

Original Research Article

Research on influencing factors and optimization paths of economic resilience of private enterprises in Jiangsu Province under regional heterogeneity

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Abstract: Economic resilience has become a key indicator for assessing the sustainability and quality of regional and enterprise development. It reflects the ability of an economic entity to absorb, adapt to, and recover from external shocks while maintaining its core functions. Jiangsu Province, one of the most economically dynamic regions in China, derives over 60% of its GDP from the private economy. However, due to significant differences in industrial structure, institutional environment, innovation capacity, and resource endowment among Southern, Central, and Northern Jiangsu, the economic resilience of private enterprises shows clear spatial differentiation. Based on regional economics and enterprise resilience theory, this paper constructs a "structure–institution–innovation" analytical framework to examine the mechanisms and optimization paths of private enterprise resilience across the three subregions. The study finds that Southern Jiangsu, characterized by complete industrial chains, strong innovation capacity, and a sound institutional environment, demonstrates high resilience; Central Jiangsu is in a phase of steady improvement during industrial transformation; while Northern Jiangsu, dominated by traditional and resource-based industries, shows relatively weak resilience. The paper concludes that differentiated development strategies, institutional innovation, digital empowerment, and interregional collaboration are essential to enhance the overall resilience and competitiveness of Jiangsu's private economy.

Keywords: private enterprises; economic resilience; regional differences; southern Jiangsu; central Jiangsu; northern Jiangsu

1. Introduction

In the context of globalization and regional coordinated development, economic resilience has become a critical criterion for measuring the sustainability of regional economies. As a leading province in China's economy, Jiangsu exhibits long-standing internal disparities, particularly among its three subregions—Southern, Central, and Northern Jiangsu—Where variations in industrial structure, innovation ecosystems, and resource endowments have resulted in differing capacities of private enterprises to withstand and recover from external shocks.

Southern Jiangsu boasts a robust economic foundation, a high degree of marketization, and well-developed industrial clusters, which enable enterprises to maintain strong innovation and risk resistance. Central Jiangsu, positioned as a transitional zone, has a solid manufacturing base but is still in the process of building its innovation capacity and factor agglomeration. Northern Jiangsu, constrained by traditional industries and capital shortages, shows weaker resilience in the face of external fluctuations.

Therefore, analyzing the mechanisms of economic resilience formation under these regional differences and exploring optimized development paths are vital for improving policy systems within Jiangsu and providing insights for China's broader regional coordination strategies. Drawing on systemic thinking inspired by cognitive and resilience theory, this paper explores the differentiated patterns of private enterprise resilience across Jiangsu and proposes targeted optimization measures.

2. Theoretical foundation and regional characteristics of private enterprise economic resilience

Economic resilience refers to the ability of an economic system to maintain its structure, stability, and

functionality when confronted with external disturbances. At the enterprise level, this resilience is reflected through three interrelated dimensions: Resistance, adaptability, and transformation. Resistance enables firms to absorb shocks and minimize immediate losses; adaptability allows them to adjust operations, supply chains, or market strategies in response to changing environments; and transformation represents their long-term capacity to upgrade structures and sustain competitiveness through innovation. For private enterprises—The most dynamic components of the market economy—Resilience is not only the outcome of effective internal management and strategic resource allocation but also deeply influenced by external regional factors such as institutional frameworks, industrial bases, and innovation ecosystems.

Within Jiangsu Province, regional differentiation is particularly pronounced. Southern Jiangsu—Including Nanjing, Suzhou, Wuxi, Changzhou, and Zhenjiang—Has achieved a high level of industrialization and urbanization, characterized by diversified high-end industries, abundant innovation resources, and an efficient institutional environment. Central Jiangsu—Including Yangzhou, Taizhou, and Nantong—Occupies a transitional position. It is steadily moving from traditional manufacturing toward modern service industries and emerging technologies, reflecting an economy in transformation. Northern Jiangsu—including Xuzhou, Lianyungang, Huai'an, Suqian, and Yancheng—Still relies heavily on resource-based industries and labor-intensive manufacturing. Its development is constrained by relatively weaker infrastructure, limited innovation networks, and a less mature market environment.

From a regional economics perspective, the formation of resilience displays strong spatial dependence. Southern Jiangsu's high-quality industrial agglomeration fosters interconnected networks across supply chains and innovation systems, creating synergy and enabling rapid recovery after disruptions. In contrast, Northern Jiangsu's resource limitations, lower technological intensity, and institutional rigidity make its enterprises more reliant on government intervention and policy-driven support to maintain stability. Central Jiangsu stands between these two patterns—It is gradually enhancing its adaptive capacity through industrial upgrading and policy coordination, serving as a bridge in the province's balanced development. This regional divergence constitutes the structural foundation of Jiangsu's uneven resilience distribution and underscores the need for differentiated strategies that strengthen the adaptive and innovative capacities of enterprises in each subregion.

3. Mechanisms of regional differences affecting enterprise resilience in Jiangsu

The differences among Jiangsu's three subregions affect private enterprise resilience through three main dimensions: structural, institutional, and innovative mechanisms.

3.1. Industrial structure differences

Southern Jiangsu's diversified industrial system—Featuring advanced manufacturing, semiconductors, biomedicine, and modern services—Provides built-in risk buffering. When one sector faces downturns, others compensate, stabilizing overall performance. Central Jiangsu, led by equipment manufacturing and emerging industries, is still developing integrated innovation mechanisms. Northern Jiangsu's reliance on traditional sectors such as chemicals, textiles, and food processing makes its enterprises more sensitive to market volatility and slower in recovery.

3.2. Institutional environment differences

Southern Jiangsu enjoys a mature business climate, efficient governance, strong property rights protection, and well-functioning financial systems that give enterprises stability and confidence. Central Jiangsu's institutional reforms have improved administrative efficiency, though consistency in policy implementation and innovation incentives remain to be strengthened. Northern Jiangsu still faces challenges such as financing constraints and uneven regulatory efficiency, limiting institutional support for private firms.

3.3. Innovation capacity differences

Southern Jiangsu benefits from dense research institutions, high R&D investment, and robust industry-University collaboration. Central Jiangsu has made progress in building innovation platforms through universities such as Yangzhou University and Nantong University. Northern Jiangsu, by contrast, suffers from weaker innovation infrastructure and talent outflow, constraining adaptive and transformative capabilities during crises.

4. Key factors influencing the economic resilience of Jiangsu's private enterprises

At both the firm and regional levels, multiple interconnected factors shape the formation and enhancement of economic resilience. These factors jointly determine how private enterprises in Southern, Central, and Northern Jiangsu adapt to market fluctuations, recover from external shocks, and sustain long-term growth momentum.

4.1. Resource and capability base

The foundation of enterprise resilience lies in the adequacy and quality of internal resources. Factors such as enterprise scale, capital structure, managerial expertise, and human capital collectively influence a firm's capacity to resist and adapt. In Southern Jiangsu, most private enterprises possess solid financial foundations, efficient management systems, and a high concentration of skilled technical talent, which together enable agile decision-making and rapid recovery under stress. In contrast, Northern Jiangsu enterprises are often smaller in scale and more dependent on local markets, resulting in limited capital reserves and difficulties in talent retention. Central Jiangsu occupies an intermediate position, where enterprises are gradually enhancing internal management and resource allocation efficiency. Overall, strengthening internal resources—particularly through talent cultivation and technological upgrading—is essential to building a resilient enterprise base.

4.2. Financing and policy support

The availability and accessibility of financing significantly affect enterprise stability and development resilience. Southern Jiangsu benefits from a well-developed financial ecosystem, featuring multiple banking institutions, active private equity, and strong credit systems. Enterprises can flexibly obtain funds for technological innovation and business expansion. Central Jiangsu's financial system is improving, but access to long-term, low-cost financing still faces challenges. Northern Jiangsu, however, suffers from limited financial institutions and weaker capital markets, making it harder for private firms to secure timely and sufficient funding. Moreover, government policy support is uneven across regions. In Southern Jiangsu, consistent policy incentives and transparent governance enhance business confidence, while in Northern Jiangsu, fragmented policies and administrative inefficiencies may reduce the effectiveness of support. Strengthening inclusive financing, improving credit evaluation mechanisms, and ensuring policy continuity are crucial to mitigating these regional disparities.

4.3. Industrial collaboration and supply chain networks

Inter-firm collaboration and supply chain integration are important determinants of collective resilience. Southern Jiangsu's well-developed industrial clusters, such as electronics, biomedicine, and high-end equipment manufacturing, form tight interconnections that enable enterprises to share resources and jointly manage risks. This networked structure enhances flexibility in response to global supply disruptions. Central Jiangsu's collaborative networks are expanding, driven by emerging industrial parks and innovation alliances, yet cross-sector integration remains limited. Northern Jiangsu's supply chains are shorter and less diversified, often relying on a few key upstream suppliers or downstream clients, which increases vulnerability to external shocks. To enhance resilience, fostering regional supply chain cooperation, promoting industrial diversification, and developing shared logistics and data platforms are necessary to reduce systemic risks and improve recovery capacity.

4.4. Digital transformation

Digitalization plays an increasingly decisive role in shaping enterprise resilience. In Southern Jiangsu, the widespread adoption of smart manufacturing, enterprise resource planning systems, and data-driven decision tools allows firms to monitor production, forecast risks, and adjust strategies in real time. Central Jiangsu has made progress in digital transformation, with a growing number of enterprises implementing automation and digital management solutions. However, digital infrastructure in Northern Jiangsu—such as broadband networks, industrial data platforms, and digital talent—is relatively underdeveloped, which constrains the pace of industrial upgrading. Digital transformation not only enhances production efficiency but also strengthens early-warning mechanisms and information transparency, enabling enterprises to respond proactively to market changes. Expanding digital infrastructure, supporting digital training programs, and encouraging the integration of digital

technologies into traditional industries can effectively enhance the resilience and competitiveness of Jiangsu's private enterprises across all regions.

In summary, the economic resilience of Jiangsu's private enterprises is determined by a combination of internal capacities and external support systems. Regional disparities in resources, financing, industrial structure, and digital readiness result in varied resilience performance across Southern, Central, and Northern Jiangsu. Addressing these gaps through targeted policies, inclusive financial innovation, industrial cooperation, and digital empowerment will be essential for building a more balanced and adaptive provincial economy.

5. Optimization paths for enhancing enterprise resilience based on regional differences

Building a resilient private economy in Jiangsu requires differentiated strategies tailored to each region's developmental stage.

5.1. Southern Jiangsu: Deepening innovation and institutional strength

Southern Jiangsu should continue leveraging its innovation advantages, advancing high-end manufacturing and digital economy integration. Establishing open innovation ecosystems that link enterprises with universities and research institutes, improving intellectual property protection, and optimizing technology commercialization will further enhance resilience.

5.2. Central Jiangsu: Promoting industrial synergy and innovation transition

Central Jiangsu should emphasize manufacturing upgrading and supply chain coordination. By constructing regional innovation platforms and strengthening SME service systems, the region can accelerate transformation. Leveraging integration within the Yangtze River Delta, Central Jiangsu should promote the cross-regional flow of talent, technology, and capital to narrow the gap with the south.

5.3. Northern Jiangsu: Strengthening institutions and infrastructure

Northern Jiangsu must focus on improving its business environment, reducing administrative burdens, and enhancing government service efficiency. Expanding investment in infrastructure—Especially transportation and digital networks—Will provide a foundation for industrial upgrading. Building regional industrial parks and attracting capital and technology spillovers from Southern Jiangsu can facilitate gradient development and shared growth.

6. Policy recommendations and implementation measures

(1) Establish a Provincial Resilience Monitoring System. Develop a Jiangsu-wide evaluation framework covering innovation capacity, financial accessibility, market diversity, and digitalization, to enable dynamic assessment and early warning mechanisms.

(2) Promote Regional Collaborative Innovation. Encourage the establishment of cross-regional industrial alliances and innovation networks that link Southern Jiangsu's advanced innovation resources with Central and Northern Jiangsu's development needs.

(3) Improve Financial Support Systems. Expand inclusive financing through products such as "Credit Easy Loan" and "Tech Innovation Loan," and strengthen coordination among state-owned banks and local guarantee agencies.

(4) Enhance Talent Mobility. Implement a "Southern Talent Supporting the North" initiative to facilitate research collaboration and project partnerships across the province, promoting balanced knowledge diffusion.

(5) Accelerate Digital Transformation. Support SMEs in adopting digital production systems through subsidies and technical guidance, fostering data-driven management and adaptive decision-making.

7. Conclusion

The economic resilience of Jiangsu's private enterprises reflects the province's structural, institutional, and innovation disparities across its three subregions. Southern Jiangsu demonstrates strong resilience, Central Jiangsu is in an upward trajectory, and Northern Jiangsu still faces systemic constraints. Differentiated

development strategies based on institutional reform, technological empowerment, and interregional collaboration are essential for building a balanced, multi-layered resilience system. Through scientific policy design and coordinated governance, Jiangsu can evolve from an "economic powerhouse" into a "resilience powerhouse," setting a model for high-quality regional development in China.

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References

- [1] Zhang, L., Wang, J. (2022). Regional Institutional Quality and Enterprise Resilience in China: An Empirical Study Based on Panel Data. *Economic Management Journal*, 44(6), 112-126.
- [2] Liu, H., Zhao, X. (2021). Innovation Networks, Digital Transformation, and Economic Resilience of Private Enterprises. *China Industrial Economics*, 39(9), 56-70.
- [3] Chen, Y., Guo, R. (2023). Regional Heterogeneity and the Evolution of Private Enterprise Competitiveness. *Journal of Economic Geography*, 28(4), 87-101.
- [4] Wang, S., Li, M. (2022). Institutional Environment, Financing Constraints, and Private Firm Resilience under Economic Uncertainty. *Management World*, 38(10), 42-58.
- [5] Zhou, Q., Liu, F. (2023). Digital Economy and the Optimization of Regional Enterprise Resilience: Evidence from China's Provincial Data. *Journal of Finance and Economics*, 49(2), 97-113.