Analysis of the Effect of Green Finance on Industrial Structure Upgrading

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Abstract: *Based on the actual data of green finance and industrial structure in China's many provinces from 2008 to 2017, this paper constructs a fixed effect model, analyzes the relationship between China's green finance and promoting the transformation of China's economic structure, and, on the basis of analyzing the national conclusion, expounds the regional characteristics and differences of the relationship between green finance in east and west China on the upgrading of industrial structure. According to the empirical research after the modeling of this paper, the positive correlation between green finance and the upgrading of China's industrial structure shows a significant positive correlation, green finance can effectively promote the transformation of China's economy from extensive to fine, but it is a pity that China's green finance is currently slow development and there are significant differences between the regions of the Eastern, Central and Western Regions, and it is necessary to deepen the development level of green finance to enhance its development efficiency, so as to make green finance to the industrial structure upgrading drive to a higher level.*

Keywords: Green Finance, Industrial Structure Upgrade, Influential Effect, Fixed Effect Model

1. Introduction

China's traditional extensive economic growth mode has brought about rapid economic development and a series of serious environmental pollution problems. The work report to the 19th national congress of the communist party of China (CPC) makes it clear that China's economy has moved from a stage of rapid growth to a new stage of high-quality development. The optimization and upgrading of the structure of China's existing industries is an important driving force for the transformation of China's economy from extensive to fine, and it is also an escort for the long-term, stable and healthy development of China's economy. It is urgent to effectively make use of the strength and prominent advantages of green finance. Under the current development situation, it is of great theoretical and practical significance to deeply analyze the role of green finance in the transformation of China's economy from extensive to refined.

On the one hand, green finance can open up new channels of financing for the development of green industry, scientifically adjust the proportion of different kinds of credit loan capital in financing, save various expenses and expenditures of financing, raise sufficient funds for scientific and technological innovation and operation management of the industry, promote China's green enterprises to play a greater market development potential, realize the adjustment and optimization of China's existing industrial structure; Green finance can build a bridge between China's financial industry and green enterprises, achieve common development and progress, and provide support for the construction of ecological civilization. At the same time, the further development of green finance is also conducive to guide the direction of capital investment, put more capital into the emerging green industry, to promote enterprises to achieve faster transformation and upgrading. The two work together to promote the development of the economy towards sustainability and green direction, effectively link China's environmental resources shortage dilemma.

Through the above analysis, it can be seen that under the current circumstances, the strategic height of green finance in China's new normal economic stage has been steadily enhanced, And China has continuously promoted the optimization and upgrading of China's financial industry and other industrial structures through the formulation and introduction of relevant strategic development policies and piloting, and finally achieved a stable and long-term development trend in all aspects of society. Therefore, the in-depth analysis of the relationship between green finance and the development of industrial structure is also an inevitable requirement to adapt to the background of the times. Based on the current level of development of China's industrial structure and the actual situation of green finance, this paper systematically analyzes the impact of green finance on the realization of the fine development of China's industrial structure. On this basis, with the help of the construction of theoretical model and and practical analysis of various methods, summarized the benefits of China's green finance to promote the transformation and upgrading of industrial structure targeted measures.

2. Modeling Process

Based on the theoretical analysis of the previous article, the following model sits to test the effect of green finance on the upgrading of industrial structure:

$$IH_{it} = \alpha + \beta GF_{it} + \Sigma \gamma_j Y_{j,it} + \varepsilon_{it} \qquad (2.1)$$

Where i represents the province and city (i,2,......,31), t represents the time. IH as a measure of the level of industrial structure upgrading and development. GF as a measure of the level of green financial development. A random perturbation that varies with individual and time. In addition, in order to control other possible factors affecting industrial structure in the economy, the level of opening-up, human capital level, government expenditure level, urbanization level and technological progress level

are introduced as control variable Y.

3. Metric Selection and Data

This paper mainly studies the effect of green finance on the upgrading of industrial structure, so the level of green finance development is taken as an explanatory variable, and the upgrading of industrial structure is regarded as the explanatory variable. But in addition, the literature research found that the upgrading of industrial structure is also affected by many factors, in the comprehensive consideration of data acquisition ease and so on, added several control variables.

3.1 Green Finance (GF)

The measurement of the Green Financial Development Level Indicator (GF) is reflected by the data obtained by the weighting of the data of the three indicators: green credit, green insurance and green investment. In this paper, the relatively objective entropy method will be used to determine the weight of each indicator layer. Green Credit selected ten major banks in China's green credit work - Bank of China, Agricultural Bank, Industrial and Commercial Bank of China, Construction Bank, Bank of Communications, Guangfa Bank, Pudong Development Bank, Huaxia Bank, China Merchants Bank, Societe Generale Bank as the target bank, and used the ratio of their green credit balance to credit balance to reflect the development of China's green credit. Green insurance selects agriculture, which is deeply affected by the natural environment, as a representative industry, and measures the development level of green insurance by using the proportion of agricultural insurance to the total income of property insurance. Green investment is measured by the proportion of total environmental investment to GDP related to industrial pollution prevention and environmental protection infrastructure construction in cities and towns.

3.2 Industrial Structure Upgrading (IH)

The index of industrial structure upgrading (IH) is the level of industrial upgrading. This paper will choose the ratio of the value added of the tertiary industry to the value added of the secondary industry. This method can take into account the current economic form, the transformation of industrial structure in modern society is mostly the process of coordinated development between the secondary industry and the tertiary industry, so the indicators well describe the process of the transformation of the secondary industry to the tertiary industry. In addition, this paper will use the sum of the value added of the second and third industries as a proportion of GDP to carry out the robustness of the regression model.

3.3 Control Variables

According to the relevant literature on industrial structure, there are many variables that affect the upgrading of industrial structure, in order to control the impact of other variables, this paper in the above-mentioned model construction introduced a total of five control variables,

namely, the level of opening up (CFDI), human capital level (CHR), government expenditure level (CGC), urbanization level (CUR), technological progress level (CTI) to make this empirical analysis more scientific and reasonable.

3.4 Data Sources

Considering that since 2007, China's green finance has been increasing in size, and the information disclosure system associated with it has become more and more perfect. Due to policy lag considerations, the data selection of this paper began in 2008. This paper collects and collates data on relevant indicators in 31 provinces in China from 2008 to 2017. The data are mainly collected from the China Statistical Yearbook, the Statistical Yearbook of various provinces, the National and Provincial Statistical Offices, the China Banking Social Responsibility Report and the Financial Annual Report of the banks, the China Industrial Statistics Yearbook, the China Financial Statistics Yearbook, and the China Environmental Statistics Yearbook.

4. Empirical Analysis

4.1 Smoothness Test

In order to avoid the formation of pseudo-regression of panel data, before the regression, this paper uses LLC test, IPS test, Fisher test and other three test methods to carry out unit root inspection of each variable data. In the process of inspection, it is necessary to verify the original sequence in the case of whether or not the trend item is included, if the test is passed, it does not contain the unit root, the panel sequence is stable, if the test is not passed, it is necessary to further judge its single total order. The following table shows the results of the test that ultimately determine the stability of each variable.

Table 4.1: Panel Data Unit Root Test Results

Region	Variable	LLC test	IPS test	Fisher test	Smoothness
Country	GF	-19.6199***	-4.028***	186.2001***	yes
	IH	-7.708***	-5.5264***	269.782***	yes
	CTI	-2.1291**	-1.3084*	183.7617***	yes
	CUR	-32.9322***	-4.5867***	129.2037***	yes
	CFDI	-6.7141***	-4.2574***	91.3136***	yes
	CGC	-3.2983***	-3.631***	113.1547***	yes
	CHR	-15.2449***	-2.573***	224.5181***	yes
East	GF	-6.8933***	-2.7325***	47.6154***	yes
	IH	-2.4421***	-3.3469***	92.647***	yes
	CTI	-3.155***	-2.454***	42.1306**	yes
	CUR	-6.6716***	-4.444***	76.6062***	yes
	CFDI	-6.094***	-1.6397*	33.4337*	yes
	CGC	-2.2852**	-2.4217***	32.7612	yes
	CHR	-2.696***	-1.661**	128.8867***	yes
Central	GF	-9.0679***	-1.9457**	98.5563***	yes
	IH	-5.782	-2.4782***	53.864***	yes
	CTI	-7.1164***	-2.4002***	139.4982***	yes
	CUR	-15.5351***	-2.2108**	64.1111***	yes
	D.CFDI	-2.4757***	-3.0385***	46.7468***	yes
	CGC	-6.6553***	-2.0474**	28.2988*	yes
	CHR	-6.8357***	-1.4054*	55.2723***	yes
West	GF	-15.9645***	-15.9645***	40.0284***	yes
	IH	-4.689***	-4.689***	56.0046***	yes
	CTI	-2.6044***	-2.6044***	33.5409**	yes

CUR	-7.9171***	-7.9171***	33.9106**	yes
D.CFDI	-5.8352***	-5.8352***	44.7149***	yes
CGC	-4.0558***	-4.0558***	52.3785***	yes
D.CHR	-6.2402***	-6.2402***	40.3591***	yes

Note: ***、**、* indicate the significance level of 1%, 5%, and 10% respectively

From the inspection results, it can be seen that the national data and eastern data GF, IH, CTI, CUR, CFDI, CGC, CHR LLC test, IPS test, Fisher test basically rejected the original hypothesis of unit root at the level of 1% significance, indicating that the panel data are stable sequence. In addition to CFDI, the LLC test, IPS test and Fisher test of other variable data in the central region basically rejected the original hypothesis of unit root at different levels of significance, while CFDI after the first order difference passed three tests at the level of 1% significance, indicating that the differential sequence of CFDI in the central region was stable, that is, the first-order single integral variable. The original sequences of GF, IH, CTI, CUR and CGC in the western region, the first-order differential sequences of CHR and CFDI, all refused to reject the hypothesis of unit root at least 5% of the significance level.

4.2 Analysis of the Effect of Green Finance on Industrial Structure at the National Level

In this paper, the regression analysis of the model is carried out using stata software. Before regression analysis, it is necessary to clarify whether the model application form of panel data is a fixed effect model or a random effect model. The fixed effect model assumes that the amount of observational effect in each study is equal to the real effect amount, i.e. the real effect amount is the same and does not change with the change of the study. In contrast, the random effect model takes into account the heterogeneity of the subject, and it holds that the real effect amount is disturbed by other factors in addition to the random error caused by sampling, so the real effect in the random effect model will change with the change of the study.

First of all, the Hausman test is carried out from the whole country, east, central and west levels. If the empirical test results pass, the original hypothesis is selected to build the random effect model, and the fixed effect model is constructed for the variable data. After the Hausman test of the models established from the national, eastern, central and western levels, it is found that the empirical results of each model are rejected to select the original hypothesis of random effect model construction at the level of 1% significance. In view of this, the empirical research part of this paper selects fixed effect model for analysis. The following is based on the national level of green finance on the industrial structure upgrading of the fixed effect model empirical results of the beginning of the analysis.

Table 4.2: The Regression Results of the Impact of Green Finance on Industrial Structure Upgrading at the National Level

Variable	model(1)	model(2)	model(3)	model(4)	model(5)	model(6)
GF	17.89495*** (9.59)	15.95651*** (8.78)	12.26967*** (5.82)	12.53822*** (6.01)	12.49394*** (6.15)	12.44044*** (6.10)
CGC		1.546336*** (5.34)	.932199*** (2.74)	.8197752** (2.41)	.8258077** (2.50)	.8294694** (2.51)
CUR			1.271393*** (3.28)	2.500238*** (4.20)	1.305308** (2.01)	1.284864** (1.97)
CHR				-31.12942*** (-2.69)	-21.10532* (-1.83)	-20.33953* (-1.74)
CTI					24.92899*** (4.06)	24.90208*** (4.05)
CFDI						.0993401 (0.37)
_cons	0.3473553*** (4.67)	.0137345 (0.15)	-.3614818** (-2.45)	-.4406355*** (-2.97)	-.3459915** (-2.36)	-.3525874** (-2.39)
R-sq	0.3486	0.4187	0.5443	0.5611	0.6447	0.6534
F 检验值	88.09***	92.33***	59***	60.35***	40.68***	35.62***

Note: ***、**、* indicate the significance level of 1%, 5%, and 10% respectively, and the statistical value of the t-test is in parentheses

From the regression results, it can be seen that the variables which have important influence on the upgrading of industrial structure include green financial development level (GF), government expenditure level (CGC), urbanization level (CUR), human capital level (CHR) and technological progress level (CTI).

The regression coefficient of green financial development level (GF) is significantly positive in model (1) to model (6), indicating that green finance has a significant positive effect on industrial structure upgrading, and the green financial regression coefficient in each model is basically above 12, which means that for every 1 percentage point increase in the level of green financial development, the advanced level of industry is raised by at least 12 percentage points, indicating that the development of green finance has led to the adjustment level of industrial structure. In China, green finance is in the process of vigorously promoting from the policy system, test areas and other aspects, the corresponding level of development makes green finance through capital formation, capital-oriented mechanisms can play a full role, restrict the non-green projects, enterprises, industry financial support, promote its green transformation or exit from

pollution projects, while increasing the concentration of environmental protection and energy-saving projects in the tertiary industry and other green-related industries investment, to ensure that it can continue to operate healthily, Then it achieves the goal of upgrading industrial structure and ecological transformation economy.

The regression coefficient of government expenditure level (CGC) is significantly positive, which indicates that it has a significant effect on the upgrading of industrial structure. In recent years, the Chinese government has made administrative intervention through the continuous introduction of green finance-related policies, established a perfect ecological economic development system, and vigorously implemented positive measures to solve the situation of the external diseconomy of the ecological environment, and the empirical results also reflect the good results of China's green finance-related policies.

The regression coefficient of urbanization level (CUR) is significantly positive, which indicates that it has a more obvious influence on the upgrading of industrial structure. In recent years, China's urbanization level has already exceeded 50%, into the high-speed development stage, the influx of migrant workers in the city into the second and third industries, from the supply side for the development of the second and third industries to provide a strong employment support, while from the demand side, the increase of urban population also makes the service industry and emerging industries-based tertiary industry-related demand increased significantly, the two directions work together to form a strong driving force for industrial upgrading.

The regression coefficient of human capital level (CHR) is significantly negative, and the absolute value level of the coefficient is above 20, which indicates that its development has a strong inhibition effect on the upgrading of industrial structure, which is inconsistent with the relevant theoretical research and practical cognition. The most likely reason is that the human capital structure does not match the talent structure needed to promote the upgrading of industrial structure. Although with the popularization of Education in China, the scale of talent supply shows a growing trend, but the adjustment of industrial structure more need skilled professional human capital, which is not just to increase the number of people can do. Therefore, in order to make the level of human capital development better promote industrial upgrading, China needs to improve the quality of higher education, accelerate the pace of training of higher education talents, as soon as possible for industrial adjustment and economic development to provide high-level, high-quality human capital.

The regression coefficient of the level of technological progress (CTI) is significantly positive, and the coefficient is maintained at the numerical level of about 24, indicating that the technological progress level has a significant effect on the upgrading of industrial structure. In recent years, Under the guidance of the government's policies, China has stepped up its efforts to develop technology innovation, which has been well reflected in empirical results, in order to make great efforts to enable technology to be applied well and efficiently to actual production activities.

Although the regression coefficient of the level of opening-up (CFDI) is positive, the value is small and the significance level is not high enough, indicating that foreign direct investment is not significant enough to promote the upgrading of China's industrial structure, which may be related to the structure of foreign investment and the efficiency of conversion and use, I believe that with the implementation of the Foreign Investment Law of the People's Republic of China, China's level of opening-up will be further expanded, foreign investment management can be more standardized, forming a new pattern of comprehensive opening. It plays an obvious role in promoting the upgrading of China's industrial structure and the healthy development of the socialist market economy.

4.3 Analysis of the Effect of Green Finance on Industrial Structure at the Regional Level

China is in the initial stage of development, green finance and industrial structure is still in the process of continuous adjustment and development, 31 provinces and cities in recent years, the level of green financial development and industrial structure of the advanced level of the basic growth trend, but specific to each province and city, we can find that due to the development level of different regions and green finance implementation measures, there is still a large gap in the development of various regions. The empirical analysis model established in the previous article examines the effect of green finance on the upgrading of industrial structure from the national level, and the empirical results are likely to mask the different characteristics of the influence due to regional differences. Therefore, the following will be from the east, central and west three regional levelsto model the impact of green finance on the upgrading of industrial structure. The results of the concrete empirical analysis are shown in the table below:

Table 4.3: The Return of the Impact of Green Finance on Industrial Structure Upgrading in the national and the Eastern, Central and Western

Variable	Country	East	Central	West
GF	12.44044*** (6.1)	22.54035*** (4.67)	4.548106* (1.65)	7.319111*** (3.09)
CTI	24.90208*** (4.05)	33.627898*** (0.46)	-4.21443*** (-3.14)	6.30366*** (4.71)
CUR	1.284864** (1.97)	-0.7440101 (-0.86)	1.352279 (1.21)	2.611093*** (2.8)
CFDI	0.0993401 (0.37)	0.040224 (0.17)	2.68601*** (3.84)	-2.009269 (-1.13)
CGC	0.8294694** (2.51)	7.046852*** (6.49)	7.668924*** (6.41)	-0.5413566* (-1.84)
CHR	-20.33953* (-1.74)	-52.38272*** (-3.66)	-24.07569 (-1.11)	-37.21503** (-2.13)
_cons	-0.3525874*	0.8902804**	-1.013139	-0.2707565*

	* (-2.39)	(2.46)	(-4.36)	(-1.67)
R-sq	0.6534	0.6915	0.6818	0.5113
F 检验值	35.62***	32.65***	15.12***	19.83***
Note: ***、**、* indicate the significance level of 1%, 5%, and 10%respectively, and the statistical value of the t-test is in parentheses				

From the regression results, it can be seen that the promotion of green finance and various control variables to the upgrading of industrial structure is shown in the east, central and west regions, but the performance is different, with more obvious regional characteristics.

The level of green financial development in the eastern region has a high regression coefficient, which shows that it has a strong effect on the upgrading of industrial structure. This result is not surprising, the eastern region is located on the coast, with superior geographical conditions, economic development, so that the financial market system in the eastern is more perfect and mature than the central and western regions, so green finance can better play through the market mechanism, promote industrial structure adjustment to the direction of green development, faster to promote industrial structure upgrading. In contrast, the regression coefficient of the level of green financial development in the central and western regions is slightly lower than that of the eastern region, but it still shows a good effect on the upgrading of industrial structure. Compared with the accumulation of traditional economic strength and development in the eastern region, the central and western regions have abundant ecological resources, in recent years, in the context of the continuing tendency of national policies and the reality of actively undertaking industrial transfer in the eastern region, the central and western regions make full use of the advantages of the latter, promote green financial construction to provide abundant funds for industrial development, the introduction of various factors of production and high-tech, so as to promote the upgrading of industrial structure in the long term.

In terms of government expenditure level, the level of government expenditure in the eastern and central regions is significantly positive, and when the level of government expenditure increases by 1 percentage point, the level of industrial seniorization is raised by about 7 percentage points, indicating that government expenditure in the eastern and central regions has a strong role in promoting the upgrading of industrial structure. The level of government expenditure in the western region is significantly negative, on the one hand, it may be because the government expenditure in the western region has long been more inclined to invest in agriculture and heavy industry, and the capital investment needed for industrial structure upgrading and adjustment is not consistent, and the other side lacks a complete market mechanism to smoothly conduct the policy, so the level of government expenditure on the upgrading of industrial structure shows a certain inhibitory effect.

In terms of human capital level, the eastern, central, western and national levels of variable regression is

unified, the return coefficient is negative, of which the eastern region of the human capital level on the upgrading of industrial structure is significantly higher than the central and western regions, indicating that the central and western regions should continue to increase investment in educational resources, improve the amount of human capital, at the same time, from the national level, or continue to improve the composition of human capital, improve the proportion of higher education population and education quality, so as to promote industrial structure upgrading.

In terms of opening up level, the value of the regression coefficient of the eastern and western regions is small and fails the significance test, which shows that the correlation between foreign investment and industrial structure upgrading is not very strong on the one hand, and the lack of effective and reasonable foreign investment guidance methods and methods on the other hand. The return coefficient of the opening-up level in the central region is significant and maintains a high positive level, which shows that foreign investment in the central region has been fully utilized, and the direction of investment is consistent with the adjustment of industrial structure, so that it has a significant effect on the upgrading of industrial structure.

In terms of urbanization level, the corresponding regression coefficients in the central and western regions are positive, while the western region has a more significant effect on industrial structure. This is because the western region has long lagged behind the industrial development, slow industrial upgrading, but also in the rapid development of urbanization process, so that industrial structure adjustment develops a faster level, and the central region has more industrial towns, so that the level of urbanization on the promotion of industrial structure upgrading is not so obvious. In addition, the return coefficient of urbanization level in the eastern region is negative and not significant, more likely because the eastern region had a relatively high level of urbanization rate earlier, when the increase of urban population more affected the secondary industry, and later, the upgrading of industrial structure in the region will be more affected by factors other than urbanization level.

The regression coefficient of technological progress level is significant in the eastern, central and western regions at the level of 1%. However, the level of technological progress in the eastern and western regions has been the opposite of promoting the industrial structure, and the level of technological progress in the central region has shown a dampening effect on the industrial structure.

4.4 Robustness Test

In order to test the robustness of the empirical results of the national and eastern, central and western levels to study the fixed effect model of green finance on the upgrading effect of industrial structure, this paper will replace the core index - the level of industrial structure upgrading of the interpreted variables, and replace the original indicators with the sum of the value added of the

second and third industries as a proportion of the gross national product.

Table 4.4: Robustness Test Regression Results

Variable	Country	East	Central	West
GF	3.552512** (2.27)	9.767819** (2.45)	1.569407*** (0.58)	1.569666** (0.79)
CTI	6.806962 (1.06)	15.796789*** (0.59)	-5.61439** (-2.16)	4.08273*** (3.26)
CUR	2.271678*** (3.64)	1.976874* (1.81)	2.770374*** (2.73)	1.830939* (1.97)
CFDI	0.9562998*** (3.29)	0.6556796** (1.99)	1.16794 (0.54)	-0.549756 (-0.39)
CGC	1.948015*** (5.22)	3.659493*** (3.42)	7.515288*** 7.49	0.7875363* (1.96)
CHR	24.0622* (1.68)	4.312643 (0.16)	20.38932 (0.87)	7.280608 (0.35)
_cons	-1.451601*** -13.82	-0.7269534*** (-2.81)	-2.426275*** (-15.5)	-0.7739587*** (-5.54)
R-sq	0.4369	0.4189	0.6841	0.3495
F 检验值	20.96***	16.69***	11.46***	7.82***
Note: ***、**、* indicate the significance level of 1%、5%, and 10% respectively, and the statistical value of the t-test is in parentheses				

Observation of the return results, from the national level, the level of green financial development (GF), urbanization level (CUR), government expenditure level (CGC) regression coefficient sits significantly positive, consistent with the empirical results of the previous text, indicating that these factors have a positive role in promoting the upgrading of industrial structure, should continue to increase input, so that these factors can be more efficiently applied to the actual production activities, effectively promote the continuous upgrading of China's industrial structure, maintain a high level of rationalization. In addition, the human capital level (CHR) in the robustness test of the return coefficient is significantly positive, which is consistent with the actual situation, the current human capital level of the development structure is more and the secondary industry to match, more talent flow into the secondary industry, so after replacing the industry advanced indicators, the development of human capital level for the promotion of industrial structure upgrading will be more obvious. The reason for the significant improvement of the regression coefficient of the level of opening-up (CFDI) is similar to the change of the regression coefficient of the level of human capital development, and the foreign investment is more concentrated in the secondary industry with higher level of development before, so its influence will be more obvious after the index is replaced.

Judging from the results of the regression of the stability test in the eastern region, the regression coefficient of green financial development, technological progress, government expenditure level and opening-up level are all

significantly positive, which is basically consistent with the original model results, which shows that these variables have a significant effect on the upgrading of industrial structure. The regression coefficient of urbanization level has changed from negative to positive, indicating that the level of urbanization in the eastern region is likely to promote the upgrading of industrial structure through input to the secondary industry, thus making the positive effect of this indicator on the higher level of industrial structure in the robustness test more significant. Judging from the results of the regression of the stability test in the central region, the regression coefficient of green financial development level, government expenditure level, urbanization level and level of opening up to the outside world is significantly positive, while the regression coefficient of the level of technological progress is significantly negative, which respectively reflects the promotion and inhibition of industrial structure, which is basically consistent with the empirical results of the previous text. Judging from the results of the regression of the robustness test in the western region, the regression coefficient of green financial development, technological progress, urbanization and government expenditure is significantly positive, reflecting the positive effect of the development level of various factors on the upgrading of industrial structure.

All in all, the robustness test results obtained by replacing the indicators of the advanced level of industry can be seen that the model constructed in this paper to study the effects of green finance on the upgrading of industrial structure has a relatively good interpretation and robustness.

5. Conclusion

In view of prudence, this chapter effectively demonstrates from the measurement of the fixed effect model from the economic point of view that green finance can indeed promote the optimization and transformation of industrial structure, after obtaining the basic conclusion of the national, analyzes the connection between the green finance and industrial structure in the east, central and west of China, and analyzes the differences in practice in these areas. Then, by changing the industrial structure of the advanced measurement indicators for robustness test, the results of this test and the results obtained before a high degree of consistency.

To sum up, green finance has a clear policy implementation object, through capital formation, capital-oriented and other mechanisms to provide sufficient funds for green-related projects and industries, enhance their market competitiveness, form the scale effect and agglomeration effect, strengthen the effective allocation of resources and sustainable development, thereby improving the advanced level of the industry. But at present, The level of green financial development in China is not very balanced, the impact of green finance on the upgrading of industrial structure in different regions is huge, the potential has not been fully stimulated, therefore, China should continue to promote the deepening of green

finance development, according to the geographical location of each region, economic development, resource reserves and other external conditions, according to local conditions for policy formulation, so that it better serve the real economy, promote balanced development and industrial structure upgrading in various regions, Thus, the formation of the overall sense of the national green financial development level and industrial structure upgrading between the virtuous circle.

In addition, in the process of studying the effect of green finance on the upgrading of industrial structure, this chapter also makes full use of relevant literature and data, and introduces some control variables. According to the results of the study, the technical level can indeed promote the optimization and upgrading of industrial structure to a certain extent, the research and development of high and new technology can be efficiently transformed into productive forces, reduce energy consumption and promote the upgrading of industrial structure, the level of opening up to the outside world can strongly promote the upgrading of industrial structure by providing funds, and the level of human capital has a negative impact on the upgrading of industrial structure, indicating that China needs to improve the training mode of talents, and should pay attention to the improvement of the quality of education rather than just increasing the number of people. The level of government expenditure can effectively promote the upgrading of industrial structure, which shows that government guidance can promote industrial structure adjustment, and the policies introduced in recent years have been very effective in solving external uneconomy, while the improvement of the urbanization level has provided the elements and impetus for the upgrading of industrial structure, and effectively promoted the optimization and adjustment of industrial structure.

6. Recommendations

In recent years, the scale of China's green finance development is increasing continuously, which has also brought some influence to China's industrial structure, which is conducive to promoting the optimization and upgrading of industrial structure. However, according to the contents of the analysis above, it is learned that the effect of green finance on the upgrading of industrial structure has not been fully played, in the process of implementation there are still some problems. In view of these problems, this paper will put forward policy suggestions from four aspects: perfecting the green financial legal system, perfecting the supporting mechanism of green finance, strengthening the external exchange and cooperation of green finance, and cultivating green financial professionals.

6.1 Improve the Legal System of Green Finance

At present, China's green financial policy system framework with the continuous introduction of various rules and regulations and documents have been basically established, but the relevant policies are more biased towards guidance rather than mandatory, the legislative level is not high enough, legal and binding is not strong enough, resulting in various types of financial institutions and enterprises to carry out green financial activities of inconsistent caliber, can not provide adequate legal protection for this.

A sound legal system is essential to the realization of the benign development of green finance. From the whole country to the provinces to develop a unified standardization system of green finance in line with China's national conditions, at the legal level for green project certification, green product innovation, green results of information disclosure and evaluation to provide different specifications, clear policy objects and key points, for information disclosure irregularities of enterprises, business violations of the operation of financial institutions and regulatory agencies should be investigated for legal responsibility. This can not only curb the irregular behavior of green finance-related activities in various industries, improve the quality of service, but also enable local governments to give full play to the initiative and creativity to enhance effective supervision, prevent the occurrence of risks, so that green finance can be healthy development, to ensure the coordinated promotion of social and economic development.

Therefore, it is suggested that the government should pool all parties' efforts, cooperate with various departments, improve the level of green finance legislation, promote legislative construction, improve relevant laws and regulations from the top down, clarify the social responsibility and environmental responsibility of relevant stakeholders, provide legal guarantees for the smooth implementation of green financial policies and work, so that green financial laws and regulations can guide regulators to urge the effective implementation of policies at the same time, targeted solutions to the actual financial activities of enterprises and financial institutions, while promoting the optimization and upgrading of industrial structure, Ensure high-quality economic development.

6.2 Perfect the Green-Financial Support Mechanism

In addition to improving the high-level green financial legal system in China, we should also improve the supporting green financial mechanism, including supervision mechanism, incentive mechanism, information sharing and evaluation mechanism, market mechanism, in the combination of the national conditions of green financial practice in the perfect integration of policy advice, laws and regulations and institutional mechanisms, for green finance to provide a good environment for the development of green finance, so that it has laws to follow, rules to follow.

The regulatory mechanism should cooperate with all parties, give full play to the role of the Internet, ensure that the supervision system can be implemented, clear the accountability and linkage of relevant subjects, and penetrate the concept of green finance into all levels, not only to protect the legitimate rights and interests of enterprises with green financial concepts, but also to safeguard their long-term interests.

Incentive mechanism, the local governments on the basis of basic laws and regulations, according to the actual situation according to local conditions, such as tax incentives, financial subsidies, green channels and other incentives, for outstanding green enterprises to provide recognition and reward, so that they play a exemplary leading role, so as to create excellent conditions for the landing of the national green financial strategy, regulate green financial services and supervision, can encourage enterprises, financial institutions, the public and other relevant subjects to participate in green financial activities.

Information sharing and evaluation mechanism, the implementation of green financial activities involving a number of departments and industries, in order to smooth the transmission and statistical caliber of information in various departments, enhance synergies, we should establish a unified information standardization evaluation indicators and sharing platform, urge enterprises and other responsible subjects to regularly disclose environmental benefits information, strengthen their social responsibility while reducing information asymmetry, provide supervision, communication and decision-making reference channels for all parties in society, improve the efficiency of the use of funds, promote the quality of green financial activities and improve the quality and efficiency of green financial activities.

Market mechanism, financial institutions should deeply investigate the needs of enterprises, investors, targeted development of products, to build a green credit, green insurance, green investment and other tools-based diversified green financial products system, further enhance the operation of green finance, build a more diversified market mechanism, burst market vitality, so as to promote the popularization of the whole society green concept and action.

6.3 Strengthen Foreign Exchange and Cooperation in Green Finance

With China occupying a more important position in the world's economic development, China's policy direction and the concept of win-win sustainable development have been paid more and more attention by all countries in the world, so as to take this opportunity, China should take into account domestic and foreign markets, more actively promote cooperation with other countries in the development of green finance, fully learn from the successful experience gained by other countries, comprehensively consider China's actual development, better promote the development of green finance, and play a positive role in the industrial structure. At the same time, we should actively help other developing countries to improve and deepen the development of green finance, further strengthen international communication and exchanges, promote high-quality economic development and achieve sustainable development of the national economy. For the international market to do a good job of preparation.

6.4 Training Green Financial Professionals

Green finance involves a wide range of departments and industries, a wide range and complex and diverse content, which requires staff engaged in related business estosis has a high degree of professionalism, need to have economic, financial, environmental and other fields of knowledge, so that in policy and laws and regulations, risk prevention and control and other aspects of all-round consideration of related issues, to ensure that green finance can be effectively developed and regulated at the local level. Although China has sufficient financial professionals, but because the development time of green finance is still short and the knowledge of the complexity is very high, resulting in a serious shortage of related composite talents.

To improve this situation, specifically, domestic colleges and universities need to set up relevant courses according to China's national conditions, enhance students' green financial literacy, and provide a basis for students to become composite professionals, while financial institutions and enterprises should not only strengthen the training of internal personnel in green finance-related knowledge, but also enhance the practical experience of green finance in the work business to promote the establishment of green finance all-round talent team; Multi-pronged approach, China's relevant subjects concerned about self-development at the same time the introduction of external experts, as soon as possible to create a green financial field talent pool, for the long-term development of China's green finance to provide professional protection.

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