

SYSTEMIC EFFECTS OF QUASI-PUBLIC SECTOR REFORM IN KAZAKHSTAN: AN ANALYTICAL MODEL OF MULTIPLIER IMPACT ON SUSTAINABLE ECONOMIC GROWTH, INDUSTRY AND STRONG INSTITUTIONS



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ARTICLE INFO

Article History:

Received: 18th March 2026

Reviewed & Revised: 18th March 2026
 to 10th September 2026

Accepted: 15th September 2026

Published: 19th September 2026

Keywords:

Privatisation, State-Owned Enterprises,
 Labour Productivity, Integrated Index,
 Corporate Governance, Decent Work,
 Effective Institutions, Central Asia

JEL Classification Codes:

C43, D73, H82, L32, P35

Peer-Review Model:

External peer review was done through
 double-blind method.

ABSTRACT

Reform of the quasi-public sector is a key direction of structural transformation in Kazakhstan, where state-owned and state-controlled organizations dominate the mining, energy, transport, and infrastructure sectors. Existing assessments of the reform focus on the number of privatized assets and budget revenues and do not capture its systemic impact on sustainable economic growth, industrial development, and the quality of institutions. This study develops and applies an analytical model to assess the systemic effects of reforming the quasi-public sector in Kazakhstan and to determine the potential for its multiplier impact across economic sectors. The study employs official annual time-series data of Kazakhstan's Bureau of National Statistics for 2018–2024 on gross value added (GVA), GDP share, labour productivity and enterprise-size structure, analyzed through structural-dynamic analysis, the Herfindahl–Hirschman Index (HHI), an integrated index of reform effectiveness (IQSR) and Leontief inter-sectoral analysis. The results show that sectoral GVA grew by 87.1% while its share of GDP declined from 16.15% to 13.67%, labour productivity of large enterprises rose by 59.3%, the share of large organizations in sectoral GVA fell by 6.37 percentage points and that of medium-sized organizations rose by 6.23 percentage points, the HHI decreased from 0.7352 to 0.6447, and the IQSR increased from 0.033 to 1.000. The findings suggest that the reform is accompanied by a gradual decentralization of economic activity and productivity gains that support decent work and economic growth. At the same time, state participation remains concentrated in strategic industries, so the reform's effectiveness depends on the quality of governance and institutions rather than on the scale of privatization alone.

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INTRODUCTION

The quasi-public sector plays a significant role in Kazakhstan's economy, encompassing state-owned or state-controlled organizations operating in strategically important sectors such as oil and gas, energy, transport, telecommunications, infrastructure, and finance. On the one hand, state participation enables the implementation of long-term infrastructure projects, supports strategic sectors and provides socially significant services. On the other hand, the concentration of economic resources in state-owned organizations can limit the development of a competitive environment, create additional budgetary obligations and reduce incentives for productivity growth. Under these conditions, reforming the quasi-public sector has become a key area of structural transformation in Kazakhstan's economy and a precondition for sustainable economic growth, industrial modernization and the building of effective, accountable and transparent institutions.

The scale of the problem is considerable. According to OECD estimates, state-owned enterprises are present in at least 20 of Kazakhstan's 30 economic sectors and provide about 6.2% of national employment. At the same time, a large part of state assets is concentrated in the national holdings Samruk-Kazyna JSC and Baiterek NMH JSC, with Samruk-Kazyna alone accounting for about 61% of the assets of the sector under consideration. Reform of the quasi-public sector,

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<https://doi.org/10.46281/bjmsr.v11i4.2950>

To cite this article: Abauova, G., Mergenbayeva, A., Beisengaliyev, Y., Niyazov, M., & Imashev, A. (2026). SYSTEMIC EFFECTS OF QUASI-PUBLIC SECTOR REFORM IN KAZAKHSTAN: AN ANALYTICAL MODEL OF MULTIPLIER IMPACT ON SUSTAINABLE ECONOMIC GROWTH, INDUSTRY AND STRONG INSTITUTIONS. *Bangladesh Journal of Multidisciplinary Scientific Research*, 11(5), 35-44.
<https://doi.org/10.46281/bjmsr.v11i4.2950>

therefore, does not represent a local reform of individual enterprises but rather a change in the institutional structure of a large part of the economy. The Kazakhstani model combines market mechanisms with a significant state presence in energy, mining, transport and telecommunications. Hence, the goal of reform is not the elimination of the public sector but the optimisation of its boundaries, with privatisation used as a tool to transfer to a competitive environment those activities that private businesses can carry out effectively.

The scientific problem addressed in this study stems from the need to shift from assessing reforms primarily by the number of privatized assets and the budget revenues they generate to a comprehensive assessment of their systemic economic impact. The economic impact of reform is not limited to changes in the ownership structure of individual enterprises: the transfer of assets to the private sector, changes in corporate governance and increased transparency of large organizations affect investment activity, labour productivity, the development of small and medium-sized businesses, the structure of industry markets and production volumes in related sectors. A significant body of research shows that government intervention in resource allocation often leads to inefficiency (Branstetter et al., 2023). In contrast, administrative simplification and the delegation of powers stimulate entrepreneurial activity (Shi & Wang, 2025). At the same time, modern research emphasizes that a change in the form of ownership alone does not guarantee increased efficiency: the outcome depends on the competitive environment, the regulation of natural monopolies, corporate governance, access to capital, and the quality of internal institutions of management, compliance and control (Sagandykova et al., 2026; Shi & Wang, 2025). The concept of "quality privatization" is therefore particularly relevant for Kazakhstan, where the Comprehensive Privatisation Plan for 2021–2025 selects enterprises for privatization based on activities that do not comply with the conditions of state presence, the existence of a competitive environment, ownership of a non-controlling stake and ineffective implementation of development plans (Sagandykova et al., 2026).

Two further strands of contemporary research motivate the systemic perspective adopted here. First, enterprises today face the challenge of balancing operations in a competitive market with the promotion of sustainable development, so that reform outcomes must yield both economic and environmental benefits (Ahmed et al., 2023; Passaro et al., 2023). Second, the privatization or restructuring of a large organisation affects not only its own performance: changes in its investment policy and procurement influence suppliers, contractors, employment, transport, construction, financial and digital services, and digitally resilient organisations transmit such effects faster across the economy (Fleron et al., 2021; Ramsetty & Adams, 2020). Consequently, it is necessary to determine the extent to which the structural transformation of the quasi-public sector is accompanied by a reduction in economic concentration and an increase in efficiency, and how these effects may spill over to other sectors.

To address this problem, the study combines structural-dynamic, statistical and inter-sectoral methods applied to official annual data for 2018–2024: growth-rate analysis of gross value added (GVA), GDP share and labour productivity; the Herfindahl–Hirschman Index of structural concentration; an integrated index of quasi-public sector reform effectiveness (IQSR) that aggregates changes in relative state presence, productivity and concentration; and the Leontief inter-sectoral model for assessing multiplier potential. The study aims to develop and apply an analytical model for assessing the systemic effects of reforming the quasi-public sector in Kazakhstan and to determine the potential for its multiplier impact on the development of economic sectors.

The remainder of the paper is organized as follows. The literature review examines international and Kazakhstani research on state-owned enterprises, privatization, corporate governance, digital public administration, and compliance, identifies the research gap, and formulates the hypotheses. The materials and methods section describes the data, variables and analytical procedure. The results section presents the dynamics of the quasi-public sector, its structural transformation and the values of the integrated index. The discussion compares the findings with previous studies and assesses the hypotheses, and the conclusions summarise the contribution, implications, limitations and directions for future research.

LITERATURE REVIEW

Research into the systemic effects of quasi-public-sector reform draws on the intersection of several areas of modern economic science: the theory of public entrepreneurship; research on state-owned enterprises (SOEs) and privatisation; corporate governance; public-sector digitalisation and audit; anti-corruption compliance; and the analysis of inter-industry multipliers. In the international literature, state presence in the economy is viewed as a controversial phenomenon: SOEs can provide infrastructure and socially significant services, invest in capital-intensive industries and support strategic development directions, but excessive government presence can limit competition, reduce the efficiency of resource allocation and create unjustified advantages for state-owned firms. The OECD views corporate governance as the central mechanism for improving SOE effectiveness: state ownership should have a clear economic and social justification, the state should act as an effective owner while ensuring a level playing field for state-owned and private companies, and SOE effectiveness should be assessed not only by financial performance but also by the quality of governance, transparency, protection of shareholder rights and board independence.

A first strand of literature on the effectiveness of institutional reform concerns the digitalization of public administration. The introduction of digital technologies, open data and e-government platforms offers new opportunities to improve transparency, accessibility and financial discipline (Dreshpak et al., 2022). Eom and Lee (2022) show that strategic implementation of digital government during turbulent times strengthens the transparency and effectiveness of public administration and supports the achievement of sustainable development goals. The evaluation of effectiveness in this strand relies on audit and assurance instruments that ensure the efficiency, effectiveness and cost-effectiveness of public organizations (Arens et al., 2016), on results-oriented approaches that compare the costs and benefits of public activity (Sutopo et al., 2017), and on independent audit institutions that underpin democratic accountability (Ferry & Midgley, 2022). Kamara (2023) demonstrates that a reliable internal control and risk management system is vital for good governance, the

protection of public funds, and the maintenance of public trust. These works justify treating transparency and control as components of reform effectiveness rather than as side conditions.

A second strand addresses corruption and institutional accountability, which is directly relevant to the quasi-public sector because the concentration of financial and managerial resources within state-affiliated organizations heightens the need for transparency and independent oversight. Following Popper's approach, the absence of mechanisms that limit power, transparency, and institutional control creates the conditions for the expansion of corrupt practices (Royer, 2023). Pertiwi (2018) treats corruption not only as a result of individual behaviour but as a structural problem arising from insufficient institutional accountability and the absence of effective oversight. Aldaz Odriozola and Álvarez Etxeberria (2021) emphasize the independence of control institutions in detecting and preventing violations in emerging economies, while international monitoring by Transparency International (2022) provides an additional basis for assessing anti-corruption mechanisms. Mugellini et al. (2021), in a systematic review, find that public-sector reforms reduce corruption mainly when they change incentives and accountability rather than formal structures, and Ceschel et al. (2022) show that the effectiveness of public-sector anti-corruption strategies depends on the involvement of governing bodies and on integrated assessment of results.

A third strand examines compliance and organizational culture as institutional determinants of governance quality. Elaev (2024) and the OECD (2025) argue that engaging employees at all levels of management in the compliance system and developing a common understanding of its goals facilitate the timely identification of risks, increase transparency and strengthen the legal culture of organizations. ElKelish et al. (2025) find that intra-organisational norms and values significantly influence governance transparency and the quality of information disclosure, while Kashyap and Iveroth (2021) show that integrating regulatory requirements with risk-management procedures strengthens accountability and internal control. For Kazakhstan, Zharov (2022) notes that, despite the legislative enshrinement of the compliance institution since 2020, quasi-public organizations have paid insufficient attention to the systematic assessment of its actual effectiveness, focusing on the formal implementation of individual elements of compliance programmes; Sagandykova et al. (2026) confirm that perceptions of anti-corruption compliance in Kazakhstan's quasi-public sector depend on organizational hierarchy and trust. Formal compliance without assessing its impact can limit the identification of governance risks and hinder organizational effectiveness. Consequently, the development of effective compliance mechanisms should be considered one of the institutional factors in successful reform, and a change in ownership structure or a reduction in government presence should be accompanied by improved governance, control, and transparency mechanisms that create the conditions for productivity growth and investment attractiveness.

A fourth strand concerns the transition from the direct effects of privatization to systemic effects. In the classical approach, privatization strengthens market incentives, increases management accountability and reduces the budget burden. However, government subsidies and administrative allocation of resources often lead to misallocation and lower productivity (Branstetter et al., 2023), whereas administrative reform that streamlines procedures increases entrepreneurial activity (Shi & Wang, 2025). The reorganization of a large company changes its procurement, investment and service linkages, so its effects are transmitted to suppliers and related industries through inter-sectoral relations (Fleron et al., 2021; Ramsetty & Adams, 2020), and the sustainability orientation of firms increasingly conditions these effects (Ahmed et al., 2023; Passaro et al., 2023). To visualize the relationship between quasi-public sector reform and the resulting economic outcomes, the study's conceptual framework depicts the sequence of formation of structural, investment, production, and inter-sectoral effects (Figure 1).



Figure 1. Conceptual framework: the relationship between reforming the quasi-public sector and the multiplier impact on the development of economic sectors

The analysis of the literature shows that quasi-public sector reform is viewed primarily through the prism of privatization, the reduction of state presence, the efficiency of SOEs and the improvement of corporate governance, and that

the quality of the competitive environment, transparency, internal control, compliance and risk management are of decisive importance for the results of reform. Research on Kazakhstan reveals institutional limitations in the formal nature of individual compliance mechanisms, insufficient transparency, and heterogeneity in corporate governance practices, suggesting that reform should be understood as a comprehensive structural and institutional transformation rather than the privatization of individual assets. However, the existing literature underrepresents quantitative models that integrate the structural, production, institutional and sectoral effects of reform and allow their potential multiplier impact on Kazakhstan's economy to be assessed; most studies analyze individual elements of the reform, while the mechanism of transition from a reduced state presence and increased organizational efficiency to the development of interconnected industries remains insufficiently explored. This study fills the identified gap by proposing an analytical model of the systemic effects of quasi-public sector reform based on an integrated assessment of changes in state presence, productivity and structural concentration, supplemented by an analysis of inter-sectoral linkages.

Accordingly, the purpose of the study is to develop and apply an analytical model for assessing the systemic effects of reforming the quasi-public sector in Kazakhstan and to determine the potential for its multiplier impact on the development of economic sectors in 2018–2024. Reform is treated as a process that creates a sequential chain of effects: reform → structural transformation → efficiency improvement → investment and production impact → inter-sectoral spillover → economic impact. On this basis, the following hypotheses are put forward:

H₁: The reduction in the relative share of the quasi-public sector in Kazakhstan's economy is accompanied by an increase in its structural efficiency and a decrease in the concentration of economic activity within large organizations.

H₂: Increased effectiveness of quasi-public sector reform is positively associated with increased labour productivity and investment activity in the corresponding sectors of the economy.

H₃: A decrease in the concentration of GVA in the quasi-public sector and an increased role for medium-sized enterprises create conditions to expand the competitive environment and strengthen private-sector participation in production chains.

H₄: Reforming large quasi-public organizations has a multiplier effect on related sectors of the economy through investment, procurement, production and infrastructure linkages.

H₅: The magnitude of the multiplier effect depends on the degree of inter-sectoral interconnectedness: the higher the production interconnectedness of an industry with other sectors, the greater the potential spillover of the reform effect.

MATERIALS AND METHODS

The study follows a quantitative, non-experimental, longitudinal design in which the object of observation is the aggregate quasi-public sector of the Republic of Kazakhstan, understood as the set of state-owned and state-controlled organizations reported by official statistics, with large, medium-sized and small organizations as sub-groups and the main economic activities (mining; manufacturing; electricity; water supply and waste management; construction; transport and warehousing; information and communication; professional, scientific and technical activities; financial and insurance activities; health and social services) as sectoral units of analysis. The study period covers 2018–2024 (seven annual observations from 1 January 2019 to 1 January 2025), allowing the state of the sector before the intensification of the current reforms to be compared with the results of subsequent structural transformation. The research base comprises official data of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2025), official materials of government bodies on state-asset management and privatization (the State Property and Privatisation Committee of the Ministry of Finance and the Government of the Republic of Kazakhstan), reports of the Samruk-Kazyna Fund, and OECD analytical materials. Official statistics on the GVA of the quasi-public sector were available only up to 2024 at the time of analysis; therefore, GVA and productivity indicators are presented for 2018–2024 and no estimated values are substituted for missing official data.

The variables are defined as follows. Relative state presence (D) is the share of the quasi-public sector's GVA in GDP, expressed as a percentage. Productivity (P) is labour productivity of large quasi-public enterprises, measured as GVA per employee in million tenge at current prices. Structural concentration (S) is measured by the Herfindahl–Hirschman Index (HHI) computed over the shares of large, medium-sized, and small organisations in the GVA of the quasi-public sector, and, additionally, by the change in the share of large organisations. Sectoral outcomes are the GVA and labour productivity of the sector's main economic activities. All monetary indicators are at current prices, so nominal changes partly reflect inflation, commodity prices, and exchange-rate dynamics; this limitation is taken into account in the interpretation.

The analytical procedure consists of six sequential stages. First, structural-dynamic analysis measures absolute and relative (chain) growth rates of GVA, GDP share, labour productivity and enterprise-size structure for 2018–2024. Second, structural concentration is assessed with the HHI:

$$HHI_t = \sum_i s_{it}^2 \quad (1)$$

where s_{it} is the share of enterprise group i (large, medium-sized, small) in the GVA of the quasi-public sector in year t ; a decrease in the HHI indicates de-concentration of economic activity. Third, the production effect of reform is assessed through the dynamics of labour productivity. Fourth, an integrated index of quasi-public sector reform effectiveness (IQSR) is constructed. Each component is normalized by the min–max method over the study period so that higher values correspond to a more favourable direction of change:

$$\tilde{x}_t = (x_t - x_{\min}) / (x_{\max} - x_{\min}) \quad (2)$$

where x_t is the value of the indicator in year t , and $x_{\min}$ and $x_{\max}$ are its minimum and maximum over 2018–2024; for

the GDP share (D) and the HHI (S), whose decrease is treated as favourable, the reverse normalization $1 - \tilde{x}_i$ is applied. The integrated index is the simple average of the three normalized components:

$$IQSR_i = (D_i + P_i + S_i) / 3 \quad (3)$$

where D_i is the normalised change in relative state presence, P_i the normalised change in productivity and S_i the normalised change in structural concentration; equal weights are used because no theoretical grounds exist for prioritising one channel of reform over another. The resulting index, bounded between 0 and 1, allows the effectiveness of reform to be compared across years. Fifth, the Pearson correlation coefficient is used to identify the direction and strength of the statistical relationship between the IQSR and the economic performance of industries (GVA and productivity); given the short annual series, correlation coefficients are interpreted as descriptive rather than causal evidence. Sixth, the Leontief inter-sectoral model is used to assess the potential spillover of the reform effect to other sectors:

$$\Delta X = (I - A)^{-1} \Delta Y \quad (4)$$

where ΔY is the change in final demand generated by investment or procurement of reformed quasi-public organizations, A is the matrix of direct input coefficients derived from the national input–output tables, I is the identity matrix, and ΔX is the resulting change in gross output of all sectors; the column sums of $(I - A)^{-1}$ are the output multipliers used to rank industries by multiplier potential. This indicator characterizes potential rather than actual economic effect. The strength of the procedure is that it combines structural, productivity and concentration measures in a single comparable index that can be updated annually from published statistics; its weaknesses are the use of current prices, the changing composition of the list of quasi-public organizations, which limits strict inter-annual comparability, and the small number of annual observations, which precludes multivariate econometric estimation.

RESULTS

From 2018 to 2024, Kazakhstan's quasi-public sector was characterized by growth in absolute GVA while its share of GDP steadily declined. Table 1 presents the key indicators of the sector for the period under review.

Table 1. Key indicators of the quasi-public sector of the Republic of Kazakhstan, 2018–2024

Year	GVA of the quasi-public sector, trillion tenge	GVA growth rate, %	Share of sector's GVA in GDP, %	Labour productivity of large enterprises (million tenge/person).	Productivity growth rate, %
01.01.2019	9,985	-	16,15	18,12	-
01.01.2020	10,355	3,71	14,89	19,64	8,37
01.01.2021	10,334	-0,20	14,63	17,02	-13,31
01.01.2022	12,196	18,01	14,53	21,15	24,25
01.01.2023	14,740	20,87	14,21	23,81	12,58
01.01.2024	16,459	11,66	13,78	26,77	12,44
01.01.2025	18,682	13,51	13,67	28,87	7,82

Source: Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2025), <http://www.stat.gov.kz>

The GVA of the quasi-public sector increased from 9.985 to 18.682 trillion tenge, or by 87.1%, with an average annual growth rate of approximately 11.0%. This growth occurred primarily in nominal terms and is partly explained by inflation, changes in commodity prices and devaluation. Three stages can be distinguished. The first stage was a slowdown in 2018–2020: in 2019, GVA increased by only 3.71%, and in 2020, it decreased by 0.20%, reflecting the pandemic, reduced business activity, transport restrictions, and a deteriorating external environment. The second stage was recovery growth in 2021–2022, with GVA growth of 18.01% in 2021 and 20.87% in 2022, the highest values of the period, driven by the recovery of production, rising commodity prices, expanding domestic demand and the revitalization of large infrastructure companies. The third stage was stabilization in 2023–2024, when growth slowed to 11.66% and 13.51%, indicating completion of the recovery cycle and a transition to more moderate dynamics.

Despite the growth in absolute GVA, the sector's share of GDP consistently declined: 16.15% → 14.89% → 14.63% → 14.53% → 14.21% → 13.78% → 13.67%. Over 2018–2024, the decline amounted to 2.48 percentage points, or 15.4% in relative terms. The quasi-public sector did not decrease in absolute size. However, its contribution to the economy grew more slowly than total GDP, indicating a gradual redistribution of economic activity in favour of the private sector. The achieved level of 13.67% is below the previously established target of reducing state participation to 14% of GDP. This result should not, however, be automatically interpreted as the full achievement of the reform goal, since the statistical share of GVA does not capture all forms of government influence, such as preferential financing, guarantees, public procurement, subsidies, and control over infrastructure. Figure 2 shows the structure of the sector's GVA by enterprise size, with indicators calculated as the share of each enterprise size group in the total GVA of the quasi-public sector.

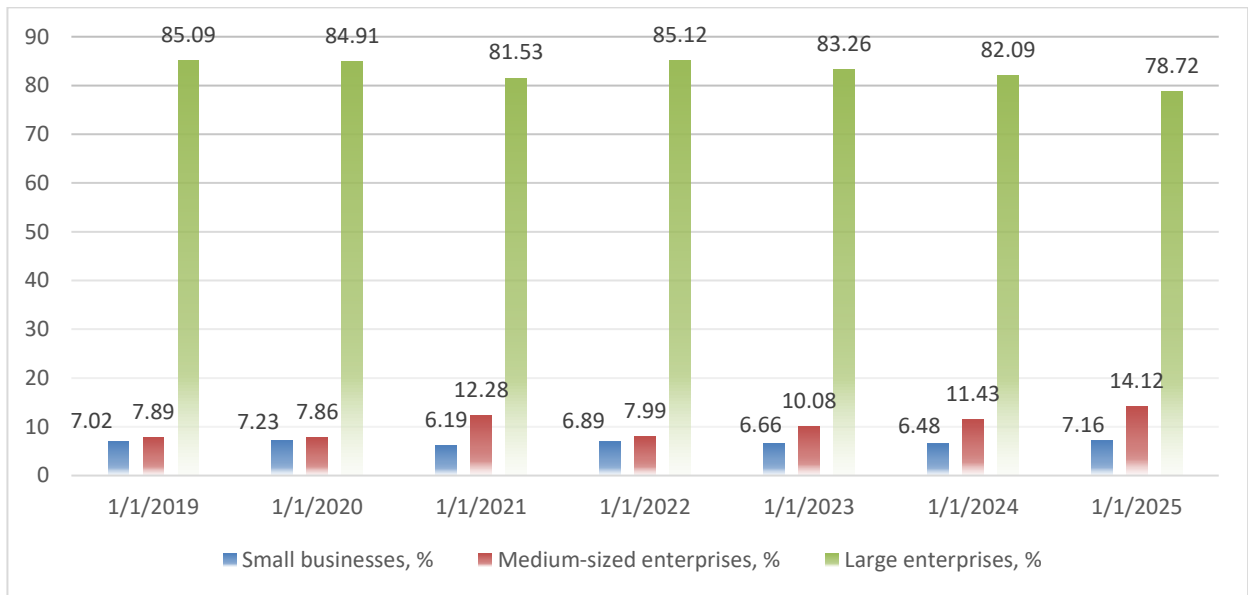


Figure 2. Structure of GVA of the quasi-public sector of the Republic of Kazakhstan by size of enterprise, 2018–2024, %
Source: Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2025), <http://www.stat.gov.kz>

Between 2018 and 2024, significant changes occurred in the structure of GVA. The share of small enterprises increased slightly, by 0.14 percentage points, indicating that their role remained relatively stable. The share of medium-sized enterprises increased by 6.23 percentage points, from 7.89% to 14.12%, the most significant structural change of the period. At the same time, the share of large enterprises decreased by 6.37 percentage points, from 85.09% in 2018 to 78.72% in 2024, although large organizations continue to account for the bulk of sectoral GVA. Thus, a gradual redistribution of economic activity from large organizations to medium-sized enterprises is observed. This indicates a decrease in the concentration of GVA within the quasi-public sector but does not necessarily mean a reduction in government participation in the economy as a whole: the decline in the role of the largest companies is not accompanied by a proportional reduction of the entire sector, and part of the economic activity is being redistributed among organizations of other sizes, through the reorganisation of large companies and the growth of regional and industry-specific medium-sized organisations.

Labour productivity at large quasi-public enterprises increased from 18.12 to 28.87 million tenge per employee, a 59.3% increase, with an average annual growth rate of approximately 8.1%. In 2020, the indicator decreased by 13.31%, reflecting the impact of the pandemic; in 2021, a 24.25% recovery was recorded; in 2022–2023, growth exceeded 12% annually, then slowed to 7.82% in 2024. A comparison of GVA and productivity dynamics shows that the increase in performance was due not only to an expansion in production scale but also to higher GVA per employee. Since productivity is calculated at current prices, an adjustment for industry-specific deflators would be necessary to assess real efficiency. Table 2 presents the sectoral dynamics of GVA.

Table 2. Dynamics of GVA of the main sectors of the quasi-public sector, trillion tenge

Industry	for 01.01.2019	for 01.01.2025	Change, %
Mining industry	4,308	7,528	+74,8
Manufacturing industry	0,517	1,839	+255,9
Electric power industry	0,363	0,654	+80,0
Construction	0,174	0,112	–35,7
Transport and warehousing	2,219	3,319	+49,6
Information and communication	0,448	0,737	+64,4
Financial and insurance activities	0,075	0,190	+152,8
Health and social services	0,591	1,240	+109,9

Source: Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2025), <http://www.stat.gov.kz>

Mining and transport remained the largest contributors to GVA, confirming the high concentration of state participation in the raw-materials and infrastructure sectors. The largest relative growth in GVA was recorded in manufacturing (3.56 times), finance and insurance (2.53 times) and health and social services (2.10 times). Growth in manufacturing can be viewed as a positive structural shift, driven by the expansion of processing and industrial projects. In contrast, GVA in construction decreased by 35.7%, which may be related to changes in the sector's organizational composition, the transfer of construction functions to private contractors, and the completion of projects implemented by state-owned companies. Table 3 presents labour productivity by industry.

Table 3. Labour productivity of large quasi-public enterprises by main industries of the Republic of Kazakhstan, million tenge per person

Industry	2018, million tenge/person	2024, million tenge/person	Change, %
Mining industry	131,30	211,33	+61,0
Manufacturing industry	34,95	35,41	+1,3
Electric power industry	9,93	15,16	+52,7
Water supply and waste management	9,25	6,01	–35,0
Construction	5,13	75,10	more than 14-fold
Transport and warehousing	75,24	127,57	+69,6
Information and communication	44,73	66,89	+49,6
Professional, scientific and technical activities	9,63	21,75	+126,0
Health and social services	2,05	4,22	+105,7
Large enterprises – total	18,12	28,87	+59,3

Source: Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2025), <http://www.stat.gov.kz>

Productivity remains highest in mining and transport, which is explained by high capital intensity, significant asset volumes and the concentration of large national companies. In manufacturing, GVA more than tripled, but labour productivity in 2024 only slightly exceeded its 2018 level (+1.3%), indicating an expansion of employment and production capacity without a comparable increase in output per worker; this points to the need to accelerate automation, digitalisation and technological modernisation of quasi-public enterprises in manufacturing. The sharp increase in construction (more than 14-fold) should be interpreted with caution, as it may reflect a change in the list of included enterprises, the completion of low-productivity projects, or a reduction in the workforce rather than an increase in operational efficiency. Table 4 summarises the trends identified.

Table 4. Summary of the structural trends of the quasi-public sector, 2018–2024

Trend	The result obtained	Analytical interpretation
Growth in absolute volume of the sector	GVA increased by 87.1%	The quasi-public sector continues to expand in nominal terms
Reduction in relative weight	The share of GDP decreased by 2.48 percentage points	The overall economy and the private sector grew faster
Increased productivity	+59,3%	Improving the nominal return per employee
Reducing the concentration of large enterprises	The share of large organizations decreased by 6.37 percentage points	There is a redistribution of GVA in favour of medium-sized organizations
Maintaining raw materials specialization	Mining industry — 7.53 trillion tenge of GVA	State participation remains concentrated in strategic sectors
Expansion of the processing segment	GVA growth by 255.9%	Positive structural shift, but productivity growth is insufficient
Growth of infrastructure industries	Transport GVA increased by 49.6%	The state maintains a high role in basic infrastructure
Incomplete comparability	The list of enterprises to be taken into account is changing	Caution is needed in causal interpretation

The calculation of the integrated index of quasi-public sector reform effectiveness (IQSR) according to equations (1)–(3) demonstrates stable positive dynamics over 2018–2024 (Figure 3). The index value increased from 0.033 in 2018 to 1.000 in 2024, indicating a significant change in the sector's structural characteristics. The positive dynamics of the index are accompanied by a decrease in the concentration of economic activity: the HHI computed over enterprise-size groups fell from 0.7352 to 0.6447. Together with the 6.23 percentage-point increase in the share of medium-sized enterprises and the 6.37 percentage-point decrease in the share of large enterprises, these results indicate that the reform of the quasi-public sector is accompanied by a gradual redistribution of economic activity from large organizations towards a more diversified enterprise structure.

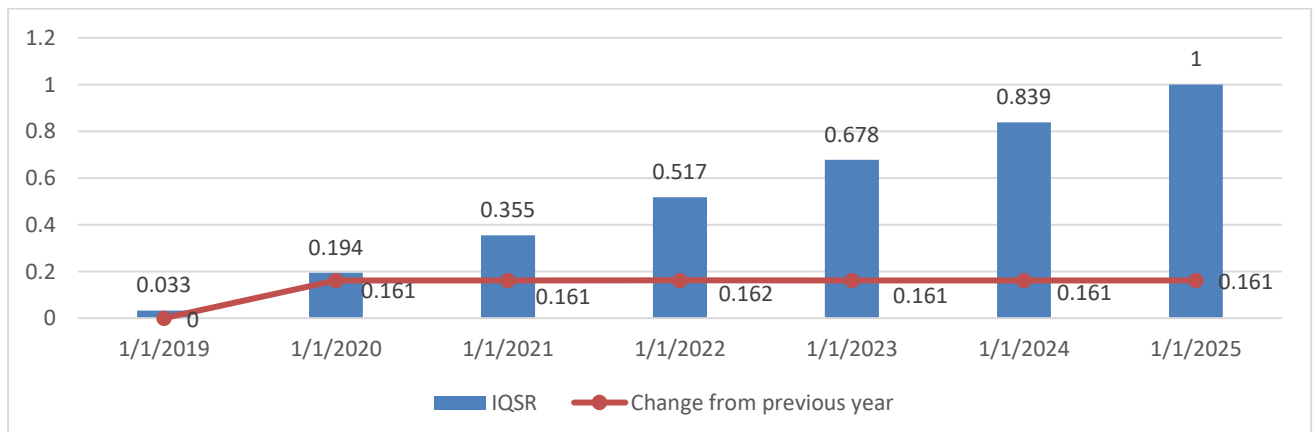


Figure 3. Dynamics of the integrated index of quasi-public sector reform effectiveness (IQSR), 2018–2024

The relationship between reform effectiveness and the sector's economic performance was assessed using Pearson correlation coefficients across the seven annual observations (Table 5). The IQSR is strongly and positively correlated with the GVA of the quasi-public sector ($r = 0.960$, $p = 0.001$) and with the labour productivity of large enterprises ($r = 0.923$, $p = 0.003$), and strongly negatively correlated with the share of the sector in GDP ($r = -0.933$, $p = 0.002$). The correlations with the structural indicators are weaker and only marginally significant: $r = -0.750$ ($p = 0.052$) with the HHI and $r = 0.735$ ($p = 0.060$) with the share of medium-sized enterprises, which reflects the non-monotonic path of the size structure (the share of medium-sized enterprises rose to 12.28% in 2020, fell back to 7.99% in 2021 and then increased steadily to 14.12% in 2024). Because the GDP share, productivity, and HHI are components of the index, the corresponding coefficients partly reflect its construction; the coefficients for GVA and the medium-sized share are the informative ones. Given $n = 7$, the coefficients are interpreted as descriptive evidence of the direction and strength of association rather than as causal estimates.

Table 5. Pearson correlation coefficients between the IQSR and indicators of the quasi-public sector, 2018–2024 ($n = 7$)

Indicator	r	p (two-tailed)	Direction of association
GVA of the quasi-public sector, trillion tenge	0.960	0.001	Positive, strong
Labour productivity of large enterprises, million tenge per person	0.923	0.003	Positive, strong
Share of the sector's GVA in GDP, %	-0.933	0.002	Negative, strong
HHI of concentration by enterprise size	-0.750	0.052	Negative, moderate
Share of medium-sized enterprises in sectoral GVA, %	0.735	0.060	Positive, moderate

Source: calculated from the data of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (2025)

About the hypotheses, the evidence obtained is as follows. H1 is supported: the decline in the sector's GDP share from 16.15% to 13.67% coincided with a decrease in the HHI from 0.7352 to 0.6447 and a reduction in the share of large organizations by 6.37 percentage points; the IQSR is negatively correlated with both the GDP share and the HHI. H2 is supported for productivity ($r = 0.923$ between the IQSR and labour productivity of large enterprises). In contrast, productivity gains are uneven across industries (from +1.3% in manufacturing to +69.6% in transport), and the relationship with investment activity could not be tested with the available data. H3 is supported at the structural level by the near-doubling of the share of medium-sized enterprises in sectoral GVA (from 7.89% to 14.12%; $r = 0.735$ with the IQSR). H4 and H5 are supported at the level of the sectoral structure: the reform effect is concentrated in mining (7.53 trillion tenge of GVA) and transport (3.32 trillion tenge), the industries with the strongest production linkages to the rest of the economy, so that these are the sectors in which changes in the operations of large quasi-public organizations can generate the largest indirect effects.

DISCUSSIONS

The results of the study provide support for the primary hypotheses H1 and H3 and partial support for H2, while H4 and H5 are supported at the level of sectoral structure. The central finding is that reform of Kazakhstan's quasi-public sector has been accompanied by a gradual de-concentration of economic activity and by productivity growth. In contrast, the sector's absolute scale has continued to expand, and state participation remains concentrated in strategic industries. This pattern is consistent with the view, formulated by the OECD and confirmed by Shi and Wang (2025), that the effectiveness of reform is determined by the quality of governance and administrative institutions rather than by the mere scale of ownership change, and with the finding of Branstetter et al. (2023) that state intervention in resource allocation is associated with lower productivity: the industries with the largest state presence, mining and transport, remain the most productive in absolute terms but display slower structural change, whereas manufacturing, the sector most exposed to reorganization, shows the fastest GVA growth but stagnant productivity. The finding that the share of medium-sized enterprises in sectoral GVA nearly doubled. At the same time, large organisations lost 6.37 percentage points, differs from studies of privatisation in transition economies that measure reform outcomes by the number of assets transferred. It indicates that in Kazakhstan, the reform operates largely through the internal reorganisation of large holdings and the emergence of medium-sized regional and industry-specific organisations rather than through outright divestment. This mechanism corresponds to the systemic perspective of Fleron et al. (2021) and Ramsetty and Adams (2020), according to which changes in the procurement and investment behaviour of large organizations are transmitted to related industries, and it explains why the multiplier potential of reform is concentrated in the sectors with the strongest inter-sectoral linkages. At the same time, the divergence between rapid GVA growth and weak productivity growth in manufacturing echoes the evidence of Ahmed et al. (2023) and Passaro et al. (2023) that sustainable performance gains require innovation and management commitment rather than scale expansion alone. The institutional literature reviewed above explains why these results are only partial. Zharov (2022) and Sagandykova et al. (2026) document the formal character of compliance in Kazakhstan's quasi-public sector, and Mugellini et al. (2021) and Ceschel et al. (2022) show that reforms reduce corruption and improve performance only when accountability and control mechanisms change in substance. The evidence that the statistical GDP share has fallen below the 14% target, while preferential financing, guarantees, procurement, and infrastructure control remain outside the measured indicator, is consistent with these findings: the quantitative reduction in state presence has outpaced the institutional transformation that would make it irreversible. This is why the IQSR, which combines presence, productivity and concentration, provides a more informative measure of reform than any single indicator, and why its growth should be read together with the evidence on governance, transparency and compliance (Elaev, 2024; Elkelish et al., 2025; Kashyap & Iveroth, 2021; OECD, 2025). Several problems remain unresolved. The nominal character of the data means that part of the measured growth reflects inflation and commodity prices; the changing composition of the list of quasi-public

organizations limits inter-annual comparability; and the relationship between reform effectiveness and investment activity, as well as the size of the inter-sectoral multipliers, requires estimation on longer series and detailed input–output data. The practical significance of the results lies in the possibility of using the IQSR and indicators of multiplier potential to monitor reform, develop lists of privatization targets, select priority sectors for attracting private capital, and design support measures for small and medium-sized businesses as channels for disseminating the effects of reform.

CONCLUSIONS

The purpose of this study was to develop and apply an analytical model for assessing the systemic effects of reforming the quasi-public sector in Kazakhstan and to determine the potential for its multiplier impact on the development of economic sectors. The analysis of official data for 2018–2024 shows that the reform is accompanied by significant structural transformation of the sector: its GVA grew by 87.1% in nominal terms, while its share of GDP declined from 16.15% to 13.67%; labour productivity of large enterprises rose by 59.3%; the share of large organizations in sectoral GVA fell by 6.37 percentage points and that of medium-sized organizations rose by 6.23 percentage points; the HHI decreased from 0.7352 to 0.6447; and the integrated index of reform effectiveness (IQSR) increased from 0.033 to 1.000. It follows that the results of the reform should be assessed not only by the scale of privatization but also by changes in concentration, productivity, investment activity, and potential cross-sectoral effects, and that a gradual strengthening of the role of less-concentrated business structures is underway. At the same time, state participation remains concentrated in raw materials and infrastructure.

The paper's unique contribution is the shift from the traditional understanding of quasi-public sector reform as a reduction in the amount of state assets to its treatment as a tool for structural transformation and economic efficiency. The proposed model combines an assessment of structural change, productivity, and concentration into a single integrated index with an analysis of potential cross-sectoral effects, thereby linking the transformation of the quasi-public sector to the development of related industries. Theoretically, the model operationalizes the chain of reform effects, from structural transformation through efficiency improvement to inter-sectoral spillover, in indicators that can be computed from published statistics. Managerially, the results imply that privatization policy should move from a quantitative to a performance-based assessment, taking into account productivity, investment, employment, tax revenues, competition and the financial stability of enterprises; that the IQSR should be calculated annually as a monitoring tool to identify slowdowns and compare industries; that privatization should be differentiated by industry, accelerating the reduction of state presence in competitive segments while preserving regulatory mechanisms and service availability in natural monopolies and socially significant entities; that the transfer of assets should be linked to SME development by expanding access of private companies to the procurement, contracting and production chains of large quasi-public organizations; that measurable investment, modernization, digitalization and energy-efficiency obligations should be secured from new owners of strategically important enterprises; that corporate governance should be strengthened through independent boards, transparent disclosure, protection of minority shareholders and separation of the state's functions as owner, regulator and market participant; that compliance should be integrated into performance assessment as an element of risk management; and that the multiplier potential of large enterprises should be assessed before privatization and summarised in an industry-specific rating so that reform options with the greatest economic impact can be selected.

The study has limitations. The indicators are measured at current prices, so real efficiency requires adjustment for industry deflators; the list of organizations classified as quasi-public changes over time, which limits comparability; the series contains seven annual observations, which restricts the analysis to descriptive, index and correlation methods; and the multiplier assessment characterises potential rather than realised effects. Future research should extend the model to real-terms indicators and regional breakdowns, estimate inter-sectoral multipliers on updated input–output tables, incorporate investment, employment and fiscal channels into the integrated index, test the model on comparable resource-rich economies with a large state sector, and combine the quantitative index with survey-based measures of governance and compliance quality.

Author Contributions: Conceptualisation, G.A. and A.M.; Methodology, Y.B.; Software, N/A; Validation, N/A; Formal Analysis, A.T.; Investigation, M.N.; Resources, A.I.; Data Curation, G.A.; Writing – Original Draft Preparation, A.M.; Writing – Review & Editing, Ye.B.; Visualization, A.I.; Supervision, A.I.; Project Administration, G.A.; Funding Acquisition, Y.B. Authors have read and agreed to the published version of the manuscript.

Institutional Review Board Statement: Ethical review and approval were waived for this study because the research does not involve vulnerable groups or sensitive issues.

Funding: The article was prepared within the framework of scientific research on the topic IRN AR26104777 «Systemic effects of quasi-public sector reform: towards a new model of public administration in Kazakhstan», (under the grant of the Committee of Science of the Ministry of Education and Science of the Republic of Kazakhstan).

Acknowledgements: The authors have no acknowledgements to declare.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process: During the preparation of this work, the author(s) used Grammarly for proofreading and spell checking since the Authors are not native speakers. All intellectual content, analysis, and interpretations were produced solely by the authors. After using this AI tool/service, the author(s) reviewed and edited the content as needed, taking full responsibility for the publication's content.

Conflicts of Interest: The authors declare no conflict of interest.

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