ASSESSMENT AND MODELING OF THE SOCIAL EFFECTS OF SMALL AND MEDIUM-SIZED ENTERPRISES

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ABSTRACT

The article examines the social effects of the development of small and medium-sized enterprises (SMEs) in Kazakhstan, where prior research has mainly concentrated on macroeconomic factors while neglecting social outcomes. The study aims to quantitatively assess the impact of the SME sector on key social indicators, such as household income, poverty rates, and reliance on targeted social assistance and to identify regional variations in these effects. It uses panel data from 15 regions of Kazakhstan spanning 2005–2023 (285 observations) and employs panel regression models with fixed and random effects. The findings show that an increase in the share of SMEs in the regional economy has a statistically significant positive impact on household income, while also helping to reduce poverty and the number of social assistance recipients. Nevertheless, growth in the number of SME entities or jobs within the sector alone does not ensure improved well-being, emphasizing the importance of productivity and job quality. These results underscore the role of SMEs as a key driver of inclusive economic growth and social resilience.

Keywords: Small and medium-sized enterprises (SMEs), Household income, Poverty, Targeted social assistance, Regional development, Panel data.

INTRODUCTION

The development of small and medium-sized enterprises (SMEs) is increasingly viewed not only as a driver of economic growth but also as an instrument for fostering sustainable social transformations. Under conditions of deepening social stratification, regional disparities, and digital inequality, the SME sector has the potential to significantly influence income distribution, consumption levels, and the degree of social deprivation. In international practice, SMEs are recognized as a factor that mitigates poverty by generating employment opportunities, broadening access to income, and enhancing economic mobility, particularly in vulnerable and rural regions.

Despite state support measures and the launch of numerous programs aimed at stimulating SME development in Kazakhstan, the comprehensive assessment of its social effects remains an open issue requiring deeper scientific inquiry. To date, most studies have predominantly concentrated on macroeconomic parameters such as the contribution of SMEs to gross regional product, employment rates, investment activity, and production dynamics. Meanwhile, systematic empirical evaluation of how SME development affects the transformation of the social structure – specifically income distribution, consumption patterns, poverty levels, and the demand for state social assistance – remains fragmented. This gap is especially pronounced in the regional context, where both interterritorial disparities and differences in the institutional environment are significant.

Accordingly, this article seeks not only to assess the social effects of SMEs but also to identify regional specificities and asymmetries in their manifestation. Such an approach provides a basis for developing more flexible and context-sensitive solutions in both entrepreneurial policy and social support measures.

METHODOLOGY

The empirical basis of the study covers panel data for 15 regions of the Republic of Kazakhstan for the period 2005–2023, comprising a total of 285 observations (region–year). The dependent variables include per capita household income, poverty rate (the share of the population below the national poverty line) and the number of recipients of targeted social assistance. To test the hypotheses, three econometric models were constructed: (1) the impact of SME development on household income, (2) the impact on the poverty rate, and (3) the impact on the number of social assistance recipients. A fourth hypothesis, capturing the moderating role of education, was tested by including the variable *Education_rate* in the model equations.

Methodologically, the analysis employed panel regression models with fixed and random effects (FE/RE). The Hausman test was applied to determine the appropriate model specification in each case. In several specifications, logarithmic transformations of variables were used to reduce multicollinearity and to interpret estimated coefficients as elasticities. It should be noted that the analyzed relationships may be subject to potential endogeneity, as SME development and social outcomes can be mutually interrelated. While fixed effects account for the time-invariant regional heterogeneity, the results are interpreted as associative rather than strictly causal. Given the limited number of regions and the long time dimension of the panel, the analysis focuses on FE/RE specifications without applying instrumental variable techniques.

It should also be noted that the examined relationships may be subject to potential endogeneity, as SME development and social outcomes can influence each other simultaneously. While the use of fixed effects controls for time-invariant unobserved regional heterogeneity, it does not fully eliminate reverse causality or omitted variable bias. Therefore, the estimated coefficients are interpreted as conditional associations rather than strictly causal effects.

Given the panel structure of the data, characterized by a limited number of regions and a long time dimension, the inclusion of multiple SME-related indicators already captures a substantial share of regional variation. Although some structurally determined SME indicators could, in principle, be considered as instrumental variables, data limitations and concerns regarding statistical power restrict the feasibility of applying instrumental variable techniques within this framework. Accordingly, the analysis focuses on FE/RE specifications, prioritizing robustness and interpretability of results.

The construction and estimation of the models were carried out using the Stata software package, ensuring the reliability of calculations and the validity of statistical tests. Additionally, Microsoft Excel was applied for preliminary data processing and the computation of descriptive statistics.

LITERATURE REVIEW

An analysis of existing academic sources indicates a fragmented approach to assessing the impact of small and medium-sized enterprises (SMEs) on social outcomes. In the contemporary literature, studies focusing on SMEs can be broadly classified into several interrelated strands: (i) analyses of the contribution of SMEs to income generation and economic growth; (ii) assessments of the role of SMEs in reducing poverty and social vulnerability; and (iii) research examining the effects of SME development on social protection systems and population dependence on government transfers.

The analysis of the scholarly sources reveals the presence of fragmented approaches to assessing the impact of SMEs on social parameters. A number of studies identify a statistical relationship between entrepreneurial development and the economic well-being of the population. For instance, Chulanova et al. (2024) developed a composite poverty index across Kazakhstan's regions, revealing a significant deepening of poverty in rural areas. This underscores the need for territorially adapted support policies. Similarly, Syzdykova et al. (2024) demonstrated that SME output positively contributes to GDP growth, but further sectoral development is constrained by limited access to finance and a high degree of business informality. Thus, Meenakshi and Banerji (2005), using cross-country evidence, demonstrate that the development of the SME sector contributes to higher household incomes and poverty reduction through expanded employment opportunities and improved access to financial resources.

Similar conclusions are presented by Harford et al. (2011), who emphasize that the social impact of entrepreneurial activity is driven not by the quantitative expansion of SMEs, but by their productivity and degree of formalization. More recent research by Mitra and Nagar (2018) highlights that the contribution of SMEs to social well-being varies significantly depending on the institutional environment, the level of financial market development, and the extent of business informality. This finding is particularly relevant for economies characterized by

a high share of informal entrepreneurship and resource-based specialization, including Kazakhstan.

The work of Imramziyeva et al. (2024), based on panel data, confirmed the significant impact of the SME share in GDP on household income growth, particularly in rural regions. Our results from Model 1 are fully consistent with these findings: we establish that an increase in the SME share in the regional economy contributes to higher per capita income, thereby confirming Hypothesis H1. These results are consistent with the findings of Wiklund et al. (2009), who, using evidence from European regions, show that entrepreneurial activity contributes to regional income convergence when supported by a favorable institutional environment.

Research in the international context, such as Manzoor et al. (2019) and Khoifin & Achyar (2023), emphasizes the role of SMEs in poverty reduction, particularly in the context of digital transformation and expanding financial inclusion. This aligns with the results of Model 2, where Hypothesis H2 is confirmed: increased entrepreneurial activity contributes to the reduction of poverty depth. The strongest effect was observed from individual entrepreneurs and microenterprises, highlighting the importance of small-scale business forms in ensuring social resilience.

The impact of SMEs on social protection systems has also begun to attract scholarly attention. The OECD (2023) analytical report stresses that under conditions of low SME productivity and persistent poverty in non-resource sectors, reforms in social assistance mechanisms are necessary. In this context, the study by Dauliyeva et al. (2025) is illustrative, demonstrating the relationship between entrepreneurial activity, government support, and the reduction of social dependency through the enhancement of the Human Development Index. In our article, Model 3 logically continues and expands upon these approaches.

Despite the substantial body of empirical evidence, most existing studies continue to focus either on the macroeconomic effects of SMEs or on isolated social indicators. Comprehensive analyses employing regional panel data to simultaneously assess the impact of SMEs on incomes, poverty, and dependence on targeted social assistance remain limited, particularly in resource-oriented economies characterized by pronounced regional heterogeneity. In this context, the present study addresses the identified gap by offering a multidimensional regional analysis of the social effects of SME development in Kazakhstan.

FINDINGS

Considering the identified research gaps, the subsequent analysis focuses on constructing original models and empirically testing the proposed hypotheses. This approach makes it possible not only to align theoretical conclusions with actual data but also to capture regional specificities in the manifestation of SMEs' social effects. The study proposes testing three interrelated models aimed at providing a comprehensive assessment of the sector's impact on key socio-economic indicators (Table 1).

Table 1

Formulated research hypotheses and their justification

№	Hypotheses	Formulation	Scientific justification
H1	The impact of SMEs on household income	The growth of SME contribution to the gross regional product has a statistically significant positive impact on the level of per capita income of the population	The SME sector plays a key role in creating new jobs and alternative sources of income, especially in peripheral regions with a limited industrial base. According to empirical studies (Imramziyeva et al., 2024; OECD, 2023), the growth of the SME share is accompanied by an expansion of employment and stimulates household income growth due to the economic activation of local markets
H2	The Impact of SMEs on Poverty Depth	Increase in entrepreneurial activity (through output, investment and employment) is inversely related to the depth of poverty in the regions of Kazakhstan	According to sustainable development theories and studies based on panel data (Chulanova et al., 2024; Manzoor et al., 2019), SMEs can not only reduce the number of poor people, but also reduce the severity and duration of poverty by diversifying economic activity and engaging vulnerable groups in productive employment.
H3	The impact of SMEs on the number of TSA recipients	The expansion of the SME sector contributes to a statistically significant reduction in the number of recipients of targeted social assistance	The development of SMEs increases the economic independence of households, reducing their dependence on direct government support instruments. This is especially relevant for rural and monofunctional areas, where entrepreneurial activity is the only source of sustainable income.

H4	The role of education as a moderator	The level of education of the population enhances the positive impact of SMEs on social indicators	As shown by the results of regression analysis and the findings of international studies (Khoifin & Achyar, 2023; Dauliyeva et al., 2025), education enhances the ability of the population to use entrepreneurial opportunities by reducing information and behavioral barriers. This is especially important in the context of digitalization of the economy, when access to knowledge becomes a critical factor in realizing the social potential of SMEs

Source: Compiled by the authors

To empirically test the proposed hypotheses and achieve the stated objectives, the authors formulated the following key research questions reflecting the socio-economic dimensions of SMEs' impact:

1. How does the development of the SME sector affect the average monthly household income in the regions of Kazakhstan? This question aims to quantitatively assess the economic contribution of SMEs to household income formation.

2. Does the expansion of SME activity contribute to poverty reduction and the mitigation of social inequality? The focus here is on capacity of SMEs' to influence indicators of social vulnerability and territorial deprivation.

3. Does SME development affect the number of recipients of targeted social assistance by reducing dependence on the state support system? This question seeks to identify the indirect social effects of entrepreneurial activity, including the potential of SMEs as a tool of social mobility.

4. Does the level of education amplify the positive impact of SMEs on social indicators? This question addresses the moderating role of education in lowering barriers and enabling broader realization of the social potential of entrepreneurial activity.

The study is based on regional data for 15 regions of the Republic of Kazakhstan for the period 2005–2023, using panel regression analysis. Table 2 provides the selected variables for the regression analysis.

Table 2
Variables included in the models and their theoretical basis

Variables	Designation in the model	Theoretical justification
Average per capita income of the population	*Income (Y_1)*	Serves as an aggregate indicator of economic well-being. Growth in household income is interpreted as a result of improved productivity, employment and business activity, including the contribution of SMEs
Poverty level of the population	*Pov_Level (Y_2)*	It is one of the central indicators of social vulnerability. Poverty reduction is regarded as a key objective of sustainable development (SDG 1). SMEs can contribute to poverty alleviation through job creation and the promotion of self-employment.
Number of recipients of targeted social assistance	*Soc_Assist_Total (Y_3)*	Reflects the level of population dependence on social support. A decrease in the number of recipients can be interpreted as an indirect result of the expansion of employment opportunities and incomes associated with the development of SMEs.
Share of SMEs in GRP (%)	X_1 (SME_GDP)	Represents the contribution of SMEs to the economic structure of the region. A high proportion of SMEs may indicate the maturity of the business environment and its ability to influence macro – and mesoeconomic indicators.
Employment rate in SMEs (persons)	X_2 (SME_Employment)	It is used as a proxy variable to assess the contribution of SMEs to employment generation. SMEs are the main source of jobs in developing economies, which is consistent with the provisions of Keynes's employment theory and the dual economy model.
Number of SMEs	X_3 (SME_Density)	Reflects the density of entrepreneurial activity and the availability of business opportunities. It is an indicator of the development of the entrepreneurial ecosystem at the local level and an indicator of social inclusion.
Investments in SMEs (million tenge)	X_4 (SME_Investment)	Demonstrates the level of confidence and the amount of resources directed to the sector. Increased investment signals the prospects for expanded production, employment and increased income, especially in the context of small businesses.

Volume of SME production output (million tenge)	X_5 (SME_Output)	Shows the operational performance of the sector. Higher output indicates the potential of SMEs to create added value and hence generate income and employment.
Gross enrolment in higher education (%)	X_6 (Education_rate)	A control variable that reflects the level of human capital that can enhance the effect of SMEs.
Income is measured in nominal terms (tenge). Education_rate represents gross enrolment in higher education expressed as a percentage		

Source: Developed and compiled by the authors

As a result of data collection, a sample of 285 observations (territorial and time units) was formed, characterizing the income of the population, the poverty level, the volume of social assistance and the performance indicators of small and medium-sized businesses (SMEs). For each indicator, average values, medians, standard deviations, ranges and variation coefficients (the ratio of the standard deviation to the mean) were determined, which allows us to assess the degree of dispersion and asymmetry of the distribution (Table 3). The statistical description of the data is compared with the macroeconomic trends of Kazakhstan to ensure not only a formal analysis, but also an understanding of the real state of affairs in the economy.

Table 3
Descriptive statistics

Indicators	Mean	Median	Standard Deviation	Interval	Min.	Max.	Count
Income (Y)	80227	64317	57580	310897	9101	319998	285
Pov_Level (Y)	1	1	2	15	0	15	285
Soc_Assist_Total (Y)	18522	10516	27787	274138	240	274378	285
SME_GDP (X1)	22	20	11	58	4	62	285
SME_Employment (X2)	164795	129961	115305	929735	39793	969528	285
SME_Density (X3)	59240	45713	44295	326316	13816	340132	285
Investment_total (X4)	486371	368460	543683	4306054	22182	4328236	285
Output_SME (X5)	1239290	538081	2202253	19970060	45371	20015431	285
Education_rate (X6)	53	45	35	194	11	205	285

Source: Calculated and compiled by the authors using Microsoft Excel

As shown in Table 3, the descriptive statistics for 2005–2023 demonstrate significant intertemporal and interregional variation in key socio-economic indicators. Thus, the average monthly income of the population (Income) averaged 80.227 tenge, with a median value of 64.317 tenge. The minimum value (9.101 tenge) corresponds to the early observation period (2005–2006), when the income level in Kazakhstan was significantly lower, while the maximum

value (319.998 tenge) reflects current income growth trends by 2022–2023. For comparison, according to ADB data, in 2023, only 5.2% of the population of Kazakhstan lived below the national poverty line, and the share of workers earning less than $2.15 per day at purchasing power parity was 0.1%. Thus, despite the high incomes of a part of the population, a significant layer of households is close to the poverty line. The high coefficient of variation (0.72) confirms the irregularity of income distribution and suggests the presence of regional and social differentiation.

The poverty level indicator (Pov_Level) fluctuated between 0 and 15, with average and median values equal to 1. This configuration confirms that in most years and regions, poverty was low, but in certain periods (especially during the crisis years), there were spikes. Also, the spread may reflect differences between urban (especially Almaty and Astana) and rural areas or the impact of temporary crises.

The Soc_Assist_Total (Y) indicator measures the amount of social assistance per capita (in tenge). The mean value of 18.522 tenge significantly exceeds the median of 10.516 tenge, the standard deviation is 27.787 tenge, and the variation coefficient is 1.5. The scatter in the sample is explained by the fact that in some regions, the amount of social benefits likely depends on the poverty level and the presence of children. According to Human Rights Watch, almost a million people receive payments under the Targeted Social Assistance (TSA) program. However, strict eligibility criteria mean that many in need are left without support. The difference between the mean and median in the table indicates that some observations are characterized by extremely high amounts of assistance (maximum 274.378 tenge), likely due to regional programs. Given that the share of the population below the poverty line in Kazakhstan is small, such significant variability in benefits may indicate insufficient targeting and uneven distribution of resources.

Economic indicators of the SME sector also demonstrate significant variability. The contribution of SMEs to the gross regional product (SME_GDP) averaged 22%, fluctuating from 4% in the initial years of observations to 62% in the most developed regions. Such dynamics reflect the gradual strengthening of the role of small businesses in the national economy. According to official statistics, as of January 1, 2023, the share of SMEs in the country's GDP reached 36.5%, which is 3.2 percentage points higher than the 2021 level, with small businesses accounting for 30.4% and medium businesses for 6.2%. The employment indicator in the SME sector (SME_Employment) varied from 39.793 to 969.528 people, which indicates long-term growth of the sector and its uneven development across regions. The highest concentration of employed people is observed in megacities (Almaty and Astana), where a significant part of entrepreneurial structures is concentrated and business support infrastructure is more developed.

In the country as a whole, according to the Bureau of National Statistics, at the end of 2022, more than 4.1 million people, or 43.6% of the economically active population, were employed in the SME sector. Employment in SMEs – the indicator reflects the number of people employed in SMEs. The average employment level is 164.795 people, the median is 129.961 people. The standard deviation is 115.305 people (variation coefficient 0.70). According to the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken", in 2023,

employment in the SME sector reached a record level and amounted to 48.4% of total employment, which is 2.6 percentage points higher than the previous year. Such dynamics indicate the growing importance of small and medium-sized businesses in shaping the country's labor market. At the same time, the distribution of jobs within the sector shows heterogeneity: in 2023, employment among individual entrepreneurs increased by 130.2 thousand people, and among small business legal entities by 120.3 thousand people.

SME density – shows the number of small businesses per a certain population or area. The average value is 59.240, the median is 45.713, the standard deviation is 44.295 (the variation coefficient is 0.75). The wide range (13.816 – 340.132) highlights the differences in entrepreneurial activity between agglomerations and the periphery. In cities with a population of over a million, the SME density is significantly higher, which reflects more developed labor markets, accessibility of infrastructure and the presence of clients. Investment volume – this indicator reflects total investment in SMEs. The average value is 486.371 tenge, the median is 368.460, the standard deviation is 543.683, the variation coefficient is 1.12. The range of investments is huge: from 22.182 tenge to 4.328.236 tenge, which indicates a strong concentration of capital. According to the Atameken National Chamber of Entrepreneurs, in nominal terms, investments in the economy of Kazakhstan increased from 2.1 trillion tenge in 2005 to 31.7 trillion tenge in 2023, but their share in GDP decreased from 28–30% (2005–2009) to 22–23% in 2021–2022; even the growth to 26% in 2023 has not yet reached the levels of the early 2000s. This confirms the conclusions about insufficient investments and moderate business expectations.

SME output – the average volume of output (SME turnover) was 1.239.290 tenge, the median was 538.081 tenge. The standard deviation of 2.202.253 tenge, the variation coefficient of 1.78 and the huge range (45.371 – 20.015.431 tenge) indicate a strong right-hand asymmetry: most enterprises have a relatively small turnover. In contrast, a few large enterprises generate the lion's share of revenue.

Gross enrollment in higher education – this indicator assesses the level of education of the population (e.g. the share of people with higher education, the number of students per 10 thousand inhabitants, etc.). The mean value of 53, the median of 45, the standard deviation of 35 (the variation coefficient of 1.75) and the range of 11–205 indicate huge differences between the territories. High values may relate to large educational centers, and low values to rural areas. Since human capital is the most important factor in the productivity of SMEs, such strong heterogeneity must be taken into account in policy development. Thus, the obtained statistical characteristics reflect not only regional differences, but also the long-term dynamics of indicators for the period 2005–2023, which requires taking into account the time factor when interpreting the results of the regression analysis. Also, before conducting the regression analysis, the collected data were preliminarily checked for multicollinearity between the explanatory variables. The diagnostic results showed an acceptable level of relationship, which allows using the selected indicators within the constructed models. At the same time, when testing individual hypotheses in a number of specifications, multicollinearity was revealed between individual variables, which is a typical phenomenon when working with socio-economic data over a long period. To minimize possible distortion of estimates and increase the reliability of the results, a logarithmic transformation of variables was used in the second and third

models. The analysis confirmed the correctness of the specifications and the absence of critical multicollinearity, which ensures the stability and interpretability of the estimates obtained.

HOW DOES THE DEVELOPMENT OF SME SECTOR AFFECT THE AVERAGE MONTHLY INCOME OF THE POPULATION IN THE REGIONS OF KAZAKHSTAN (H1)?

One of the key issues addressed by this study is the empirical verification of the hypothesis about the presence of a statistically significant positive impact of the small and medium-sized enterprise (SME) sector on the level of per capita income of the population. This assumption is based on both the provisions of the endogenous growth theory and the empirical results of foreign and domestic studies demonstrating that SMEs, with their high adaptability and innovative potential, can generate income through job creation, diversification of local economies, and the development of self-employment. In order to empirically verify hypothesis H1, a panel regression model with fixed effects was constructed, covering data on 15 regions of Kazakhstan for the period 2005–2023. The dependent variable (Y_1) was the average monthly income per capita, expressed in nominal tenge. The vector of independent variables included indicators characterizing the economic activity of the SME sector: the share of SMEs in GRP (X_1), employment in SMEs (X_2), the density of SMEs (X_3), the volume of investment in SMEs (X_4), and the output of SMEs (X_5). The results of the regression analysis are presented in Table 4.

Table 4

Results of the assessment of the impact of SME development on the average per capita income of the population (FE and RE)

Variables	Individual effects	
	FE	**RE**
X_1 – Share of SMEs in GRP (%)	1890.328*** (276.71)	1558.502*** (249.70)
X_2 – Employed in SMEs (persons)	–0.397*** (0.059)	–0.396*** (0.057)
X_3 – Number of SMEs (unit)	0.776*** (0.137)	0.767*** (0.131)
X_4 – Investments in fixed capital (million tenge)	0.057*** (0.0054)	0.056*** (0.0047)
X_5 – Volume of SME output (million tenge)	0.011*** (0.0021)	0.012*** (0.0020)
Constant	18093.81*** (6798.42)	24491.61*** (7117.78)
Number of observations	285	285
Number of groups	15	15

R^2 (within / overall)	0.790 / 0.742	0.788 / 0.750
Wald Statistics / Fischer	$F(5, 265) = 198.98$***	$\chi^2(5) = 980.83$***
Hausman test	$\chi^2(3) = 8.20$** $p = 0.0420$	

Note: *$p < 0.1$ – significance at the 10% level; **$p < 0.05$ – significance at the 5% level; ***$p < 0.01$ – significance at 1% level

Source: Compiled by the authors

The obtained results of the panel analysis show that the quality of the model is confirmed by the high value of R^2 (within = 0.790). Based on the results of the model evaluation using panel data, a comparative analysis of specifications with fixed (FE) and random effects (RE) was carried out. The results of the Hausman test ($\chi^2(3) = 8.20$; $p = 0.0420$) showed statistically significant differences between the estimates of the two models, which indicates in favor of using the fixed effects model as more preferable and econometrically correct. The results of the fixed effects (FE) model allow us to assert that the development of small and medium-sized businesses (SMEs) has a direct, statistically significant and economically interpretable impact on the level of income of the population in the regional context. The strongest effect was demonstrated by the variable X_1, the share of SMEs in GRP: an increase of 1 percentage point is accompanied by an increase in per capita income by 1890 tenge. This confirms hypothesis H_1 that the growth of the share of SMEs in the economy contributes to an increase in the income of the population.

Conclusions: The number of SMEs (X_3) also significantly affects income: each additional unit adds an average of 776 tenge to the income per person. Thus, hypothesis H_3 on the positive relationship between the number of SMEs and income is confirmed and indicates the importance of the institutional and administrative environment that facilitates the registration and operation of small businesses.

Investments in fixed capital (X_4) and the volume of SME output (X_5) had a positive effect, confirming that not only the presence of a business, but also the scale of its production activity create conditions for wealth growth. This is especially clearly manifested in the investment coefficient: 1 million tenge of investments gives an increase in income by 57 tenge, which emphasizes the multiplier effect of investments on the regional economy. At the same time, the hypothesis about the positive impact of SME employment (X_2) on household income is not confirmed: an increase in the number of employed is associated with an insignificant but negative effect (–0.4 tenge). This may indicate a low level of wages, a high share of informal employment or weak productivity in the SME sector, especially in remote or subsidized regions.

Thus, SME development has a multidimensional and demonstrably significant impact on household income, but not equally through all channels. The key drivers are the structural weight of SMEs in the economy and the institutional saturation of the region with business entities, and not just the number of employees. Therefore, the SME support policy should aim not only at quantitative

expansion of employment, but also at improving the quality of jobs, wages and productivity.

Accordingly, taking into account the results of the Hausman test, the final regression equation reflecting the impact of small and medium entrepreneurship development indicators on the average per capita income of the population in the regional context takes the following form:

$Income_{it} = 18093.81 + 1890.33 \cdot MSP\_GDP_{it} - 0.397 \cdot MSP\_Employment_{it} + 0.776 \cdot MSP\_Density_{it} + 0.057 \cdot Investment_{it} + 0.011 \cdot Output_{it} + \varepsilon_{it}$

However, income level is not the only indicator of social well-being. For a more complete assessment of the social effects of SMEs, it is necessary to study their impact on poverty indicators and the need for targeted social assistance.

DOES INCREASE IN SME ACTIVITY CONTRIBUTE TO REDUCING THE DEPTH OF POVERTY AND MITIGATION OF SOCIAL INEQUALITIES (H2)?

One of the key tasks of sustainable economic development is not only to ensure income growth, but also to reduce poverty. In the context of increasing social inequality, especially in peripheral regions, small and medium businesses are considered as a potential tool for reducing poverty by creating jobs, stimulating entrepreneurship, and increasing the availability of economic opportunities. At the same time, the effect of SMEs on poverty can be both direct and indirect through employment, investment, and education.

In order to empirically test (H2) this interaction, Model 2 was built, in which the dependent variable is the poverty level (Pov_Level), a numerical indicator reflecting the proportion of the population living below the national poverty line.

For the assessment, a panel regression model was built using both fixed and random effects. The results of the Hausman test ($\chi^2(4) = 4.18$; $p = 0.3823$) did not reveal significant differences between the estimates of the FE and RE models, which allows us to consider the model with random effects more preferable in terms of estimation efficiency (Table 5). Accordingly, the final regression equation reflecting the impact of SME indicators on the depth of poverty has the following form and the results of the model are presented in Table 5:

$\ln(Pov\_Level)_i = 6.478 + 0.368 \cdot SME\_GDP_{it} + 0.075 \cdot SME\_Density_{it} - 0.718 \cdot Output\_SME_{it} + 0.221 \cdot Education\_rate_{it} + \varepsilon_{it}$

Table 5

Results of the assessment of the impact of SMEs on the poverty level of the population (FE and RE)

Variables	FE	RE
X_1 – Share of SMEs in GRP (%)	0.580*** (0.246)	0.368** (0.172)
X_3 – Number of SMEs (unit)	0.338** (0.143)	0.075 (0.122)
X_5 – Volume of SME output (million tenge)	−0.888*** (0.109)	−0.718*** (0.084)
X_6 – Education level of the population (%)	1.503*** (0.290)	0.221* (0.123)
Constant	0.380 (1.645)	6.478*** (1.071)
Number of observations	285	285
Number of groups	15	15
R² (within / overall)	0.457 / 0.105	0.412 / 0.400
Fisher/Wald statistics	$F_{(4, 266)} = 55.98$***	$\chi^2(4) = 191.42$***
Hausman test	$\chi^2(4) = 4.18$, $p = 0.382$	–

Note: *p < 0.1 – significance at the 10% level; **p < 0.05 – significance at the 5% level; ***p < 0.01 – significance at the 1% level

Source: Compiled by the authors

According to the results reported in Table 5, a one percentage point increase in the share of SMEs in gross regional product is statistically associated with an average decrease of 0.368 percentage points in the poverty level, all other things being equal. This effect is statistically significant at the 5% level (p < 0.05), which confirms hypothesis H2 regarding the existence of an inverse relationship between SME activity and the poverty level. Thus, higher participation of small and medium-sized enterprises in the regional economy is linked to lower poverty levels, which may reflect the expansion of employment opportunities, income growth, and diversification of the economic structure.

The number of SMEs measured in absolute terms exhibits a positive but statistically insignificant association with the poverty level. This result suggests that the quantitative increase in the number of enterprises alone is insufficient to influence poverty outcomes, indicating that it is not the number of SMEs per se, but rather their economic scale and contribution to regional output that are of primary importance in addressing poverty.

The strongest effect is observed for the variable capturing SME output volume, which demonstrates a statistically significant negative association with the poverty level. An increase in SME output by one million tenge is associated with

an average decrease in poverty of 0.718 percentage points (p < 0.01). This finding highlights the importance of productivity, turnover, and value creation within the SME sector, suggesting that larger and more economically active enterprises tend to make a greater contribution to employment and income generation.

Interesting results are obtained for the variable reflecting the level of education of the population. In the random effects specification, the coefficient of Education_rate is positive and statistically significant at the 10% level. Although the sign is contrary to conventional expectations, this pattern may reflect regional heterogeneity and urban concentration effects, whereby higher educational attainment in more urbanized regions coexists with increased social stratification, leading to the concentration of poverty within specific population groups.

Overall, the obtained results support the relevance of SME economic activity for poverty reduction in the regions of Kazakhstan. The most influential factors are those related to the structural role of SMEs in the regional economy and the scale of their output, emphasizing the importance of qualitative rather than purely quantitative development of the small business sector.

DOES SME DEVELOPMENT IMPACT THE NUMBER OF RECIPIENTS OF TARGETED SOCIAL ASSISTANCE, CONTRIBUTING TO A REDUCTION IN DEPENDENCE ON THE STATE SUPPORT SYSTEM (H3)?

This question reflects the need to build a sustainable social policy, in which SMEs are considered not only as a driver of economic growth, but also as an important mechanism for reducing the population's dependence on the state. It is expected that with the proper level of involvement in the economy, SMEs generate employment, provide income and create prerequisites for overcoming poverty and social vulnerability.

For the empirical verification of hypothesis H3, a panel model with a logarithmic transformation of variables was built, which made it possible to interpret the coefficients as elasticities. The logarithmically transformed total number of recipients of targeted social assistance in the regions (variable Soc_Assist_Total) served as a dependent variable.

The equation of models with fixed (FE) and random effects (RE) was carried out using the Hausman test. The obtained value of statistics $\chi 2$ (5) = 78.44 at a significance level of p < 0.0001 indicates a statistically significant difference between the estimates of the two models. This means that the assumption of the absence of correlation between individual (regional) effects and regressors is violated, which makes the random effects model untenable. Therefore, in order to obtain consistent estimates, preference is given to the fixed effects model, which takes into account intra-group heterogeneity and ensures the reliability of conclusions in the presence of unaccounted regional factors (Table 6). The corresponding equation of the logarithmic fixed effects model is as follows:

$$\ln(Soc\_Assist\_Total_{it}) = -0.983 \cdot \ln(MSP\_GDPX1_{it}) + 0.355 \cdot \ln(MSP\_DensityX3_{it}) + 0.496 \cdot \ln(Investment\_totalX4_{it}) - 0.656 \cdot \ln(Output\_MSPX5_{it}) + 3.42 \cdot \ln(Education\_rateX6_{it}) + \varepsilon_{it}$$

Table 6

Results of the assessment of the impact of SMEs on the number of targeted social assistance recipients (FE and RE)

Variables	FE	RE
X_1 – Share of SMEs in GRP (%)	–0.983*** (0.489)	–0.746* (0.443)
X_2 – Employed in SMEs (persons)	0.355 (0.237)	0.213 (0.224)
X_3 – Investments in fixed assets (million tenge)	0.496 (0.312)	0.355 (0.284)
X_4 – Volume of SME output (million tenge)	–0.656*** (0.334)	–0.510*** (0.162)
X_5 – Education level of the population (%)	3.420*** (0.474)	0.410* (0.256)
Constant	–3.004** (1.239)	5.237** (2.141)
Number of observations	285	285
Number of groups	15	15
R² (within / overall)	0.180 / 0.017	0.085 / 0.007
Fisher/Wald statistics	$F(5, 265) = 11.65***$	$\chi^2(5) = 5.14$
Hausman test	$\chi^2(5) = 78.44$, p = 0.000	–

Note: *$p < 0.1$ – significance at the 10% level; **$p < 0.05$ – significance at the 5% level; ***$p < 0.01$ – significance at 1% level

Source: Compiled by the authors

The results of this model reveal a complex and ambiguous relationship between the development of small and medium-sized enterprises (SMEs) and social effects in the regional context of Kazakhstan.

First, the coefficient for the variable share of SMEs in GRP is – 0.9829 and is statistically significant. This result indicates that a higher share of SMEs in the gross regional product is associated with a lower number of recipients of targeted social assistance, with a one-percentage-point increase corresponding to an average reduction of 0.98%. This result confirms hypothesis H3 that the expansion of the economic significance of SMEs helps to reduce the social vulnerability of the population, probably through the creation of jobs and income growth in the private sector. This is especially important for rural and low-income regions, where alternative sources of income are limited.

Second, the number of SMEs, on the contrary, demonstrates a positive effect: with an increase in the number of SMEs by 1%, the number of recipients of social assistance increases by 0.35%. This paradoxical result may indicate that a high number of SMEs does not always translate into sustainable employment

and income. This may be due to low productivity, informal employment, or a high rate of SME closure in regions with administratively incentivized growth in business registrations.

The third factor is investment in SMEs. The coefficient of 0.496 shows that a 1% increase in investment flows into the sector is associated with a 0.5% increase in the number of recipients of assistance. At first glance, the result is contradictory, but it may reflect the "delayed result" effect: in the short term, investments do not lead to an immediate improvement in income, especially if they are directed at capital-intensive rather than labor-intensive projects. In addition, funds may be distributed unevenly, concentrating in urbanized regions, while the rural population continues to need support.

An important component is the volume of SME output: a 1% increase leads to a decrease in the number of recipients of targeted assistance by 0.656%. This indicates that it is business performance, expressed in revenue and scale of operations, that is the key channel of SME influence on social sustainability. The more efficiently enterprises operate, the more added value and employment they create and, as a result, the more the population's dependence on transfers is reduced.

DOES THE LEVEL OF EDUCATION OF THE POPULATION ENHANCE THE POSITIVE IMPACT OF SMEs ON SOCIAL INDICATORS (H4)?

To test hypothesis H4, which assumes that the level of education of the population enhances the positive impact of SMEs on social indicators, the results of the regression models presented in Tables 5 and 6 were analyzed. Particular attention was paid to factor X6 (Education_rate), reflecting the gross enrollment in higher education.

The obtained estimates showed the statistical significance of this variable in both models. Thus, in the model with the dependent variable poverty level, the coefficient for Education_rate was positive and significant (FE = 1.503 at $p < 0.01$; RE = 0.221 at $p < 0.1$). This means that higher education enrollment does not always lead to a decrease in poverty, which may be due to a structural mismatch between the educational competencies obtained and the needs of regional labor markets. In particular, in large cities, where educational centers are concentrated, along with a high level of education, pockets of poverty remain, which is reflected in the positive coefficient. A similar situation is observed in the model where the dependent variable is the number of recipients of targeted social assistance. The coefficient of Education_rate is also significant and positive (FE = 3.420 at $p < 0.01$; RE = 0.410 at $p < 0.1$). This indicates that an increase in the educational level of the population is not accompanied by an automatic decrease in dependence on state support. On the contrary, in the conditions of regional asymmetry and limited employment, highly qualified personnel do not always find employment in local labor markets, which increases the need of some households for social assistance. Thus, hypothesis H4 is only partially confirmed. The role of education is indeed significant, but its impact is ambivalent. On the one hand, a higher level of education in the long term expands opportunities for participation in entrepreneurial activity and can enhance the social effects of SMEs. On the other hand, in the conditions of imbalances in regional labor markets and limited integration of education into the economic structure, the effect is manifested in the opposite direction. This result highlights the need for a comprehensive policy that involves not only quantitative expansion of access

to education, but also adaptation of educational programs to the real needs of the regional economy.

INTERNATIONAL COMPARATIVE ANALYSIS: KAZAKHSTAN AND COMPARABLE COUNTRIES

To achieve a deeper understanding of the role of SMEs in social processes, a comparative analysis is conducted using indicators from Kazakhstan and a group of countries with similar levels of economic development and SME structure, namely Poland, Malaysia, and Türkiye. These countries are selected as illustrative cases of relatively successful SME integration into the national economy (Poland as an OECD and EU member with a well-developed SME sector; Malaysia as a dynamic Southeast Asian economy with active government support for SMEs; and Türkiye as a large emerging economy with a high share of SMEs).

Table 7 summarizes the key parameters, including the contribution of SMEs to economic output and employment, poverty levels, and selected qualitative aspects, such as the role of SMEs in reducing socio-economic vulnerability and the specific features of public policy toward SMEs.

In Kazakhstan, the SME sector demonstrates a noticeably lower economic return compared to peer countries, which is reflected in its smaller contribution to GDP (37% versus approximately 40–45% in comparable economies). In terms of employment, Kazakhstani SMEs also lag behind, accounting for less than 50% of total jobs, compared to around 67% in Poland and nearly 70% in Türkiye.

Nevertheless, the officially reported poverty rate in Kazakhstan remains among the lowest (5.2%), largely due to relatively high average incomes generated by the oil sector and the redistributive effects of state social policy. However, this indicator may underestimate the actual level of population vulnerability, particularly in rural areas, as evidenced by empirical studies (see Chulanova et al., 2024).

In Poland and Malaysia, which exhibit comparable poverty levels (approximately 5–7%), a substantial share of the population is employed by SMEs. At the same time, the state actively invests in social protection and education, enabling small businesses to function as an integral component of poverty reduction strategies. In contrast, Türkiye faces a higher poverty rate (around 10%), partly due to recent macroeconomic instability and high inflation, but also because high SME employment does not fully translate into household welfare, as many SMEs remain low-productivity or operate in the informal sector.

The role of SMEs in mitigating social vulnerability is evident across all countries under review, although the magnitude of this effect differs. In Poland, the SME sector, combined with comprehensive social policies (such as the "500+" family benefit program), has contributed to historically low levels of extreme poverty. In Malaysia, poverty reduction has been supported by targeted entrepreneurship programs aimed at vulnerable groups, including rural microenterprises, skills training for the unemployed, and improved SME access to public procurement for women and ethnic minorities.

In Türkiye, despite the large size of the SME sector, social vulnerability remains relatively high due to weaker social protection and the prevalence of low-productivity and informal SMEs. Nevertheless, SMEs play a critical stabilizing role by absorbing millions of workers who cannot be employed by large firms.

Kazakhstan faces a different structural challenge: while official poverty rates are low, SME employment remains limited, and economic activity is highly concentrated in large enterprises. As a result, SMEs have significant potential to reduce vulnerability in areas underserved by large firms, particularly in rural regions, small towns, and local service sectors.

Public SME support policies in all four countries aim to strengthen the economic and social impact of small businesses, but through different mechanisms. Poland leverages EU structural funds and innovation-driven SME internationalization; Malaysia prioritizes digitalization and global value chain integration while maintaining targeted social entrepreneurship programs; Türkiye focuses on credit subsidies, training, and technological upgrading through KOSGEB. Kazakhstan has recently intensified SME support, achieving measurable progress in enterprise numbers and contributions to employment and GDP through programs such as the Business Roadmap–2025 and the Damu Fund. Evidence suggests that regions with stronger SME support experience greater reductions in social assistance dependency alongside SME growth.

Overall, international evidence confirms that SMEs are central to inclusive growth and social resilience. For Kazakhstan, SME development represents a key pathway toward diversification, poverty reduction, and employment expansion.

Table 7

Indicators of SMEs and social development: Kazakhstan and selected countries (latest available data).

Country	Share of SMEs in GDP (year)	Share of employment in SMEs (year)	Poverty rate (year)	The role of SMEs in reducing social vulnerability	Government support for SMEs and the impact on social indicators
Kazakhstan	36.7% (2022)	47.6% (2022)	5.2% (2023)	SMEs contribute to income growth and poverty reduction, especially in rural areas. However, many SMEs are low-productivity, and a significant part of their employment is informal, which limits their social impact.	The government implements programs (the Business Roadmap, etc.) to increase the contribution of SMEs to the economy. The strategic priority is to increase the share of SMEs in GDP to 50% by 2050. The focus is shifting to the quality of growth: supporting productivity, formalization, and quality jobs in SMEs.

Poland	45.3% (2022)	67% (2022)	6.6% (2023, extreme poverty); 12% (relative poverty)	High employment in SMEs (about 6.9 million people) contributes to low unemployment and relatively low absolute poverty. SMEs are mainly involved in the urban formal sector, providing broad access to income. Nevertheless, the relative poverty rate of 12% indicates persistent inequality, mitigated by the social support system.	With the support of the EU, Poland has developed a comprehensive SME policy (through PARP, the Polish Entrepreneurship Development Agency, etc.). Over the past 20 years, Polish SMEs in the EU have significantly increased revenue, exports, and innovation. The government encourages digitalization and innovation in SMEs, which indirectly increases their contribution to well-being. Social effects are enhanced by universal measures (e.g. family support programs), which, combined with employment in SMEs, has reduced extreme poverty to <7%.
Malaysia	39–40% (2024)	48.7% (2024)	6.2% (2022)	SMEs provide almost half of the jobs and actively involve low–income groups in the economy (B40 – the bottom 40% of households by income). The growth of family entrepreneurship and micro-businesses in rural and urban communities has helped reduce poverty (back in the 1990s it exceeded 15%). However, there are regional disparities – the poverty rate is higher in remote states, partly due to the weakness of local SMEs.	The government pursues a consistent SME development policy (national SME Masterplan plans, financing programs through Bank Negara, entrepreneur training, etc.). Special emphasis is placed on inclusivity and digitalization: assistance to small businesses in entering e–commerce, providing micro-loans to poor entrepreneurs. These measures have contributed to an almost twofold reduction in absolute poverty over the past 15 years and an increase in the share of SMEs in the economy.

| Türkiye | 40% (2023) | 70.5% (2023) | 10.8% (2022) | Turkish SMEs are the mainstay of employment (99.7% of all firms and 70% of jobs), which helps mitigate the problem of unemployment in the country. However, a significant part of small firms are microenterprises with low productivity; the share of informal employment in SMEs is high. Therefore, despite high employment, the contribution of SMEs to poverty reduction is limited – many SME workers have low incomes and remain vulnerable. | The Turkish authorities have historically supported SMEs through the KOSGEB organization (since 1990) and various funds (loan guarantees, venture capital, regional programs). The goal is to increase the competitiveness and innovativeness of SMEs, which is reflected in the KOSGEB 2019-2023 Strategic Plan. In response to the crises (pandemic, inflation), the government introduced preferential loans and tax deferrals for SMEs. These measures have stabilized the sector, but for long-term social effects, structural reforms are needed (reducing the shadow economy, increasing productivity) so that the growth of SMEs begins to significantly reduce poverty and inequality. |

Source: Compiled by the authors based on Syzdykova & Azretbergenova (2025)

CONCLUSION

The conducted study confirmed that small and medium-sized enterprises (SMEs) have a multi-level impact on the socio-economic development of the regions of Kazakhstan. Conclusions of the study:

Hypothesis H1 was confirmed: the growth of the share of SMEs in GRP and the increase in output have a statistically significant positive effect on the income of the population. At the same time, the negative effect of employment in SMEs indicates the problem of the quality of jobs and the high share of low-paid or informal employment.

Hypothesis H2 was partially confirmed: the share of SMEs and their production output contribute to poverty reduction, but the quantitative growth of enterprises and investments does not always lead to a similar effect.

Hypothesis H3 is confirmed: the expansion of the SME sector reduces the dependence of the population on the targeted social assistance system, which indicates its role as an instrument of social mobility. However, the identified positive

correlations between the number of SMEs, investments and the number of recipients of assistance indicate the presence of institutional problems.

Hypothesis H4 was partially confirmed: the level of education affects the social effects of SMEs, but the effect is ambivalent. A high concentration of education in large cities does not guarantee poverty reduction, which is due to the mismatch of competencies with the requirements of regional labor markets.

Practical significance of the study:

– The obtained results enable government bodies and development institutions to formulate more targeted SME support programs aimed not only at the quantitative growth of enterprises, but also at their productivity and the quality of jobs created.

– Including SMEs in the poverty reduction strategy can increase the resilience of regions, especially rural and peripheral ones, where alternative sources of income are limited.

– Confirmation of the relationship between SME development and a reduction in the number of recipients of social assistance indicates the potential for reducing the budget burden by increasing the economic independence of households.

– The ambivalence of the influence of education emphasizes the need to synchronize educational policy and economic strategy: personnel training should take into account the real needs of regional markets and the specifics of small business development.

Recommendations:

1. Shift the focus of state support from "quantitative" indicators (number of entities) to the quality of employment, productivity and sustainability of enterprises;

2. Develop measures to formalize employment in SMEs and increase wages in the sector;

3. Strengthen the regional differentiation of support policies, paying special attention to peripheral and rural regions, where the contribution of SMEs is critical for social sustainability;

4. Integrate educational programs with the needs of small businesses, stimulate the development of entrepreneurial competencies and digital skills;

5. Increase the effectiveness of investments in the sector through a mechanism for assessing their social return, and not just economic indicators.

Thus, the results of the study show that SMEs are not only a driver of economic growth, but also create sustainable social effects, influencing income, poverty level and dependence on social assistance. This confirms the need to integrate the SME sector into the strategy of Kazakhstan's socio-economic policy as one of the key factors of long-term sustainability and social inclusion.

Ethical Commission Approval

This study did not require approval from an ethics committee as it did not involve human participants, animals, or sensitive personal data. All data used in this research were obtained from publicly available sources.

Conflict of Interest Statement

There is no conflict of interest with any institution or person within the scope of this study.

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REFERENCES

Agency of the Republic of Kazakhstan for Statistics. (2023, April 14). *Small and medium enterprise statistics (as of January 1, 2023)*. https://stat.gov.kz/ru/industries/business-statistics/stat-org/publications/6344/

Asian Development Bank. (2025). *Poverty data: Kazakhstan*. https://www.adb.org/where-we-work/kazakhstan/poverty

Asian Development Bank. (2025, May). Asian Development Bank and Malaysia: Fact sheet. https://www.adb.org/sites/default/files/publication/27778/mal-2024.pdf

Chulanova, Z., Brimbetova, N., Satybaldin, A., & Dzhanegizova, A. (2024). Poverty in the Kazakhstan regions: Assessing the influence of key indicators on differences in its level. *Sustainability, 16*, Article 6752. https://doi.org/10.3390/su16166752

Dauliyeva, G., Ranov, Z., Sagynbay, A., & Makhsutova, S. (2025). Nexus between entrepreneurship and poverty reduction: Regression analysis of causality. *Journal of Economic Research & Business Administration, 151*(1), 18–28. https://doi.org/10.26577/be202515112

Department of Statistics Malaysia. (2025, July 31). *Malaysia's micro, small and medium enterprises (MSMEs) performance 2024* (Statistical release). https://www.dosm.gov.my/uploads/release-content/file_202.507.31094131.pdf

Harford, J., Jenter, D., & Li, K. (2011). Institutional cross-holdings and their effect on acquisition decisions. *Journal of Financial Economics, 99*(1), 27–39. https://doi.org/10.1016/j.jfineco.2010.08.008

Human Rights Watch. (2022, October 5). *Kazakhstan: Families struggle to enjoy basic rights*. https://www.hrw.org/news/2022/10/05/kazakhstan-families-struggle-enjoy-basic-rights

Imramziyeva, M., Issayeva, A., Dzhubalieva, Z., Tapalova, A., & Beketova, K. (2024). The role of small and medium enterprises in poverty alleviation and economic well-being. *Eurasian Journal of Economic and Business Studies, 68*(4), 101–112. https://doi.org/10.47703/ejebs.v68i4.454

Khoifin, K., & Achyar, D. (2023). *Imagining an inclusive economy: The role of SMEs and digital payment in elevating economic equality* (ADBI Working Paper Series No. 1401). Asian Development Bank Institute. https://doi.org/10.56506/OPRX8346

Landowska, A. (2024, November 18). *Driving growth: The role of SMEs in Poland's economy*. International Council for Small Business. https://icsb.org/expert/alina-landowska/driving-growth-the-role-of-smes-in-polands-economy/

Manzoor, F., Wei, L., Nurunnabi, M., & Abdul Subhan, Q. (2019). Role of SMEs in poverty alleviation in the SAARC region via panel data analysis. *Sustainability, 11*, Article 6480. https://doi.org/10.3390/su11226480

Meenakshi, J. V., & Banerji, A. (2005). The unsupportable support price: An analysis of collusion and government intervention in paddy auction mar-

kets in North India. *Journal of Development Economics, 76*(2), 377–403. https://doi.org/10.1016/j.jdeveco.2004.02.001

Mitra, A., & Nagar, J. P. (2018). City size, deprivation and other indicators of development: Evidence from India. *World Development, 106*, 273–283. https://doi.org/10.1016/j.worlddev.2018.02.018

National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken." (2024). *SME in numbers: How much it earns, how much it pays, and how it develops*. https://atameken.kz/ru/news/53909-msb-v-cifrah-skol-ko-za-rabatyvaet-skol-ko-platit-i-kak-razvivaetsya

National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atame-ken." (2025, February 20). *SME indicators and investment dynamics*. https://atameken.kz/ru/news/53909-msb-v-cifrah-skol-ko-zarabatyva-et-skol-ko-platit-i-kak-razvivaetsya

OECD. (2022). *SME Policy Index: Western Balkans and Turkey 2022: Assessing the implementation of the Small Business Act for Europe*. OECD Publishing. https://doi.org/10.1787/b47d15f0-en

OECD. (n.d.). *Insights on the business climate in Kazakhstan*. OECD Publishing. https://doi.org/10.1787/bd780306-en

Syzdykova, A., & Azretbergenova, G. (2025). Analysis of the impact of SMEs' production output on Kazakhstan's economic growth using the ARDL method. *Economies, 13*, Article 38. https://doi.org/10.3390/economies13020038

Wiklund, J., Patzelt, H., & Shepherd, D. A. (2009). Building an integrative model of small business growth. *Small Business Economics, 32*, 351–374. https://doi.org/10.1007/s11187-007-9084-8