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AN OVERVIEW OF THE ECONOMY OF KAZAKHSTAN: DEVELOPMENT TRENDS BETWEEN 2008–2022

This study aims to provide a comprehensive understanding of Kazakhstan's economy at present and review the changes that have occurred over the period from 2008 to 2022. To capture the key macroeconomic aspects, the dynamics and directions of significant indicators for long-term economic growth were examined, including overall economic productivity, employment structure, and real output. The study used analytical methods that include trend analysis, structural analysis, comparative analysis (pre/post analysis), descriptive statistics methods, correlation and regression analysis, as well as theoretical provisions of macroeconomics. Statistical data published by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, the National Bank of the Republic of Kazakhstan and international organizations were used. Thus, the purpose of this study is to review the economy of Kazakhstan, and the result is to identify trends in economic development in the period from 2008 to 2022. The results obtained during the study allowed us to draw the following conclusions: the share of the labor force among the population is decreasing and leads to slow economic growth, household incomes and investment opportunities remain quite low, and solving the country's economic security issues is hampered by lopsided exports and inelastic import demand. The results of the conducted research can be useful in the practical activities of government agencies involved in strategic development planning of the Republic of Kazakhstan.

Key words: real GDP, employment, productivity, population income, development trends.

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Қазақстан экономикасына шолу: 2008–2022 жылдар аралығындағы даму үрдістері

Бұл зерттеу Қазақстан экономикасында 2008-2022 жылдар аралығында болған өзгерістерді талдау арқылы Қазақстан экономикасы туралы жан-жақты түсінік беруді көздейді. Негізгі макроэкономикалық аспектілерді қамту үшін жалпы экономикалық өнімділікті, жұмыспен қамту құрылымын және нақты өндірісті қоса алғанда, ұзақ мерзімді экономикалық өсудің маңызды көрсеткіштерінің динамикасы мен бағыттары зерттелді. Зерттеу барысында стратегиялық жоспарлау және реформалар агенттігінің Ұлттық статистика бюросы мен Қазақстан Республикасы Ұлттық Банкінің және халықаралық ұйымдар жариялайтын статистикалық деректер пайдаланылды. Зерттеу әдістеріне трендтерді талдау, құрылымдық талдау, алдын ала/кейінгі талдау, сипаттамалық статистика, корреляциялық-регрессиялық талдау, теориялық макроэкономикалық принциптер жатады. Осылайша, бұл зерттеудің мақсаты-Қазақстан экономикасына шолу жасау, ал зерттеу нәтижесі 2008-2022 жылдар аралығындағы экономиканың даму үрдістерін анықтау болып табылады. Зерттеу барысында алынған нәтижелер мынадай қорытынды жасауға мүмкіндік берді: халық арасындағы жұмыс күшінің үлесі төмендеуде және ол экономиканың баяулауына алып келеді, халықтың табысы мен оның инвестициялық мүмкіндіктері айтарлықтай төмен болып қалуда, елдің экономикалық қауіпсіздігі мәселелерін шешу экспорттың біржақтылығымен және импортқа сұраныстың икемсіздігіне байланысты қиындаған. Жүргізілген зерттеу нәтижелері Қазақстан Республикасының дамуын стратегиялық жоспарлаумен айналысатын мемлекеттік құрылымдардың практикалық қызметінде пайдалы болуы мүмкін.

Түйін сөздер: нақты ЖІӨ, жұмыспен қамту, өнімділік, халықтың табысы, даму тренді.

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Обзор экономики Казахстана:
тенденции развития в период с 2008 по 2022 год

Данная работа призвана дать читателю общее понимание экономики Казахстана на текущий момент и сделать обзор изменений, произошедших за период с 2008 по 2022 годы. Для того, чтобы охватить основные макроэкономические аспекты, рассмотрены направления и динамика изменений показателей, значимых для долгосрочного роста экономики, таких как, например, производительность экономики в целом, структура занятости и реальное производство и др. в проведенном исследовании были использованы методы анализа, которые включают в себя анализ тренда, структурный анализ, сравнительный анализ (пре/пост анализ), методы описательной статистики, корреляционно-регрессионный анализ, а также теоретические положения макроэкономики. При этом были использованы статистические данные, публикуемые Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстана, Национальным банком РК и международных организации. Таким образом, цель данного исследования – это обзор экономики Казахстана, а результатом является выявление тенденций в развитии экономики в период с 2008 по 2022 годы. Полученные в ходе исследования результаты позволили сделать следующие выводы: доля рабочей силы среди населения снижается и приводит к замедленному приросту экономики, доходы населения и его инвестиционные возможности остаются достаточно низкими, решение вопросов экономической безопасности страны затруднено однобокостью экспорта и неэластичностью спроса на импорт. Результаты проведенного исследования могут быть полезны в практической деятельности государственных структур, занимающихся стратегическим планированием развития Республики Казахстан.

Ключевые слова: реальный выпуск, занятость, производительность, доходы населения, тренды развития.

Introduction

Fifteen years have passed since the global financial crisis (GFC). During this period, Kazakhstan has faced several significant external shocks, including the financial crisis, which threatened the stability of the banking sector, the sharp decline in oil prices (the country's main export commodity), the global economic downturn caused by the pandemic, and sanctions imposed by many countries against Russia.

Over the years, Kazakhstan has implemented various economic reforms and adopted several development strategies, including two industrial-innovative development strategies, pension system reforms, digitalization of the economy, and the transition to Industry 4.0, as well as diversification of the economy.

In 2015, the Kazakh government turned its attention to inflation targeting in its economic policy. Although this was a necessary measure, inflation targeting is also a common goal in the economic policies of developed countries. However, achieving this goal has proven challenging, even with the lessons learned from the experiences of other countries. Despite the 4-6% target, inflation rate rocketed to 20.3% in 2022. All these changes driven by internal and external factors make it necessary to identify their consequences and conduct an analysis of the current state of the economy. Therefore, the aim of this article is to provide some analysis of Kazakhstan's economy.

In the following analysis, we first attempt to evaluate key indicators such as the long-term growth rates of real output, productivity, and economic security among others. Then, we move on to assessing the relationships between several economic indicators to better understand the expected consequences of policy measures. To understand the development of the economy, the following studies were conducted. Based on the volume of production in the country, the economic growth rate is determined. Based on the analysis of foreign trade, the goods in demand have been identified. Based on the assessment of labor productivity, conclusions about the effectiveness of the economy are obtained. The standard of living of the population has been determined. The analysis and assessment of investment opportunities is made. Ultimately, we aim to outline some of the nearest prospects for economic develop-

ment based on the analysis conducted and the conclusions drawn from this research.

Literature review

The literature on Kazakhstan's economy is extensive, with numerous studies focusing on various aspects of economic development. For instance, research has been conducted on institutional reforms, industrial development, monetary policy, regional integration, and its effects on the country's economy, among other topics. This study, however, aims to analyze aggregated economic indicators without delving into specific aspects or sectors to examine the changes that have occurred in the country's economy over the past 15 years and draw conclusions about the overall economic policy implemented during this period.

In contrast to the work by Kuvalgin et al., which analyzed the country's development over 30 years of independence, primarily in comparison with the Russian economy, our study focuses on evaluating the economic indicators as a measure and result of Kazakhstan's economic policy and attempts to cover the most significant aspects in our view (Kuvalgin et al., 2022).

One of the significant problems in Kazakhstan's economy has been its one-sidedness and resource-based orientation, inherited from the Soviet past. Jumadilova (2012) provides a detailed analysis of the significant role of the oil and gas sector in the economy of Kazakhstan during 2008-2009. Over the years of independence, the government has announced various strategies and programs aimed at diversifying the economy and increasing the added value within it. However, Akhmedov (2019) shows that the dependence of macroeconomic indicators on oil prices has increased since 2014 compared to the shocks of 2008, using impulse response analysis on vector autoregression models. Similar results are obtained by Grigore (2023) using panel data from the Caspian region, including Kazakhstan, and Konebayev (2023) used DSGE models. This study will analyze the role of the oil and gas sector in Kazakhstan's economy.

Mouraviev and Koulouri (2021a:251) describe the transition of Kazakhstan's economy to market relations since 1991 and discuss the possibilities for sustainable growth. The study provides a deep analysis of institutional development and obstacles to diversification and development. This article can serve as a good supplement, revealing the economic features of the problems addressed in that book.

Mukhamediyev B., Temerbulatova Zh (2020) constructed the model that showed the degree of influence of the factors to change the global competitiveness index like as gross capital formation, total factor productivity, average labor productivity, pace of inflation rate, share of the current account balance in GDP, share of the employed population in the total population of the country, oil prices, growth rate of oil prices.

Yormirzoev (2023) investigates the sources of long-term economic growth in Central Asian countries through education and health, using an extended neoclassical growth model. The data on physical and human capital in Yormirzoev (2023) are taken from the Penn World Tables. In this study, we used only statistical data from Kazakhstan's National Accounts System.

Mukhamediyev B., Temerbulatova Zh (2021) concludes that revenues from the export of raw materials ensure economic growth of economy of Kazakhstan only in the short term, and long-term sustainable growth requires diversification of the country's economy and exports, in particular, development of service sector, development of human capital and industries with high added value. It is also important to increase the productivity of basic sectors of the economy, such as industry, agriculture, transport.

Most studies on economic development of Kazakhstan focus on individual aspects, such as oil (Zhuparova, A., et.al., 2020) and gas production, tourist potential, human capital development (Kuandyk, Zh., et. al, 2022), and others. All these components are important for the economy, and rapid growth is impossible by the development of only one area. In this study, we attempted to look at the economy of Kazakhstan as a whole and analyze it through the prism of its achievements over the past years and potential for further growth. Therefore, we believe that this article will be of interest not only to specialists in economics but also to a wide range of readers.

Methodology

We utilized data from the bureau of National Statistics of the agency for Strategic Planning and Reforms of the Republic of Kazakhstan, the International Monetary Fund (IMF), and the World Bank (WB) for the period since 2008 to 2022, and for 2023 where such data was available. Primarily, we compared data from 2008 with data from 2022 or 2023 to visualize changes in the values of economic indicators. To test certain theoretical propositions using empirical data, we applied ordinary least

squares (OLS) regression analysis with corresponding time series preparation to assess the impact of fixed asset investments on real GDP growth, as well as to assess the impact of changes in oil prices on changes in exports in the country.

Results and Discussion

In this section, we present the results for each direction in accordance with the research questions posed in the introductory part of the work. Then, by comparing the obtained conclusions for each direction, we synthesize them into a cohesive picture of the current state of the economy, taking into account its dynamics over the past years and outlining the contours of the country's immediate future in subsequent sections.

Production and Economic Growth

Let us begin with the level of output. Over the period from 2008 to 2022, the average annual growth rate of real GDP was 3.5%. However, the difference is significant: from -3.95% to 11.25% per year. For the same period, the average annual growth rate of real GDP per capita was 1.85% with a deviation of -3.8% to 7.3% per year.

Over the 15-year period, real GDP per capita increased by approximately 27% and reached 1645 thousand tenge or 137 thousand tenge per capita (in 2010 prices) or 161 thousand tenge in nominal terms (in 2022 prices).

GDP grows at higher rates than GDP per capita, indicating that population growth outpaces productivity growth in the country. However, this is related to the fact that the labor force participation rate is decreasing.

Let us attempt to calculate labor productivity in the country as a whole by comparing real output to employment and comparing its dynamics over the years (Figure 1). In 2022, labor productivity averaged 3,579 thousand tenge per working individual, and the average annual growth rate of labor productivity from 2008 to 2022 was approximately 2.5%.

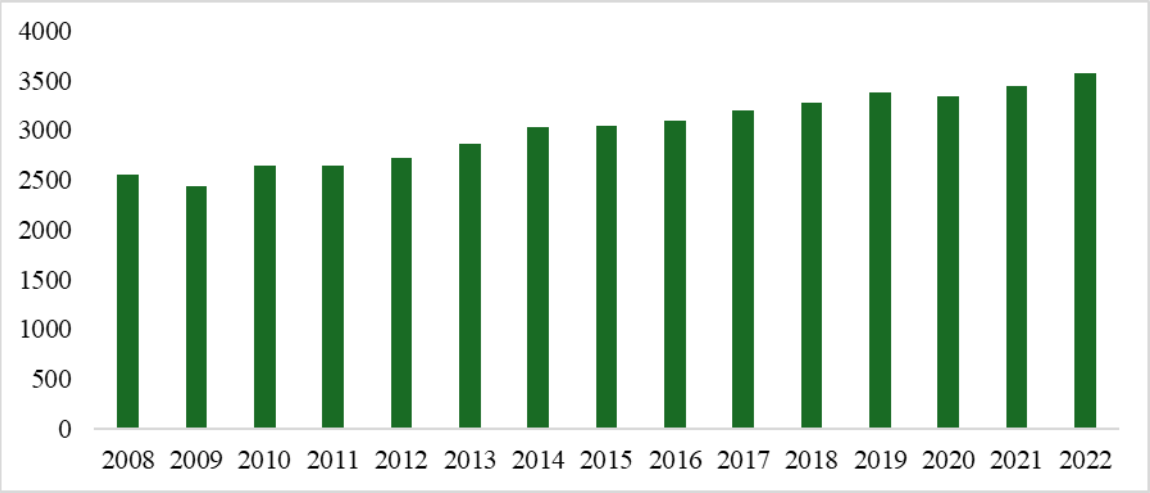


Figure 1 – Labor Productivity Dynamics in Kazakhstan from 2008 to 2022
Note – compiled by the authors according to official data of the bureau of National Statistics of the agency for Strategic Planning and Reforms of the Republic of Kazakhstan (Dynamic Series – Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

Investments and government expenditures with fiscal multiplier are significant factors in real GDP growth. However, we will not calculate the fiscal multiplier in this article. Nevertheless, according to Bekishev et al. (2023), the fiscal multiplier equals 0.2, indicating that attempts to use an increase in government expenditures to boost economic growth are unlikely to yield expected results.

Export and Import

The economy of Kazakhstan is extremely one-sided and undiversified. For instance, 77% of the export structure consists of mineral resources. Imports contain 32.2% of consumer goods, 47.8% of intermediate goods, and only 20% of investment goods. Within the 47.8% of intermediate goods, 3.3% are oil products.

Let us examine how the structure of exports and imports by goods has changed over the considered period. Figure 2 provide data for import in 2008 and 2023, while Figure 3 provide data for export in 2008 and 2023, respectively.

As seen from Figures 2 and 3, the main export items (2/3) remain mineral resources, specifically energy and fuel products. A slight decrease in the share of mineral resources is more related to the decline in oil prices rather than a decrease in production volumes. In 2008, the average oil price was around $100 per barrel, while in 2023 it was around $80 per barrel. Machines, equipment, vehicles, instruments, and apparatus also remained the largest group of imported goods, despite the opening of several automobile assembly plants in Kazakhstan. Another aspect is that this group includes not only investment goods such as production equipment but also consumer goods like computers and smartphones. It is even more interesting that, besides chemical products, demand has grown for imported food products. If we compare this with the increased export of food products, it becomes clear that domestic production is exported, while internal demand is met through imports. This can be explained by the fact that some food products (e.g., coffee, exotic fruits) are not produced domestically. However, there is another fact that some food products (e.g., flour, pasta) of high quality are in demand abroad.

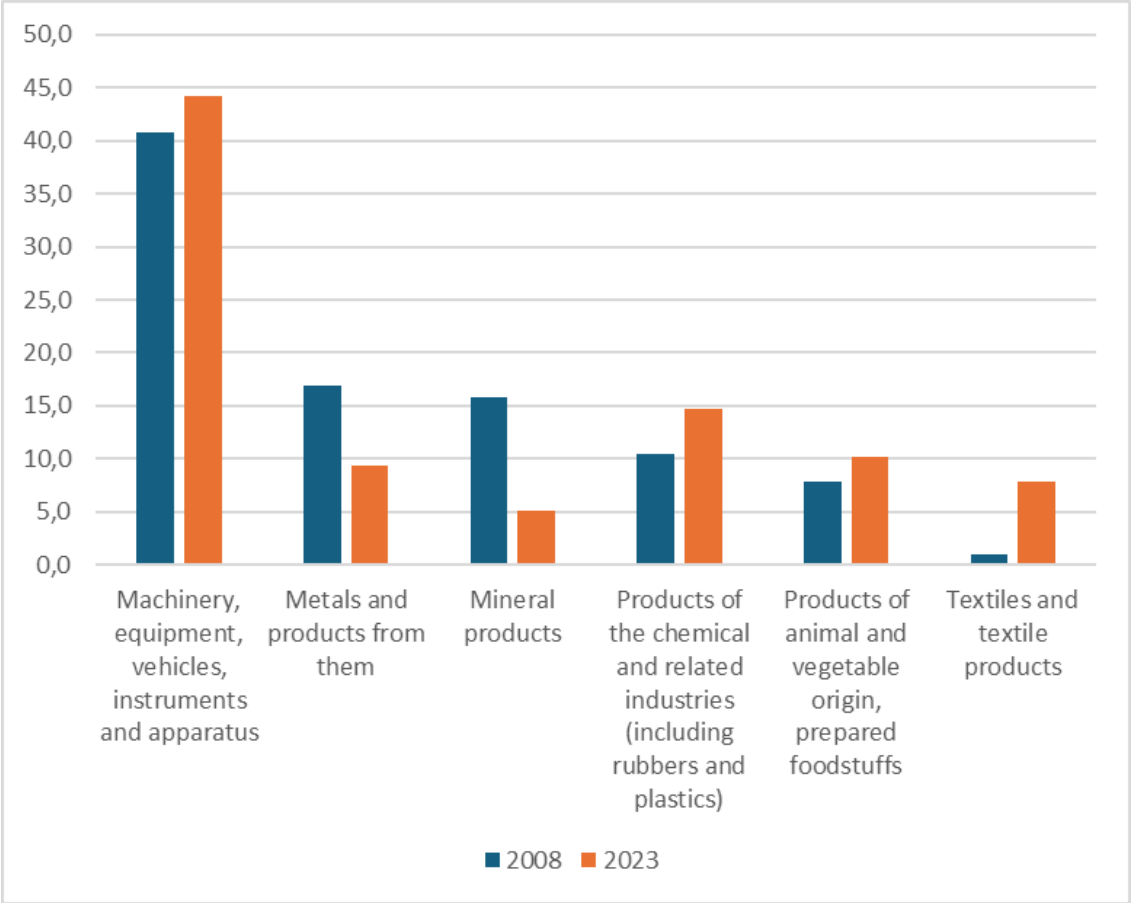


Figure 2 – The structure of import by group of commodities in 2008 and 2023
Note – compiled by the authors according to official data of (Statistics of foreign, mutual trade and commodity markets – the bureau of National Statistics of the agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

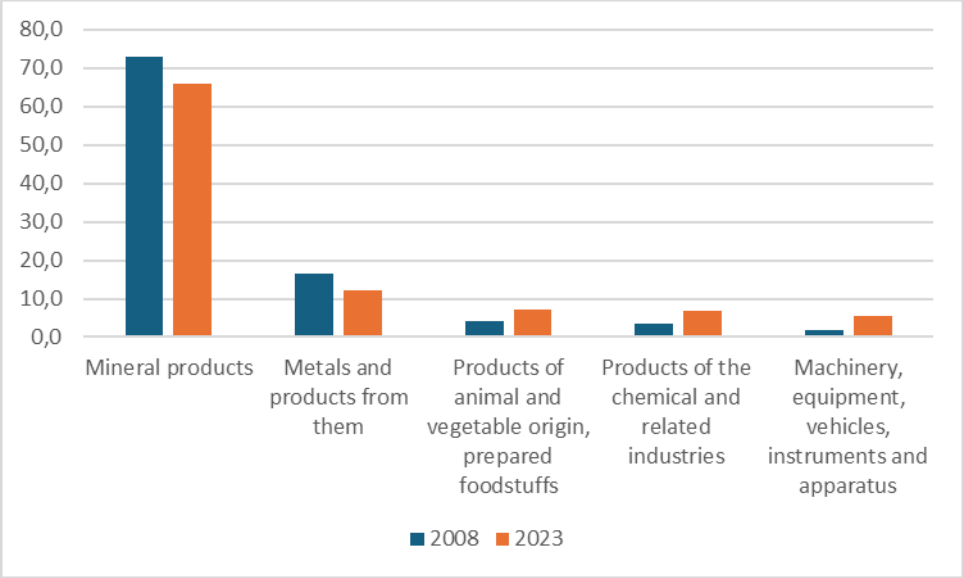


Figure 3 – The structure of export by group of commodities in 2008 and 2023
Note – compiled by the authors according to official data of (Statistics of foreign, mutual trade and commodity markets – the bureau of National Statistics of the agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

According to Konebayev (2023), the price of oil explains 40% of changes in the real exchange rate and significantly contributes to changes in real output. We will analyze the data and perform a calculation of the degree of influence of changes in oil prices on export volumes. We built a regression function of exports in real terms against changes in oil prices. We will take the oil price as a differential value, since there is a first-order integration. The following estimates were obtained:

$$Ex = 2530 + 17.67\Delta P^{oil} \quad (1)$$

standard error 3.74, p-value of the regression 0.00. The coefficient of determination was 0.29. This indicates that the oil price is a significant factor in its export and explains 29% of its fluctuations. Such a coefficient of determination is more explained by the production capabilities of the oil sector rather than the diversification of the export structure.

In theory, volumes of exports and imports correlate with the exchange rate. Strengthening the local currency is expected to lead to a decrease in the competitiveness of export goods on global markets and an increase in the ability of local residents to purchase imported goods. Conversely, devaluation of the currency according to this logic should lead to a greater export and less attractiveness of imported goods. Let us examine how shocks to the exchange rate affect the country's trade.

In August 2015, Kazakhstan transitioned to a flexible exchange rate or, better said, a managed floating exchange rate, since some interventions still occur. Tenge depreciated from 185 tenge per US dollar in the second quarter of 2015 to 300 tenge in the fourth quarter of 2015. And since then, the average annual exchange rate has increased. The elasticity of demand for imported goods to changes in the exchange rate during the period of the flexible exchange rate regime was approximately 0.5. This means that demand for imported goods is inelastic to changes in the exchange rate.

As seen from both quarterly and annual data, the cost of imports and exports, measured in US dollars, practically does not correlate with the exchange rate. Interestingly, the signs of correlation coefficients are negative for exports and positive for imports. It can be concluded that a decrease in tenge exchange rate does not lead to an increase in the competitiveness of domestic goods.

Employment

The population growth over the last 15 years has outpaced employment growth (Figure 4). From 2008 to 2022, the population grew by 25%, while employment grew by 14%. Let us examine the age structure of the population. In 2009, the population of working age accounted for 66% of the total population, while in 2023, it accounted for 59%, and the

employed population accounted for approximately 50% and 45% of the total population, respectively. The increase in population overall leads to an increase in population density and, as a result, an increase in competition and market development. However, if this trend continues, with the decline in the share of the working-age population and the labor force in society, we can draw the following conclusions: this leads to additional pressure on the state budget, and the average per capita income decreases while maintaining labor productivity and levels of wages and profits.

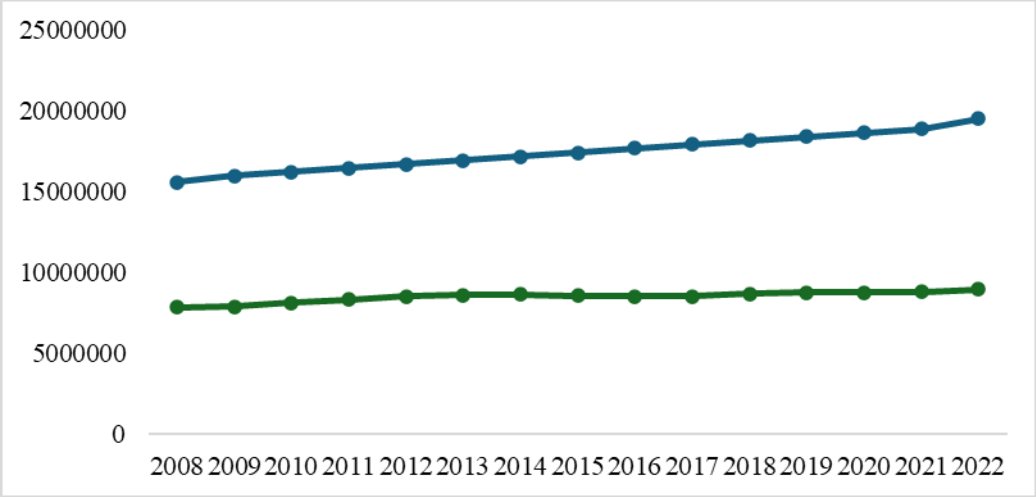


Figure 4 – Dynamics of population and employed population
Note – compiled by the authors according to official data of (Employment and Unemployment – Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

Since the bureau of National Statistics of the agency for Strategic Planning and Reforms of the Republic of Kazakhstan stopped publishing data on employment by form of ownership from 2022, we took the latest available data for 2021 and analyzed its structure.

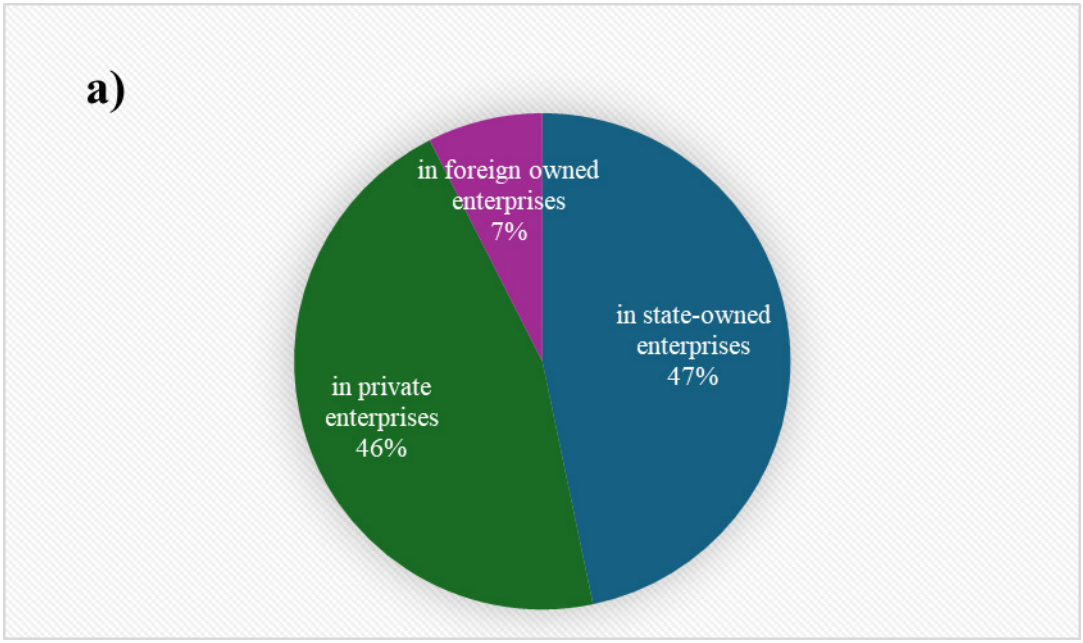
As seen in Figure 5a, 47% of the total number of hired workers in the country are employed by state-owned enterprises. Among the total employed population, including self-employed individuals, the share of state sector workers was 23% (Figure 5b).

For comparison, in 2017, the total number of hired workers in Kazakhstan was 3,712 thousand people, of whom 1,751 thousand were employed by state organizations. This represents 47% of all hired workers. Therefore, this ratio continues to persist, and the share of employed workers in the state sector does not decrease. This situation has its consequences in the form of a significant tax burden on the real sector of the economy.

Employment by sectors

Let us examine the diversification of sectors in the economy not by output, since this more accurately reflects which sector generates more taxes, but by employment of the population, i.e., in which sectors a large part of the population is employed, since this approach shows the significance of sectors for the population directly.

Figure 6 shows the distribution of hired workers in the republic by sectors of the economy (in percentages of the total) in 2008 and 2023. In total, there were 7,857.2 thousand hired workers in 2008 (including 3,712 thousand hired workers), and in 2023, there were 9,081.9 thousand hired workers (including 3,724 thousand hired workers).



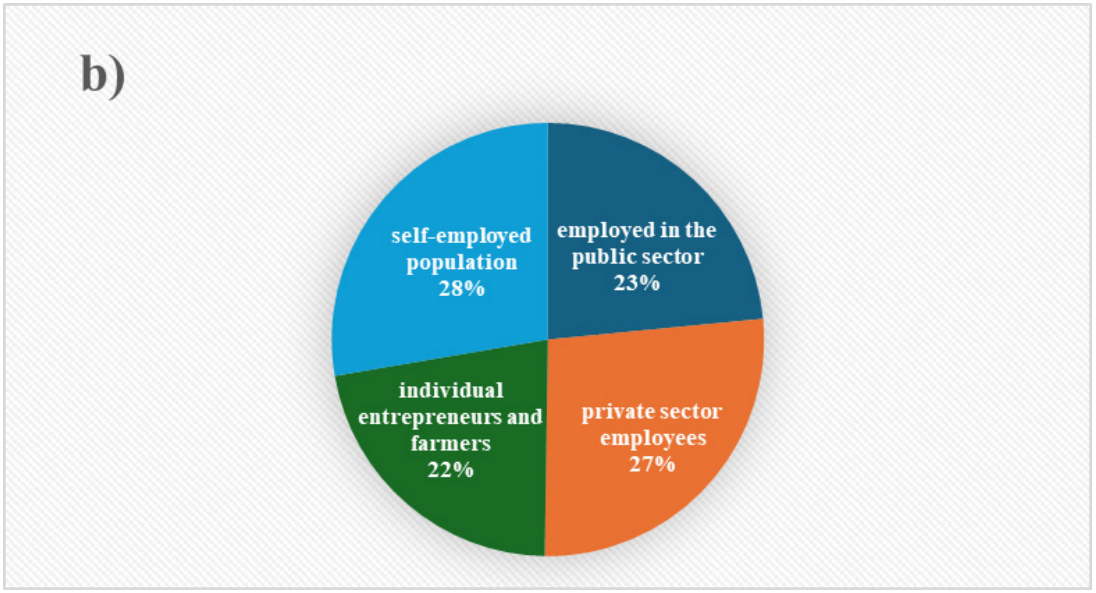


Figure 5 – The structure of employment in 2021
the distribution of hired workers by form of ownership, and
the structure of employment
Note – compiled by the authors according to official data of (Employment and Unemployment –
Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

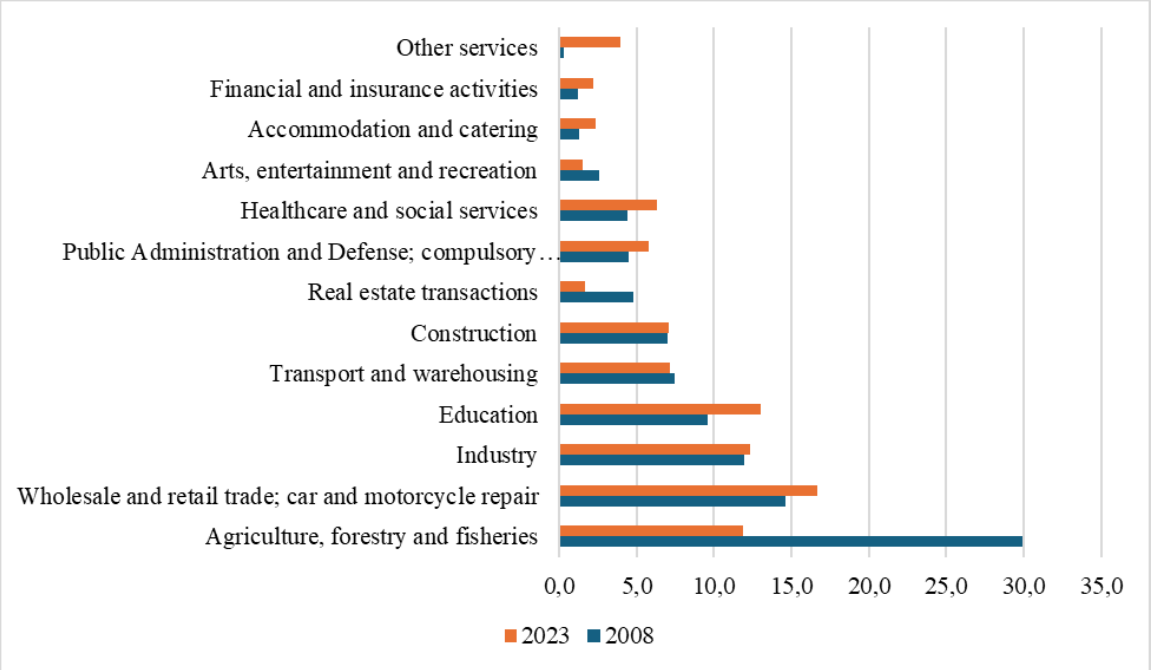


Figure 6 – Employment by Type of Economic Activities in 2008 and 2023
Note – compiled by the authors according to official data of (Employment and Unemployment – Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

As evident from Figure 6, the structure of employment by sectors of the economy has changed. The share of employed individuals in agriculture has significantly decreased, from 29.9% to 11.8%. Conversely, the share of workers in trade and education has increased. There have been no significant changes in the share of employment in the sectors of industry and transportation.

Income

In December 2023, the average nominal per capita income was 187,100 tenge per month, while the average monthly wage was 393,605 tenge, and the median wage was 259,463 tenge. This disparity reflects the decreasing share of the working-age population and labor force participation.

Let us compare the per capita income with the GDP per capita. For 2023, the following data were calculated: according to statistics, as of January 1, 2024, the population was 20,033,546 people, and the GDP at current prices for 2023 amounted to 119,251,165.7 million tenge. Consequently, the GDP per capita per month was approximately 496,000 tenge, which is 2.65 times higher than the average nominal per capita income. In other words, the population receives about 38% of the national income. Hence, the conclusion that the country is wealthy, but the people are poor.

Nearly half of the population's income is spent on food products. The marginal propensity to consume food averages 45% of household income. Coupled with the fact that items such as electronics, household and transportation equipment, many construction materials, household chemical products, and other goods are imported and relatively expensive (for instance, cell phones are sold by global manufacturers at roughly the same price worldwide, while the incomes of people in developed countries and Kazakhstan differ significantly), it becomes apparent that living standards in the country are relatively low. This results in the population needing to save for many years to meet basic needs such as housing or a car, which in turn reflects the low investment potential of the country.

Loans

A significant socio-economic issue in Kazakhstan is the high level of household indebtedness. As illustrated by Ybrayev (2023), for the first time in Kazakhstan's macroeconomic history, the absolute value of household loans exceeded corporate non-bank sector loans as of October 2020. The accessibility of consumer loans, along with the population's low financial literacy, has led to several negative consequences, such as problems with banks' "non-performing loans," the emergence of the "personal bankruptcy" phenomenon, and more.

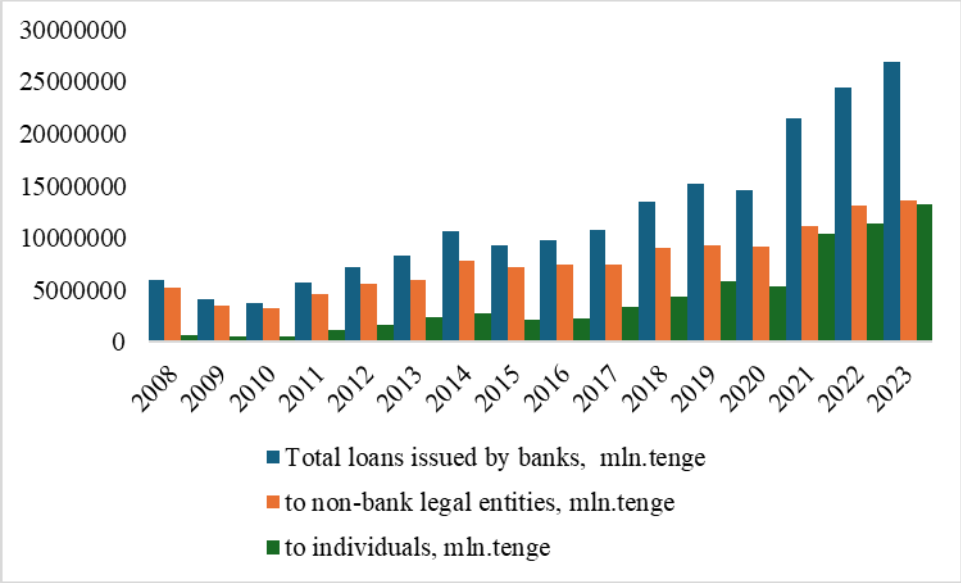


Figure 7 – Loans issued by banks to non-bank legal entities and individuals in 2008-2023
Note – compiled by the authors according to official data of (NBC Statistical Bulletin)

Analyzing the data on the volume of loans issued by commercial banks to businesses and individuals (Figure 7), it is evident that, with few exceptions, the volume of loans to both legal and physical entities has been continuously increasing since 2011. There was a sharp rise in personal loans in 2021, likely due to decreased economic activity during the pandemic in 2020 and a subsequent "compensation" in 2021. Personal loans have been growing at a faster rate compared to business loans. Personal loans mainly consist of mortgage loans and consumer credits (Ybrayev, 2023). The growth in the former poses a latent threat to the economy if such loans are taken to purchase housing with the intention of generating rental income. In this case, a "bubble" is being inflated, as an oversupply in the rental housing market could lead to a drop in prices and a sudden inability of borrowers to service their loans. The number of mortgage loans where debt payments constitute 70-80% of household income has increased in recent years (Ybrayev, 2023, p. 67). Although consumer loans generate relatively high-interest income, they are the riskiest and pose a significant threat of "non-performing loans" or "bad debts".

The chart in Figure 8 demonstrates that the de-dollarization policy significantly impacted bank loans. There has been an increase in loans denominated in the national currency, although a small portion remains in foreign currency.

When analyzing determinants of long-term economic growth, various factors are typically considered, such as investment (and savings) ratios, education, openness, and different types of institutions. To study the potential for economic growth, we will analyze the population's investment capabilities and the state's contribution to human capital.

Investment and Savings

Let's examine the population's savings capacity. Given the available data, this analysis considers savings in the form of bank deposits by individuals and non-banking legal entities. We will compare these to income from wages and net profits. In 2023, the propensity to save was 38.4% compared to 57.2% in 2008. Hence, the propensity (or ability) to save has decreased by almost 20% of total income. This decline is attributed to high inflation rates significantly eroding real incomes while wages remain sticky, thus increasing the relative share of consumption.

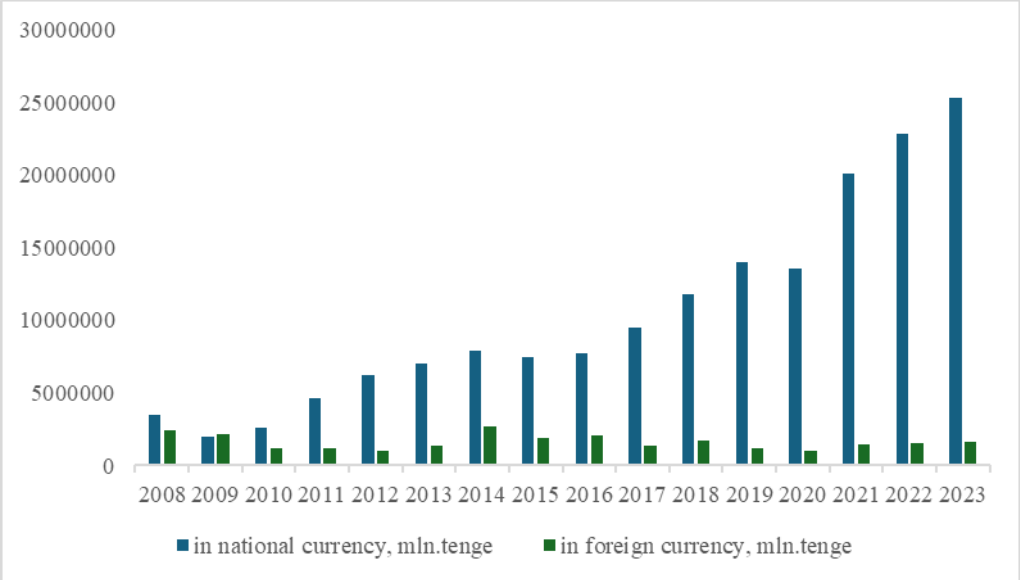


Figure 8 – Loans issued by banks in national and foreign currencies in 2008-2023
Note – compiled by the authors according to official data of (NBC Statistical Bulletin)

Economic growth is impossible without investments. Here, it is appropriate to consider investments in fixed capital (or capital assets). Over the 15-year period, we will calculate the return on these investments, i.e., how many tiyns (one hundreds part of a unit of Kazakh currency) each invested tenge (unit of Kazakh currency) yields. To do this, we construct a regression equation of the form (Jumadilova, 2017):

$$Y_{t+4}^{real} = \alpha + \beta I_t^{CA},$$

where Y_{t+4}^{real} is a real GDP in the period *t+4* (a year after investments), I_t^{CA} is an investment into fixed capital at *t*, t – respective quarter of a certain year.

Based on data for 2008:Q1-2022:Q4 the following estimates were calculated:

$$Y_{t+4}^{real} = 4724 + 1.52\ I_t^{CA}$$
$$(525) \qquad (0.4)$$

$R^2 = 0.2$. This implies that 20% of the changes in real GDP can be explained by investments in fixed capital. Several factors can explain this result: firstly, no new deposits have been discovered in the extractive sector, and changes in production volumes occur at existing sites; secondly, the service sector, which does not require significant capital investments, is growing.

Therefore, based on the estimated model, we can conclude that investments in capital assets yield an average return of 52% after one year. However, given the significant standard error, we can say with 95% confidence that the return can vary from a 30% loss to a 130% profit.

Education and Human Capital

To assess the role of education and healthcare as contributions to human capital by the state, we will examine the proportion of these sectors within the structure of the state budget. We will use data from 2014 to 2022 to form a comprehensive understanding of the expenditure shares rather than focusing on a single year.

In 2023, the total volume of services provided by educational organizations in the Republic of Kazakhstan amounted to 5,392,868 million tenge, of which 87% was funded by the budget, 11% by funds received from the population, and 2% by funds from enterprises.

Healthcare

In 2023, the total volume of services provided by healthcare and social service organizations in the Republic of Kazakhstan amounted to 777,007.2 million tenge, with 74.6% funded by the budget, 16.6% by funds received from the population, and 8.8% by funds from enterprises.

Thus, 4,691,795 million tenge was spent on education from the budget, while 2,473,881 million tenge was spent on healthcare and social services, which is 52% of the education budget.

Let us now consider the structure of government expenditures from 2014 to 2023.

Table 1 – Structure of the state budget expenditures in 2014-2023

Expenditures	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Public services of a general nature	6.2	8.5	6.6	5.2	5.4	5.5	5.2	4.8	6.1	6.0
Defense	5.5	5.5	4.6	3.6	4.8	5.5	4.0	4.1	5.6	4.7
Public order, security, legal, judicial, penal activities	7.7	6.8	6.2	5.7	7.0	6.2	6.1	5.6	6.7	6.5
Education	17.4	16.6	17.7	14.8	17.1	17.2	18.8	20.5	22.9	23.4
Public Health	11.0	10.5	11.0	9.0	10.3	9.5	11.7	12.6	2.2	2.2
Social assistance and social security	19.9	20.8	20.9	18.4	24.2	25.6	22.6	22.4	22.8	21.3
Housing and Utilities	7.1	5.4	5.4	5.5	6.6	6.7	8.4	6.9	6.6	7.7
Culture, sports, tourism and information space	3.8	3.6	3.5	3.2	4.0	3.4	3.0	2.9	3.5	3.5
Fuel and energy complex and subsoil use	1.6	1.4	1.1	1.1	1.1	0.9	1.0	0.9	1.1	1.4
Agriculture, water, forestry, fisheries, specially protected natural areas, environmental and wildlife protection, land relations	4.5	4.6	4.4	3.8	4.4	4.3	4.0	4.0	4.1	4.0
Industry, architectural, urban planning and construction activities	0.5	0.7	0.5	0.2	0.3	0.5	0.6	0.3	0.6	0.4
Transport and communications	7.9	8.3	8.1	6.8	7.3	6.6	6.4	5.7	6.9	7.0
Others	3.7	3.8	4.3	18.7	2.0	3.0	3.6	3.5	3.8	4.3
Debt servicing	3.0	3.6	5.5	3.7	5.2	5.0	4.6	5.7	6.9	7.5
Transfers	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Note – compiled by the authors according to official data of (GOV.KZ – Unified Platform of Internet Resources of Government Agencies (UPIR GO))										

From the data presented in Table 1, several conclusions can be drawn:

Overall, the relative proportions of expenditure categories remain consistent year to year, with the notable exception of healthcare expenditures, which have sharply decreased following the implementation of the mandatory health insurance system. There has been a significant increase in the share of expenditures on debt servicing and education. Consequently, the reallocation of funds from healthcare financing to the insurance fund has not led to an increase in government investments but has instead been directed towards servicing public debt.

Given the substantial budgetary expenditures on education and science, one would expect these investments to result in growth and potentially an increase in the share of high-tech sectors, as well as an overall improvement in labor productivity. However, the growth rate remains relatively low for a developing economy. This can be partially attributed to the "brain drain" phenomenon, where skilled individuals, having received their education in the country (largely funded by the state budget), emigrate abroad. Thus, the return on government investments in education is low.

From 2008 to 2023, a total of 399,613 people emigrated from the country, of whom 277,724 (69%) were professionals, and 34% had higher education. During the same period, 306,014 people immigrated to the country, of whom 130,931 (43%) had vocational or higher education (17% had higher education). Figure 10 clearly illustrates the quality of migration in terms of education level.

Therefore, it can be concluded that government investments in education and human capital do not lead to the expected productivity growth due to the emigration of skilled personnel.

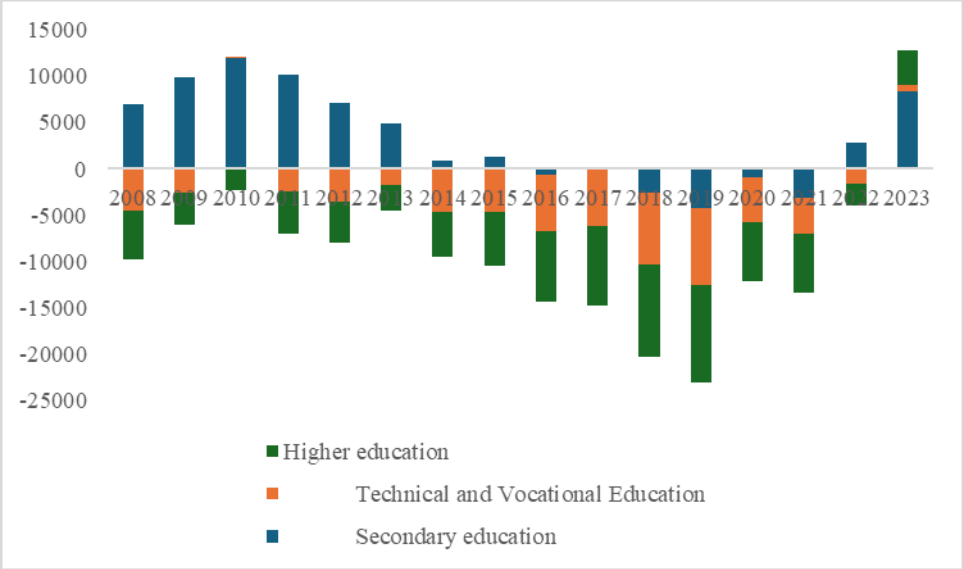


Figure 10 – Net Migration Balance of the Population of the Republic of Kazakhstan by Education Level since 2008 to 2023
Note – compiled by the authors according to official data of (Dynamic Series – Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan)

Thus, alongside the annual investments in education and science, a well-thought-out policy must be implemented to stimulate the development of human resources within the country to ensure productivity and output growth.

Conclusion

The average growth rate of real output is less than 2 percent per year, which is quite low for developing economies worldwide. Attempts to diversify the economy have not resulted in significant shifts in the structure of exports and imports. Given the substantial share of oil and gas products in exports, the economy and the exchange rate remain highly dependent on global oil prices. This is corroborated by Grigore (2023) findings, where the authors concluded that exports and oil production have a direct, positive, and statistically significant influence on economic growth.

Konebaev (2023) used a DSGE model to demonstrate that oil price shocks account for more than 40% of the deviations in the real exchange rate in the long term and affect real GDP growth. The overwhelming dominance of mineral resources in the export structure has persisted over the past 15 years, perpetuating the problem of an extractive-focused economy and a high dependency on changes in the global energy market and oil prices. Akhmedov (2019) concluded that the dependence of Kazakhstan's economy on oil price fluctuations has intensified since 2008.

Our study found that the average labor productivity growth since 2008 to 2022 was approximately 2.5%, whereas Yormirzoev (2023) calculated a rate of 2.17% for 2010-2019 and 1.4% for the period since 1990 to 2019. Yormirzoev (2023) examined the long-term economic indicators of Central Asian countries and concluded that the average total factor productivity (TFP) growth rates during the independence period were not remarkable.

Real household incomes and purchasing power remain low. Given the high proportion of autonomous consumption, private investment opportunities are minimal. Despite increased revenues from the sale of natural resources, the population receives only about a third of this income.

Considering the outflow of skilled professionals from the country despite substantial state subsidies for education, it seems more prudent to create a more competitive environment for educational institutions. This would involve balancing state expenditures on education with appropriate incentives for human resource development within the country and creating conditions for professional growth to reduce brain drain. This can be achieved by granting greater autonomy to educational organizations alongside an adequate system for monitoring and incentivizing education quality, as proposed by Mouraviev and Koulouri (2021b:256).

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