

The Historical Process and Evolutionary Logic of China's Green Credit System

-- Analysis Based on Historical Institutionalism

Yunjia Zhang

School of Public Administration, Sichuan University, Chengdu, Sichuan, 650016, China

Abstract: The green credit system, integrating the social credit system and green development, is crucial for ecological civilization construction in China. Analyzing its evolution through historical institutionalism, the system has progressed through exploration, development, and deepening stages. The macro context, evolving development concepts, and stakeholder interactions shape its evolution. Key nodes include the national sustainable development strategy, the “three transformations” concept, and the corporate environmental credit evaluation system. Path dependence, learning effects, and adaptive expectations influence its historical development. The green credit system balances sustainability and innovation, with top-level design and local practice mutually reinforcing each other. Moving forward, it will further drive green development methods and ecological well-being sharing through balanced, scientific, and intelligent approaches.

Keywords: Green Credit; China's Green Credit System; Green Development; Historical Institutionalism.

1. Introduction

Since the 1970s, China has primarily utilized “command-control” regulation methods to address environmental damage and resource depletion resulting from prolonged extensive development. However, this compulsory regulatory approach, which relies on administrative power, often leads to high compliance costs and fails to encourage environmentally friendly practices among businesses. In the 1990s, as the market economy evolved and Porter's hypothesis was introduced, China began to explore various regulation tools, including economic incentives and voluntary initiatives, to achieve a balance between the economic, environmental, and social benefits for enterprises. In response to significant trust issues in green development, China introduces a credit system into environmental protection efforts, promoting the establishment of social credit system that fosters internal ecological value.

In March 2022, China issued the *Opinions on Promoting the High-Quality Development of the Social Credit System and Facilitating the Formation of a New Development Pattern*, emphasizing the deep integration of credit concepts, credit institutions, and credit methods with various aspects of the national economic system. By October 2022, the 20th report of the Communist Party of China emphasized the importance of enhancing pollution prevention and control at the source, as well as expediting the green transformation of development models. With strong support from the central government, the green credit system, which combines the principles of green development with social credit, has been progressively incorporated into various areas. This integration serves as a crucial starting point and a significant catalyst promoting sustainable, high-quality development in China.

The green credit system originates from transaction cost economics. It aims to reduce information asymmetry and coordinate transaction costs through a series of mechanism design such as incentive, evaluation and supervision, ultimately promoting the achievement of environmentally

friendly transactions. Around the green credit system and its practice process, the existing literature mainly explores from two explanatory paths: The first is to analyze the practical effectiveness of the green credit system based on objective data at various levels. Chen H S et.al have conducted comprehensive empirical studies and found an inverted “U”-shaped relationship between the green credit system and China's green economic efficiency; the overhaul of the social credit system has greatly enhanced the green innovation capabilities of businesses. Additionally, Su X et.al have chosen representative systems such as green credit assessments and green loans to reveal their localized environmental benefits. The second is to anchor the overall evolution logic of the green credit system and explore the functional mechanism characteristics of the typical green credit institutions. Relevant researches show that the green credit supervision system can avoid the regulatory paradox by aggregating the joint efforts of multiple subjects; The green credit institution not only defines the bottom line for banks to participate in market activities, but also encourages enterprises to strengthen their ecological innovation capabilities.

In general, the above conclusions not only strengthen our overall understanding of the implementation process of green credit institutions, but also deepen our understanding of the different types of green credit institutions and their interaction. However, few studies have included diverse green credit institutions into a unified system for more in-depth diachronic examination. Therefore, this study chooses historical institutionalism as an analysis paradigm, aiming to explain the historical evolution and mechanism of the green credit system by answering the following questions: First, what is the historical process of China's green credit system? Second, what is the evolution logic of China's green credit system? Third, what is the future of China's green credit system?

2. The Analytical Paradigm of Historical Institutionalism

Historical institutionalism, an important branch of neo-institutionalist politics, defines “institutions” as formal and informal procedures, norms and practices. As a meso-level institutional analysis paradigm, historical institutionalism

combines the “calculus method” that emphasizes utility maximization with the “cultural method” that emphasizes moral and cognitive factors, providing a powerful analytical framework for studying the change of institutions. The structural view and the historical view are two key dimensions in the analytical framework of historical institutionalism (see Figure 1).

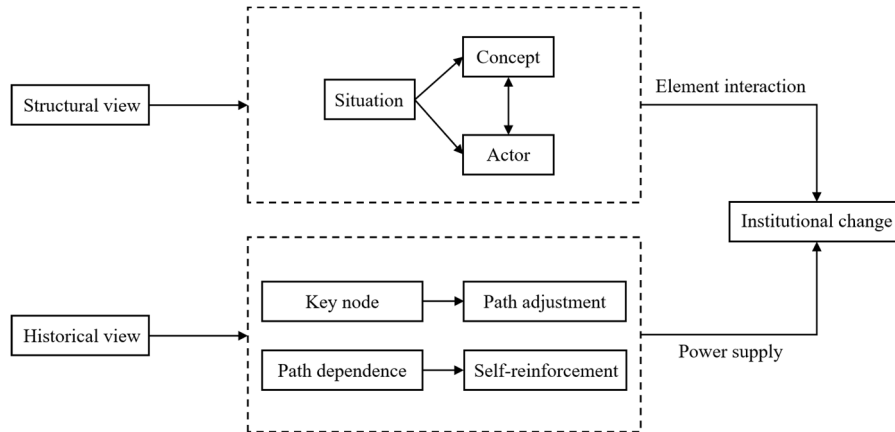


Figure 1. The analytical framework of historical institutionalism

The structural view focuses on how structural variables at different levels interact to promote institutional change. Only by placing institutional change in a continuous and broad historical context can we dig deeper into its potential causal mechanism. In this process, historical institutionalists no longer regard the system as a single explanatory variable, but examine how factors such as macro situation changes, middle-view concept shifts, and micro-actor interactions affect the system. The historical view emphasizes the important role of the historical process of the system in the institutional change, including the key node and path dependence. The key node aims to analyze the triggering mechanism of the major institutional reform and explore how the institution develops a new path from the original path; Path dependence aims to explain the strengthening mechanism of the institution to maintain relative stability and explore the potential factors that lock the system into the existing path. The key node and path dependence pay attention to the comprehensive effect of several occasional incidents, and they are interrelated to improve the interpretation of institutional maintenance, institutional change and their critical state.

It is suitable to study China’s green credit system by using the historical institutionalism analysis framework. Firstly, the green credit system is a kind of meso system, which fits the meso-methodology attribute of historical institutionalism. Secondly, historical institutionalism places the green credit system in a dynamic structural change, which helps to grasp the macro situation and micro actions in the evolution process of the green credit system. Thirdly, historical institutionalism further distinguishes the change period and stability period of the green credit system, which helps to analyze the key dynamics of change and potential stability maintenance factors of the green credit system. In summary, based on the analysis framework of historical institutionalism, this study analyzes the historical process and evolution logic of the green credit system. The aim is to offer insights that could enhance the green credit system and optimize the effectiveness of ecological credit regulation tools in China.

3. Historical Process of China’s Green Credit System

The green credit system stems from the integration and innovation of China’s social credit system and green development concept, which is to expand the trust relationship between “people” to the harmonious coexistence between “people and nature.” With the increasing importance of ecological civilization construction in China, the green credit system has gradually experienced three stages: gradual exploration, rapid development and comprehensive deepening. In this process, green credit tools have been increasingly incorporated into the construction of national institutions to obtain political legitimacy. China continues to enrich the practice of the green credit system to further promote the establishment and improvement of the green credit system.

3.1. The Gradual Exploration Stage (1995-2005)

3.1.1. The Early Emergence of the Concept of Green Development

During the Eighth Five-Year Plan (1991-1995), enhancing economic efficiency was the primary focus of China’s economic efforts. In the context of a stronger emphasis on GDP growth, environmental protection work in many regions has been forced to give way to economic growth. In 1995, the Fifth Plenary Session of the 14th Central Committee of the Communist Party of China officially recognized sustainable development as a fundamental national strategy, aiming to address the significant conflict between economic growth and the ecological environment. This had a direct impact on the significant shift in the development strategy of the Ninth Five-Year Plan (1996-2000), which aimed to transition the economic growth model from extensive growth to intensive growth. The Tenth Five-Year Plan (2001-2005) maintained its focus on sustainable development, emphasizing the balance between resource utilization and conservation. It aimed to foster coordinated economic and social growth while

integrating ecological resource protection into the core of economic progress and enhancing the quality of life for citizens. During this time, China advanced the concept of scientific development, highlighting the need for a “harmonious development of humanity and nature.” The sustainable development strategy and the scientific perspective on development embody the core principles of “green low-carbon cycle” and “respect for nature.” They provide a strong ideological foundation for the enforcement of environmental regulations, including green credit and green information disclosure.

3.1.2. The Preliminary Formation of Green Credit Thresholds

In February 1995, the People’s Bank of China issued the Notice on Issues Related to Implementing Credit Policies and Strengthening Environmental Protection Work, requiring banking financial institutions to implement national environmental protection policies in their credit activities. Local banking financial institutions promote the “green allocation” of funds by adding credit audit conditions such as supporting pollution prevention. This initiative represents the early bud of green credit aimed at combating environmental risks. After that, China successively issued policy documents such as the Decision on Several Issues of Environmental Protection (1996), the National Ecological Environment Construction Plan (1998) and the National Ecological Environment Protection Outline (2000), which provided the direction for the construction of green credit. In October 2002, the introduction of the Equator Principles made environmental and social standards in project financing more concrete, providing a practical reference for Chinese banks to evaluate environmental risks. As the earliest and fastest developing financial environmental regulation tool in China, green credit requires the collection and assessment of information generated in the operation, risk control and other processes of pro-environmental projects. This establishes a basis for the green credit system to disseminate and oversee green credit information on a broader scale.

3.1.3. The Public Disclosure of Green Credit Information

In 1998, China designated Zhenjiang in Jiangsu Province and Hohhot in Inner Mongolia as pilot regions for the voluntary disclosure of corporate environmental information. In 2002, Jiangsu Province was added to the pilot program. In 2003, China released an announcement regarding the disclosure of corporate environmental information, establishing mandatory requirements for such disclosures. This included the regular publication of a list of companies that exceeded emission limits, marking the official start of nationwide corporate environmental information disclosure efforts. In November 2005, China issued the Opinions on Accelerating the Evaluation of Corporate Environmental Behavior, which requires that by 2010, all cities in China should fully implement the evaluation of corporate environmental behavior. Before 1998, all environmental information in China was almost in a “black box”, making it challenging to engage social forces in environmental governance and oversight. The public availability of green credit information has dismantled these information barriers, establishing a crucial foundation for the green credit system to effectively evaluate, supervise, and enforce rewards and penalties. Additionally, it offers a collaborative platform for various stakeholders to work together in advancing ecological protection and green development.

3.2. The Rapid Development Stage (2006-2012)

3.2.1. The Promotion and Adjustment of Green Credit Evaluation

In April 2007, China implemented the Environmental Information Disclosure Measures (Trial), which mandated specific companies to publicly share their environmental information. It also encouraged all businesses to release environmental information through annual environmental reports. Certain provinces based on the implementation procedures and evaluation indicators stipulated in the Environmental Information Disclosure Measures (Trial), combined with the actual situation of the local green credit evaluation work to make reasonable adjustments. For instance, in 2008, the Environmental Protection Department of Hebei Province released the Implementation Plan for Evaluating the Environmental Conduct of Key Monitoring Enterprises (Trial), which provided more detailed evaluation procedures and criteria. Moreover, some provinces integrated green credit evaluation into other construction sections of the green credit system. For example, in 2011, Zhejiang Provincial Environmental Protection Department issued the Implementation Opinions on Promoting Green Credit Work, which highlighted the need for a thorough evaluation of how banking financial institutions are applying green credit policies, in order to clarify responsibilities and rights in green credit initiatives. It can be seen that green credit evaluation is not only an important component of the green credit system, but also provides technical pathways for green credit information to serve the goals of green development.

3.2.2. The International Alignment of Green Credit Standards

Since entering the 21st century, Chinese enterprises have been committed to exploring the balance between sustainable development and social responsibility, of which ESG is the most widely used and in-depth. ESG serves as an international standard for assessing companies’ performance and accountability in sustainable development, moving beyond traditional economic growth metrics to encompass environmental, social, and governance aspects. With the release of the United Nations Principles for Responsible Investment (UNPRI) in 2006, China began to pay attention to ESG issues, and successively issued relevant guidelines and normative documents, trying to incorporate ESG factors into the scope of corporate credit. For example, in 2006, the Shenzhen Stock Exchange released the Guidelines on Social Responsibility of Shenzhen Stock Exchange Listed Companies, encouraging enterprises to disclose social responsibility reports. In 2008, the China Securities Regulatory Commission issued the Guidelines on Social Responsibility of Listed Companies, which extended the initiative of releasing social responsibility reports to the whole country. In addition, China has taken the lead in implementing international standards related to sustainable development such as ISO14000 (Environmental management system) and ISO26000 (Social responsibility system), demonstrating China’s determination to fulfill its environmental convention obligations with high standards. The issuance of the above documents and the implementation of international standards have significantly increased the level of green credit ratings for enterprises. It’s beneficial in urging green credit entities to actively fulfill their commitments to green development and environmental protection responsibilities.

3.2.3. The Sustained Supply of Green Credit Guarantees

Given the fast-paced development phase, the use of green insurance and green technology stands out as two significant non-administrative solutions. Regarding green insurance, in 2007, the Ministry of Environmental Protection and the China Insurance Regulatory Commission jointly issued the Guiding Opinions on Environmental Pollution Liability Insurance. However, relying solely on voluntary implementation of environmental liability insurance by enterprises has had minimal effect. Therefore, in 2009, Shenyang took the lead in promoting “green insurance” through local legislation, followed by pilot programs launched in Chongqing, Shenzhen, and Shanxi. Regarding green technology, in 2006, the Decision of the State Council on Implementing the Scientific Outlook on Development and Strengthening Environmental Protection set forth the fundamental principle of addressing environmental challenges through technological innovation. In 2012, the Guiding Opinions on Promoting Technological Transformation of Enterprises further emphasized the significance of developing green technology and expedited efforts to “implement technological transformations aimed at improving industrial energy efficiency, encouraging clean production, and achieving comprehensive resource utilization.” For enterprises, green insurance and green technology have alleviated scruples in fulfilling environmental commitments, providing strong support for their adherence to environmentally friendly green development practices.

3.3. The Comprehensive Deepening Stage (2013 to Present)

3.3.1. The Multilevel Evaluation of Green Credit

In 2013, China promulgated the Measures for the Evaluation of Enterprise Environmental Credit (Trial), which specifically stipulates the evaluation system and implementation procedures for enterprise environmental credit. In order to respond to the call of the state and give play to the effectiveness of the “ruler” of green credit evaluation, all localities actively explore the green credit evaluation model and expand the field of green credit evaluation. For example, Gansu Province actively promotes the evaluation of green credit ratings for enterprises. In 2014, a total of 503 industrial enterprises implemented the “one examination, double comment” mechanism, clarifying their environmental protection obligations and responsibilities. In addition, the multi-level evaluation of green credit lies not only in the evaluation results, but also in the treatment measures for the evaluation results. For example, Shandong Province has a four-level green credit evaluation mechanism categorized as “green, blue, yellow, and black”, with each level corresponding to differentiated regulatory measures. Meanwhile, Jiangsu Province implements a five-level green credit evaluation mechanism of “green, blue, yellow, red, and black”, while coordinating differentiated green credit and varying water and electricity pricing policies. The multi-level evaluation of green credit not only highlights the benchmark role of environmental “leaders”, but also increases the cost of “dishonesty”, thereby creating a strong deterrent against potential violations. This, in turn, continuously accumulates the long-tail effects of positive incentives and negative penalties.

3.3.2. The Full-process Supervision of Green Credit

In the process of applying the green credit tiered system, China has focused on strengthening the construction of the

green credit regulatory system to curb the “greenwashing” phenomenon. In August 2015, The General Office of the State Council proposed a “double random and one open” supervision model. Specifically in the field of green credit, this model is expanded to include pre-event credit commitments, in-event credit supervision, and post-event joint rewards and punishments. Subsequently, the “delegating power, streamlining administration, and improving services” reform further accelerated the self-improvement of green credit regulation. In September 2019, the State Council issued the Guiding Opinions on Strengthening and Standardizing Supervision During and After the Event, emphasizing joint punishment for dishonest entities while requiring the establishment and improvement of mechanisms for credit restoration, objection appeals, and other processes. In March 2020, in the Guiding Opinions on Building a Modern environmental Governance System, environmental illegal information is required to be included in the national credit information sharing platform and disclosed to the public according to law. In summary, the full-process regulation of green credit is oriented towards “optimizing the allocation of regulatory resources”, improving the entry and exit mechanism of the “discredited list”, and reflecting its core value of “serving rather than constraining”.

3.3.3. The Urban-rural Integration of Green Credit

In 2014, the State Council of China issued the Outline of the Social Credit System Construction Plan (2014-2020), which included environmental protection and energy conservation as a key area of “social integrity construction”. Under the mobilization of central policies, many county and city-level local governments actively carried out the construction of a green credit system. A typical example is Anji County in Zhejiang Province, which adheres to green leadership by enhancing the rural credit environment and optimizing the rural financial ecosystem, thereby promoting the development of the rural credit system. In 2021, Anji County introduced relevant policies to encourage villagers, administrative villages (communities), and townships (streets) to actively strive to create “green credit users, green credit villages (communities), and green credit townships (streets).” Various entities involved in the creation of green credit can enjoy financial support policies such as interest rate discounts and increased credit limits. Currently, Anji County has successfully established the first batch of 3 green credit towns (streets) and 33 green credit villages (communities), and has recognized over 50,000 green credit users. The localized exploration of the green credit system not only embeds the ecological concept of green and low-carbon development into the rural revitalization process, but also provides a green framework and strategic support for the high-quality development of urban-rural integration in the new era.

4. Structural Evolution Logic of China’s Green Credit System

The structural view of historical institutionalism highlights the structural relationship between institutions, situations, concepts, interests and other elements, and examines how these relationships influence institutional change. Analyzing the development of China’s green credit system over the last 30 years, this research reveals that changes in the system are facilitated by shifts in development concepts. These changes are influenced by a combination of political, economic, and social forces at a macro level, as well as the interactions of

interests among individual actors at a micro level. In essence, the evolution of China's green credit system is a dynamic process involving the interplay of various structural elements.

4.1. Contextual Elements: The Co-Frequency Resonance of “Political-Economic-Social” Factors

The institutional change in the context of China is essentially a change in the institutional environment, which determines institutional innovation and produces corresponding institutional performance. Therefore, the analysis of institutions should be based on the historical context and macro situation, by exploring the deep structures behind the institutions to explain the laws of institutional change. In terms of the green credit system, the contextual elements mainly include three parts: political forces, economic strategy, and social expectations.

4.1.1. Stable Integration of Political Forces

The leadership of the Party and the government structure provide the pillar force for building the top-level structure of China's green credit system. In terms of Party leadership, China has always adhered to the leadership of the Communist Party of China and implemented it in all aspects of ecological and environmental protection. Relying on the advanced political judgment and execution capabilities of the Communist Party of China, the green credit system has been efficiently implemented and innovatively promoted, demonstrating a strong institutional vitality. In terms of government structure, China has the most intricate intergovernmental relationship network in the world, based on a system of vertical and horizontal relationships. Although the vertical and horizontal system still faces certain contradictions, it is undeniable that its functions in administration, supervision, and information transmission have stimulated the enthusiasm of both the central and local governments. This provides a pathway for the “overall planning, phased implementation, and localized adaptation” of the green credit system construction. In addition, the system of socialism with Chinese characteristics has a significant advantage in concentrating resources to accomplish major tasks. This not only allows the government to quickly mobilize human, material, and financial resources for the comprehensive layout and key deployment of the green credit system, but also means fully relying on the wisdom and strength of the people to overcome the development bottlenecks of the green credit system.

4.1.2. Strategic Transformation of Economic Growth

The economic base determines the superstructure, and the green credit system cannot develop independently of the economic system. Before the reform and opening up, in order to adapt to the highly centralized planned economy system, China mainly adopted “control-restriction” type environmental regulation tools. Through mandatory measures driven by administrative authority, effective pollution control was achieved in the short term. However, this model of environmental governance is characterized by passivity and lag, and it places high demands on the government's management input and law enforcement capabilities. With the establishment and improvement of the market economy system in the 1990s, China increasingly emphasized the role of market incentives and public participation in environmental policy. As a result, three fundamental tools for green credit management were initially formed:

administrative orders, market incentives, and public participation. During the same period, the Party Central Committee put forward the guidelines for national economic and social development of “transforming the mode of economic growth from extensive to intensive”, and initially opened the development road of taking into account the overall consideration of economic, social and ecological benefits. In addition to exploring resource-saving and environmentally friendly circular development models, China has also strengthened financial investment in the field of environmental protection. This includes ecological transfer payments aimed at regional balanced development and the national green fund aimed at the development of green industries, which provide solid financial support for green credit entities to fulfill their environmental protection obligations and social responsibilities.

4.1.3. Core Change of Social Expectation

When there is a gap between institutional supply and social demand, the system will change to meet the social demand. From the reform and opening up to the turn of the century, China's industrialization and urbanization developed rapidly, which, while enhancing productivity, also exacerbated the depletion of natural resources. In addition, air and water pollution caused by large-scale industrial and agricultural production is a direct threat to people's living environment and quality of life. In this context, the weight of the ecological environment in the people's happy life index continues to increase. The general expectation of the society has shifted from “developing GDP” to “developing green GDP.” In addition to strengthening the protection of the ecological environment, people have also begun to focus on fully unleashing the economic benefits of ecological resources without damaging them. The green credit system provides a mechanism for the value transformation of ecological products. A good ecological environment is the most equitable public good and the most inclusive welfare for people's livelihoods. The contradiction between the people's demand for high-quality ecological products and the insufficient supply of ecological products not only drives the self-improvement of the green credit system, but also provides important social participation forces for the green credit system to fully exert its governance effectiveness. This reflects the development philosophy of putting everything for the people, closely relying on the people, and ultimately benefiting the people.

4.2. Conceptual Elements: The Changes and Constants of Development Concepts

Concepts arise from the interaction between actors and their environment, serving as a concentrated expression of the agency of the actors, encompassing beliefs, ideologies, and tendencies. Through concepts, actors may overcome structural constraints to promote institutional change. Therefore, changes in concepts often precede institutional changes. When a particular concept becomes dominant, it generates a certain resilience, thereby maintaining the robust existence of the institution for a period of time.

4.2.1. The Status of Environmental Protection Work is Continuously Rising

How to coordinate the relationship between economic development and environmental protection has been a key issue of long-term concern in China's modernization efforts. In the early stages of reform and opening up, in order to

quickly liberate social productivity, China shifted its focus to economic construction, with environmental protection being merely an ancillary requirement of economic development. The fourth article of the Environmental Protection Law enacted in 1989 states that “environmental protection work should be coordinated with economic construction and social development”, marking a shift in the relationship between environmental protection and economic development from subordination to parallelism. After that, China proposed the Sustainable Development Strategy and the Scientific Outlook on Development, elevating environmental protection to a fundamental national policy. This laid the ideological foundation for the pilot and promotion of measures such as the public disclosure of corporate green credit information and green credit. Following the 18th National Congress of the Communist Party, China’s understanding of ecological civilization construction reached an unprecedented height, emphasizing the importance of scientific thinking based on systems theory and holistic theory to focus on the realization of ecological and environmental value. With the deepening of the concept of ecological civilization construction and green development, the green credit system breaks through the scope of enterprise environmental protection, aiming to explore high-quality ecological products on a larger scale and promote the value transformation of ecological products. Specifically, it involves the economical use, protection and compensation of ecological resources; Formation and realization of ecological value; Ecological environment source governance, systematic governance, pluralistic co-governance.

4.2.2. The Human-Centered Value Core Remains Steadfast

The adjustment of the relationship between economic development and environmental protection is based on the main contradictions in society and the intrinsic needs of the people. Since 1981, the main contradiction in Chinese society has long been described as the conflict between the people’s growing material and cultural needs and the backwardness of social production. In order to satisfy people’s desire to quickly escape from poverty and backwardness, China has made a development strategy centered on economic growth. However, with the improvement of productivity and the accumulation of ecological destruction issues, the main contradiction in our society has gradually shifted to the contradiction between the people’s growing need for a better life and the unbalanced and inadequate development. The demand for a beautiful ecological environment is increasing among the people. In response to the needs of people’s livelihoods, both the central and local governments are vigorously promoting ecological civilization construction work, including the establishment of a green credit system. It can be seen that whether it is “wanting mountains of gold and silver” or “wanting green waters and lush mountains”, the underlying concept contains a human-centered value core. Guided by this human-centered value core, the green credit system has steadily formed and developed as an institutional demand. It aims to build a harmonious and symbiotic relationship between “humans and nature” based on resolving the trust relationship among “people”.

4.3. Subject Elements: The Interest Interaction of Multiple Actors

Historical institutionalism posits that institutional change is primarily driven by the distribution of interests among actors,

which includes two main paths: interest competition and interest convergence. On one hand, the power dynamics and interactions among different actors, based on their considerations for maximizing their own interests, serve as a significant driving force for institutional change. On the other hand, primary actors implement institutional innovations based on shared interests, prompting secondary actors to follow suit, thereby facilitating institutional change under the impetus of a community of interests. The main actors in the change of the green credit system are the government, enterprises, and the public.

4.3.1. The Interest Game among Actors

In the evolution of the green credit system, the interest game among the relevant actors is mainly reflected in the conflict between enterprises, the government and the public. At the level of conflict between enterprises and the government, early government primarily adopted “command-and-control” environmental regulation tools, imposing high-intensity controls on the negative externalities and market failures caused by corporate pollution. However, this results-oriented environmental governance overlooked constraining factors such as the high costs of corporate environmental management and insufficient environmental protection infrastructure. It forced companies to exploit information barriers to engage in “greenwashing” or to relocate to areas with less stringent environmental regulations to evade administrative penalties. At the level of conflict between enterprises and the public, enterprises subjected to environmental regulations may “passively collude”, adopt the behavior of reducing production and increasing prices, so as to transfer the regulatory costs to the public as consumers. In addition, the pollution behavior of enterprises damages the ecological environment, resulting in frequent environmental disputes between enterprises and the public. At the level of conflict between the government and the public, “public participation” has long been advocated merely as a principle of environmental governance, lacking specific and clear avenues for participation and legal procedures. Meanwhile, the public, as the main bearer of environmental issues, lacks institutional guarantees for their right to access environmental information and participate in environmental protection affairs. As public environmental awareness increases, this conflict may evolve into a series of NIMBY (Not In My Backyard) events, threatening social safety and order. In summary, the conflicts of interest and games among actors reveal the crux of environmental governance issues, providing more targeted optimization ideas for the construction of the green credit system.

4.3.2. The Convergence of Interests among Actors

If the interest game points out the improvement direction of the construction of the green credit system, then the interest convergence provides an important premise for the optimization of the green credit system. The actors mainly reconcile conflicts of interest and achieve interest convergence through the following two methods, thereby consolidating diverse forces to jointly serve the construction of the green credit system. First, private interests serve the public good. Whether for the government, enterprises, or the public, a good ecological environment represents a broader, more sustainable, and more certain benefit. Based on this consensus, by clarifying the responsibilities and rights of the government, enterprises, and the public, and facilitating participation channels, a “three-party collaboration” model of “government leadership + enterprise self-discipline + public

supervision” is formed. This model promotes the full-process management of green credit information collection, disclosure, evaluation, regulation, and rewards and penalties. Second, reasonable private interests should be taken into account. The realization of the common good does not have to be at the expense of private interests. Considering the high management costs and technical risks that enterprises may face in fulfilling their environmental protection obligations and responsibilities, the government has gradually improved the protection measures such as green insurance and green funds. At the same time, the government has strengthened policy guidance and financial support for green technology innovation, so that enterprises have the willingness and ability to adhere to the green development path. In summary, green credit management under the convergence of interests can integrate various advantages such as government authority, corporate innovation, and public participation, thereby maximizing the benefits of environmental governance and green development.

5. Historical Evolution Logic of China’s Green Credit System

The historical view of historical institutionalism divides institutional change into two categories: periods of institutional disruption and periods of institutional stability. Key node and path dependence are the primary forces that influence institutional change, relating to periods of institutional disruption and stability, respectively. Through an examination of the historical development of China’s green credit system, this study finds that the emergence of key nodes has led to significant directional adjustments in the green credit system. The path dependence has reinforced the phased evolutionary direction of the green credit system, allowing the institution to maintain a certain degree of stability and continuity within different stages.

5.1. Key Node and Path Adjustment

For historical institutionalists, path dependence is a crucial causal mechanism, and key junctures serve as the starting points for many path-dependent processes, encompassing critical moments of institutional design and important decisions. During shorter key node periods, the choices of actors can significantly influence the ultimate trends of institutional evolution. In the evolution of the green credit system, there are mainly three key nodes.

5.1.1. Formation of the National Strategy for Sustainable Development (1995)

Since the 1980s, the situation of global resource depletion and ecological destruction has become serious. How to coordinate the relationship between people and nature in development has become a common concern of the whole world. In September 1995, the State Council first used the concept of “sustainable development” at the Fifth Plenary Session of the 14th Central Committee of the Communist Party of China. They officially incorporated sustainable development as a fundamental national strategy in the Proposal of the Central Committee of the Communist Party of China on Formulating the Ninth Five-Year Plan for National Economic and Social Development and Long-term Goals for 2010, stating that “the comprehensive development of society must be placed in an important strategic position to achieve mutual coordination and sustainable development between the economy and society.” The transformative power

at this key node is primarily driven by the strong focus of the central government and the guidance offered by national strategy. In response to the central government’s call, some regions have begun to address the issue of trust deficits in environmental governance based on their actual circumstances. This includes tackling the trust crisis between government and enterprises caused by corporate “greenwashing”, the trust crisis between government and the public due to inefficiencies in environmental governance, and the trust crisis between enterprises and the public resulting from the transfer of environmental regulation costs. Under the guidance of the sustainable development strategy, China has successively promulgated policy documents such as the Decision on Several Issues of Environmental Protection and the National Ecological Environment Construction Plan, providing a policy basis and legal support for the gradual exploration of the green credit system.

5.1.2. Proposal of the “Three Transformations” Concept (2006)

During the “Ninth Five-Year Plan” and “Fifteenth Five-Year Plan” periods, guided by sustainable development strategies, China achieved certain results in environmental governance. However, the issues of insufficient momentum for green development and the singularity of environmental regulation tools remain prominent. In April 2006, Premier Wen Jiabao put forward the important idea of “Three Transformations” at the Sixth National Conference on Environmental Protection. The first two transformations focus on the interaction between environmental protection and economic development, aiming to put environmental protection in a more important strategic position. The latter transformation focuses on the diversification of environmental governance methods, emphasizing the advantages of synergistic governance of multiple methods. The transformative forces of this key node include that the conflict between economic benefits and environmental benefits is difficult to reconcile; the environmental governance model dominated by administrative orders has encountered difficulties; the upgrading and adjustment of environmental protection requirements under the new situation. In the process of the construction of green credit system, China listed “environmental protection” as an important evaluation criterion of enterprise development status and disclosed the evaluation results to the society. Meanwhile, China comprehensively using law, economic, technology and other ways to eliminate the inhibitory factors of environment-friendly behavior. In summary, the concept of the “Three Transformations” further clarifies the synergistic relationship between “green” and “development”, and promotes the rapid development of China’s green credit system.

5.1.3. Establishment of the Corporate Environmental Credit Evaluation System (2013)

In 2013, China formulated the Measures for Enterprise Environmental Credit Evaluation (Trial), and local governments followed suit by actively carrying out relevant regulations for enterprise environmental credit evaluation based on local conditions. These policies focus on addressing the issues of “who evaluates” and “how to evaluate” corporate environmental credit, gradually building and improving the corporate environmental credit evaluation system nationwide. The transformative forces of this key node include: the deepening of organic integration of environmental behavior and market credit; strengthening of multi-department joint

reward and punishment mechanism; more comprehensive and transparent environmental credit information. Environmental credit assessment organically integrates the relatively scattered information in the green credit system, and provides a powerful entry point for more sustained, extensive and in-depth green credit tracking and supervision. Meanwhile, as an important supporting facility of enterprise environmental credit evaluation system, the multi-department joint reward and punishment mechanism expands the application space of credit assessment results, and gives administrative constraints and punishments to environmental dishonest enterprises in accordance with laws and regulations. In other words, the enterprise environmental credit evaluation system excavates the “pass” function of “green credit” for enterprise development, and promotes the green credit system to enter the comprehensive deepening stage.

5.2. Path Dependence and Self-Reinforcement

North believes that the path of institutional change depends on two factors: high and incomplete transaction costs in the market, and increasing returns. In short, once an institution or institutional system is initially established, it generates a self-defending or reinforcing mechanism that significantly increases the costs of path change or exit over time. In the case of a green credit system, learning effects, synergy effects, and adaptive expectations together form a self-reinforcing mechanism that influences its development path.

5.2.1. Learning Effect

The learning effect of the green credit system arises from the absorption and diffusion of good experiences. Based on the classification of learning sources, the learning effect of the green credit system is mainly reflected in the following two aspects: first, vertical temporal learning, which involves exploring suitable development paths in response to changes in the demands of the times. Due to the varying focuses of ecological governance and green credit management issues at different historical stages, China has adjusted its policy orientation, updated governance models, and enriched governance tools through long-term practice observation and experience accumulation. This has facilitated a smooth transition of the green credit system from a stage of gradual exploration to a stage of rapid development, ultimately entering a stage of comprehensive deepening. The second is horizontal spatial learning, which means selectively introducing the best policies and programs from other regions into one’s own area. Whether it is the spontaneous practice of environmental information disclosure in various places after the pilot projects for corporate green information disclosure were launched in Zhenjiang and Hohhot in 1998, or the local governments formulating evaluation criteria based on local conditions, both reflect the learning effect of experience spreading and expanding from specific points to broader areas. In this process, institutional innovation and reproduction enriched the connotation of the green credit system and generated increasing returns, achieving institutional performances such as improving government-citizen relations and optimizing the ecological environment. These institutional performances further internalized as the driving force to maintain the existing path, thereby promoting the robust sustainability of the green credit system.

5.2.2. Synergy Effect

The green credit system is interconnected and coordinated with other systems, creating a synergistic effect. As a complex system involving multiple stakeholders, the green credit

system not only incorporates various auxiliary policies internally, but also integrates into the network structure of related systems externally. Within the system, policies and systems in the fields of green energy, green infrastructure, green technological innovation, green finance, and green consumption are all linked to the green credit system. Externally, the green credit system is coordinated with legal, financial, cultural and other institutional systems. The convergence of various institutions inside and outside the system has produced a huge synergistic effect. On one hand, the transformation of the green credit system has become a systematic project that is “interconnected.” Its evolution process is layered and compounded with the adjustment costs of many other related systems, resulting in strong institutional inertia within the green credit system. However, this also means that when other systems change, the green credit system will adjust accordingly to meet social demands and align with the development needs of other systems. On the other hand, the speed of change in institutional elements involved both inside and outside the system varies. For example, national macro policies often precede local specific regulations; green credit evaluation and regulatory systems often come before green development guarantee systems. This inconsistency in the speed of change in institutional elements somewhat locks in existing institutional measures.

5.2.3. Adaptive Expectation

The green credit system meets the expectation of adaptability because most actors agree with it. At the beginning of the formation of the green credit system, its core of environmental protection and green development has been highly recognized by the government and the general support of the people, laying the foundation for adaptability expectations. As the green credit system has entered a stage of rapid development, the expectations of the relevant parties for the system have also gradually increased. In order to maintain its legal status and highlight the vitality of the system, the green credit system makes timely supplements and adjustments on the basis of the existing path according to expectations. During this period, the improvement of ecological environment quality, the deepening of the concept of green development, and breakthroughs in energy-saving and emission-reduction technologies have all achieved results that meet institutional expectations. This has further strengthened the government’s willingness to improve the green credit system and the public’s expectations for the green credit system. Currently, the green credit system has entered a stage of comprehensive deepening. In the process of its self-improvement, there inevitably exist criticisms and even resistance due to conflicting interests among related parties. The green credit system has alleviated the conflicts of interest among core entities by strengthening the risk-sharing mechanism for corporate green development and broadening public participation channels. It continuously demonstrates the value of its institutional existence to the outside world and transforms external adaptive expectations into a driving force for the stable operation of the system.

6. Future Prospects of China’s Green Credit System

Since the 20th National Congress of the Communist Party, China has further emphasized the strategic position and overall institutional arrangement of the green credit system, effectively addressing issues of dishonesty in the fields of

green development. Looking ahead, three major development directions for China's green credit system can be anticipated: exploring the deep social structure to promote the balance of the green credit system; understanding the laws of path dependence to enhance the scientificity of the green credit system; and seizing the benefits of technological iteration to strengthen the intelligence of the green credit system.

6.1. Promote the Balanced Development of The Green Credit System

The goal of building a green credit system is not only to achieve adequate environmental governance but also to promote balanced green development. In terms of green resource allocation, the public in suburban, rural, and economically underdeveloped areas finds it difficult to match their demand for a high-quality ecological environment with the corresponding environmental governance supply. In terms of green credit regulation, eliminated polluting industries and outdated production capacities from developed areas are transferred to underdeveloped regions, further exacerbating the structural conflicts that lead to imbalances in green development opportunities. Therefore, in order to promote the co-construction and sharing of ecological well-being, we must attach great importance to the regional imbalance in the construction of green credit system. For suburban, rural, and economically underdeveloped areas, it is necessary to increase the tilt of relevant policies and the transfer payments for ecological function zones, while improving the thresholds for green credit and introducing green technologies such as clean production and waste recycling. This will provide more adequate financial and technical support to enhance local environmental governance capabilities. For enterprises that transfer pollution, it is necessary to strictly review the environmental credit information of the enterprises to prevent pollution from being transferred in, while providing space and policy support for green transformation at the original location to prevent pollution from being transferred out. Ultimately, this aims to achieve dual-source governance to avoid pollution transfer.

6.2. Facilitate the Scientific Advancement of The Green Credit System

Stable and continuous institutional practices help to fully unleash the potential of institutional performance, but they may also lead to the locking in of outdated institutions and increase the resistance and risks associated with institutional innovation. Currently, the green credit system has already revealed an inherent contradiction between path stability and node transformation. In order to prevent and break the negative path dependence in the development of the green credit system, we should first focus on the long-term benefits of ecological environment system governance and green development to strengthen top-level design. It is essential to clarify the human-centered value core while also leaving room for the system to adapt and evolve with the times. Meanwhile, by comprehensively analyzing historical credit information data and trends in domestic and international evaluation indicators, we can foresee potential risks and opportunities in future development, thus avoiding the short-sighted traps that decision-makers may fall into. Secondly, the internal structure of the green credit system should be optimized by integrating similar functional systems, reducing redundant systems, and streamlining the implementation processes. This will promote the effective use of resources

and reduce the constraints of path dependence. Thirdly, ecological environment governance is a long-term systematic project, and there is significant uncertainty and complexity for green credit entities in managing the relationship between "humans and nature." Therefore, relevant legal systems and regulations should improve risk relief measures and credit restoration procedures to enhance the scientific nature and resilience of the green credit system.

6.3. Strengthen the Intelligentization of the Green Credit System

The governance logic of the green credit system lies in sharing environmental governance information, reducing pollution prevention costs, and enhancing the efficiency of green development. The development of various emerging technologies under the wave of the Fourth Industrial Revolution provides the technical means to support the intelligent upgrade of the green credit system and the implementation of the aforementioned governance logic. Firstly, make full use of new generation information technologies to develop an intelligent platform that integrates the collection, disclosure, evaluation, and regulation of green credit information. While reducing internal information barriers within the government, optimize the approval services for enterprises' green credit and expand the channels for public participation in environmental governance. Secondly, actively research and apply advanced green technologies such as clean production, and clean energy, transforming them into new productive forces that align with the concept of green development. This will promote enterprises to fulfill their green credit commitments while considering economic benefits. Furthermore, this new productive force will also promote a green and low-carbon lifestyle across society through forms such as green transportation and green consumption, achieving source governance of the ecosystem. Thirdly, continuously break through technologies for wastewater purification, solid waste degradation, and resource recycling; improve the construction of green infrastructure such as wetlands, greenways, and parks, and further reshape and optimize the harmonious coexistence relationship between people and space.

References

- [1] Qiao F, Wen W. Research on the impact of social credit system reform on corporate green innovation[J]. *Chinese Journal of Management*, 2023,20(08):1189-1197.
- [2] Su X, Pan C, Zhou S, et al. Threshold effect of green credit on firms' green technology innovation: Is environmental information disclosure important? [J]. *Journal of Cleaner Production*, 2022, 380: 134945.
- [3] Zhong H Y, Wang J H, Li M X. Does the environmental credit evaluation promote the green total factor productivity of enterprises? [J]. *Journal of Audit & Economics*, 2024,39(02): 96-106.
- [4] Cao Z, He X, Zhang K. Research on the evolution mechanism and decoupling effect of China's carbon emissions from the perspective of green credit: based on system dynamics model and Tapio model[J]. *Environmental Science and Pollution Research*, 2023, 30(56): 118897-118915.
- [5] Shen M H, Chen H S, Ying Y. Green credit regulatory systems: theoretical logic, relational evolution and practical paths[J]. *Zhejiang Academic Journal*, 2023(02):122-132.
- [6] Zhang B, Yang Y, Bi J. Tracking the implementation of green credit policy in China: Top-down perspective and bottom-up

- reform[J]. *Journal of environmental management*, 2011, 92(4): 1321-1327.
- [7] Wu S, Zhao X L, Wu L P. Institutional innovation of green credit-from the perspective of promoting firms' eco-innovation[J]. *Reform of Economic System*, 2020(01):36-42.
- [8] Ma S Y. Political science at the edge of chaos? The paradigmatic implications of historical institutionalism[J]. *International Political Science Review*, 2007, 28(1): 57-78.
- [9] Immergut E M, Anderson K M. Historical institutionalism and west European politics[M]. *European Politics*. Routledge, 2013: 345-369.
- [10] Ma X S. A Study on the occurrence path, inherent logic and significance of historical institutionalism[J]. *Social Science Front*, 2022(06):187-197.
- [11] Yang G B. Institutional paradigm: An approach of watching political change in China[J]. *Journal of Renmin University of China*, 2003(03):117-123.
- [12] Zhou Z C, Huang H K. The connotation and unique function of Chinese strip system[J]. *Academics*, 2023(01):56-64.
- [13] Ma D Y. The theory of gradual institutional change in historical institutionalism: Its implications for China[J]. *Comparative Economic & Social Systems*, 2018(05):158-170.
- [14] He Lianxie. *Institutional Analysis: Theory and Controversy* [M] Beijing: China People's University Press, 2014.
- [15] Huang M X. Gradual adjustment: The evolution logic of China's grassroots deliberative democracy—an analysis based on historical institutionalism[J]. *Socialism Studies*, 2022(02): 117-124+148.
- [16] Capoccia G, Kelemen R D. The study of critical junctures: Theory, narrative, and counterfactuals in historical institutionalism[J]. *World Politics*, 2007, 59(3): 341-369.
- [17] Douglas C. North. *Institutions, institutional changes, and economic performance*[M]. Shanghai: Shanghai People's Publishing House, 2016.