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Measurement and Coupling Relationship of Economic Resilience in Southwest China Driven by the Digital Economy

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Abstract

Under the dual background of the advancement of the "Digital China" strategy and the increasing global economic uncertainty, the synergistic development of the digital economy and regional economic resilience has become a key approach to addressing regional development imbalances and enhancing risk resistance capabilities. This study takes the four southwestern provinces and cities, Sichuan, Chongqing, Yunnan, and Guizhou, as the research objects. The entropy method is employed to measure the digital economy and economic resilience development indices from 2011 to 2023. The coupling coordination degree model is then used to systematically investigate the spatiotemporal evolution characteristics and linkage mechanisms of the coupling coordination relationship between the two. The results show that: 1) The development of the digital economy in the four provinces and cities exhibits a three-stage pattern of "initial accumulation – rapid growth – steady callback," with a regional gradient distribution characterized by "Sichuan leading, Chongqing following closely, and Yunnan-Guizhou catching up." 2) The economic resilience index shows a continuous linear upward trend, with regional gaps gradually narrowing, displaying significant catch-up and convergence features. 3) There is a significant positive synergistic effect between the digital economy and economic resilience. The overall coupling coordination degree shows a continuous upward trend, evolving from a state of imbalance in 2011 to a high-quality coordination level by 2023. The regional pattern is characterized by "Sichuan highest, Chongqing second, and Yunnan-Guizhou relatively close," with differences in coordination stability across regions. This study enriches the theoretical framework of digital economy empowerment for regional economic resilience and provides empirical evidence and policy references for the four southwestern provinces and cities to optimize digital economy layout, enhance economic resilience, and promote high-quality coordinated development.

Keywords

digital economy, economic resilience, entropy method, coupling coordination degree, high-quality development

1. Introduction

In the dual context of the in-depth advancement of the "Digital China" strategy and the intensification of global economic uncertainty, the digital economy has become a core engine driving high-quality regional

economic development. Through technological innovation, industrial upgrading, and governance optimization, it provides crucial support for regional economies to cope with external shocks and achieve sustainable development [1]. Economic resilience, as the core capability of regions to withstand risks, recover rapidly, and adapt to transformation, forms a close bidirectional interactive relationship with the enabling logic of the digital economy [2]. At present, China's regional economic development exhibits a pronounced "strong east, weak west" differentiation pattern. The four southwestern provinces and cities, Sichuan, Chongqing, Yunnan, and Guizhou, as the core carrying areas for the Western Development strategy and the construction of the Chengdu-Chongqing Twin-City Economic Circle, face developmental shortcomings such as weak digital infrastructure, single industrial structures, and significant pressure for transformation in resource-based cities [3, 4]. At the same time, they possess unique advantages, including distinctive development features of ethnic minority areas and abundant ecological resources [5]. Against this backdrop, systematically exploring the coupling coordination relationship between the digital economy and regional economic resilience, and quantifying the spatiotemporal evolution patterns and influencing mechanisms of the two, is not only a practical requirement for addressing the problem of unbalanced and inadequate development in the southwestern region, but also an important academic proposition for enriching theoretical research on the digital economy's empowerment of economic resilience [24].

2. Literature Review

2.1 Connotation and Measurement System of the Digital Economy

Existing studies have reached a consensus on the connotation of the digital economy: it is a composite economic form encompassing three core dimensions—digital infrastructure, digital industries (digital industrialization and industrial digitalization), and digital applications (such as digital inclusive finance and digital government services) [6, 7]. In terms of measurement methods, the entropy weight method is widely adopted due to its advantage of objective weighting. It constructs a multi-indicator system to comprehensively assess the level of digital economy development from aspects including digital infrastructure, industrial support, and digital applications [8, 9]. Some studies have further expanded the application dimensions of the digital economy by incorporating digital inclusive finance, digital government services, and other elements into the measurement system, thereby more fully reflecting the permeability of the digital economy into regional development [10, 11]. In research on regional patterns, scholars generally find that digital economy development exhibits significant regional heterogeneity, forming a "core-periphery" spatial structure, while also displaying clear convergence characteristics. The central and western regions demonstrate a strong "latecomer catch-up" effect [11, 12].

2.2 Connotation and Measurement Framework of Economic Resilience

The concept of economic resilience originated in the field of engineering mechanics and was later extended to economics. It is defined as the comprehensive embodiment of a region's resistance and endurance capacity, recovery and adjustment capacity, and adaptation and upgrading capacity when facing external shocks [13]. Its measurement framework has gradually evolved from a single GDP indicator to a multi-dimensional system: resistance and endurance capacity is measured by indicators such as per capita GDP, disposable income of residents, and employment status, reflecting the region's foundational ability to withstand shocks; recovery and adjustment capacity is measured by indicators such as the increment in per capita consumption goods and industrial structure elasticity, reflecting the recovery momentum after economic shocks; adaptation and upgrading capacity is measured by indicators such as the number of patents, number of university graduates, and innovation inputs, reflecting the region's long-term innovation and development potential [14, 15]. Some studies also incorporate regional characteristics by including ecological resilience, governance resilience, and other dimensions into the measurement system, further enriching the connotation of economic resilience.

2.3 Mechanisms of the Role of the Digital Economy in Economic Resilience

Existing research has revealed the core pathways through which the digital economy empowers economic resilience: first, the industrial upgrading pathway, where the digital economy promotes the upgrading and rationalization of industrial structures, enhancing industries' risk resistance through technological innovation [16]; second, the governance optimization pathway, where digital government improves regional governance

resilience and risk response efficiency through digital government services and optimization of the business environment [17]; third, the factor allocation pathway, where digital technologies optimize the allocation of capital, labor, technology, and other factors, alleviating information asymmetry and improving economic operational efficiency [18]; fourth, the intermediary transmission pathway, where urbanization rate, industrial structure, and other factors play a key mediating role between the digital economy and economic resilience—the digital economy indirectly enhances economic resilience by promoting urbanization, industrial upgrading, and so on [19]. Some studies have also found that the empowering effect of the digital economy on economic resilience is not simply linear; it can also operate through intermediary pathways such as green finance, and is moderated by factors including regional digital infrastructure and institutional environment [20].

2.4 Coupling Coordination and Spatiotemporal Evolution Analysis

The coupling coordination degree model is widely used to measure the level of synergistic development between the digital economy and economic resilience. Core findings indicate that, temporally, the coupling coordination level between the two shows an overall upward trend, but with significant regional differences; spatially, core urban agglomerations (such as the Yangtze River Delta and Beijing-Tianjin-Hebei) exhibit higher coupling levels, while inland regions remain in the primary or intermediate coordination stages [21]. In terms of dynamic analysis, some studies employ methods such as the PVAR model and Granger causality tests, finding that the digital economy and economic resilience exhibit self-reinforcing effects, but these effects diminish over time and are prone to lagged effects in later periods [22, 23].

In summary, the academic community has conducted in-depth explorations of the digital economy and economic resilience, yielding abundant results. However, the following deficiencies remain:

1) Insufficient fine-grained regional research: Most scholars focus primarily on economically developed regions such as Beijing-Tianjin-Hebei and the Yangtze River Delta, with relatively little research on the southwestern region. They have not fully considered the unique characteristics of the southwestern region, such as development in ethnic minority areas, ecological constraints, and the transformation pressure on resource-based cities. The regional adaptability of measurement indicators needs further improvement.
2) Inadequate depth in coupling relationship research: Most studies only analyze the unidirectional impact of the digital economy on economic resilience, with few scholars quantitatively examining the coupling relationship between the two. There is insufficient exploration of the spatiotemporal evolution of coupling coordination, influencing factors, and early warning mechanisms.

Based on the above deficiencies, this paper takes Yunnan, Guizhou, Sichuan, and Chongqing as the research objects. It employs the entropy method to measure their digital economy index and economic resilience index, establishes a coupling coordination degree model, and explores the dynamic evolution of the coupling coordination relationship between the digital economy and economic resilience, with the aim of providing theoretical foundations and policy support for the digital economy development in Yunnan, Guizhou, Sichuan, and Chongqing.

3. Research Methods and Data Sources

3.1 Research Methods

3.1.1 Construction of Indicator Systems for the Digital Economy and Economic Resilience

Building on relevant scholarly research [9, 19] and in combination with the connotation of the digital economy as well as the statistical standards of the Classification of the Digital Economy, this paper constructs a comprehensive evaluation indicator system (as shown in Table 1) while ensuring both comprehensiveness and reliability. This system is then used to measure the digital economy development index for the four provinces and cities of Yunnan, Guizhou, Sichuan, and Chongqing.

Economic resilience refers to the comprehensive capability of a regional economy to effectively withstand risks, dynamically adapt to the environment, and rapidly restore growth when facing external shocks, market fluctuations, and risk pressures. It is a key dimension for measuring the stability, sustainability, and risk

resistance of economic systems [11]. This paper constructs an economic resilience indicator system from three dimensions—resistance, adaptability, and recoverability, as shown in Table 2.

Table 1: Digital Economy Indicator System

Primary Indicator	Secondary Indicator	Unit
Digital Infrastructure	Number of mobile phone subscribers per 100 people	Persons
	Internet broadband access ports	Thousand households
	Number of internet users per 100 people	Units per 100 persons
Digital Industrialization	Proportion of employees in computer services and software	%
	Per capita telecommunication business volume	10,000 yuan per person
	Software industry revenue	10,000 yuan
	Number of digital industry patent authorizations	Items
Industrial Digitalization	E-commerce transaction volume	10,000 yuan
	Digital inclusive finance index	%

Table 2: Economic Resilience Indicator System

Primary Indicator	Secondary Indicator	Unit
Resistance	Per capita regional gross domestic product	Yuan per person
	Industrial output value	100 million yuan
	Fixed asset investment	100 million yuan
Adaptability	Foreign investment as a proportion of GDP	%
	Urban permanent resident population / regional permanent resident population	%
	Urban unemployment rate	%
	Ratio of deposits to loans in financial institutions	%
Recoverability	Total retail sales of consumer goods	100 million yuan
	Number of college students per 100,000 people	Persons per 100,000
	Local government fiscal expenditure	100 million yuan

3.1.2 Entropy Weight Method

To overcome interference from subjective factors and objectively calculate the weights of each indicator, this paper adopts the entropy weight method to measure the digital economy and economic resilience development indices of the four provinces and cities [21]. The entropy weight method is a typical objective weighting approach. Its core principle is to determine weights based on the degree of variation in the indicators: the greater the variation in an indicator's values, the richer the effective distinguishing information it contains, and thus the higher its corresponding weight; conversely, the lower the weight. The calculation steps are as follows:

Step 1: Standardize the original data.

For positive indicators:

$$Y_{ij}=\frac{X_{ij}-\min X_{ij}}{\max X_{ij}-\min X_{ij}} \tag{1}$$

For negative indicators:

$$Y_{ij}=\frac{\max X_{ij}-X_{ij}}{\max X_{ij}-\min X_{ij}} \tag{2}$$

where X_{ij} is the original indicator value for sample i and indicator j; Y_{ij} is the standardized value; and $\max X_{ij}$ and $\min X_{ij}$ are the maximum and minimum values of indicator X_{ij}, respectively.

Step 2: Determine the proportion of each standardized indicator.

$$P_{ij}=\frac{Y_{ij}}{\sum_{i=1}^{n} Y_{ij}} \tag{3}$$

where *n* is the number of samples.

Step 3: Calculate the information entropy value of the j-th indicator.

$$Z_{ij}=-\frac{1}{\ln n}\sum_{i=1}^{n} P_{ij}\ln P_{ij} \tag{4}$$

Step 4: Calculate the weight of the j-th indicator.

$$W_j=\frac{1-Z_j}{\sum_{j=1}^{m}(1-Z_j)} \tag{5}$$

where *m* is the number of indicators.

Step 5: Calculate the comprehensive scores for economic resilience and digital economy development levels, respectively, using the following formula:

$$U_i=\sum_{j=1}^{m} W_j\times Y_{ij} \tag{6}$$

3.1.3 Coupling Coordination Degree Model

The coupling coordination degree model consists of two parts: coupling degree and coordination degree. The coupling degree characterizes the strength of mutual influence and constraint between systems, while the coordination degree measures the actual effect of benign interaction and synergistic development between systems [15]. To investigate the level of synergistic development between the two major systems in the four provinces and cities, this paper constructs a coupling coordination degree model for empirical analysis. The specific calculation steps are as follows:

$$C=2\times\frac{\sqrt{U_1\times U_2}}{U_1+U_2} \tag{7}$$

$$T=\alpha U_1+\beta U_2 \tag{8}$$

$$D=\sqrt{C\times T} \tag{9}$$

where C denotes the coupling degree; T represents the comprehensive coordination index of the digital economy and economic resilience; U1 and U2 refer to the comprehensive development levels of the digital economy and economic resilience, respectively. α and β are the weight coefficients. Given that the digital economy and economic resilience are of equal importance to social development, we set α=β=0.5. The value of the coupling coordination degree (D) ranges from 0 to 1.

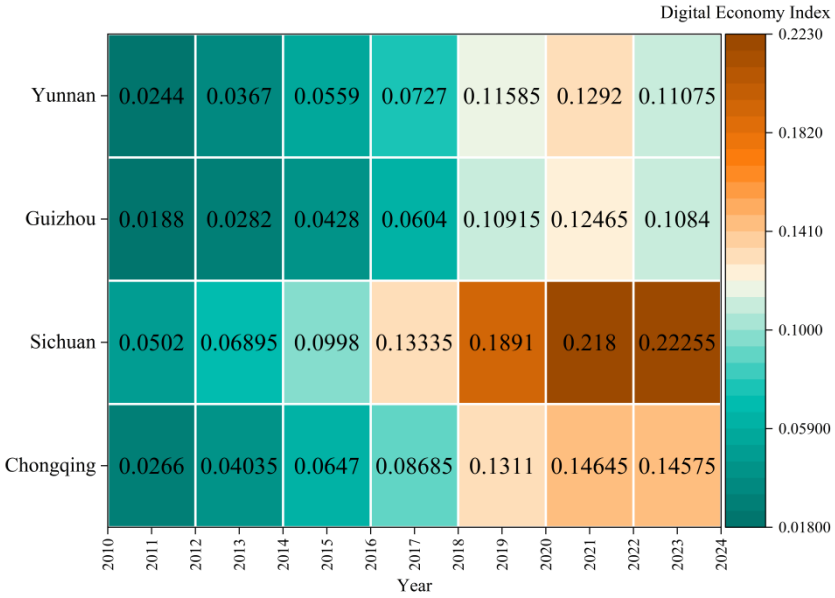
The data required for this paper are sourced from the Chongqing Statistical Yearbook, Sichuan Statistical Yearbook, Yunnan Statistical Yearbook, Guizhou Statistical Yearbook, and the statistical bulletins of the four provinces and cities.

4. Empirical Results

4.1 Analysis of the Two-System Index Results

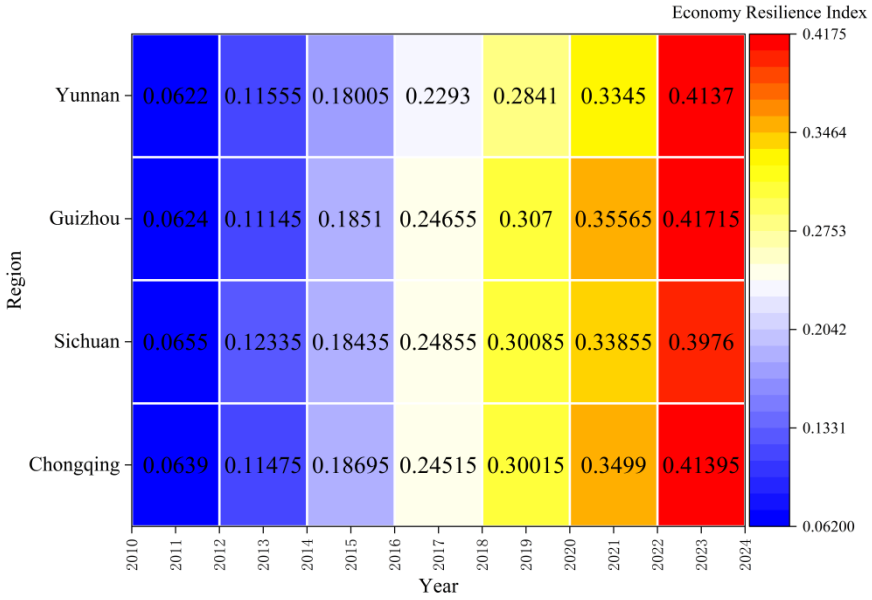
From a temporal perspective, the period 2011–2016 represents the initial accumulation stage for the digital economy in the four provinces and cities, with overall development indices remaining relatively low. From 2017–2020, it entered a phase of rapid growth, highly aligned with the national advancement of the "Digital China" strategy. From 2021–2023, influenced by the COVID-19 pandemic shock and base effect, the indices generally experienced slight correction or stabilized. In terms of regional patterns, Sichuan holds an absolute leading position in digital economy development, with its index reaching 0.2341 in 2020—the only region among the four to exceed 0.2—reflecting the strongest development foundation. Chongqing follows closely, with its index steadily rising to 0.1638, forming the second tier. Yunnan and Guizhou belong to the third tier, with similar and relatively low index levels, reaching phased peaks of 0.1544 and 0.1462, respectively, in 2020. As shown in Figure 1.

Figure 1: Measurement Results of the Digital Economy



The economic resilience indices of the four provinces and cities exhibit a continuous linear upward trend overall, increasing from the range of 0.06–0.07 in 2011 to 0.42–0.45 in 2023—an increase of more than sixfold—demonstrating a systematic enhancement in regional economic risk resistance capabilities. At the same time, inter-regional gaps have significantly narrowed. By 2023, the indices for Yunnan (0.4462), Guizhou (0.4395), Chongqing (0.4385), and Sichuan (0.4245) are highly close, displaying pronounced "latecomer catch-up" and regional convergence characteristics. As shown in Figure 2.

Figure 2: Measurement Results of Economic Resilience



There is a significant positive synergistic effect between the digital economy and economic resilience. Sichuan, which leads in digital economy development, also maintains a relatively high level of economic resilience. In contrast, Yunnan and Guizhou, which started later in the digital economy, exhibit faster growth rates in economic resilience indices, indicating that the penetration and application of digital technologies have effectively improved economic production efficiency, innovation capabilities, and risk resistance. The two also show phased differentiation characteristics: from 2021–2023, digital economy indices generally declined slightly, while economic resilience indices continued to rise, suggesting that improvements in economic

resilience not only depend on the digital economy but also benefit from industrial diversification, expansion of domestic demand markets, and effective support from macroeconomic policies.

Based on the above characteristics, each province and city can adopt targeted strategies: Sichuan should consolidate its first-mover advantage in the digital economy, deepen the integration of digital technologies with the real economy, and build nationally influential digital industry clusters; Chongqing needs to explore more efficient transformation pathways between the digital economy and economic resilience, with a focus on laying out intelligent manufacturing, digital finance, and other fields; Yunnan and Guizhou should seize national strategic opportunities such as "East Data West Computing," accelerate digital infrastructure construction, and leverage the digital economy as a key new engine for enhancing economic resilience.

4.2 Analysis of Coupling Coordination Degree Results

4.2.1 Overall Evolutionary Characteristics

From 2011 to 2023, the coupling coordination degree between economic resilience and the digital economy in Yunnan, Guizhou, Sichuan, and Chongqing shows a significant upward trend overall. The coordination relationship evolves progressively from an early state of imbalance to high-level coordination. In general, at the beginning of the study period, the coupling coordination degrees in each region were at relatively low levels (primarily in imbalance categories). Subsequently, with improvements in comprehensive development levels, the coupling coordination degree continued to rise, crossing stages from "barely coordinated—primary/intermediate coordinated—good coordinated" in the mid-to-late period, and ultimately reaching the "high-quality coordination" level across all regions by 2023.

4.2.2 Regional Differences and Horizontal Comparison

From a regional comparison perspective, the coupling coordination degrees in all four regions achieved leapfrog improvements, but differences exist in the pace and stability of advancement. Sichuan exhibits the smoothest and most sustained upward path in coupling coordination degree, entering high-level coordination intervals earlier and reaching the highest level among the four by 2023. This reflects more continuous and stable synergistic evolution between digital economy development and economic resilience enhancement. Chongqing also shows significant overall improvement and enters the "high-quality coordination" interval in the later period, though it experiences brief declines followed by recoveries in the mid-to-late stages, indicating that high-level synergy may still fluctuate under periodic shocks or structural adjustments. Yunnan and Guizhou display "continuous catch-up" characteristics: both achieve significant increases in coordination degree during the study period and ultimately enter "high-quality coordination," but experience certain pullbacks at high-level stages, suggesting that further strengthening of digital economy support for industrial resilience and governance resilience is needed to consolidate coordination quality. Overall, the 2023 coupling coordination degree levels present a pattern of "Sichuan highest, Chongqing second, and Guizhou and Yunnan relatively close," reflecting the stronger synergistic advantages of the Chengdu-Chongqing region in digital economy empowerment and resilience system building. While Yunnan and Guizhou have achieved notable improvements, enhancing stability and sustained high-quality coordination remains a key focus for future advancement.

Table 3: Coupling Coordination Types in the Four Provinces and Cities

Year	Sichuan	Chongqing	Guizhou	Yunnan
2011	Severe imbalance	Severe imbalance	Severe imbalance	Severe imbalance
2012	Mild imbalance	Moderate imbalance	Moderate imbalance	Moderate imbalance
2013	Verge of imbalance	Verge of imbalance	Mild imbalance	Verge of imbalance
2014	Barely coordinated	Barely coordinated	Verge of imbalance	Verge of imbalance
2015	Barely coordinated	Barely coordinated	Barely coordinated	Barely coordinated
2016	Primary coordinated	Primary coordinated	Barely coordinated	Barely coordinated
2017	Intermediate coordinated	Intermediate coordinated	Primary coordinated	Primary coordinated
2018	Good coordinated	Good coordinated	Intermediate coordinated	Intermediate coordinated
2019	Good coordinated	Good coordinated	Good coordinated	Good coordinated
2020	High-quality coordinated	High-quality coordinated	High-quality coordinated	Good coordinated
2021	High-quality coordinated	Good coordinated	Good coordinated	Good coordinated
2022	High-quality coordinated	High-quality coordinated	Good coordinated	Good coordinated
2023	High-quality coordinated	High-quality coordinated	High-quality coordinated	High-quality coordinated

5. Conclusions and Policy Recommendations

5.1 Conclusions

This paper takes the four southwestern provinces and cities as the research sample and systematically analyzes the spatiotemporal evolution characteristics of the digital economy and economic resilience from 2011 to 2023, as well as the coupling coordination relationship and linkage mechanisms between the two. Based on the empirical results, the following core conclusions are drawn:

First, digital economy development exhibits distinct temporal phased characteristics and significant regional heterogeneity. Temporally, the digital economy development in the four provinces and cities has gone through three stages: the initial accumulation period (2011–2016), the rapid growth period (2017–2020), and the steady callback period (2021–2023), which is highly consistent with the advancement of the "Digital China" strategy and changes in the external environment. Regionally, Sichuan possesses the strongest foundation in the digital economy, with its index breaking through 0.2 in 2020 and maintaining an absolute leading position; Chongqing forms the second tier; Yunnan and Guizhou constitute the third tier, with similar but overall relatively low index levels. Regional gradient differences are pronounced.

Second, economic resilience has achieved systematic improvement with clear regional convergence characteristics. From 2011 to 2023, the economic resilience indices of the four provinces and cities increased from the range of 0.06–0.07 to 0.42–0.45—an increase of more than sixfold—indicating a significant enhancement in the comprehensive capabilities of regional economies to resist risks, promote recovery, and strengthen adaptation. In terms of regional gaps, by 2023 the economic resilience indices of the four provinces and cities are highly close (Yunnan 0.4462, Guizhou 0.4395, Chongqing 0.4385, Sichuan 0.4245), with the disparity significantly narrowed, demonstrating a clear "latecomer catch-up" effect and a trend toward balanced regional economic resilience development.

Third, there exists a positive synergistic effect between the digital economy and economic resilience, with the coupling coordination level achieving leapfrog improvement. The coupling coordination degree evolved from an imbalanced state in 2011, progressively crossing the stages of barely coordinated, primary coordinated, intermediate coordinated, and good coordinated, ultimately reaching the high-quality coordination level across all four provinces and cities by 2023. In regional comparison, Sichuan exhibits the smoothest and most stable upward path in coupling coordination degree, reflecting the strongest synergistic stability; Chongqing shows significant improvement but with periodic fluctuations; Yunnan and Guizhou display "continuous catch-up" characteristics.

Fourth, the linkage relationship between the two presents phased differentiation features. The digital economy has a significant empowering effect on economic resilience: regions leading in digital economy development maintain higher overall levels of economic resilience, while Yunnan and Guizhou, which started later in the digital economy, exhibit faster growth rates in economic resilience, confirming the enhancing role of digital technology in economic risk resistance capabilities. However, from 2021 to 2023, digital economy indices generally experienced callbacks while economic resilience indices continued to rise, indicating that improvements in economic resilience not only depend on the digital economy but are also influenced by multiple factors such as industrial diversification, expansion of domestic demand markets, and macroeconomic policy support.

5.2 Policy Recommendations

Based on the above research conclusions and taking into account the regional characteristics and developmental shortcomings of the four southwestern provinces and cities, the following targeted policy recommendations are proposed to promote deep synergy and high-quality development between the digital economy and economic resilience:

Promote differentiated digital economy development to narrow regional gradient gaps. Sichuan should consolidate its first-mover advantage in the digital economy, focus on deep integration of digital technologies with the real economy, prioritize building nationally influential digital industry clusters, and strengthen its radiating and driving role toward surrounding provinces and cities. Chongqing should optimize the transformation pathways between the digital economy and economic resilience, with emphasis on developing

intelligent manufacturing, digital finance, and other fields to address periodic fluctuations in synergistic development and enhance coordination stability. Yunnan and Guizhou should seize national strategic opportunities such as "East Data West Computing," accelerate digital infrastructure construction to remedy weaknesses in digital foundations, leverage ecological resources and the distinctive features of ethnic minority areas to cultivate new forms of digital economy, and promote rapid catch-up in digital economy development.

Strengthen multi-dimensional construction of economic resilience to consolidate "latecomer catch-up" achievements. All four provinces and cities should continue to improve systems for measuring and enhancing economic resilience: consolidate foundational support indicators such as per capita GDP and disposable income of residents to strengthen the basic capacity to withstand risks; reinforce adaptation and upgrading indicators such as patent innovation and talent cultivation to enhance long-term development potential; and, in combination with southwestern regional characteristics, incorporate ecological resilience and governance resilience into the resilience-building system, shifting economic resilience from "quantity improvement" to "quality optimization." At the same time, increase investment in talent cultivation and other adaptation-upgrading indicators to provide a solid foundation for the digital economy's empowerment of economic resilience [3].

Improve mechanisms for synergistic development between the two to enhance coupling coordination quality. Establish long-term mechanisms for the coordinated development of the digital economy and economic resilience, promote deep penetration of digital technologies into areas such as industrial upgrading, governance optimization, and factor allocation, and strengthen the empowering role of the digital economy on economic resilience. To address the insufficient coordination stability in Yunnan and Guizhou, strengthen digital cooperation and talent exchanges with the Chengdu-Chongqing region, draw on the synergistic development experience of the Chengdu-Chongqing area to remedy shortcomings in industrial digitalization and digital applications. At the same time, pay attention to the impact of external environmental changes on synergistic development, improve the macroeconomic policy support system, and alleviate pressure from periodic fluctuations.

Optimize development paths based on regional characteristics to build a southwestern synergistic model. Leverage the construction of the Chengdu-Chongqing Twin-City Economic Circle to promote integrated digital economy development between Sichuan and Chongqing, creating a core demonstration zone for synergistic development of the digital economy and economic resilience. Yunnan and Guizhou should build on their ecological resource advantages, develop green digital economy, and promote the integration of digital technologies with ecological industries and ethnic characteristic industries to form differentiated synergistic development models. The four provinces and cities should jointly establish a monitoring and early warning mechanism for the synergistic development of the digital economy and economic resilience, promptly identify and address prominent issues in the process, and position the southwestern region as a model area in western China for digital economy empowerment of economic resilience.

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Conflicts of Interest

The authors declare no conflict of interest.

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