though, in early 2022, the recovery of the positive dynamics of this indicator is expected (Kraler and Reichel 2011). Analysts declare that if the RK imposes no large-scale quarantine measures in 2021–2022, faster recovery of internal demand can be expected already in the second half of 2020 (Bodaukhan et al. 2018). The stronger the quarantine constraints, the more significant the decrease in the number of internal migrants is expected, especially if movement between regions and cities is limited. Accordingly, when the economy recovers, a new surge of internal migrants is expected, and their flow from provinces with high unemployment to large cities and the capital is anticipated (Liu and Ngo 2020).

# **Conclusions**

The present paper investigated the impact of internal migration on the income of the population in different sectors of the economy. Particular attention was paid to Kazakhstan as a developing state within the framework of intra- and interregional analysis. The research focused on testing the hypothesis about the impact of TNCs on internal migration in the regions of developing countries where these companies' assets are located.

Aiming to test the study hypothesis, the model describing the management of citizens' incomes and internal migration flows in regions with a developing economy by regions of developed countries was created. As the results of its approbation showed, by acquiring assets in different sectors of developing countries with a low level of income, TNCs from developed nations create so-called internal migration centers that attract residents of other areas or regions within the country. Given the data obtained after the correlation-regression analysis of socio-economic and financial indicators, it can be argued about the functioning of a certain income differentiation mechanism in the regions of developing countries where TNCs' assets are located. In particular, the conducted analysis outlined that TNCs can also provoke flows of internal migration of the population to satisfy the companies' commercial or political interests by managing the level of wages in the areas of their assets' location in developing countries.

Another important result of the study was the development of information and analytical mechanism for improving the work of state bodies of a developing country to counteract the TNCs' negative influence on internal migration. It was uncovered that for this mechanism to work effectively, the state authorities should improve the national regulatory system in the field of

# INTERNATIONAL SCIENTIFIC JOURNAL VOLUME 2 ISSUE 3 MARCH 2023 UIF-2022: 8.2 | ISSN: 2181-3337 | SCIENTISTS.UZ

migration, develop international government relations, and intensify adopting international laws to combat negative migration manifestations and consequences.

The study findings are applicable in nature and can be used while managing the processes associated with internal migration and controlling the influence of TNCs on social well-being in the developing countries of the world. The research process was somehow limited by the quality of quantitative data published in open-access TNCs' reports. Future investigation will concentrate on creating models to quantify the impact of internal migration on Kazakhstan's economic growth.

# Aknowlegments

The study was carried out within the framework of the grant funding IRN AR09261051 project, funded by the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan "Research of issues of youth migration of Kazakhstan abroad: approaches to the regulation of educational and labor migration of youth".

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