

Research paper / Оригинальная статья
<https://doi.org/10.51176/1997-9967-2023-3-189-206>
MPHTI 06.61.53
JEL: O11, O31, O33



Analysis of Socio-Economic Factors Affecting Poverty in the Regions of Kazakhstan

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For citation: Sagindykova, G.M., Serikbayeva, S.G., Khassenova, K.K., Demeuova, G.K., & Azhaipova, I.S. (2023). Analysis of Socio-Economic Factors Affecting Poverty in the Regions of Kazakhstan. *Economics: the strategy and practice*, 18(3), 189-206, <https://doi.org/10.51176/1997-9967-2023-3-189-206>

ABSTRACT

The purpose of this work is to study the impact of demographic and socio-economic factors affecting the level of poverty in the regions of Kazakhstan. The research examined the regions of Atyrau, Turkestan, Mangystau, and Akmola regions, where the poverty rate is higher than the average for Kazakhstan. The main factors influencing poverty are divided into four groups: economic, demographic, social and geographical. The current study focuses on the analysis of the general dynamics of poverty in the Republic of Kazakhstan. Accordingly, the study aims to examine the impact of three factors (economic, demographic and social) on absolute poverty. The period under review included ten years, 2011-2021. Five hypotheses were put forward. The SPSS program was used for data analysis, and a correlation-regression analysis was carried out. The results of the study showed that average monthly salary, gross regional product, living wage, number of students at higher educational institutions, number of people who receive state pension payments, number of people who receive assigned state social payments have a significant influence on the poverty rate in Turkestan region. Poverty eradication is one of the biggest and most important tasks of society. This is the main mission of the World Bank and the primary goal in the field of sustainable development, which reflects the agreement of 193 countries on key socio-economic priorities. The results of the study can be used both at the state and local levels to develop programs and strategies to combat poverty in the regions of Kazakhstan.

KEYWORDS: Poverty, Poverty Rate, Economic, Social Factor, Economic Factor, Gross Regional Product, Regional Economy

CONFLICT OF INTEREST: the authors declare that there is no conflict of interest.

FINANCIAL SUPPORT: the study was not sponsored (own resources).

Article history:

Received 27 March 2023

Accepted 28 July 2023

Published 30 September 2023

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Қазақстан аймақтарындағы кедейшілікке әсерететін әлеуметтік-экономикалық факторларды талдау

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Дәйексөз үшін: Сагиндыкова Г.М., Серикбаева С.Г., Хасенова К.К., Демеуова Г.Қ., Ажаипова И.Ш. (2023). Қазақстан аймақтарындағы кедейшілікке әсерететін әлеуметтік-экономикалық факторларды талдау. Экономика: стратегия және практика, 18(3), 189-206, <https://doi.org/10.51176/1997-9967-2023-3-189-206>

ТҮЙІН

Бұл жұмыстың мақсаты – Қазақстан аймақтарындағы кедейлік деңгейіне әсер ететін демографиялық, әлеуметтік-экономикалық факторлардың әсерін зерттеу. Зерттеу жұмысында кедейлік деңгейі Қазақстан бойынша орташа деңгейден жоғары Атырау, Түркістан, Маңғыстау, Ақмола облыстары зерттелді. Кедейшілікке әсер ететін негізгі факторларды төрт топқа бөледі: экономикалық, демографиялық, әлеуметтік және географиялық. Ағымдағы зерттеу Қазақстан Республикасындағы кедейшіліктің жалпы динамикасын талдауға бағытталған. Осыған сәйкес, зерттеу үш фактордың (экономикалық, демографиялық және әлеуметтік) абсолютті кедейлікке әсерін зерттеуге бағытталған. Қарастырылып отырған кезең 2011 жылдан 2021 жылға дейінгі он жылды қамтыды. Бес гипотеза ұсынылды. Деректерді талдау үшін SPSS бағдарламасы қолданылып, корреляциялық-регрессиялық талдау жүргізілді. Зерттеу нәтижелері Түркістан облысында орташа айлық жалақы, жалпы өңірлік өнім, ең төменгі күнкөріс деңгейі, жоғары оқу орындарындағы студенттер саны, мемлекеттік зейнетақы төлемдерін алушылардың саны, тағайындалған мемлекеттік әлеуметтік төлемдер кедейлік деңгейіне айтарлықтай әсер етеді. Кедейшілікті жою – қоғамның ең үлкен және маңызды міндеттерінің бірі. Бұл Дүниежүзілік банктің негізгі миссиясы және 193 елдің негізгі әлеуметтік-экономикалық басымдықтар бойынша келісімін көрсететін тұрақты даму саласындағы басты мақсат. Зерттеу нәтижелерін Қазақстан аймақтарында кедейшілікпен күресу бойынша бағдарламалар мен стратегияларды әзірлеу үшін мемлекеттік деңгейде де, жергілікті деңгейде де пайдалануға болады.

ТҮЙІН СӨЗДЕР: кедейлік, кедейлік деңгейі, экономика, әлеуметтік фактор, экономикалық фактор, жалпы өңірлік өнім, аймақтық экономика

МҮДДЕЛЕР ҚАҚТЫҒЫСЫ: авторлар мүдделер қақтығысының жоқтығын мәлімдейді.

ҚАРЖЫЛАНДЫРУ: зерттеуге демеушілік қолдау көрсетілген жоқ (меншікті ресурстар).

Мақала тарихы:

Редакцияға түсті 27 Наурыз 2023

Жариялау туралы шешім қабылданды 28 Шілде 2023

Жарияланды 30 Қыркүйек 2023

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Анализ социально-экономических факторов, влияющих на бедность в регионах Казахстана

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Для цитирования: Сагиндыкова Г.М., Серикбаева С.Г., Хасенова К.К., Демеуова Г.К., Ажаипова И.Ш. (2023). Анализ социально-экономических факторов влияющих на бедность в регионах Казахстана. Экономика: стратегия и практика, 18(3), 189-206, <https://doi.org/10.51176/1997-9967-2023-3-189-206>

АННОТАЦИЯ

Цель данной работы – изучение влияния демографических, социально-экономических факторов, влияющих на уровень бедности в регионах Казахстана. В исследовательской работе изучены Атырауская, Туркестанская, Мангистауская, Акмолинская области с уровнем бедности выше среднего по Казахстану. Основные факторы, влияющие на бедность, делятся на четыре группы: экономические, демографические, социальные и географические. Текущее исследование направлено на анализ общей динамики бедности в Республике Казахстан. В соответствии с этим, исследование направлено на изучение влияния трех факторов (экономических, демографических и социальных) на абсолютную бедность. Рассматриваемый период охватывал десять лет с 2011 по 2021 год. Было выдвинуто пять гипотез. Для анализа данных использовалась программа SPSS, и был проведен корреляционно-регрессионный анализ. Результаты исследования показывают, что среднемесячная заработная плата, валовой региональный продукт, прожиточный минимум, количество студентов в высших учебных заведениях, количество получателей государственных пенсионных выплат, назначенные государственные социальные выплаты существенно влияют на уровень бедности в Туркестанской области. Ликвидация бедности – одна из самых больших и важных задач общества. Это основная миссия Всемирного банка и главная цель в области устойчивого развития, отражающая согласие 193 стран по основным социально-экономическим приоритетам. Результаты исследования могут быть использованы как на государственном, так и на местном уровне для разработки программ и стратегий по борьбе с бедностью в регионах Казахстана.

КЛЮЧЕВЫЕ СЛОВА: бедность, уровень бедности, экономика, социальный фактор, экономический фактор, валовой региональный продукт, региональная экономика

КОНФЛИКТ ИНТЕРЕСОВ: авторы заявляют об отсутствии конфликта интересов.

ФИНАНСИРОВАНИЕ: исследование не спонсировалось (собственные ресурсы).

История статьи:

Получено 27 Марта 2023

Принято 28 Июля 2023

Опубликовано 30 сентября 2023

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Introduction

Raising the population's standard of living is one of the fundamental goals of the welfare state. The fight against poverty is one of the most important areas for achieving this goal. World experience shows that during periods of economic and political upheavals, poverty is rapidly progressing and can lead to a social catastrophe. That is why today, in the context of a series of global economic crises, the problem of population poverty is the focus of attention of the world community. The problem of poverty is one of the most complex socio-economic problems of our time. Being a comprehensive phenomenon that entails many consequences, poverty is one of the most pressing topics on the socio-economic agenda. It requires constant monitoring and the adoption of adequate approaches to overcome it.

Social protection in Kazakhstan at present, the country's social protection system consists of social insurance benefits, social assistance benefits and social services. However, low-income families with children need help, as social security benefits are usually not high enough to cover the needs that come with schooling. Disability pensions were also considered too low in terms of providing an adequate level of social protection for the population.

COVID-19 negatively affects the quality and standard of living of people worldwide. In the second quarter of 2020, household enrollment fell by 15-25%, according to the World Bank (Bauer et al., 2021). Global poverty is a significant challenge facing the world today, with millions of people living in extreme poverty and lacking access to basic necessities such as food, shelter, and healthcare. According to data from the World Bank, an estimated 9.2% of the world's population, or around 700 million people, lived in extreme poverty in 2020, defined as living on less than \$1.90 per day. This represents a decrease from previous years, with the global extreme poverty rate dropping from 10% in 2015 to 9.2% in 2020 (Black et al., 2022).

While there has been progress in reducing extreme poverty, significant disparities exist between regions and countries. Sub-Saharan Africa remains the region with the highest extreme poverty rate, with over 40% of the population living on less than \$1.90 per day. In contrast, the extreme poverty rate in East Asia and the Pacific has decreased to just 0.5%.

Additionally, there are other measures of poverty beyond extreme poverty, including moderate poverty and relative poverty. The World Bank estimates that around 8.4% of the global population

lived in moderate poverty, defined as living on less than \$3.20 per day, in 2020. Relative poverty, which is based on a country-specific poverty line, affects millions more people globally.

Poverty has significant consequences for individuals and communities, including poor health outcomes, limited access to education and opportunities, and increased vulnerability to natural disasters and other crises. Addressing poverty requires a comprehensive approach, including investments in social protection systems, education, healthcare, and infrastructure, as well as measures to promote economic growth and reduce inequality.

Poverty remains a significant issue in Kazakhstan despite the country's remarkable economic growth over the past few decades. According to the World Bank, approximately 2.7 million people in Kazakhstan, or around 15% of the population, live below the poverty line. The poverty rate is higher in rural areas and among certain ethnic groups such as Kazakhs and Uzbeks. Poverty is also more prevalent among single-parent households and families with many children (Kitamura et al., 2022).

The leading causes of poverty in Kazakhstan include unemployment, underemployment, low wages, and insufficient social protection systems. The country has experienced significant job losses in recent years due to the economic downturn and the impact of the COVID-19 pandemic. Many people struggle to make ends meet, especially those who work in the informal sector or earn low wages.

Additionally, access to essential services such as healthcare, education, and housing can be challenging for impoverished people. This can further exacerbate the cycle of poverty, as individuals may struggle to improve their economic situation without adequate support. The Kazakhstani government has taken steps to address poverty through various social protection programs, including cash transfers, housing subsidies, and job training initiatives. However, there is still room for improvement in the effectiveness and reach of these programs, particularly in rural areas and among marginalized communities.

In conclusion, poverty remains a significant challenge for many people in Kazakhstan. Addressing this issue requires a comprehensive approach that includes creating more job opportunities, improving social protection systems, and ensuring access to basic services for all. This paper aims to analyze the dynamics of poverty to determine the demographic, socio-economic factors that affect the increase and decrease in the number of absolutely and relatively poor people.

Literature Review

When determining poverty, the analysis is carried out by assessing the well-being of individuals or households to compare them with a quantitatively measurable poverty line, as well as establishing a poverty line, which is based on the minimum income level of an individual, below which a person is recognized as poor. Depending on the chosen approaches to calculating the poverty line, the definition of poverty can be carried out on the basis of an assessment of the minimum level of consumption / consumer basket of an individual (Tigre, 2019; Lutz et al., 2022).

At present, in most countries of the world, poverty is understood not only as a phenomenon associated with low incomes and consumption but also manifests itself through limited access to education and health services, and the lack of conditions for a person's personal development (Dube et al., 2018). Most often, poverty is viewed from the point of view of insufficient funds to meet the most critical vital needs at the level of specific minimum standards recognized by society (Buheji et al., 2020; Bednar & Reames, 2020).

International experience in measuring poverty is based on applying two main conceptual approaches. The absolute concept is based on the poverty line calculation, where the cost of goods necessary to meet the minimum physiological needs of a person is taken and applied in a cross-page comparison (Rajabov, 2020). Accordingly,

the poor are those who have an income below the legally established minimum. With a relative approach, the poor include people whose incomes do not allow them to maintain an acceptable societal lifestyle (meeting the minimum needs and the possibility of socialization like the bulk of the population) (Plucker & Peters, 2018; Gough, 2020).

When analyzing the level of poverty in a regional context, the main factors that have a significant impact on the growth of poverty are taken, which is often applicable in a multidimensional approach to assessing the level of poverty. This criterion analyzes not only the assessment of current income but also considers different types of deprivation in the accessibility of essential services (Charlier & Legendre, 2019).

In the work of Townsend, poverty is defined as a social phenomenon, a condition in which it is impossible to meet the existing standards of society. A person himself ranks himself in the poor category, comparing himself with others. Further, he singled out the approach of relative poverty, i.e. the social process of an individual's underestimated ability to satisfy his basic vital needs. Townsend divides relative poverty into multidimensional (disadvantage in society/family), material (material possessions like clothing, private property, etc.) and social (access to education, employment, skills, etc.) (Kangas & Ritakallio, 2019; Nájera Catalán, 2019). Therefore, four main factors affect the level of poverty in Figure 1.

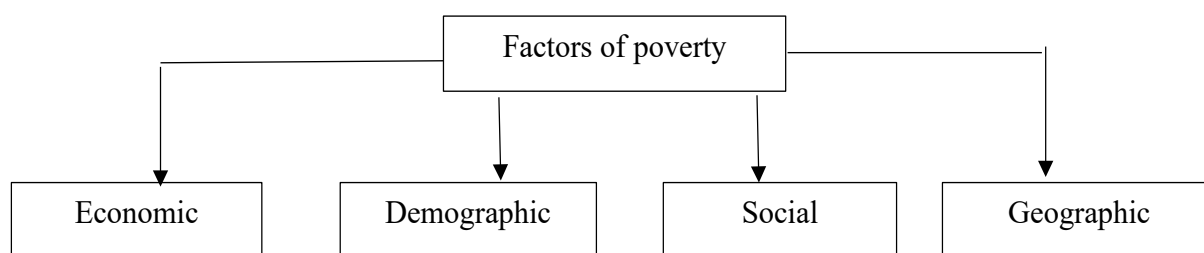


Figure 1 - Factors affecting poverty

Note: compiled by authors

Economic factors include the level of earnings. Accordingly, low wages, unemployment, and informal employment have a negative impact on the level of income (Huang et al., 2018). Moreover, studies show that high levels of poverty are observed in families where able-bodied citizens are unemployed, work part-time or receive low wages at the minimum wage. Even if the income level is slightly higher than the minimum wage, it does not

provide the average per capita income in the family above the subsistence level (Hossain, 2020).

Demographic factors include single-parent and large families, families with a high dependency load. Studies show that, as a rule, families with many children, families with disabled children, single-parent families are below the poverty line. This is confirmed by the fact that the level of material security of low-income families decreases as

the dependency load grows, respectively, families with many children experience significant financial difficulties.

Social factors include low minimum social payments, debts (loans), dysfunctional families where there is also conflict in family relationships, as well as disability, old age, and poor health (Hegedüs, 2017). We can also include here the level of education of the population and qualifications, since the low level of education, insufficient level of professional training, and the lack of demand for the education and qualifications received in the labor market affects the level of earnings and the level of unemployment among the population. It is also noted that among poor citizens there is a high proportion of people with secondary and secondary specialized education (Azorin, 2020).

Geographical factors are the heterogeneous distribution of the number of poor citizens and the differentiation of municipalities' economic development levels. The conducted literature review showed that in developed countries, a relative poverty criterion is used (50% or 60% of the median per capita income). However, in recent years, researchers are increasingly using the multivariate evaluation method. In particular, given the current global economic developments, applying the multidimensional poverty criteria would be more appropriate.

Relative poverty refers to a situation where an individual or household has income or resources that are significantly lower than the average or median income or resources in their society. While the specific factors contributing to relative poverty can vary by region and context, several common factors can lead to relative poverty.

- Income inequality: Income inequality can contribute to relative poverty as individuals with lower incomes may struggle to meet their basic needs and maintain a certain standard of living. This is especially true in societies where there is a significant gap between the rich and the poor.

- Unemployment or underemployment: Individuals who are unemployed or underemployed may struggle to earn enough income to support themselves and their families, leading to relative poverty. This is particularly true in regions or industries where job opportunities are limited or low paying.

- High cost of living: In some regions, the cost of living can be prohibitively high, which can make it difficult for individuals with lower incomes to afford necessities such as housing, food, and healthcare.

- Lack of access to education and job training: Without access to education or job training opportunities, individuals may struggle to acquire the skills and knowledge needed to secure higher-paying jobs and improve their economic situation.

- Discrimination: Discrimination based on factors such as race, gender, or disability can limit individuals' opportunities and contribute to their relative poverty.

- Limited access to social services: In some regions, limited access to social services such as healthcare, housing, and education can contribute to relative poverty as individuals may struggle to afford these services or access the resources they need to improve their economic situation.

Addressing relative poverty requires a multifaceted approach involving investments in education and job training, reduced income inequality, improved access to social services, and promoting inclusive economic growth. By addressing the factors that contribute to relative poverty, individuals and communities can work towards more excellent economic stability and a higher quality of life.

There are two most widely used measures of poverty: national and international. The main reason for using the two sets of indicators is to ensure that methodologies are comparable. The World Bank tracks global poverty measures, which differ from those used by national governments. In turn, any government's approach to tracking the poverty level in the country is always based on local specifics. Due to this orientation, national indicators are not comparable with those of other countries. However, to compare situations across countries, a unified approach similar to that of the World Bank is needed.

Methodology

The main factors affecting poverty are divided into four groups: economic, demographic, social and geographic. The current study is focused on analyzing the general poverty dynamic in the Republic of Kazakhstan. Accordingly, the research aims to study the impact of three factors (economic, demographic and social) on absolute and relative poverty. The considered period it included ten years from 2011 to 2021. Table 1 there is provided the list of economic, demographic and social indicators which were taken to provide the analysis of poverty in Kazakhstan.

Table 1 - List of economic, demographic and social factors

No.	Factor	Coding general coding for all region	Unit of measurement
1	Average monthly salary	AMS	KZT
2	Gross regional product	GRP	KZT
3	Living wage	LW	KZT
4	Number of students at higher educational institutions	Edu	Count
5	Number of people who receive state pension payments	NPens	Count
6	Number of people who receive assigned state social payments	ASSP	Count
7	Share of the population with incomes below the subsistence level (poverty rate)	South KZ_%, Akmol_%, Mangyst_%, Atyr_%, Karag_%.	%

In table, there are taken six independent variables and one independent variable, which shows the poverty rate in the region. The data was collected from the open-source Agency for Strategic Planning and Reforms Bureau of National Statistics of Kazakhstan. In particular, data was collected from annual Statistical collections such as “Women and Men in Kazakhstan” and “Living Standards in Kazakhstan”.

The selection of factors is explained by the provided literature review, that there are four main factors and the limited access or availability of data. The current study used only three factors (economic, demographic and social).

There were selected five regions: Akmola, Turkestan, Mangystau, Atyrau and Karaganda regions. The selection of the regions was based on the conducted analysis, which revealed regions with the highest poverty rate (Akmola, Turkestan and Mangystau) and with the lowest poverty rate (Atyrau and Karaganda) in 2021.

There were developed five hypotheses:

Hypothesis 1: Selected independent variables have a significant influence on the poverty rate in Turkestan.

Hypothesis 2: Selected independent variables have significant influence on the poverty rate in Akmola region.

Hypothesis 3: Selected independent variables have significant influence on the poverty rate in Mangystau region.

Hypothesis 4: Selected independent variables have significant influence on the poverty rate in Atyrau.

Hypothesis 5: Selected independent variables significantly influence Karaganda's poverty rate.

Results and analysis

There are two most widely used measures of poverty: national and international. The main reason for using the two sets of indicators is to ensure that methodologies are comparable. The World Bank tracks global poverty measures, which differ from those used by national governments. In turn, the approach of any government to tracking the level of poverty in the country is always based on local specifics. Due to this orientation, national indicators are not comparable with those of other countries. However, a unified approach similar to that of the World Bank is needed to compare situations across countries.

In 2021, the World Bank updated the calculations with new poverty thresholds, as well as the latest global estimates of poverty, taking into account the cost of living in specific countries. Thus, for lower middle-income countries, including Tajikistan, Uzbekistan and Kyrgyzstan, the poverty line in 2021 was 588 KZT per person per day, and for upper middle-income countries, such as Kazakhstan, it was 1,103 KZT per person in a day.

In Figure 2, there are dynamics of the size of the poverty line from the subsistence minimum from 2011-2022.

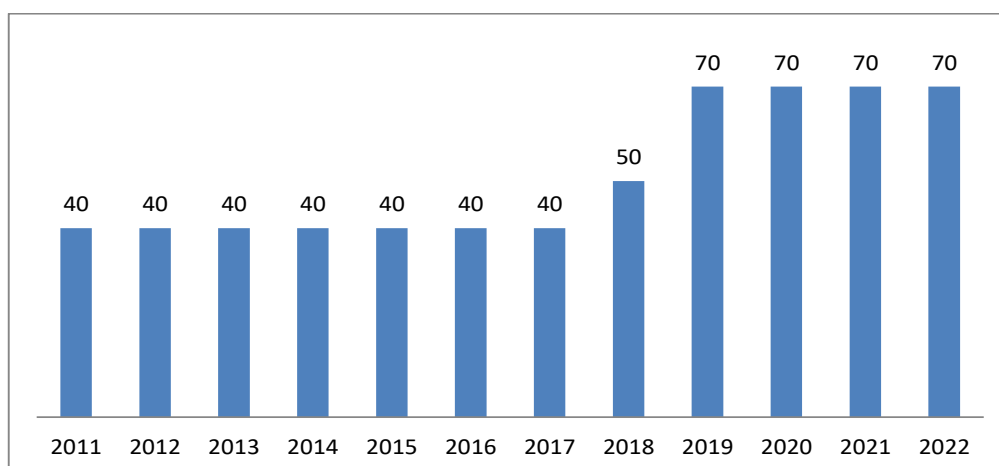


Figure 2 -The size of the poverty line from the subsistence minimum, %

Note: compiled by authors

In Kazakhstan, the poverty line is calculated from the subsistence minimum. It was 40% of the living wage from 2011 to 2016. In 2018, it increased to 50%. Since 2019, this indicator has been 70% of the subsistence minimum.

In Figure 3, there is presented data on the dynamics of the poverty line in Kazakhstan from 2011-2022.

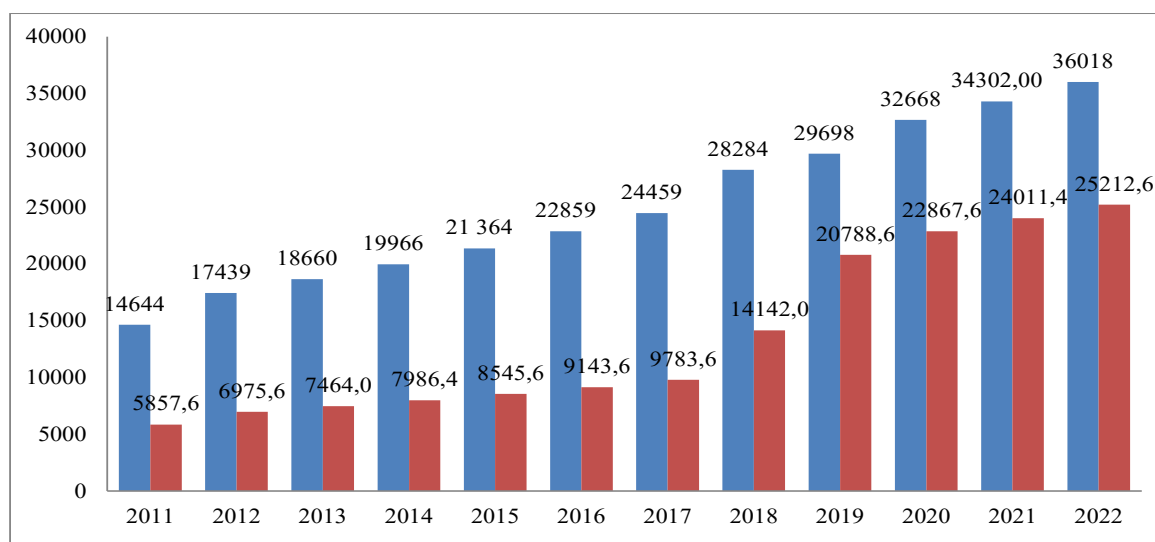


Figure 3 - The poverty line in Kazakhstan

Note: compiled by authors

The living wage in Kazakhstan in 2022 is 36,018 KZT. Next, there is calculated to get 70%. We get - 25,212 KZT (see Fig. 3). This is the poverty line in Kazakhstan. Accordingly, people with

low earnings (who earn less than 36,018 KZT a month) are considered poor.

Figure 4 there is provided with the poverty rate for 2021 by region.

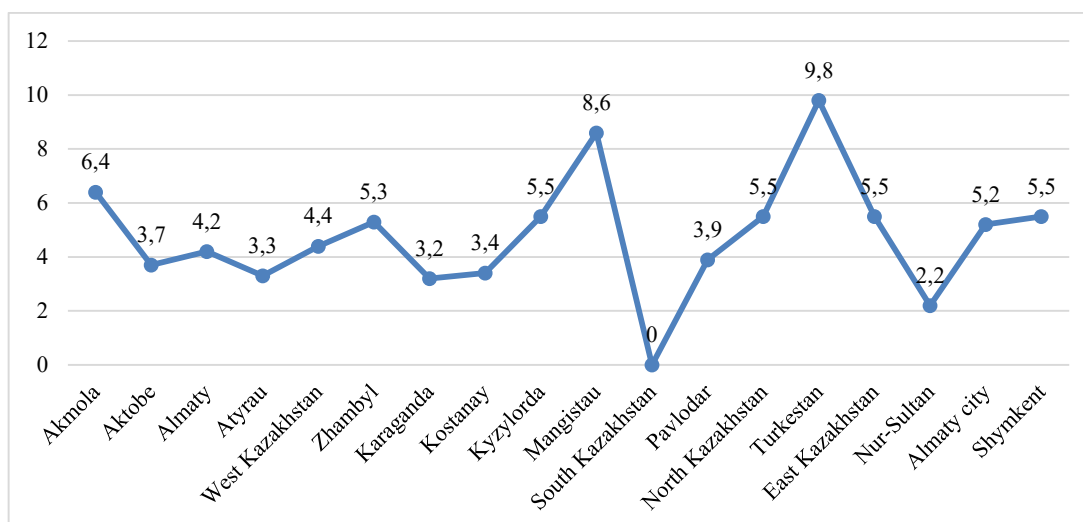


Figure 4 - Poverty rate by regions in Kazakhstan, 2021

Note: compiled by authors

There is a high poverty rate in Turkestan (9,8%), which is also regarded as Turkestan until 2018), Manystau (8,6%) and Akmola regions (6,4%). The regions with the lowest poverty rate in 2021 are Atyrau (3,3%), 2,2 Karaganda (3,2%) and Astana (2.2%). However, the analysis includes include Astana as Kazakhstan’s capital city. Nev-

ertheless, the study is focused on analysing regions that do not have as much support as the country’s capital.

The analysis results for all models of the research are given below. In Table 2 there is provided a summary of the models.

Table 2 - Models summary: South KZ_%, Akmol_%, Mangyst_%, Atyr_%, Karag_%.

Models title	R	R-square	Predictors
1 South KZ_%	,990 ^a	,980	ASSP_SK, Edu_SK, GRP_SK_thous, NPens_SK, AMS_SK, LW_SK
2 Akmol_%	,949 ^a	,901	
3 Mangyst_%	,948 ^a	,899	
4 Atyr_%	,878 ^a	,770	
5 Karag_%	,937 ^a	,879	

Note: compiled by authors

According to the model summary, it is clear that all changes observed in the poverty rate are explained by the predictors used in this model. The predictors for all models were the same. The models were not corrected, as the goal was to compare the relationship between selected independent and dependent variables. The R-square is the highest for South KZ_%, where the changes in the dependent variables explain 98% of changes in the dependent variable in the first model. The lowest R-square is for Atyr_% dependent variable, only

77%. The R-square for Akmol_%, Mangyst_% and Karag_% are 91,1%, 89,9% and 87,9% respectively.

The results denote that selected dependent variables have the strongest impact on the poverty rate in Turkestan. The most negligible impact these predictors have in Atyrau region.

Next, in Table 3 there are results for ANOVA analyses including all five models.

Table 3 - ANOVA results: South KZ %, Akmol %, Mangyst %, Atyr %, Karag %.

Model		F	Significance of the model
1 South KZ %	Regression	32,357	,002 ^b
2 Akmol %	Regression	6,085	,051 ^b
3 Mangyst %	Regression	5,940	,053 ^b
4 Atyr %	Regression	2,237	,228 ^b
5 Karag %	Regression	4,824	,075 ^b
Dependent variable: South KZ %, Akmol %, Mangyst %, Atyr %, Karag %.			
Independent variables/predictors: ASSP_SK, Edu_SK, GRP_SK thous, NPens_SK, AMS_SK, LW_SK			

Note: compiled by authors

The ANOVA results reflect that the F-statistics is higher in the first model, which investigated the impact of selected variables on the poverty rate in Turkestan. The P-value for this model is significant and shows ,002 (p<0.05), which supports the first hypothesis that selected variables have impact on the poverty rate in Turkestan.

The rest of the four hypotheses were rejected as the models' P-values are higher than 0.05 (p>0.05). Therefore, it can be assumed that selected factors have an insignificant impact on the poverty rate in Akmol, Atyrau, Mangystau and Karaganda regions.

In Table 4, there are results for the correlation analysis.

Table 4 - Correlation: model 1

Variable		SouthKZ %	GRP SK thous	LW_SK	NPens_SK	Edu_SK	AMS_SK	ASSP_SK
South KZ %	Pearson correlation	1	,141	,556	-,901**	,056	,481	-,891**
	Sig.(2-tailed)		,679	,075	,000	,871	,134	,000
	N	11	11	11	11	11	11	11
GRP_SK_thous	Pearson correlation	,141	1	,888**	,071	-,702*	,909**	-,400
	Sig.(2-tailed)	,679		,000	,835	,016	,000	,223
	N	11	11	11	11	11	11	11
LW_SK	Pearson correlation	,556	,888**	1	-,362	-,627*	,965**	-,768**
	Sig.(2-tailed)	,075	,000		,274	,039	,000	,006
	N	11	11	11	11	11	11	11
NPens_SK	Pearson correlation	-,901**	,071	-,362	1	-,210	-,319	,842**
	Sig.(2-tailed)	,000	,835	,274		,535	,340	,001
	N	11	11	11	11	11	11	11
Edu_SK	Pearson correlation	,056	-,702*	-,627*	-,210	1	-,491	,316
	Sig.(2-tailed)	,871	,016	,039	,535		,125	,343
	N	11	11	11	11	11	11	11
AMS_SK	Pearson correlation	,481	,909**	,965**	-,319	-,491	1	-,671*
	Sig.(2-tailed)	,134	,000	,000	,340	,125		,024
	N	11	11	11	11	11	11	11
ASSP_SK	Pearson correlation	-,891**	-,400	-,768**	,842**	,316	-,671*	1
	Sig.(2-tailed)	,000	,223	,006	,001	,343	,024	
	N	11	11	11	11	11	11	11

** . The correlation is significant at level 0,01 (2-tailed)

* . The correlation is significant at level 0,05 (2-tailed)

Note: compiled by authors

The results showed a significant a negative correlation between the number of people assigned and receiving state payments, including pension payments. Number of people who receive pension payments have negative correlation with assigned state payments. There is also strong positive correlation between regional GRP and living wages and average monthly salary, but mild negative correlation between numbers of students. Living wage has strong positive relationship with average monthly salary, while there is mild negative relationship with students and assigned state social payments. The coefficient results showed that the relationship between the poverty rate in Mangystau and Karaganda regions and the number of population receiving state pension payments have significant correlation.

Based on the available data and research, it can be concluded that there is a negative correlation between the number of people receiving state pension and assigned state social payments and the poverty rate. The data suggests that when more people receive state pension or social payments, the poverty rate tends to decrease in Turkestan region.

This conclusion highlights the critical role of social welfare programs in reducing poverty rates. The provision of state pensions and social payments can provide critical financial support for individuals and families in need.

The results of correlation analysis model 2 are in Table 5.

Table 5 - Correlation: model 2

Variable		Akmo l %	GRP_A_ thous	LW_A	NPens_A	Edu_A	AMS_A	ASSP_A
Akmol_ %	Pearson correlation	1	,496	,529	,029	,042	,576	-,060
	Sig.(2-tailed)		,120	,094	,932	,903	,064	,860
	N	11	11	11	11	11	11	11
G R P _ A _ thous	Pearson correlation	,496	1	,996**	,840**	-,553	,949**	-,869**
	Sig.(2-tailed)	,120		,000	,001	,078	,000	,001
	N	11	11	11	11	11	11	11
LW_A	Pearson correlation	,529	,996**	1	,810**	-,507	,967**	-,852**
	Sig.(2-tailed)	,094	,000		,003	,111	,000	,001
	N	11	11	11	11	11	11	11
NPens_A	Pearson correlation	,029	,840**	,810**	1	-,786**	,697*	-,971**
	Sig.(2-tailed)	,932	,001	,003		,004	,017	,000
	N	11	11	11	11	11	11	11
Edu_A	Pearson correlation	,042	-,553	-,507	-,786**	1	-,367	,741**
	Sig.(2-tailed)	,903	,078	,111	,004		,266	,009
	N	11	11	11	11	11	11	11
AMS_A	Pearson correlation	,576	,949**	,967**	,697*	-,367	1	-,775**
	Sig.(2-tailed)	,064	,000	,000	,017	,266		,005
	N	11	11	11	11	11	11	11
ASSP_A	Pearson correlation	-,060	-,869**	-,852**	-,971**	,741**	-,775**	1
	Sig.(2-tailed)	,860	,001	,001	,000	,009	,005	
	N	11	11	11	11	11	11	11

** . The correlation is significant at level 0,01 (2-tailed)

* . The correlation is significant at level 0,05 (2-tailed)

Note: compiled by authors

The results of the correlation analysis showed that the poverty rate in Akmol region has an insignificant relationship with selected factors. The correlation between GRP and living wage and Average monthly salary is also significantly strong,

while the relationship with assigned state social payments it has mild significant negative relationship. Living wage and average monthly salary are highly correlated, but there is a negative mild significant correlation with assigned state social pay-

ments. The Number of people receiving pensions has a mild significant correlation with GRP, living wage and average monthly salary but a negative correlation with students and assigned state social payments.

Based on the available data and research, it can be concluded that there is a high correlation between the GRP and the living wage and average monthly salary. Specifically, the living wage and average monthly salary are highly correlated with each other.

This conclusion highlights the important relationship between economic productivity and the well-being of workers. When the GRP increases, there will likely be higher wages and a higher living wage. This can lead to increased quality of life for workers and their families, as well as increased economic growth in the region.

The results of correlation analysis model 3 are in Table 6.

Table 6 - Correlation: model 3

Variable		Mangyst t %	GRP_M_t hous	LW_M	NPensp_M	Edu_M	AMS_M	ASSP_M
Mangyst_ %	Pearson correlation	1	,129	,319	,070	-,167	,128	,219
	Sig.(2-tailed)		,705	,339	,838	,624	,709	,519
	N	11	11	11	11	11	11	11
GRP_M_ thous	Pearson correlation	,129	1	,751**	,811**	-,840**	,742**	,776**
	Sig.(2-tailed)	,705		,008	,002	,001	,009	,005
	N	11	11	11	11	11	11	11
LW_M	Pearson correlation	,319	,751**	1	,949**	-,701*	,955**	,987**
	Sig.(2-tailed)	,339	,008		,000	,016	,000	,000
	N	11	11	11	11	11	11	11
NPensp_M	Pearson correlation	,070	,811**	,949**	1	-,803**	,983**	,981**
	Sig.(2-tailed)	,838	,002	,000		,003	,000	,000
	N	11	11	11	11	11	11	11
Edu_M	Pearson correlation	-,167	-,840**	-,701*	-,803**	1	-,755**	-,753**
	Sig.(2-tailed)	,624	,001	,016	,003		,007	,007
	N	11	11	11	11	11	11	11
AMS_M	Pearson correlation	,128	,742**	,955**	,983**	-,755**	1	,976**
	Sig.(2-tailed)	,709	,009	,000	,000	,007		,000
	N	11	11	11	11	11	11	11
ASSP_M	Pearson correlation	,219	,776**	,987**	,981**	-,753**	,976**	1
	Sig.(2-tailed)	,519	,005	,000	,000	,007	,000	
	N	11	11	11	11	11	11	11

** . The correlation is significant at level 0,01 (2-tailed)

* . The correlation is significant at level 0,05 (2-tailed)

Note: compiled by authors

Correlation analysis for model 3 showed that the poverty rate in Mangystau region is not correlated with the selected variables. However, there is a correlation among independent variables. Unlike previous models, GRP has a mild significant correlation with living wage and average monthly salary and a mild negative correlation with the number of people receiving pension payments. On the contrary, living wage significantly positively correlates with pension payments, average monthly salary and assigned state social payments. This suggests that when the living wage increases, there is likely to be an increase in pension payments, average monthly salary, and state social payments.

This conclusion highlights the importance of providing fair and equitable wages to workers, as well as the crucial role of social welfare programs in supporting individuals and families who may be struggling financially. When workers receive a living wage, they are more likely to be able to support themselves and their families without the need for additional financial assistance. Addition-

ally, social welfare programs can provide critical support for individuals who may be unable to work or who may be facing other financial challenges. Interestingly, that number of students has a negative mild correlation with all independent variables except average monthly salary. This suggests that as the number of students increases, there may be a slight decrease in the GRP, living wage, and the number of people receiving pension payments and assigned state social payments.

This conclusion highlights the need for a balanced approach to education and economic development. While education is crucial for long-term economic growth and development, it is vital to ensure that the needs of workers and retirees are also being met. Additionally, it is important to address the underlying causes of the negative correlation between the number of students and economic and social welfare indicators, such as the lack of job opportunities or low wages for graduates. The results of correlation analysis model 4 are in Table 7.

Table 7 - Correlation: model 4

Variable		Atyr	GRP_At_ thous	LW_At	NPens_At	Edu_At	AMS_At	ASSP_At
Atyr_%	Pearson correlation	1	-,360	-,344	-,593	,510	-,447	-,304
	Sig.(2-tailed)		,277	,300	,055	,109	,168	,363
	N	11	11	11	11	11	11	11
G R P _ At_ thous	Pearson correlation	-,360	1	,947**	,890**	-,333	,940**	,936**
	Sig.(2-tailed)	,277		,000	,000	,318	,000	,000
	N	11	11	11	11	11	11	11
LW_At	Pearson correlation	-,344	,947**	1	,924**	-,360	,984**	,963**
	Sig.(2-tailed)	,300	,000		,000	,277	,000	,000
	N	11	11	11	11	11	11	11
NPens_At	Pearson correlation	-,593	,890**	,924**	1	-,623*	,953**	,895**
	Sig.(2-tailed)	,055	,000	,000		,041	,000	,000
	N	11	11	11	11	11	11	11
Edu_At	Pearson correlation	,510	-,333	-,360	-,623*	1	-,410	-,324
	Sig.(2-tailed)	,109	,318	,277	,041		,210	,331
	N	11	11	11	11	11	11	11
AMS_At	Pearson correlation	-,447	,940**	,984**	,953**	-,410	1	,954**
	Sig.(2-tailed)	,168	,000	,000	,000	,210		,000
	N	11	11	11	11	11	11	11
A S S P _ At	Pearson correlation	-,304	,936**	,963**	,895**	-,324	,954**	1
	Sig.(2-tailed)	,363	,000	,000	,000	,331	,000	
	N	11	11	11	11	11	11	11

** . The correlation is significant at level 0,01 (2-tailed)

* . The correlation is significant at level 0,05 (2-tailed)

Note: compiled by authors

The correlation between poverty rate and selected independent variables is insignificant. The results for the model four show that all independent variables have positive significant correlation except for number of students.

This conclusion suggests that while education is important for long-term economic growth and development, an increase in the number of students may not necessarily translate to an immediate increase in economic productivity or social welfare. However, it is important to note that the lack of significant correlation between the number of students in higher educational institutions and economic and social welfare indicators may be due to other factors that are not captured in the available data.

On the other hand, the positive correlation between the number of people receiving pension payments, assigned state social payments, and the GRP and living wage suggests that social welfare programs can contribute to economic growth and improved quality of life for workers and retirees. This highlights the need for a balanced approach to economic development and social welfare, where strong social welfare programs complement investments in education.

The results of correlation analysis model 5 are in Table 8.

Table 8 - Correlation: model 5

Variable		Karag	GRP_K_ thous	LW_K	NPens_K	Edu_K	AMS_K	ASSP_K
Karag	Pearson correlation	1	,346	,323	-,146	,224	,316	-,098
	Sig.(2-tailed)		,297	,333	,669	,508	,343	,775
	N	11	11	11	11	11	11	11
GRP_K_ thous	Pearson correlation	,346	1	,997**	,814**	-,554	,992**	-,822**
	Sig.(2-tailed)	,297		,000	,002	,077	,000	,002
	N	11	11	11	11	11	11	11
LW_K	Pearson correlation	,323	,997**	1	,832**	-,559	,993**	-,847**
	Sig.(2-tailed)	,333	,000		,002	,074	,000	,001
	N	11	11	11	11	11	11	11
NPens_K	Pearson correlation	-,146	,814**	,832**	1	-,828**	,794**	-,792**
	Sig.(2-tailed)	,669	,002	,002		,002	,004	,004
	N	11	11	11	11	11	11	11
Edu_K	Pearson correlation	,224	-,554	-,559	-,828**	1	-,503	,523
	Sig.(2-tailed)	,508	,077	,074	,002		,115	,099
	N	11	11	11	11	11	11	11
AMS_K	Pearson correlation	,316	,992**	,993**	,794**	-,503	1	-,837**
	Sig.(2-tailed)	,343	,000	,000	,004	,115		,001
	N	11	11	11	11	11	11	11
ASSP_K	Pearson correlation	-,098	-,822**	-,847**	-,792**	,523	-,837**	1
	Sig.(2-tailed)	,775	,002	,001	,004	,099	,001	
	N	11	11	11	11	11	11	11

** . The correlation is significant at level 0,01 (2-tailed)

* . The correlation is significant at level 0,05 (2-tailed)

Note: compiled by authors

The results for the last model show that GRP, a living wage, average monthly salary and the number of people receiving pension payments have a positive correlation. The number of students and assigned state social payment has a negative correlation with other independent variables.

To conclude, the research results supported existing studies that the poverty rate depends highly on the income and expenses of the population, which is indirectly affected by other factors. One of them is access to education, which affects the possibility of higher income rates for a household. However, access to education with a professional diploma is irrelevant if there is no demand for particular specialists. The average monthly salary depends on the GRP rate, which is also affected by the state expenses as assigned state social payments. They are not intended to gain profit for the government but are expected to affect taxes. Moreover, the correlation results showed that education and assigned state social payments negatively correlate in all regions.

It is important to note that while education and access to higher-paying jobs are essential factors in reducing poverty rates, they are not the only factors. Other factors, such as the cost of living, access to affordable healthcare, and social welfare programs, also play a significant role in determining poverty rates.

Furthermore, the correlation between education and assigned state social payments having a negative correlation in all regions may suggest that there is a need for a more comprehensive approach to social welfare programs. This could include providing access to education and job training programs that are tailored to the needs of specific regions and industries, as well as strengthening social welfare programs to support individuals and families who may be struggling financially.

It is also important to acknowledge that the relationship between assigned state social payments and taxes is complex and may vary depending on a range of factors, including the size and structure of the economy, government spending priorities, and the political climate. While assigned state social payments may not necessarily generate direct profits for the government, they can contribute to economic growth and social welfare, which in turn can have positive effects on tax revenues.

In conclusion, addressing poverty requires a multi-faceted approach that includes investments in education, social welfare programs, healthcare, and other factors that contribute to economic

growth and social welfare. By taking a comprehensive approach, governments can create a more equitable and prosperous society for all.

Conclusion

This paper was focused on the study of selected six independent variables impact on the poverty rate in five regions. There were put forward five hypotheses of which the first hypothesis was accepted that selected independent variables have significant influence on the poverty rate in Turkestan. The results showed that selected variables affect 98% of changes in the poverty rate.

South Kazakhstan region. The correlation analysis reveals a significant negative correlation between the number of people receiving assigned state social payments, including pension payments, and the poverty rate. This highlights the important role of social welfare programs in reducing poverty in the region. Additionally, there is a strong positive correlation between the regional GRP and living wages, as well as average monthly salary, indicating the potential for improved economic conditions and worker well-being in the region.

Mangystau region. The correlation analysis indicates that there is an insignificant relationship between the poverty rate and the selected factors in Mangystau Region. However, there is a significant correlation between the number of people receiving pension payments and the poverty rate. This highlights the potential impact of social welfare programs, particularly pension payments, in reducing poverty rates in the region.

Akmola region. The correlation analysis results suggest an insignificant relationship between the poverty rate and the selected factors in Akmola Region. However, there is a significantly strong correlation between the regional GRP and living wages, as well as the average monthly salary. This emphasizes the critical link between economic productivity and regional worker well-being.

Turkestan region. Based on the available data and research, it can be concluded that there is a negative correlation between the number of people receiving state pensions and assigned state social payments and the poverty rate in Turkestan region. This underscores the vital role of social welfare programs, such as state pensions and social payments, in reducing poverty rates and providing financial support to needy individuals and families.

Karaganda region. The correlation analysis indicates that there is a significant correlation between the poverty rate and the number of people receiving state pension payments in Karaganda region. This suggests that social welfare programs,

particularly state pension payments, can have an impact on reducing poverty rates in the region. However, further research is needed to understand this relationship's underlying factors.

Overall, the findings highlight the importance of social welfare programs, economic productivity, and worker well-being in addressing poverty and improving the quality of life in each region. The results underscore the need for comprehensive approaches that consider factors such as education, job opportunities, social welfare programs, and economic development to reduce poverty rates and promote regional growth effectively.

All models showed a negative correlation between the number of students and assigned state social payments with the rest variables, including GRP, average monthly salary, living wage and the number of people receiving pension payments. Moreover, the other four independent variables significantly correlated with each other. These results support existing studies that the level of education or access to social goods develops opportunities for the population to improve their income. However, the demand in the labor force and the relevance of jobs and skills are also essential in the labor market.

Therefore, we suggest that government should develop a system of private sector cooperation with higher educational institutions to improve the employment rate, especially among the younger generation. The results for the rest hypotheses were rejected. The limitation of this study was the lack of data. To expand on the study's limitations, it is essential to note that the lack of data, particularly data that is divided by regions, can significantly impact the accuracy and reliability of the analysis. Without access to comprehensive and detailed data, it can be difficult to fully understand the complex relationships between education, social welfare programs, and economic development at the regional level.

Additionally, the study may be limited by the scope of the variables that were analyzed. While the variables included in the analysis are essential factors in understanding poverty rates, they are not the only factors. Other factors, such as access to affordable housing, transportation, and childcare, may also play significant roles in determining poverty rates.

In light of these limitations, it is crucial to approach the study's conclusions with caution and recognize that they may not fully capture the complex relationships between education, social welfare programs, and economic development at the regional level. Further research is needed to

understand the factors that contribute to poverty rates fully and to develop effective strategies for reducing poverty and promoting economic growth and social welfare.

Further research is needed to understand better the factors that contribute to poverty reduction and to determine the most effective strategies for reducing poverty rates, wage levels and the impact of social welfare programs on poverty reduction. It is essential to address the underlying causes of poverty, such as structural inequality and lack of access to education and employment opportunities. Additionally, it is essential to continue advocating for policies and practices that support fair and equitable wages and social welfare programs that benefit all members of society.

Further research is needed to understand better the complex relationships between education, social welfare, and economic development. Additionally, it is important to address the underlying causes of the negative correlation between the number of students and economic and social welfare indicators, such as the lack of job opportunities or low wages for graduates. It is important to continue investing in education and providing support for students while addressing the needs of workers and retirees in the region.

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