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Green Credit, Ecological Industrial Structure, and High Quality Economic Development

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Abstract

This article starts with the green insurance and economic development data of 30 provinces and cities in China from 2011 to 2020, and uses entropy method to conduct quantitative analysis with reference to national development concepts. Then, from a theoretical level, it discusses that green credit will affect the high-quality economic development of each province and city from two aspects: policy support and signal transmission, fund circulation and fund support. Then, from a data level, it discusses the theoretical hypothesis through empirical analysis, Confirmed that the development of green insurance has a significant positive impact on high-quality economic development, and proposed possible suggestions.

Keywords

Green Insurance; High Quality Economic Development; Fixed Effect Model; Entropy Method.

1. Introduction

Since the 21st century, with the rapid development of China's economy and the intensification of global warming, energy conservation and emission reduction have become a demand of the times. In 2020, Xi Jinping proposed the goal of "3060" carbon peak and carbon neutrality. In order to encourage and support innovation in the new energy industry, the country has established a green finance system represented by green credit through relevant environmental and industrial policies, guiding the green upgrading of traditional industries and cultivating new green environmental protection industries. The report of the 19th National Congress of the Communist Party of China in 2017 pointed out that in order to transform the economic growth model from a high-speed growth stage to a high-quality development stage, not only should we attach importance to supply side structural reform, but also to the upgrading and optimization of national economic structures such as industrial structure. The concept of green development not only requires attention to ecological and environmental issues, but also requires a green and low-carbon path in development, which is the only way to achieve sustainable social development and adjust economic structure. At the same time, the Outline of the 13th Five Year Plan proposes to "establish a green financial system, develop green insurance, green bonds, and establish green development funds", build a green financial system, and help high-quality economic development.

Early research on green credit and green finance both domestically and internationally often focused on the concept of green credit and its impact on the natural environment, lacking the development of green credit and the impact of the formation of green finance systems on the economic environment. In recent years, there have been continuous studies both domestically and internationally pointing out that green credit and green finance can guide and promote industrial structure adjustment and upgrading through the role of capital guidance. However,

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most of them remain theoretical discussions, and there is relatively little empirical discussion on the impact of green credit on economic development.

The research in this article will build a bridge between green finance and high-quality economic development represented by green credit from the perspective of industrial structure upgrading, effectively discover the impact of green credit on high-quality economic development, and discuss the important role of building a green finance system in China's economic development under the "3060" dual carbon background. It enriches current research on green economy from the perspective of economic development and supplements empirical research content. This article conforms to the needs of the era of energy conservation and emission reduction, and is of great significance in the context of actively promoting the transformation and upgrading of industrial structure and vigorously developing green finance in China.

Some scholars in China have conducted research on the effects of green credit and green finance on industrial structure adjustment and high-quality economic development, mostly limited to theoretical analysis. At the beginning of China's vigorous promotion of industrial structure adjustment, some scholars analyzed the differences between green credit and traditional credit, and discussed the necessity and problems faced by the implementation of green credit (He Dexu and Zhang Xuelan, 2007). Subsequently, some scholars discussed the implementation of green credit and the significance of building a green financial system, believing that it provides strong support for industrial structure transformation (Tan Xiaobo and Fu Miao, 2010). On this basis, some scholars conducted empirical analysis based on the results of enterprise environmental impact assessments and proposed that green finance hinders the development of dual high enterprises through its role in funding channels (Cui Qiang and Liang Peng, 2013). Scholars have also explored the impact of green credit on the high-quality development of China's economy through macro micro and complementary policies (Wang Yao, 2016). Later, some scholars pointed out that green credit can guide the ecological transformation of industrial structure through three mechanisms (Xu Sheng et al., 2018) [4]. Under the punitive and inhibitory effects of green credit, it has effectively affected the investment and financing behavior of heavily polluting enterprises (Su Dongwei and Lian Lili, 2018) [5]. Scholars have empirically analyzed and validated the positive promoting effect of green credit on economic growth through constructing GMM models using provincial panel data (Xie Tingting and Liu Jinhua, 2019) [6]. Next, some scholars pointed out the introduction of virtual variables in green credit policies and the use of fixed effects models to empirically analyze the impact of green credit on the upgrading of China's industrial structure (Li Yu et al., 2020) [7]. At the same time, some scholars have pointed out that green credit can guide environmental governance to promote high-quality and sustainable economic development (Lei Hanyun and Wang Xuxia, 2020) [8]. Some scholars have proposed that green finance, represented by green credit, achieves high-quality economic development through the path of influencing industrial structure adjustment (Wang Zhiqiang, Wang Yifan). Subsequently, some scholars pointed out that green credit can influence high-quality economic development through the intermediary effect of guiding green consumption and upgrading industrial structure (Liu Huake and He Chun, 2021) [10].

2. Analysis of Current Situation

2.1. Current Situation of Green Credit

The current development status of green credit in China can be analyzed from two aspects: national policies and banks.

Firstly, in terms of national policies, green credit often requires policy guidance and economic policy support in the early stages of development, so the development and changes of national

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policies will reflect the development of green credit in China. Since the end of the last century, the country has proposed the use of economic leverage to protect the environment, and green innovation by enterprises has become a trend. Subsequently, support for ecological resource protection and pollution prevention will be considered as loan considerations. At the beginning of the 21st century, the government officially issued notices and decisions proposing the establishment of a sound policy system conducive to green protection, which led to the establishment and improvement of a green financial system represented by green credit. Subsequently, the national and regional governments introduced policies, implementation, and detailed rules related to green credit [11]. Since 2016, green finance represented by green credit has gradually become a national strategy, and green credit has entered a high-speed development stage. The scale of credit has gradually increased, and credit norms have also gradually improved.

Secondly, in terms of banks, the implementation of green credit implementation plans and rules will affect the flow of funds, lending processes, and standards of green credit. Banks' reports on the content and situation of green credit reflect the scale, total amount, and balance of credit. Since the beginning of the 21st century, the number of energy-saving and environmental protection project loans issued by the banking industry has gradually increased, and the loan balance has rapidly grown from less than 100 billion to trillions of yuan [12].

2.2. Current Status of High Quality Economic Development

Table 1. Index System for High Quality Economic Development

Primary indicators	Secondary indicators	Indicator Meaning	Attribute
Innovate	GDP growth rate	GDP growth rate	+
	R&D investment	R&D expenditure/GDP	+
	Investment efficiency	Investment rate/GDP growth rate	-
	Technology transaction activity	Technical transaction volume/GDP	+
Coordinate	demand structure	Total retail sales of consumer goods/GDP	+
	industrial structure	Third Industry Output Value/GDP	+
	Urban-rural structure	Urbanization rate	+
	Government debt	Government debt balance/GDP	-
Green	GDP energy intensity	Standard coal/GDP	-
	Energy consumption elasticity coefficient	Energy consumption growth rate/GDP growth rate	-
	Unit output of waste gas	Wastewater discharge/GDP	-
	Unit output wastewater	Sulfur dioxide emissions/GDP	-
Open	Foreign trade dependence	Total import and export volume/GDP	+
	Foreign investment rate	Foreign Direct Investment/GDP	+
	Marketization rate	Marketization index	+
	Degree of financial development	Loan growth/GDP	+
Sharing	Urban-rural consumption gap	Per capita consumption expenditure of urban residents/per capita consumption expenditure of rural residents	-
	Proportion of employee compensation	Employee compensation/GDP	+
	Resilience of Household Income Growth	Per capita disposable income growth rate/GDP growth rate	+
	Proportion of People's Livelihood Financial Expenditure	Proportion of education, healthcare, housing, and social security	+

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The Fifth Plenary Session of the 18th National Congress of the Communist Party of China first proposed the five development concepts, namely innovation, coordination, green, openness, and sharing. These five standards are also the five indicators for building high-quality economic development. This article refers to the evaluation system constructed by previous scholars for high-quality economic development [13], and uses 20 data from these five dimensions to measure the relative value of economic development quality in different provinces and cities through entropy method. Firstly, construct an indicator system as shown in Table 1, and obtain the result indicators for 30 provinces and cities from 2011 to 2020.

In order to quantify and compare the quality of economic development through unified indicators, it is necessary to perform dimensionless processing on the data. This article draws inspiration from previous research and adjusts the secondary indicators in the economic high-quality development indicator system to [40100] through the efficacy coefficient method, transforming the original formula into:

$$X_{ij} = 40 + 60 \times \frac{x_{ij} - x_{ij\min}}{x_{ij\max} - x_{ij\min}} \tag{1}$$

$$X_{ij} = 40 + 60 \times \frac{x_{ij\max} - x_{ij}}{x_{ij\max} - x_{ij\min}} \tag{2}$$

Where, i represents various indicators, j represents each region, xij represents the data of a certain indicator in a certain region, Xij represents the dimensionalized data of the indicator in that region, formula (1) is used for positive indicators, and formula (2) is used for reverse indicators.

Due to the new development concept, this article assigns equal weights to various indicators and uses the linear weighting method to calculate the high-quality economic development index for each region, as shown in formula (3).

$$Q_j = \sum_{i=1}^{i=10} x_{ij} \tag{3}$$

From this, the comprehensive index of economic development quality for each region from 2011 to 2020 can be obtained, taking the data of Beijing from 2011 to 2020 as an example, as shown in Table 2.

Table 2. Comprehensive Index of High Quality Economic Development in Beijing from 2011 to 2020

Year	Comprehensive Index	Year	Comprehensive Index
2011	0.7860219	2016	0.5971868
2012	0.7804177	2017	0.7161568
2013	0.7644442	2018	0.7626473
2014	0.7682644	2019	0.7533755
2015	0.7538334	2020	0.7068198

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3. Analysis of Mechanism of Action

In the context of "dual carbon", in order to achieve the goals of carbon neutrality, carbon peaking, sustainable economic and social development, and ecological construction, green credit has developed rapidly.

Green credit can affect high-quality economic development through various mechanisms. Referring to previous research literature, through Xie Xusheng's research, it can be found that green credit and high-quality economic development interact and have a coupling mechanism [14]; Subsequently, through the research and analysis of Liu Huake and He Chun, it can be found that green credit can promote high-quality economic development through the intermediary effect of promoting industrial upgrading [15], and can also affect high-quality economic development through the synergistic effect of industrial structure upgrading [16]. Therefore, this article can explore the mechanism by which green credit affects the high-quality development of the economy through its impact on industrial structure.

One is the flow of funds. Green credit itself, as a credit, has the regulatory effect of ordinary credit, making the supply side and demand side of funds match each other. Green credit has led to a greater flow of funds to green and environmentally friendly industries, reducing the flow of funds to high polluting and energy consuming enterprises. This may lead to a shortage of funds and difficulty in expanding the scale of high pollution and high energy consuming enterprises, forcing some high pollution and high energy consuming enterprises to transform and upgrade, engage in green technology innovation or industrial upgrading, and develop towards low pollution and low energy consumption.

The second is positive feedback, as green and environmentally friendly enterprises will receive more financial support and development opportunities, which will also attract more entrepreneurs to join the green and environmentally friendly industry. The development dilemma of high pollution and high energy consumption industries will also raise the threshold for entrepreneurship in this industry, affecting the entry of latecomers into this industry.

The above two points will affect the existing industrial structure, integrate existing industries, drive industrial structure adjustment and resource optimization allocation, and the scale of the primary industry will be relatively reduced, while the scale of the tertiary industry will be relatively expanded. The above development will promote high-quality economic development by influencing three aspects: "innovation", "coordination", and "green".

4. Empirical Study

The empirical research section will first determine the selection of data and the determination of variables. Then, grey correlation analysis will be used to test the correlation of data. Then, a dynamic panel data model (DPD) will be established for the dynamic data panel of green credit development and industrial structure changes to test the regional impact differences of green credit. Finally, a robustness test will be conducted on the model.

4.1. Data Selection and Variable Determination

According to the research results of previous scholars and relevant literature, the green credit ratio is the quotient of the green credit limit and the total amount of institutional loans. But according to the regulations of the People's Bank of China. Only loans that support energy-saving and environmental protection projects can be called green loans and included in the statistical category of green loans. Therefore, the green credit ratio is the ratio of the loan amount for energy-saving and environmental protection projects to the total loan amount.

Due to the fact that some loans are still in the credit stage and have not entered the actual disbursement stage, the total loan amount referred to here is the actual disbursement loan

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amount, not the credit amount. Why did not this article choose the annual total value of each industry as an indicator component of industrial structure optimization rate? Because the denominator of industrial structure optimization rate is GDP, which can be understood as the difference between total investment and intermediate investment, and is a concept of added value. Therefore, in the indicator of industrial structure optimization rate, we adopt the concept of added value, which means that the industrial structure optimization rate is equal to the quotient of the sum of the output values of the second and third industries and GDP. Based on existing research, the optimization rate of industrial structure is used as the dependent variable, the green credit ratio is used as the explanatory variable, and the financial correlation rate, financial industry output ratio, and financial industry output ratio are the control variables.

Table 3. Definition of Related Variables

Variable	Definition	Sign
Industrial structure optimization rate	Sum of output values of the secondary and tertiary industries/regional GDP	ISR
Green credit ratio	Energy conservation and environmental protection project loans/total loan amount	GLR
Financial correlation rate	Sum of deposit and loan balances of regional financial institutions/regional GDP	FIR
Financial industry output ratio	Value added of regional financial industry/regional GDP	FIPR
Government credit intervention	Deposit balance of regional financial institutions/loan balance of regional financial institutions	CPIV

4.2. Grey Correlation Analysis

Firstly, we will calculate the grey correlation between the green credit ratio and the proportion of the first, second, and third industries, in order to discover the geometric similarity between the two. By comparing the grey correlation between green credit and the proportion of different industries, we will determine the degree of impact of green credit on the proportion of different industries, and then demonstrate the impact of green credit on industrial structure adjustment.

Table 4. Definition of Variables

Variable	Definition	Sign
Green credit ratio	Loan amount/total loan amount for energy-saving and	GCR
Primary industry ratio	environmental protection projects	PPI
Secondary industry Ratio	Value added/GDP of the primary industry	PSI
Tertiary industry ratio	Value added/GDP of the tertiary industry	PTI

We calculate according to the grey correlation formula. Firstly, we define the reference sequence (X0) and comparison sequence (X1), eliminate their dimensions, and use the formula to obtain the difference between the normalized reference sequence and comparison sequence. Finally, we calculate the correlation coefficient and correlation degree. We will bring the raw data one by one into the above steps to obtain the grey correlation between the two, and the results are as follows:

$$\varepsilon_{Q_1} = 0.7314, \varepsilon_{Q_2} = 0.7601, \varepsilon_{Q_3} = 0.8059$$

From the above results, it can be seen that Q3>Q2>Q1. From the above results, the grey correlation degree between green credit and the primary industry is the smallest, at 0.7314, the

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grey correlation degree between green credit and the secondary industry is higher, at 0.7601, and the grey correlation degree between green credit and the tertiary industry is the highest, at 0.8059; This indicates that the grey correlation between green credit and the proportion of the tertiary industry is strongest, and the investment of green credit funds has a greater impact on the tertiary industry, with more added value, followed by the secondary industry and the primary industry.

In summary, the increase in green credit investment will drive the increase in the added value of the second and third industries, thereby increasing their proportion in GDP. According to Chinese statistics, the proportion of added value of the tertiary industry to GDP in 2021 (53.3%) has increased by 8.7% compared to 2012 (44.6%). From this, it can be seen that after the implementation of the green credit policy, the proportion of the tertiary industry has significantly increased, so the investment of green credit is likely to help adjust the industrial structure.

4.3. Panel Regression Analysis Model and Regression Analysis Results

Due to the widespread application of panel data regression models in the fields of economics, sociology, and finance, and the mature theory, we have chosen to analyze the impact of green credit on industrial structure adjustment through panel data regression models. Due to the large amount of data from 31 provinces, and the significant differences in economic conditions and industrial foundations among each province, we divide them into three regions based on the principle of similar geographical location and economic foundation: East, Central, and West. Considering that the added value of the industry in this period will be affected by the base of the total industrial value in the base period, we introduce a variable with the optimization rate of the industrial structure lagging behind one period. This can dynamically depict the changes in the industrial structure, exclude the impact of the previous period on the data in this period, and truly identify the impact of green credit on the optimization of the industrial structure.

$$ISR_{i,t} = \alpha_1 ISR_{i,t-1} + \alpha_2 GLR_t + \alpha_3 FIR_{i,t} + \alpha_4 FIPR_{i,t} + \alpha_5 CPIV_{i,t} + \mu_{i,t}$$

Where, $i = 1, 2, 3, \cdots\cdots, N$ represents the number of sections, and $t = 1, 2, 3, \cdots\cdots, N$ represents different years. μit is the perturbation term that varies with individual and time. ISRit and ISRi,t-1 represent the industrial structure optimization rates of the i-th province in year t and t-1, respectively; GLRt represents the green credit ratio in year t; The bank characteristic variable FIRit is the financial correlation rate of the i-th province in year t, respectively; FIPRit represents the financial industry output ratio of the i-th province in year t; CPIVit represents the degree of central government intervention in regional credit in the i-th province in the t-th year.

The dynamic panel data model is called DPD for short. When using this model, we first need to conduct an over identification test, which is very necessary, because this step can help us judge whether the tool variables are useful. At this point, if the test value is greater than 0.05, we should accept the original hypothesis and consider it an effective tool. In addition, we also need to perform autocorrelation testing on the perturbation term of the generalized moment estimation. If it is first-order correlation, then the variable is reasonable; If there is a second-order correlation, then the variable is unreasonable. If the result is greater than 0.05, it indicates that the original hypothesis with a lag of one order is valid and there is no significant sequence term.

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Table 5. National Panel Regression Results

Variables	Coefficient	t-values
IER(-1)	0.3275***	47.46607
GLR	0.2864***	21.33654
FIR	0.0299***	23.00056
FIPR	0.0901**	2.19237
CPIV	0.0091***	3.76543
sargan (p-value)	0.2398	—
AR_1 (p-value)	0.0005	—
AR_2 (p-value)	0.8856	—

Note: *, * *, * * respectively represent significance levels of 10%, 5%, and 1%, the same below.

In Table 5, we can see the relevant results. For every 1% increase in the optimization level of the base period industrial structure, the optimization level of the current period industrial structure increases by 0.3275%. This phenomenon is significant at the 1% level, indicating that the optimization level of the current period industrial structure is closely related to the optimization level of the base period industrial structure. Therefore, using dynamic panel data to characterize this relationship is very accurate. In addition, we can also see that the coefficient of green credit ratio is positive, indicating a positive correlation between industrial structure and green credit supply. For every 1% increase in green credit ratio, the optimization rate of industrial structure increases by 0.2864%, which is significant at the 1% level, indicating that green credit has a significant impact on industrial structure optimization. This is consistent with the results obtained from grey correlation analysis. Since the implementation of the green credit policy, more loan funds have been invested in the second and third industries, promoting the increase in added value of China's second and third industries and product added value, thereby promoting the optimization of industrial structure.

4.4. Regional Panel Analysis of the Impact of Green Credit on Industrial Structure Adjustment

Due to differences in geographical location and economic strength, the national economic development is also imbalanced. Therefore, there are regional differences in the impact of green credit on industrial structure. This article divides 31 provinces, autonomous regions, and municipalities in China into three parts: east, central, and west, based on the similarity of geographical location and economic foundation. Among them, the eastern region includes the coastal areas on the east side of China, mainly including Zhejiang, Beijing, Tianjin, Hebei, Fujian, Liaoning, Shanghai, Shandong, Guangdong, Hainan, and Jiangsu; The central region includes 8 provinces including Shanxi, Heilongjiang, Hubei, Jilin, Jiangxi, Henan, Hunan, Anhui, etc; The western region includes vast areas such as Yunnan, Tibet, Inner Mongolia, Shaanxi, Gansu, Sichuan, Guangxi, Qinghai, Ningxia, Guizhou, Chongqing, and Xinjiang.

Table 6. Eastern Region Panel Regression Results

Variables	Coefficient	t-values
IER(-1)	0.1503***	3.2522
GLR	0.1601**	2.4543
FIR	0.0233***	4.1022
FIPR	0.0855	0.6002
CPIV	0.0455**	-2.5565
sargan (p-value)	0.1533	—
AR_1 (p-value)	0.0039	—
AR_2 (p-value)	0.3743	—

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This article uses the national panel analysis method of green credit on industrial structure adjustment to obtain the following results. From the parameters in Table 6, we can see that the base period industrial structure adjustment in the eastern region has a significant impact compared to the current period industrial structure adjustment. From the table, we can see that. For every 1% increase in the optimization level of the industrial structure in the base period, the optimization level of the industrial structure in the current period increases by 0.1503%, which is significant at the 1% level. This also indicates that the industrial structure adjustment in the eastern region is closely related to the base period industrial structure adjustment. In addition, for every 1% increase in green credit, the level of industrial structure optimization in that year increases by 0.1601%, which is 0.036% higher than the national average level of 0.124%. This indicates that similar credit adjustments have significant effects on industrial structure optimization and upgrading in the eastern region.

Table 7. Panel Regression Results in the Central Region

Variables	Coefficient	t-values
IER(-1)	0.5699***	3.2522
GLR	0.0895	2.4543
FIR	0.0442***	4.1022
FIPR	-0.1243	0.6002
CPIV	0.0466***	-2.5565
sargan (p-value)	0.4832	—
AR_1 (p-value)	0.0123	—
AR_2 (p-value)	0.7421	—

From the results in Table 7, we can see that the coefficient of optimization rate for the central region and its industrial structure is positive. That is, for every 1% increase in the optimization level of the base period industrial structure, the optimization level of the current year's industrial structure will increase by 0.5699%. This indicates that the adjustment of the central region and its industrial structure has a significant impact on the adjustment of the local industrial structure. In addition, for every 1% increase in green credit, the level of industrial structure optimization in that year increases by 0.0895%. Compared to the eastern region and the national average level, the effect of green credit adjustment and industrial structure optimization and upgrading in the central region is not outstanding.

Table 8. Panel Regression Results in the Western Region

Variables	Coefficient	t-values
IER(-1)	0.3165***	11.1785
GLR	0.5976**	1.9834
FIR	0.0153	1.2478
FIPR	0.6425	0.6358
CPIV	0.0006	0.0583
sargan (p-value)	0.2381	—
AR_1 (p-value)	0.0003	—
AR_2 (p-value)	0.8572	—

From Table 8, it can be seen that for every 1% increase in the level of industrial restructuring in the western region during the base period., The improvement of 0.3165% in the optimization

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level of the industrial structure in this period indicates that the adjustment of the base period industry and the optimization of the structural level are conducive to the further optimization of the next period's industrial adjustment structural level. In addition, for every 1% increase in green credit, the level of industrial structure optimization increases by 0.5976%. This indicates that the continuous supply of green credit funds will bring optimization and adjustment to the industrial structure. The foreseeable result is that the proportion of the primary industry to GDP will gradually decrease, while the proportion of the secondary and tertiary industries to GDP will increase.

4.5. Robustness Testing

Table 9. Robustness Test Results

Nationwide			**Eastern region**		
Variables	Coefficient	t-values	Variables	Coefficient	t-values
IER(-1)	0.3893***	30.0213	IER(-1)	0.3165***	2.3328
GLR	0.2778***	21.7522	GLR	0.5976**	2.5422
FIR	0.0272	17.6033	FIR	0.0153	5.0030
FIPR	0.1079***	5.6984	FIPR	0.6425	1.1987
CPIV	0.0061*	1.6944	CPIV	0.0006	-2.3312
sargan (p-value)	0.2355	—	sargan (p-value)	0.2381	—
AR_1 (p-value)	0.0005	—	AR_1 (p-value)	0.0003	—
AR_2 (p-value)	0.7055	—	AR_2 (p-value)	0.8572	—
Central region			**Western Region**		
Variables	Coefficient	t-values	Variables	Coefficient	t-values
IER(-1)	0.5533***	11.1785	IER(-1)	0.3062***	11.1355
GLR	0.0765	1.9834	GLR	0.5754**	1.9653
FIR	0.0339***	1.2478	FIR	0.0147	1.2323
FIPR	-0.1023	0.6358	FIPR	0.6425	0.6358
CPIV	0.0366***	0.0583	CPIV	0.0006	0.0562
sargan (p-value)	0.4825	—	sargan (p-value)	0.2287	—
AR_1 (p-value)	0.0121	—	AR_1 (p-value)	0.0001	—
AR_2 (p-value)	0.7322	—	AR_2 (p-value)	0.8382	—

In the model constructed in this article, no single indicator can replace the green ratio, so the control variable has to be replaced by the proportion of financial industry output in the regional tertiary industry. This article conducted robustness tests on both national and regional panel analyses, and the specific results are shown in Table 9. As can be seen from the table. The significance of the explanatory variable green credit ratio and the level of industrial structure optimization in the previous period has not changed significantly, and the degree of impact is similar. The coefficient symbols and significance levels of other variables have not changed significantly, so the panel model constructed in this article is still very robust.

5. Conclusion and Suggestions

This article first focuses on the green credit and economic development data of 30 provinces and cities in China in the past decade, and uses entropy method and other reference national development concepts to quantitatively analyze the two. Then, from a theoretical level, it discusses that green insurance will affect the industrial structure from two aspects: fund flow and positive feedback, further affecting the high-quality economic development of each province and city. Then, from a data level, theoretical hypotheses are discussed through empirical analysis, It has been confirmed that the development of green credit has a positive

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impact on industrial structure adjustment and can further affect high-quality economic development.

Based on the above analysis, this article proposes the following policy recommendations: firstly, further refine the recognition standards for green credit, so that banks and other financial intermediaries can have a clearer and more detailed division, recognition, and standardized process for green credit. At present, due to regional development differences, it is easy to have inconsistent criteria for green project identification. More detailed classification and evaluation rating of enterprises and enterprise projects, analyzing the sustainability and future development of projects, in order to assist different projects and enterprises in financing loans, promote the development of green environmental protection industry, and iterate green innovation; Secondly, there is mutual cooperation and information sharing, which not only requires information sharing between environmental protection departments and financial intermediaries such as banks, but also timely disclosure and disclosure of information to prevent obstacles to the implementation of green credit caused by information gaps. Additionally, there should be win-win cooperation among different regions, as the development of green credit varies greatly in different regions, Collaboration and information sharing can not only coordinate the economic activities of green credit, but also better assist backward provinces in learning from experience, developing green credit, and promoting the development and innovation of green credit nationwide; Finally, strengthen the awareness of green environmental protection, encourage high-quality green development of the economy, strengthen environmental regulations, establish incentive policies for green credit, and guide the development of green credit and industrial structure transformation and upgrading at various levels of the country and society, in order to promote high-quality development of the regional economy.

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