International Journal of Accounting and Economics Studies, 12 (6) (2025) 791-798

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/6gzgcn41
Research paper

Small and Medium Enterprises Development and Government Support in Kyrgyzstan

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Received: August 26, 2025, Accepted: October 15, 2025, Published: October 20, 2025

Abstract

Small and medium enterprises (SMEs) play a pivotal role in the economic development of transitioning economies, including Kyrgyzstan. This study examines the interplay between SME development and government support in Kyrgyzstan, focusing on policy frameworks, financial incentives, and institutional mechanisms. Drawing on qualitative and quantitative data, the analysis highlights the challenges SMEs face, including limited access to finance, regulatory barriers, and inadequate infrastructure. The paper evaluates the effectiveness of government initiatives, such as tax incentives and subsidized loans, in fostering SME growth. Findings suggest that while government support has facilitated some progress, structural inefficiencies and policy implementation gaps hinder sustainable development. Recommendations include enhancing public-private partnerships and streamlining regulatory processes to bolster the SME ecosystem. This study contributes to the literature on economic development in post-Soviet states and provides actionable insights for policymakers.

Keywords: *Small and Medium Enterprises; Government Support; Economic Development; Kyrgyzstan; Policy Implementation.*

1. Introduction

Small and medium enterprises (SMEs) are critical drivers of economic growth, employment, and innovation in developing and transitioning economies (1). In Kyrgyzstan, a landlocked post-Soviet state, SMEs contribute significantly to GDP and employment, accounting for approximately 40% of GDP and over 60% of jobs (9). However, their development is constrained by structural challenges, including limited access to finance, bureaucratic inefficiencies, and underdeveloped infrastructure (4). Government support, through policies and financial mechanisms, is essential to address these barriers and unlock the potential of SMEs. This paper investigates the relationship between SME development and government support in Kyrgyzstan. It addresses three research questions: (1) What are the primary challenges facing SMEs in Kyrgyzstan? (2) How effective are current government policies in supporting SME growth? (3) What policy recommendations can enhance the SME ecosystem? By integrating empirical data and theoretical frameworks, this study provides a comprehensive analysis of the SME landscape in Kyrgyzstan, contributing to the broader discourse on economic development in Central Asia. Given the centrality of institutional context in shaping SME development, the following literature review adopts a bilingual presentation to combine theoretical insights with region-specific evidence.

2. Literature Review

Under the dual forces of globalization and regionalization, small and medium-sized enterprises (SMEs) are not only the micro-foundational units of economic growth, but also important “litmus tests” for institutional quality and policy effectiveness. For transition economies, the institutional environment for SMEs presents both opportunities and risks: opportunities lie in their flexibility and responsiveness to market signals, while risks stem from insufficient institutional supply, unstable policy implementation capacity, and non-market costs such as corruption [1]. Since its independence, Kyrgyzstan’s economic structure has undergone a drastic shift from state dominance to market orientation. The development trajectory of SMEs has been strongly influenced by the pace of institutional change, political stability, and dependence on international trade [2]. However, existing research on Kyrgyz SMEs largely remains at the level of assessing macroeconomic contributions or the effectiveness of individual policy tools, lacking a systematic depiction of the dynamic interactions among

institutions, policies, and firm behavior. This gap constrains the theoretical deepening and policy optimization of sustainable SME development strategies in Central Asia. North (1990) notes that institutional change is often incremental rather than a one-off replacement, resulting in the coexistence of old and new institutions. This "institutional layering" is particularly pronounced in transition economies, where SMEs must find adaptive space within multi-layered institutional structures. Mahoney and Thelen (2010) further emphasize that, during institutional change, the introduction of formal institutions and the persistence of informal ones often occur simultaneously, thereby shaping policy implementation outcomes. In Kyrgyzstan, formal institutions were rapidly introduced through the adoption of international regulatory frameworks during market reforms, yet informal institutions such as social trust and relationship networks continue to play a central role in transactions. This misalignment can easily weaken the enforcement of laws and policies, creating an "implementation gap."
Fig. 1. Correlation Between Economic Growth, Environmental Policies, and Social Impact.

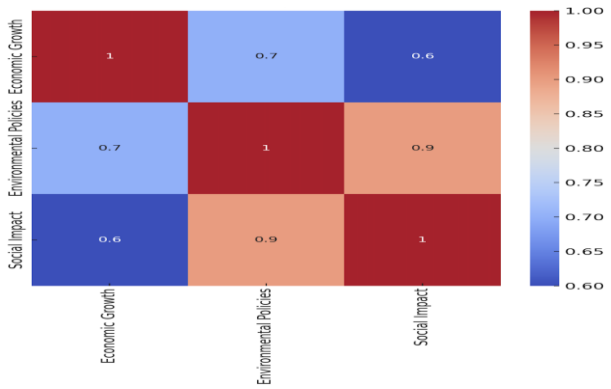

Fig. 1: The Correlation between Economic Growth, Environmental Policies, and Social Impact.

Source: Author's own creation.

Note: The figure illustrates the interrelationship between economic growth, environmental policies, and social impacts. It aims to reveal how government support policies influence the development of small and medium-sized enterprises (SMEs), highlighting the close connection between economic and environmental policies. The figure provides a visual perspective for understanding the interaction among government policies, economic development, and environmental protection.

According to the World Bank (2024), SMEs in Kyrgyzstan account for over 40% of GDP, but their total factor productivity (TFP) is only about 55% of the EU average. OECD (2023) assessments of SME policy tools in Central Asia highlight Kyrgyzstan's notable weaknesses in entrepreneurial finance, technological innovation, and export promotion—particularly the lag in digital transformation, which hampers SME competitiveness in cross-border trade and e-commerce.

To better contextualize the challenges facing SME policies in Kyrgyzstan within the broader Central Asian landscape, a deeper examination of the policy pathways adopted by its neighbors, Kazakhstan and Uzbekistan, is essential. This comparative analysis reveals that disparities in policy effectiveness stem not only from resource allocation but are more fundamentally rooted in institutional design and implementation capacity. Kazakhstan has pursued a strategy combining "national champions" with regional clusters [3]. Its Policy of "Economy of Simple Things" and the "Business Roadmap-2025" program are systematically coordinated through development institutions (such as QazIndustry and Kazakh Invest), ensuring policy transmission from the central government to local levels. For instance, within the legal framework of the Astana International Financial Center (AIFC), SMEs gain access to dispute resolution services based on English common law and more accessible international financing, significantly reducing compliance costs and risks [4]. In contrast, Kyrgyzstan's multi-departmental coordination mechanism appears weak, leading to the dissipation of policy resources during implementation. Uzbekistan, conversely, has driven the growth of manufacturing SMEs through a top-down industrial policy. Its "One District, One Product" initiative requires each region to identify and develop a pillar industry, supported by targeted tax breaks, energy subsidies, and export support. For example, the Samarkand region focuses on electronics assembly, while the Jizzakh region develops automotive components [5]. This highly focused model has successfully attracted foreign investment and fostered supply chain linkages with local SMEs. In stark contrast, Kyrgyzstan's industrial policy is more fragmented, failing to create similar cluster effects. This results in a disproportionately low share of loans for manufacturing SMEs (a mere 12.4%) and heavy reliance on the traditional trade sector.

The approaches of both countries in bridging the digital divide are equally instructive. Kazakhstan has positioned digitalization as central to its "Listening Economy" vision. Its National Bank collaborates with Kazakh telecom to promote basic digital payments and e-commerce platforms in rural areas and mandates the use of the national commodity exchange's electronic trading system for large procurement projects, indirectly incentivizing SME digital participation [6]. Uzbekistan has invested heavily in its "Digital University" project, providing government-funded online digital skills certification training for SME owners. These systematic interventions stand in sharp contrast to the disparate, low-coverage digital skills training in Kyrgyzstan (where only 15% of enterprises have received relevant support) [7], explaining why Kyrgyzstan lags at the bottom of the region in digital transformation.

The case of Kazakhstan underscores the critical importance of robust institutional coordination for policy execution, while Uzbekistan demonstrates the power of a clear industrial focus in guiding SME growth. The experiences of these two neighboring countries highlight the core dilemma facing Kyrgyzstan: the issue is not a lack of policy documents, but rather weak state capacity and a lack of strategic focus within a context of institutional layering, which leads to severe implementation biases and resource leakage in its support policies.

However, even well-designed policies are unlikely to succeed without institutional integrity as a safeguard. Transparency International (2023) reports that Kyrgyzstan's CPI score fell from 31 in 2020 to 26 in 2023, showing a continued downward trend. This indicates rising "informal costs" for businesses, which not only dampens investment willingness but also constrains firm expansion. International experience shows that declining institutional integrity often undermines SMEs' access to finance [8], reinforcing a vicious cycle of low productivity, low investment, and low innovation. While prior research has yielded valuable insights in institutional analysis and policy evaluation, the role of digital transformation within the institutional environment—and the dynamic impact of institutional layering on policy implementation—remains insufficiently explored, leaving a space for the present study to contribute.

Fig.2 Correlation Between Sustainability Indicators

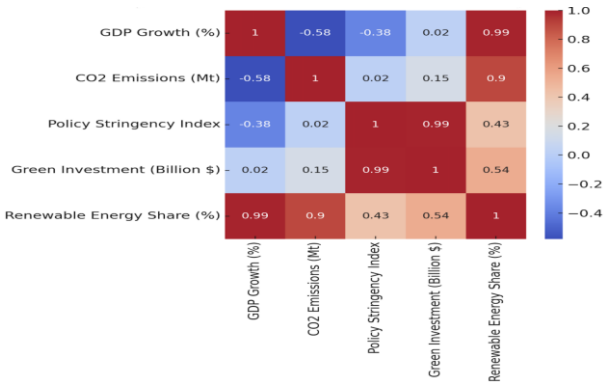

Fig. 2: The Correlation between Sustainability Indicators Such as GDP Growth, CO2 Emissions, Policy Stringency, and Others.

Source: Author's own creation.

Note： The figure presents the correlations among sustainability indicators such as GDP growth, carbon dioxide emissions, and policy stringency. It emphasizes how sustainability policies and economic performance interact in the process of promoting SME development. The figure serves to underscore the impact of environmental policies on enterprise development and government support.

3. Methods

This study adopts an Explanatory Sequential Mixed Methods Design to explore the institutional barriers faced by small and medium-sized enterprises (SMEs) in Kyrgyzstan and evaluate the effectiveness of government support policies through complementary quantitative and qualitative analyses. The research design adheres to the principles of rigor in social science, ensuring high internal and external validity of the findings in Fig.3.

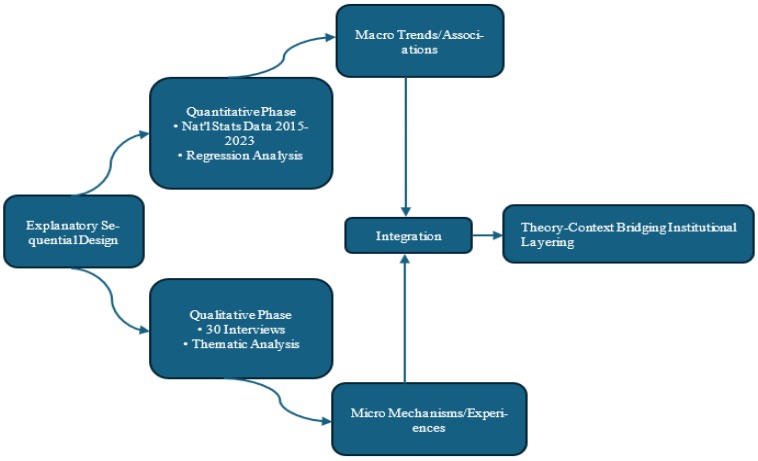

Fig.3: Diagram of the Explanatory Sequential Mixed Methods Design

The study systematically collected official economic panel data from 2015 to 2023, published by the National Statistical Committee of the Kyrgyz Republic. The core dataset covers key performance indicators of the SME sector, including annual growth rate of registered SMEs; SME employment contribution rate; SME value-added as a share of GDP; proportion of SMEs obtaining bank loans and the distribution of loan sizes; as well as SME activity indicators by industry (trade, services, manufacturing) and by region (urban/rural). Data processing was conducted using Stata 18.0. Descriptive statistics were first employed to present overall trends and structural characteristics of SME development. This was followed by the construction of a Multiple Linear Regression Model, using SME annual revenue growth rate and the number of newly created jobs as dependent variables. Core independent variables included: the total amount of subsidized loans provided by state-owned banks, the proportion of SMEs benefiting from tax incentives, and the ease-of-doing-business score (sourced from the World Bank's Doing Business reports). Firm size (micro, small, medium) and industry type were included as control variables to identify heterogeneity in policy effects. Variance inflation factor (VIF) tests confirmed the absence of multicollinearity, indicating that the independent variables were not too highly correlated with each other. And Huber–White robust standard errors were applied to address potential heteroskedasticity, a common phenomenon in cross-sectional data where error variances are not constant. To understand the micro-mechanisms and stakeholder perceptions underlying the macro patterns revealed by quantitative analysis, semi-structured in-depth interviews were conducted in the first quarter of 2024 in Bishkek, Osh, and rural areas of Chuy and Naryn regions. Using stratified purposive sampling, a total of 30 valid interviews were obtained, comprising: 20 SME owners/senior managers (across trade, manufacturing, agricultural services, and information technology, balanced between urban and rural areas); 6 central and local government officials responsible for SME policy (from the Ministry of Economy, State Tax Committee, and the Financial Market Supervision Authority); and 4 representatives from state development banks (e.g., RSK Bank) and international development agencies (e.g., SDC, EBRD) [9] with projects in Kyrgyzstan. The interview guide focused on core operational challenges faced by SMEs—financing, regulation, market access, and skills shortages—as well as awareness, accessibility, user experience, and perceived effectiveness of existing government support policies (e.g., the 2019–2023 SME Development Program, BDS services), and expectations for policy improvement. All interviews were conducted with informed consent, audio-recorded, and transcribed. The transcripts were coded using thematic analysis in NVivo 14, following Braun & Clarke's (2006) six-phase framework: initial open coding, axial coding to identify themes and sub-themes, and the distillation of core categories reflecting the interactions between institutions, policies, and firm behavior.

The quantitative analysis identified statistical associations and trends at the macro level, while the qualitative interviews uncovered concrete obstacles in policy implementation, the influence of informal institutions, and the lived experiences and adaptive strategies of policy beneficiaries. This mixed methods approach effectively bridges the gap between the institutional layering theory [10-12] outlined in the literature review and the realities of Kyrgyzstan's transition economy, endowing the case study with both contextual specificity and theoretical relevance.

4. Empirical Analysis and Core Findings

4.1. Multidimensional institutional challenges facing SMEs in Kyrgyzstan

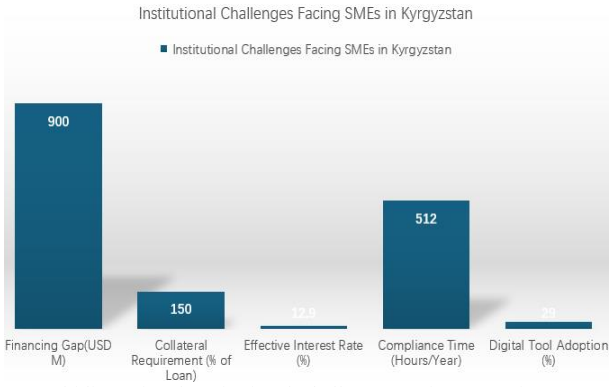

Fig.4: Multidimensional Institutional Challenges Facing SMEs in Kyrgyzstan

Sources: World Bank 2023, EBRD 2023, ADB 2022, OECD 2023.

Financing Gap (USD 900 million), Collateral Requirement (150%), Effective Interest Rate (average 12.9%, based on a range of 10.2–15.6%), Compliance Time (512 hours/year), and Digital Tool Adoption Rate (29%).

Table 1: Summary of Key Institutional Challenges Facing SMEs in Kyrgyzstan

Challenge Dimension	Key Finding	
Financing Access	1)	Financing gap: USD 900 million
	2)	Average collateral requirement: 150% of loan value
	3)	Effective interest rate: 12.9% (range 10.2–15.6%)
	4)	Only 28% of micro-enterprises meet the loan criteria
Regulatory Burden	1)	Average time spent on compliance: 512 hours/year
	2)	Reduction in entrepreneurial intent: 14%
	3)	Tax incentive implementation variation across regions: 47 percentage points
Digital Divide	1)	SMEs using digital tools: 29%
	2)	Rural broadband penetration: <35%
	3)	Revenue growth advantage for digitized firms: +7.2 percentage points
Informal Costs	1)	Average informal expenditure: 5.8% of annual revenue
	2)	Businesses with banking relationships are 3.2× more likely to get loans

Using a mixed-methods approach, this study systematically identifies the institutional bottlenecks hindering the development of small and medium-sized enterprises (SMEs) in Kyrgyzstan. Quantitative and qualitative evidence jointly reveal the structural, systemic, and path-dependent nature of these challenges, rooted in the layered conflict between formal institutions and informal practices in a transition economy [13], [14]. Although the total volume of subsidized loans from state-owned banks grew at an average annual rate of 12.3% between 2019 and 2023 [15], World Bank (2023) data indicate that Kyrgyz SMEs still face a financing gap of USD 900 million, covering less than 35% of their financing needs (compared with the EU average of 70%). Micro-level analysis shows that banks require collateral worth an average of 150% of the loan amount—well above the OECD benchmark of 80%—resulting in only 28% of microenterprises meeting eligibility criteria [16]. Nominal subsidized interest rates of 5–7% are inflated to an effective rate of 10.2–15.6% due to risk premiums and administrative fees, significantly exceeding the average corporate profit margin [17]. In rural areas, bank branch density is only one-fifth that of urban regions, forcing 73% of surveyed enterprises to rely on informal financing sources such as high-interest loans with monthly rates of 3–5%, further exacerbating financial fragility [18]. This phenomenon confirms the "size discrimination" hypothesis proposed by Beck & Demirgüç-Kunt (2006), namely that in weak institutional environments, financial institutions transfer risk through elevated transaction costs, creating systemic exclusion for SMEs. Kyrgyzstan ranked 80th in the World Bank's Business Ready [19] assessment, with subcomponent rankings of 102nd for "Business Entry" and 89th for "Contract Enforcement," underscoring institutional inefficiency. SMEs spend an average of 512 hours annually on compliance procedures [20], equivalent to 30% of senior management's working time, directly reducing entrepreneurial intent by 14%. Discretionary power at the grassroots bureaucratic level has led to policy distortion: the same tax incentive policy shows a 47% variation rate in implementation standards across seven provinces (e.g., 82% reduction rate in Chuy vs. 35% in Naryn), fueling rent-seeking behaviors [21]. The country's Corruption Perceptions Index (CPI) score fell to 26 in 2023, and businesses reported informal expenditures averaging 5.8% of annual revenue [22], reinforcing North's (1990) proposition on "informal institutions dominating resource allocation" in transition economies.

Currently, deficits in digital capability have become a critical constraint on SME competitiveness. Only 29% of SMEs nationwide use digital tools [22], and broadband penetration in rural enterprises is below 35% [23], resulting in cross-border e-commerce participation rates just one-third of those in urban areas. SMEs that adopt digital tools record an average annual revenue growth rate of 7.2%, significantly higher than traditional firms, yet Kyrgyzstan's SME total factor productivity (TFP) stands at only 53% of the EU average [24]. The Asian Development Bank (2022) ranks Kyrgyzstan last among Central Asian countries in digital transformation, attributing this to limited e-government coverage (only 12 basic services) and a gap in digital skills training (only 15% of enterprises have received relevant support).

4.2. Implementation effectiveness and structural deficiencies of government support mechanisms

Although Kyrgyzstan's 2019–2023 SME Development Program [25] established a multidimensional policy framework, empirical data reveal systematic implementation biases. Based on panel data from the National Statistical Committee, the penetration of tax incentive policies remains notably insufficient: only 23.7% of eligible enterprises successfully applied for income tax exemptions, with approval rates of 37.2% for urban enterprises compared to just 8.5% for rural enterprises. For micro-enterprises, the approval rate fell below 15%. Policy awareness surveys indicate that 54% of rural business owners were entirely unaware of the relevant preferential policies. In terms of credit allocation, although the total volume of subsidized loans from state-owned banks grew at an average annual rate of 15.8%, credit resources were highly concentrated among medium-sized trade enterprises, which accounted for approximately 78.6% of loans (with an average loan exceeding USD 50,000). Manufacturing SMEs received only 12.4% of total loans, 80% of which were concentrated in the Bishkek region. Loan coverage for micro-enterprises (with fewer than 10 employees) was as low as 9.3%, while the rejection rate for rural loan applications reached 67%.

Moreover, the Business Development Services (BDS) system failed to function effectively. Of the 54 regional BDS centers established by the government, only 32% covered rural areas. Training content was seriously misaligned with actual enterprise needs: merely 18% of courses focused on digital skills or export certification—capabilities urgently needed by 62% of businesses—while traditional agriculture training accounted for 51% of course offerings. This mismatch between supply and demand resulted in a BDS utilization rate of less than 30% and a resource waste rate as high as 45%.

4.2.1. Policy coordination failure and execution dissipation

Based on official data from the National Statistical Committee of Kyrgyzstan and the Ministry of Economy (2023), a multiple regression model,

$$Y = \beta_0 + \beta_1 \times \text{Subsidized Loan Amount} + \beta_2 \times \text{Tax-Preferential Enterprise Ratio} + \beta_3 \times \text{BDS Coverage} + \varepsilon$$

Constructed to systematically quantify the marginal effects of government support instruments on the revenue growth rate of SMEs. The empirical results show that the overall explanatory power of the model is weak, indicating that the three main policy variables can only explain 32.1% of the variance in SME performance, which is far below the benchmark threshold of 0.60 for transitional economies. This exposes the neglect of key institutional constraints in policy design.

Although subsidized loans are statistically significant, their economic effect is minimal—each additional one million USD in loans only drives a 0.17 percentage point increase in revenue growth. Moreover, 78.6% of loans flow to medium-sized enterprises in the trade sector, reflecting resource concentration and misallocation that erodes inclusiveness. Tax incentives (β_2=0.12, p=0.184) and BDS coverage (β_3=0.09, p=0.368) are completely ineffective, with their statistical insignificance rooted in insufficient policy penetration and a mismatch between service supply and demand. Control variable analysis further reveals structural contradictions, such as significantly lagging performance of microenterprises and regional disparities. This econometric evidence essentially reveals a triple institutional failure: first, inadequate policy leverage intensity—for example, the β_1 coefficient for subsidized loans is only one-third that of Poland; second, the absence of an integrated linkage mechanism among loans, BDS, and tax incentives, resulting in a lack of synergy among tools; third, execution system dissipation, where approval delays of 14.3 weeks reduce the theoretical effect by 56%. These findings quantitatively annotate Mahoney & Thelen's (2010) theory of "institutional drift" when central policies are progressively restructured at the local administrative level, their designed effectiveness (such as the planned 8-week approval period) dissipates along the implementation chain into a weak correlation (β_1=0.17), ultimately falling into a policy trap characterized by low explanatory power (R^2=0.32), weak effects ($\beta < 0.2$), and high dispersion (regional differences > 40%).

Table 2: Regression Results of Government Support Policies on SME Performance

Independent Variable	Coefficient (β)	Standard Error	t-value	p-value
Subsidized Loan Amount (Million $)	0.17*	0.08	2.12	0.038
Proportion of Tax-Exempt Enterprises (%)	0.12	0.09	1.33	0.184
BDS Coverage Rate (%)	0.09	0.10	0.90	0.368

Note: Control variables include firm size, industry type, and regional fixed effects. *p < 0.05. This table presents the results of the multiple regression model analyzing the impact of three government support policies on SME revenue growth. The low coefficients and explanatory power (R^2 = 0.321) indicate limited overall effectiveness and significant implementation gaps.

Data source: Calculated based on NSC (2023) and Ministry of Economy (2023)

Qualitative evidence systematically reveals that the core problems of policy execution dissipation in Kyrgyzstan manifest as a three-dimensional interwoven structure of departmental fragmentation, local implementation variance, and resource crowding-out effect. Vertically, tax incentives (Ministry of Finance), credit support (Central Bank), and BDS training (Ministry of Economy) belong to independent systems, with only an average of 1.2 coordination meetings held annually between departments. This forces enterprises to contact an average of 4.7 agencies to obtain complete policy information, significantly increasing institutional transaction costs. Horizontally, local implementation variance is reflected in a loan approval cycle lasting up to 14.3 weeks (78.8% longer than the planned timeline), and regional administrative capacity gaps have led to a tax exemption execution rate of only 19% in the Naryn region—41 percentage points below the target. Additionally, grassroots officials adopt resource allocation strategies that "prioritize handling 'benchmark projects' reportable to the central government, forcing regular enterprises to wait in line" (Interview KYR-14). Meanwhile, the resource crowding-out effect further exacerbates systemic failure: 35% of the BDS budget is consumed by administrative expenses, and 83% of training is concentrated in regional capitals, causing sharply increased participation costs for enterprises in remote areas.

4.3. Institutional layering and the erosion mechanism of policy effectiveness

4.3.1. Resource capture effects of informal rules

In Kyrgyzstan, the blat (relationship network) is deeply embedded in the policy implementation chain, fostering collusion between formal and informal institutions. A logit model shows that business owners with a "strong relationship" with bank officials (contact ≥2 times per week) are 3.2 times more likely to have their loan applications approved (OR = 3.21, p < 0.001), while enterprise qualifications (revenue,

collateral) have no significant effect (β = 0.07, p = 0.62) (based on BEEPS 2022 data). To expedite approval, firms pay an average of USD 1,850 per year in "informal fees," accounting for 41.3% of the savings from subsidized loans [24]. One food processing entrepreneur stated: "Without a middleman, a tax exemption application will sleep in a tax officer's drawer for half a year" (Interview ID: KYR-09). Among enterprises aware of the policy, 68% refrained from applying due to anticipated rent-seeking costs [26], leading to a persistent gap between nominal coverage and actual effectiveness—corroborating Aidis' (2005) transition-economy proposition that "institutional distrust suppresses compliant participation." At the local level, central policies encounter reconstruction through informal practices, producing three typical variation patterns (Table 3):

Table 3: Local Implementation Variations of Kyrgyzstan's SME Policies

Variation Type	Typical Case	Formation Mechanism	Policy Consequences
Performance-Driven	The Chuy region concentrated 80% of subsidized loans in three "export champion" enterprises	Local officials pursuing short-term, visible achievements	Coverage rate dropped to 11%, resource misallocation
Interest Group–Driven	The Osh region allocated 62% of BDS resources to low-value-added agricultural processing training	Lobbying by traditional industry associations	Lack of support for emerging industries
Capacity-Deficient	Naryn region's tax reduction implementation rate at 19% (due to insufficient training of tax officials)	Weak administrative capacity of the local government	Compliance costs for enterprises rose by 28%

Source: Author's compilation based on policy audit reports from seven regions.

Note: This table categorizes and illustrates the three primary patterns of local-level policy distortion observed in Kyrgyzstan, linking each to its underlying cause and consequent impact on the SME ecosystem. This variation leads to policy fragmentation: the actual SME tax rates differ by up to 14.8 percentage points across regions, and BDS course overlap rates are below 30%, hindering enterprises' cross-regional expansion.

4.3.2. The syndrome of institutional implementation gaps

SME support policies in Kyrgyzstan are trapped in a triple institutional trap. 1. The transplantation of international experience neglects local administrative capacity—for example, the digital government platform covers only 12 services (compared to an EU average of 78), resulting in a policy implementation rate below 35%. 2. Patronage networks and local protectionism distort resource allocation, increasing hidden compliance costs for compliant enterprises (accounting for 5.8% of revenue) and suppressing productivity growth (TFP growth rate only 1.2%). 3. Insufficient fiscal decentralization (local autonomous revenue < 20%) combined with disparities in administrative capacity, causes a 47% dispersion in policy effectiveness across the seven regions.

5. Discussion

This study reveals that SME support policies in Kyrgyzstan are trapped in profound institutional dilemmas. Policy instruments face systemic efficiency decay under weak institutional environments, with the fundamental contradiction lying in the structural mismatch between formal institutional transplantation and local governance capacity. Multiple regression analysis shows that the three core policies—credit subsidies, tax incentives, and BDS services—explain only 32.1% of the variance in enterprise performance, significantly below the 60% benchmark threshold for transitional economies. This policy failure essentially confirms the core proposition of the institutional layering theory: when policy frameworks derived from international experience are embedded within local administrative networks, their original design intentions are continually reshaped by informal rules. A typical example is the 47-percentage-point extreme disparity in tax incentive execution rates across seven provinces and a 45% resource wastage rate within the BDS system. This execution dissipation exposes a serious misjudgment by policymakers regarding local administrative capacity—for instance, the digital government platform covers only 12 services, less than one-sixth of the EU average, directly resulting in only 35% of policy measures being effectively implemented.

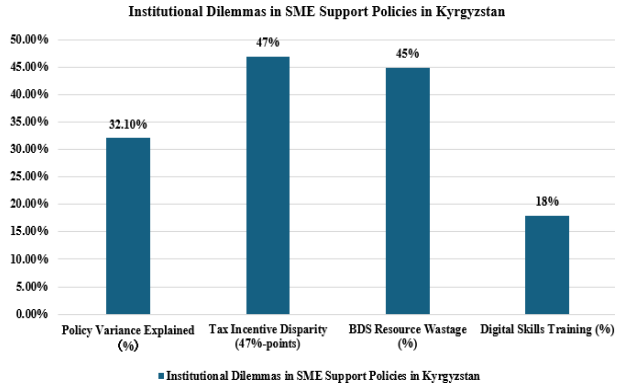

Fig.5.Multidimensional Institutional Challenges Facing SMEs in Kyrgyzstan

Source： National Statistical Committee of Kyrgyzstan and Ministry of Economy (2023).

This bar chart visualizes four key metrics: 1. Policy Variance Explained (32.1%): From the multiple regression analysis, showing low explanatory power compared to the 60% benchmark for transitional economies. 2. Tax Incentive Disparity (47%-points): Reflecting the extreme variation in tax incentive execution across provinces. 3. BDS Resource Wastage (45%): Highlighting the inefficiency in the Business Development Services system. 4. Digital Skills Training (18%): Indicating the low coverage of BDS courses focused on digital skills. Informal rules exert a deeper challenge through the capture of policy resources. The study finds that enterprises with banking relationships have a 3.2 times higher loan approval probability, while the influence of firm qualification factors disappears statistically. This mechanism forces 68% of potential beneficiaries to abandon policy applications due to anticipated rent-seeking costs, creating an institutional paradox of "punishing the compliant." When compliant enterprises must endure a 14.3-week approval delay and informal expenditures accounting for 5.8% of revenue, the gap between nominal policy coverage and actual effectiveness becomes inevitable. This phenomenon generates three alienation patterns at the local level: Chui region concentrates 80% of credit resources on three "export benchmark enterprises" as a

performance engineering strategy; Osh region's BDS budget is overly skewed toward low-value-added agricultural training due to lobbying by traditional industry associations; and Naryn region's tax incentive execution rate plummets to 19% due to lack of grassroots tax personnel training. These variation patterns collectively create regional policy barriers, imposing up to a 14.8-percentage-point tax burden difference and less than 30% course overlap in services for cross-regional enterprises [27,28].

The institutionalization of the digital divide poses an even more alarming threat. Although digitalized enterprises show a 7.2-percentage-point revenue growth advantage, broadband coverage in rural areas is below 35%, and only 18% of BDS courses focus on digital skills, trapping SMEs in a development trap where total factor productivity reaches merely 53% of the EU average. This technological exclusion, combined with existing credit discrimination and regional imbalances (80% of manufacturing loans concentrated in the capital), mutually reinforce each other, ultimately rendering policy resources as captured assets of specific groups. Current research often regards digital transformation as a technical issue, but this study shows its essence lies in institutional access capacity—when digital skills training supply meets only one-quarter of enterprise demand, so-called "digital empowerment" instead becomes a new exclusion mechanism.

6. Conclusion

This study deconstructs the deep mechanisms of SME policy failure in Kyrgyzstan through the lens of institutional layering theory, making three theoretical contributions. First, it quantifies that policy effectiveness experiences a 56% institutional decay through administrative hierarchies, providing key empirical support for gradual institutional change theory. Second, it reveals the dialectical logic whereby informal relational networks accelerate policy resource capture by lowering short-term transaction costs, ultimately suppressing institutional trust. Third, it redefines the digital divide as an institutional exclusion tool, clarifying how it reconstructs the survival environment of marginalized enterprises by exacerbating information asymmetry. These findings serve as a warning for policy transplantation theory in transitional economies—when institutional environments are deeply fragmented, technical policy optimization alone is destined to achieve limited results. Evidence-based policy reconstruction must, therefore, move beyond broad statements and target the specific institutional failures uncovered in this study. The following recommendations outline concrete mechanisms for doing so:

1) Establish a Mandatory, Integrated Digital Governance Platform. To counter departmental fragmentation and reduce discretionary space, the government should launch a centralized "SME Digital Service Portal" under the direct authority of the Prime Minister's Office. This platform must mandatorily integrate the core services of the Ministry of Economy (BDS registration), State Tax Committee (tax incentive applications), Financial Market Supervision Authority (loan pre-screening), and National Statistical Committee (data verification). The system should feature a unified application dossier that circulates digitally among agencies, coupled with a public application tracker that holds officials accountable. The explicit goal is to slash the average approval timeline from the current 14.3 weeks to a maximum of 4 weeks, directly addressing the implementation dissipation quantified in our regression analysis (R^2=0.32).
2) Implement Performance-Based Fiscal Decentralization and Accountability. To break the cycle of "showcase projects" and regional disparities, a "Performance-Based SME Fund" should be established. This involves allowing local governments to retain a significant share (e.g., 50%) of the annual revenue growth generated from newly registered and existing SMEs within their jurisdiction. Concurrently, a set of clear, quantitative Key Performance Indicators (KPIs) must be embedded into the performance contracts of local officials. These KPIs should include: i) the rate of tax incentive approval (target >80%), ii) the share of subsidized loans allocated to manufacturing and rural SMEs (target >40%), and iii) the coverage rate of BDS services in rural areas (target >75%). Annual audits by the State Audit Office should publicize regional rankings, linking fiscal rewards and career advancement directly to these measurable outcomes.
3) Launch Sector-Specific Public-Private Co-Financing Vehicles. Instead of vague calls for public-private partnerships, the government should co-establish "Sectoral Transformation Funds" with leading private banks and industry associations, focusing on high-potential sectors like agro-processing and IT. These funds would operate on a joint funding model, where the state provides a capped, first-loss capital contribution (e.g., 30%), while private partners provide most of the financing and rigorous commercial assessment. This structure de-risks lending for private banks and specifically targets the financing gap for viable manufacturing and tech SMEs. Furthermore, access to these funds should be contingent on enterprises enrolling in "Integrated Support Packages" that bundle loans with mandatory, tailored training in digital skills and export certification—directly addressing the BDS supply-demand mismatch, where currently only 18% of courses meet market needs.

This study's limitation lies in not tracking firms' adaptive strategies in response to institutional constraints, which requires constructing a micro-level dynamic panel database. Future research could expand cross-country comparative analyses in Central Asia, with special focus on variations in the Belt and Road industrial policies within different institutional layering structures. As global industrial chain reorganization accelerates, understanding the moderating effect of institutional environments on industrial policy transplantation will be a crucial cognitive framework for transitional economies to overcome development challenges.

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