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PROMOTING ECONOMIC GROWTH BY DEVELOPING THE DOMESTIC ECONOMY AND SUPPORTING GREEN FINANCE

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The article presents the results of a study on the impact of green finance development in China on economic growth.

Keywords: green finance; economic growth; domestic economy; sustainable growth; green innovation.

СОДЕЙСТВИЕ ЭКОНОМИЧЕСКОМУ РОСТУ ПУТЕМ РАЗВИТИЯ ВНУТРЕННЕЙ ЭКОНОМИКИ И ПОДДЕРЖКИ ЗЕЛЕНЫХ ФИНАНСОВ

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В статье представлены результаты исследования влияния развития зеленых финансов в Китае на экономический рост.

Ключевые слова: зеленые финансы, экономический рост Китая, внутренняя экономика, устойчивый рост, зеленые инновации.

Introduction. At present, the academic community has not yet reached a consensus on the definition of green finance. At this stage, scholars mostly refer to the documents issued by various authoritative organizations for the definition of green finance. For example, in 2012, the International Development Finance Club released the "Green Finance Investment Route", pointing out that green finance is to respond to sustainable development policies, broaden financing channels for green industries, and optimize the concept of capital flow [1, p.41-48]; in 2013, the British Parliament issued the " In the Green Finance Special Hearing Report, the connotation of the above-mentioned "sustainable projects" was expanded, including energy, climate, etc. [2, p.1-18]; in 2016, the German Development Institute proposed that green finance should be a standard that incorporates environmental factors into investment and lending The "Green Finance Comprehensive Report" released by the G20 summit in the same year gave a more detailed description of the above-mentioned concept of "environmental factors": environmental

factors include reducing pollution, reducing exhaust emissions, improving resource utilization, and reducing climate change [3, p.35-44]. Also in 2016, the "Guiding Opinions on Building a Green Financial System" stated that green finance is an economic and financial activity that is conducive to improving the environment, adapting to climate change, and improving resource utilization [4, p.78-81]. The definitions of some authorities are summarized in Table 1.

Table 1

Institutions define the meaning of green finance

Publisher	Related documents	Year	Content
International Development Finance Club (IDFC)	Green Finance Investment Route	2012	In response to sustainable development policies, invest and finance in all environmental protection projects, green industries and sustainable development projects, etc.
British parliament	Green Finance Topical Hearing Report	2013	Make money flow to energy, climate, etc., while emphasizing the role of the financial system in combating climate change
G20 Summit	Green Finance Comprehensive Report	2016	Determine whether to conduct investment, financing and lending based on whether it will produce environmental benefits and thus be conducive to sustainable development
Seven Ministries and Commissions of the State Council	Guiding Opinions on Building a Green Financial System	2016	An economic and financial activity that is conducive to improving the environment, adapting to climate change, and improving resource utilization

Source: compiled by the author according to [10].

Green finance is not only financial innovation and risk management activities carried out by banks and other financial institutions after measuring their own environmental risks based on their own sustainable development, but also all activities that help improve the environment, improve environmental benefits. and promote environmental protection [5, p.13-24]. The aim of financial innovation is to promote the realization of sustainable development through green finance and to truly ensure that economic development and environmental protection complement and promote each other.

ECO development. The purpose of green development is to achieve a balance between the environment and economic development, from a

resource-intensive development model to a technology-intensive green production model [6, p1-18]. Under the guidance of the new development concept, the country has formulated a series of policies to support green development and achieved some results. As shown in Figure 1, the energy consumption per unit of GDP in China has been decreasing year by year. The rate of decline accelerated significantly from 2010 to 2015, and then slowed down after 2015. This shows that we must institutionalize environmental protection and pollution control, and further consolidate the effectiveness of environmental governance.

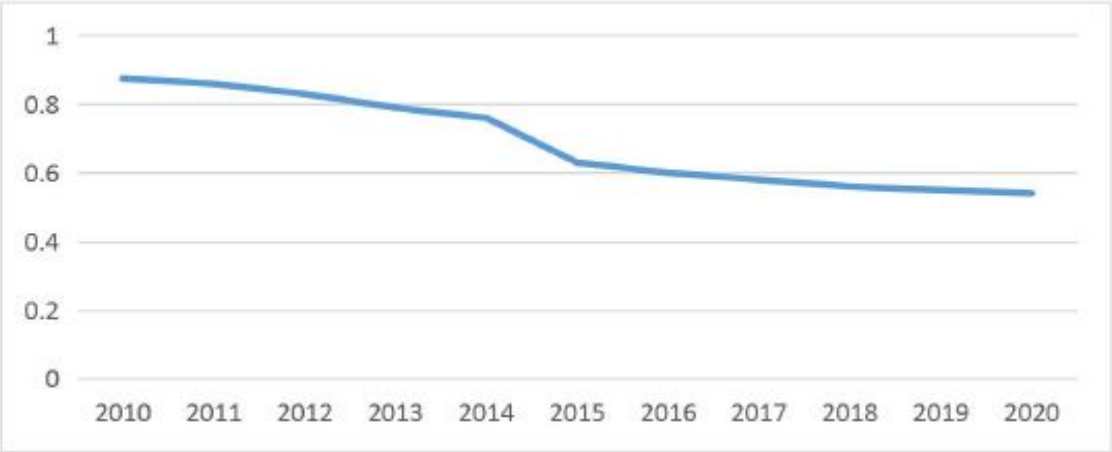

Fig. 1. Energy consumption per unit of GDP (tce/10,000 yuan) in China, 2010-2020

Source: [8].

Sample data source. China's green finance has developed in an all-round way after financial institutions began to disclose complete green financial information in 2010. The sample data in this paper is selected from the panel data of 30 provinces in the country from 2010 to 2019. The construction of the green financial development system involves 8 indicators, some of which need to be calculated based on existing data, the quality of economic development involves 17 indicators, and 5 indicators are selected as control variables. The data used mainly come from the EPS database, Wind database, China Environmental Statistical Yearbook, China Industrial Statistical Yearbook, China Statistical Yearbook, Provincial Statistical Yearbooks, provincial social and economic operation and development announcements, etc.

Descriptive statistics were carried out on the variable data, and the results are shown in Table 2. It can be seen from the table that the average value of all variables is much greater than the standard deviation, indicating that the fluctuation range of the original data is relatively stable, the quality is good, and subsequent analysis can be carried out. Specifically, the minimum value

of the green finance development index is 0.0782, and the maximum value is 0.621, indicating that there are great differences in the degree of green finance development in different years and regions. The maximum and minimum gaps in the economic development quality index are more than 10 times. On the one hand, there may be large differences in the quality of economic development in various provinces in China. On the other hand, it may be that the quality of economic development in China has improved significantly over time.

Table 2

Descriptive Statistics

Variable	Observations	Average	Standard deviation	Minimum value	Maximum value
gfdi	300	0.235	0.100	0.0782	0.621
edq	300	0.209	0.111	0.0685	0.697
urban	300	57.06	12.46	33.81	89.60
gov	300	24.56	10.22	10.58	62.84
is	300	45.71	9.760	28.62	83.52
uni	300	3.287	0.649	1.200	4.500
tax	300	8.302	2.986	4.402	19.97

Source: compiled by the author according to [9].

Model building. This paper analyzes the impact of China's green finance on the quality of economic development, adopts the research method of multiple regression model [7, p18-22], and considers that the model may be affected by individual factors of the year and each province, so this paper adds consideration of time and individual factors to establish the following model:

$$edq_{it} = \beta_0 + \beta_1 gfdi_{it} + \beta_2 gov_{it} + \beta_3 urban_{it} + \beta_4 is_{it} + \beta_5 une_{it} + \beta_6 tax_{it} + \\ + \mu_i + \gamma_t + \varepsilon_{it}.$$

Robustness check. The robustness by removing the control variables one by one and then performing regression. The specific results are shown in Table 3. Among them, model (1) excludes the scale of urbanization (urban), model (2) excludes the scale of government expenditure (gov), model (3) excludes the scale of industrial structure (is), and model (4) The employment level (une) is eliminated, and the model (5) excludes the tax level (tax).

It can be seen that, in the process of regression analysis with the control variables removed one by one, although the coefficient value of the core explanatory variable green finance development index has changed, the signs are all significantly positive, which is consistent with the above regression

results, indicating that green finance has a positive impact on economic development. The quality does have a positive effect, and the model has passed the robustness test.

Table 3

Regression Result

Variables	（1）	（2）	（3）	（4）	（5）
	edq	edq	edq	edq	edq
gfdi	0.074***	0.047***	0.042**	0.038*	0.043**
	(3.27)	(2.33)	(1.87)	(1.73)	(2.16)
urban		0.003***	0.005***	0.004***	0.003***
		(9.07)	(16.24)	(11.63)	(9.42)
gov	0.001		0.004***	0.002***	0.002***
	(1.03)		(7.47)	(2.87)	(3.58)
is	0.004***	0.003***		0.002***	0.002***
	(14.97)	(11.06)		(7.35)	(7.95)
une	-0.033***	-0.023***	-0.023***		-0.022***
	(-9.51)	(-7.20)	(-6.43)		(-6.94)
tax	0.002	0.003***	-0.002	0.001	
	(1.07)	(2.79)	(-1.34)	(0.45)	
Constant	0.101***	-0.048**	-0.088***	-0.184***	-0.052**
	(5.15)	(-2.03)	(-3.37)	(-11.02)	(-2.22)
Id、year	yes	yes	yes	yes	yes
Observations	300	300	300	300	300
R-squared	0.787	0.837	0.803	0.810	0.839

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

Source: compiled by the author according to [9].

Conclusion. Green finance plays a positive role in improving the quality of economic development by promoting industrial restructuring, stimulating green technology innovation, guiding green consumption and investment, and deepening economic opening up. Part of the inhibitory effect of green financial investment, as well as the waste of resources during the implementation of green finance and the impact on traditional industries will hinder the high-quality economic development, but green finance provides impetus for the quality of economic development as a whole. Green finance

has significantly improved the quality of economic development. In the future, China needs to further release the vitality of green finance and promote the role of green finance in high-quality economic development.

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