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Digital Finance for Circular Economy in Sustainable Environment

Jingbao Wu

Zhengzhou Business University, Zhengzhou, Henan, 450000, China
wujingbaoj@163.com

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Abstract: The development model of "capital investment, resource trumpet, and pollution-intensive" violates the laws of economy and nature, and gradually reaches the limit of economic growth. The pollution and environmental damage caused by it has become the main limiting factor for the sustainable development of urban economy and society. Actively developing circular economy, taking into account economic development, resource conservation and environmental protection, and coordinating economic, social and environmental development is a necessary opportunity for urban economic development and an important way to build a green city. The circular economy is a systemic project linking the economy, technology and society. It cannot be implemented and promoted without the political support of the government, and fiscal policy is an ideal policy tool. Therefore, a comprehensive assessment of the role of fiscal and economic leverage is required, and fiscal policies that actively support the development of a circular economy need to be improved. Through the research and experiment of digital finance to promote the development of circular economy in a sustainable environment, this paper has shown that: in 2015, the general public budget expenditure of Lanzhou Municipal Government increased from 28.219 billion yuan in 2014 to 34.9 billion yuan, an increase of 6.681 billion yuan, the growth rate also increased from 16.61% in 2014 to 23.85%. Among them, the government's expenditure on energy conservation and environmental protection has also increased from 1.068 billion yuan in 2014 to 1.632 billion yuan. It can be seen from the above data that the support of digital finance has a significant effect on promoting the development of circular economy in a sustainable environment.

1. Introduction

Since the 1950s, industrial development has led to many pollution problems, resulting in a new concept of sustainable development. The formulation and implementation of policies to protect the environment and natural resources has become a global issue. It was launched at the 1972 UN Environment Summit, developed at the 1992 UN Environment Summit, and took on special importance at the 2002 Rio Summit. In terms of national fiscal systems, only Germany and Japan have explicitly recognized the concept of a circular economy, and thus have developed a broader policy system and political support system to promote a circular economy. In other countries,

developing a circular economy is not explicitly mentioned as a policy objective. Based on the successful experience of the EU, Germany and Japan, although the circular economy model is different, Germany starts with waste management and recycling. Japan, on the other hand, starts from reducing resources and makes extensive use of fiscal measures such as taxes, charges, emissions trading and savings to support the development of a circular economy. Fiscal policy plays an important role as a key tool of macroeconomic control, not least because of a trend toward less direct state intervention.

Regarding China's current tax system, although some tax and tax exemption measures contribute to the development of a circular economy, they are mainly aimed at environmental protection measures. As for specific financial support, some are just general principles, such as increasing financial support and tax exemption, and there is no specific fiscal policy to support the circular economy. Given the seriousness of China's environmental conditions, these policies are far from meeting the strategic goals of sustainable socio-economic development and the objective requirements of developing a socialist market economy.

Based on the research on digital finance to promote the development of circular economy in a sustainable environment, the data show that the general public budget expenditures in 2014 were: 281.14, 57.33, 19.47, 52.50, 4.16, 6.64, 28.41, 26.75, 10.68, 20.82, 18.49, 7.62, 4.94, 7.57, 1.681 billion yuan; the budget expenditures in 2015 were 345, 4.746, 23.38, 65.10, 5.14, 6.93, 33.68, 32.74, 16.32, 38.98, 28.94, 8.93, 4.10, 1.102 and 2.679 billion yuan respectively. From the above data, it can be seen that the research on digital finance of circular economy in a sustainable environment is of great significance for promoting the development of the current digital finance economy.

2. Related Work

This paper studied some techniques of finance, which can be fully applied to the research in this field. Hanson G H mainly discussed how public finance affects the preferences of individuals in the United States on immigration policy [1]. Ebaid E S has been aiming to empirically study the impact of Egypt's capital structure choices as one of the emerging or transition economies on corporate performance [2]. Haan J D analyzed a sample of 121 countries and examined the relationship between financial development, financial liberalization and banking crises and income inequality [3]. Higham D J justified multilevel Monte Carlo simulations of mean-reverting financial models with polynomial growth in the diffusion term [4]. Linnenluecke M K reviewed financial journals to identify their main contributions to financial research and outlined knowledge gaps and future research directions [5]. These methods provide some references for our research, but due to the short time and small sample size of the relevant research, they have not been recognized by the public.

Based on digitization, Coreynen W reviewed the following relevant materials to optimize the research of finance, with the purpose of describing and explaining how digitization can serve manufacturers [6]. Royakkers L discussed the social and ethical issues arising from digitization based on six mainstream technologies [7]. Xie L L designed an improved phase digitization mechanism to overcome the locking range limitation of a low-power all-digital phase-locked loop using phase prediction and edge-snapshot circuits [8]. Leviakangas P discussed how the Australian construction industry has kept pace with digitization compared to other industries in Australia [9]. The purpose of the Sharma V study was to determine the current state of manuscript digitization in India and to provide recommendations for the ease, ease and speed of transcribing these manuscripts [10]. Meng W proposed a compact but efficient trust-based method using Bayesian inference to identify malicious nodes [11]. These methods have provided sufficient literature for our

study of digital finance for circular economy development in a sustainable environment.

3. Overview of Circular Economy Development and Digital Finance

There is no differentiated tax policy system that is conducive to the development of circular economy, and there is a lack of systematic research on tax policies at the regional level, ignoring the important role of local tax policies in creating a circular economy. Therefore, this paper solves the above problems by studying the circular economy in a sustainable environment and promoting the development of digital finance.

3.1. Development of Circular Economy

The result of a profound global debate on the relationship between humans and nature is the development of a circular economy, which represents the only option for human society if it is to take the path of sustainable development. The 1950s and 1960s were a period of very democratic industrialization, with huge increases in production and consumption, resulting in huge resource use and pollution, which attracted great international attention. Some economists have taken inspiration from the life support systems of spacecraft, from which the concept of a circular economy comes. Over time, circular economy has developed into a comprehensive concept that includes interrelated aspects such as cleaner production, resource conservation, sustainable consumption, waste recycling, and environmental protection. It requires people to use resources sustainably, produce and consume them in an environmentally sound manner, gradually reduce the use and pollution of resources, and reuse and recycle resources sustainably. It also emphasizes maximizing economic and social benefits with the lowest possible resource use and environmental costs [12].

"Circular economy" is short for "closed loop economy". It is an economic model that works in harmony with the material cycles and energy flows of natural ecosystems.

The following are several levels of circular economy: first, at the company level, reducing pollution and cleaner production are the requirements of circular economy; secondly, at the regional level, establishing eco-industrial parks or industrial ecosystems between companies is a requirement of circular economy. Enables mutual exchange of emissions and waste between companies to enable mutual exchange of emissions and waste between companies. Finally, at the community level, recycling and reusing waste during production is a circular economy requirement, and recycling materials post-consumer and in-consumer. To sum up, green, friendly and economical are the essence of circular economy.

3R is the principle of circular economy, its content are: Reduce consumption, which is a principle of resource management. The purpose is to use less energy and raw materials in achieving the consumption targets and production volumes of the tone, emphasizing resource conservation and reducing pollution at the source of economic activity; Reuse, which is a process management principle, aims to reduce pollution emissions and resource consumption by increasing the use time of products through utilization; Recycling, which is a principle of source control, the purpose is to reduce resource discharge and consumption, so waste is transformed into usable resources [13]. The operation process of circular economy is shown in Figure 1.

From resources-products-waste, it is the development model of extensive economy. The cycle from resource-product-waste-product-resource is the operation process of circular economy. Using this model greatly reduces the waste of resources and protects the environment. The development process of circular economy is shown in Figure 2.

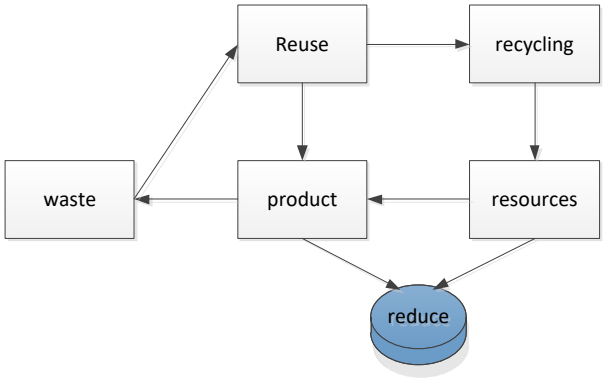


Figure 1: Circular economy operation process

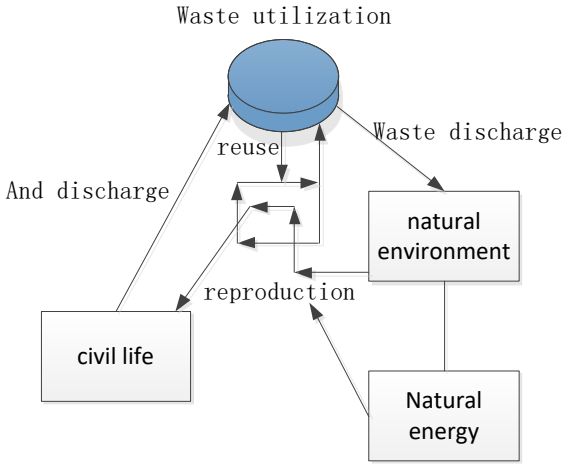


Figure 2: Circular economy development process

The development process of circular economy is a big cycle of the ecosystem. The waste generated in the social production and living process is discharged, and part of the discharged waste is reused, and part of the discharged waste is discharged into the natural ecosystem for recycling or reproduced under the action of natural energy (solar energy, wind energy). Circular production eventually produces social household items again [14].

In the long-term experience, developed countries have gradually learned and formed four main models of circular economy development in order to effectively and effectively implement circular economy at the three levels of enterprise, region and society. The waste management mode mainly refers to the resource recycling and utilization of solid waste and domestic waste after production and consumption through technology and management; the product recycling mode means multi-purpose replacement of secondary use and final use, extending the service life of products. The asset cycle system mainly refers to operating and managing the products produced by the company as assets, implementing the "development concept" from product sales to service, establishing a product service system, and realizing asset turnover. The circular society model refers to the development goal of transforming the whole society into a circular society in order to limit the consumption of natural resources and reduce the impact on the environment.

Resources are one of the most important factors in developing a circular economy. Today, the serious shortage of resources is a problem the world is facing, and China is not immune. Resources are an indispensable material for people to survive. If people want to survive better, they must have enough resources to use. Non-renewable and renewable are two types of resources [15].

Both renewable and non-renewable resources are inseparable from human life, and the lack of

resources forces human beings to adopt a circular economy approach and use resources rationally and repeatedly. The total amount of non-renewable resources in the world is decreasing, which is driving up prices and affecting economic development to some extent. Therefore, non-renewable resources determine the duration of economic development. Humans must reasonably evaluate and develop non-renewable resources, find alternative resources, and improve the reuse rate of non-renewable resources to promote a rational economic cycle.

3.2. Overview of Digital Finance

Current computer technology and digital communications continue to evolve. With the rapid development of new-generation digital information technologies such as mobile computing terminals, cloud computing, Internet of Things, and smart cities, the degree of social mediaization, digitalization of life, and economic informatization are gradually improving, and sensing equipment and digital terminals are increasingly integrated into the network and various production form. All sectors of society are collecting and producing all kinds of life data, and the global data volume is growing at an unprecedented rate [16].

At the Third Plenary Session of the Eighteenth Central Committee, the issue of modernizing state governance was raised. The modernization of national governance is mainly related to the modernization of government governance, and the development of digitalization has created opportunities for improving national governance. The increasing complexity of public affairs in society makes it difficult for people to fully understand what is going on and to make the right decisions based solely on personal perception. The government can use its advantages in digital technology to make decisions based on digital analysis and information extraction technology, and discover relevant connections in the operation of society.

In a high-risk investment and development process, the digital industry needs to invest a lot in policy, R&D and supervision. If it only relies on market factors, its development will encounter bottlenecks. The government needs to improve legal provisions, formulate support policies, increase support, manage the collection and flow of social resources, and enable the digital industry to develop actively. The financial sector is one of the main macroprudential tools at the national level, and its stimulating and guiding role should be fully utilized. The common decision of all countries is to promote the development of the digital industry and incorporate it into the strategic industry. The premise that China needs to promote the development of the digital industry is the support of financial policies [17].

Government auditing in China has been in existence since the Western Zhou Dynasty, and has gone through different stages of development with the changes and development of social systems. In different periods, limited by the social and economic conditions at that time, it has different characteristics. According to the degree of audit informatization and the concentration of data used, the development of government audit can be divided into three stages: traditional audit stage, information audit stage and digital audit stage, each stage has its own audit mode. Government auditing in the traditional auditing stage is mainly based on manual auditing, supplemented by tools such as abacus. Informatization auditing has enabled the Chinese government to gradually establish three major auditing systems: on-site auditing system, auditing management system and online auditing, which promotes the process of auditing informatization. After the rise of big data in 2012, a digital audit platform was developed and a digital audit method was implemented. The development process and mode of auditing are shown in Figure 3.

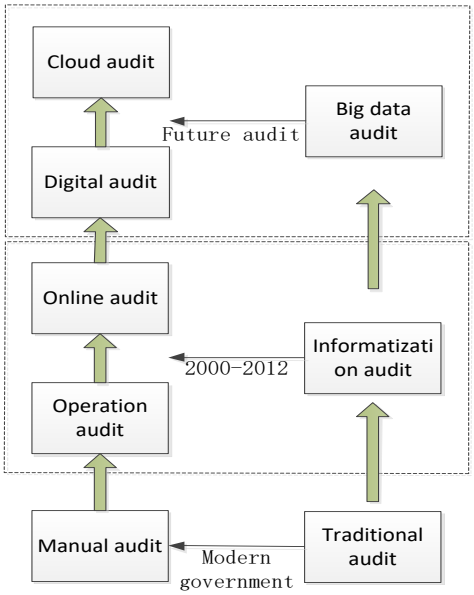


Figure 3: Audit development process and model

Digital auditing is an auditing mode suitable for the initial stage of big data auditing. It mainly realizes the centralized analysis and utilization of cross-industry and cross-regional data through the establishment of a digital audit platform and the accumulation of audit models. A digital audit must be based on the computerized information system and master data of the audited entity. The information system of the audited unit must be verified and measured in advance. After confirming that the information system of the audited unit is trusted, data collection can be carried out, and the collected data can be screened and converted to obtain audit data [18].

Digital auditing is one of the main tasks of the third phase of the Golden Audit Project, which includes the full implementation of an audit data center to centrally manage data and exchange audit resources. Usually at the county and city level, it is allowed to integrate data from different departments according to pre-determined audit standards, establish sub-tables, and establish a system of audit methodologies to support the management and implementation of audits.

The digital audit platform refers to the foundation of modern computer Internet technologies such as communication and network, which are being built by government audit institutions at all levels. In order to meet the business needs of auditing and the data management needs of auditing, it is a large-scale auditing information system that integrates software, hardware and middleware with functional modules such as data storage and analysis. That is, it is based on OA (for office automation and on-site audit management), AO (for computer operations required for on-site audit), and OLA (audit data analysis system, which mainly analyzes audit data through modularization, structuring and automation), audit data center (for collecting, transforming and storing electronic data from different departments and different types), audit data exchange center (exchange and data sharing in different regions data) in one platform system and organizational structure [19]. The digital financial audit process is shown in Figure 4.

Digital financial auditing will make more efficient use of digital functions, improve the analysis efficiency of auditors, and reduce the time of on-site work for auditors. It would conduct a comprehensive audit of state resources, state assets, the effectiveness of public funds and the financial responsibilities of managers.

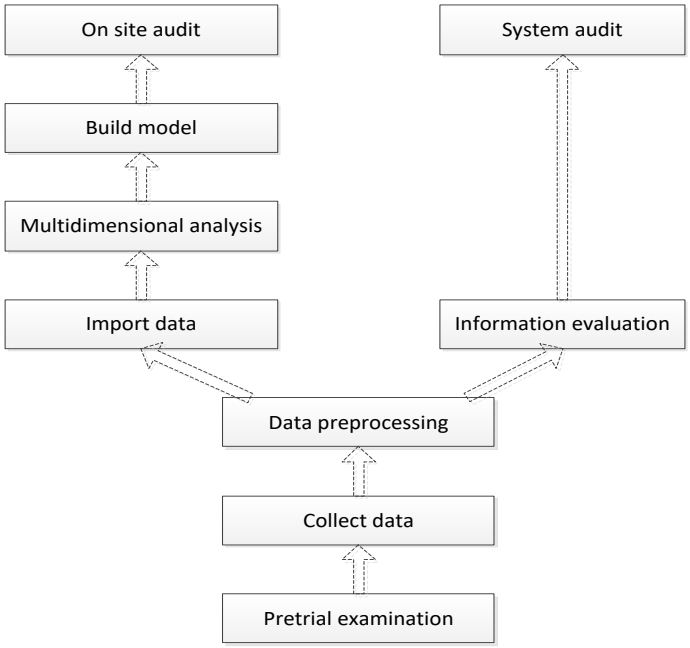


Figure 4: Digital Financial Audit Process

As an open and complex system technology, digitization is the basic element of the digital earth. Through the establishment of a database system and a network communication system, basic information on the numerous components of the city will be collected and used to create an integrated digital management system for digital management of facilities and related components. The scope of management includes urban order management, infrastructure management, planning management, day-to-day maintenance management, and management of urban resources such as energy, roads and lights within the jurisdiction, achieving high-level sharing and utilization of urban information, providing sufficient information foundation for urban management, and ultimately achieving the goal of providing a comfortable, convenient, safe and efficient living environment for the general public [20].

The construction of digital cities should follow the principles of seeking truth from facts, giving priority to benefits, continuing to advance, and implementing governance. With the unified planning of the government, the promotion of technology, and the joint promotion of government and enterprises, the development of digital cities has gradually improved people's lives.

Fiscal policy is a general term for the fiscal measures taken by a country or government to achieve specific fiscal goals by using various fiscal means according to specific fiscal theories. Fiscal policy affects economic activity primarily through public taxation, spending, debt, fiscal and other instruments, as well as interest rates and enforcement mechanisms.

The effects of fiscal policy mainly include: internal stability effect. In the case of macroeconomic instability, fiscal policy can automatically play a role in macroeconomic stability; the multiplier effect refers to the increase or decrease in national income due to changes in taxation; the stimulus effect is the actual impact of the government on a given location in the form of financial subsidies, incentives and sanctions; the currency effect refers to the effect of government bonds.

Fiscal policy acts on the macro-economy, mainly by using the counter-cyclical function of finance, that is, when the economy is overheated, the government tightens spending to suppress aggregate social demand; when the economy is in recession, the government expands spending to stimulate aggregate social demand.

Fundamentally speaking, the scale of a region or a country's fiscal revenue and the intensity of

fiscal expenditure regulation must be based on local economic development. Only by vigorously supporting economic development can finance achieve its own sustainable development. The so-called economy determines finance, and finance reacts to the economy. The two are highly dialectical and unified.

At the same time, some disharmonious factors have arisen in the economic development, such as: laid-off and unemployment caused by enterprise restructuring and economic structure adjustment, urban demolition, problems in the basic medical system, and basic education. The government should gradually solve the problem, continuously improve the financial management system, strengthen the collection and management of revenue, and establish a mechanism for the continuous growth and stability of financial revenue, so as to make the revenue cake bigger.

Numerical estimation of carrier characteristics plays an important role in modern application analysis. The numerical estimation of the carrier characteristic parameters is mainly carried out by estimating and analyzing the spectrum of the discrete Fourier transform of the carrier signal. For the characteristic parameters of the carrier signal, the analysis of the accuracy of the digital estimation method is even more important. On the one hand, the accuracy of the analysis increases the probability of successful application; on the other hand, it limits the role of the spectrum analysis method in practice.

The Fourier transform combines frequency domain analysis with time domain analysis. Fourier transform can be used to convert the time domain signal into a DC signal function in the frequency domain, which clearly reflects the waveform characteristics of the carrier signal. At the same time, the continuous signal function in the time domain can be converted from the frequency domain signal by Fourier transform, so that the frequency distribution of the signal changes clearly. The Fourier transform is defined as:

$$M(f) = \int_{-\infty}^{\infty} m(t)e^{-i2\pi ft}dt \tag{1}$$

$$M(w) = \int_{-\infty}^{\infty} m(t)e^{-iwt}dt \tag{2}$$

The inverse Fourier transform is defined as:

$$M(t) = \int_{-\infty}^{\infty} m(f)e^{i2\pi ft}df \tag{3}$$

$$M(t) = \frac{1}{2\pi}\int_{-\infty}^{\infty} m(w)e^{iwt}dw \tag{4}$$

In these applications, the computer performs spectral analysis of the carrier signal, but the computer's capabilities are very limited. Time series is discrete and finite, while in practical applications it is almost continuous and infinite. The discrete spectrum analysis process is shown in Figure 5.

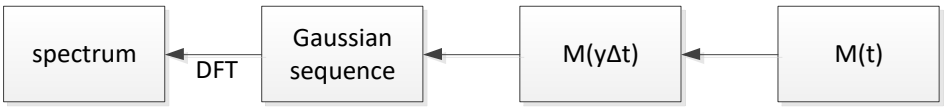


Figure 5: Discrete Spectrum Analysis Flow

Generally, only the signal is sampled and truncated, and the final result is obtained through Fourier transform and spectrum analysis in the calculation process.

Let m(t) be a non-periodic signal in continuous time, according to the Fourier transform formula:

$$M(w) = \int_{-\infty}^{+\infty} m(t)e^{-jwt}dt \tag{5}$$

Convert the integral sign of the above formula to the summation sign, dt=Δt, then:

$$M(w) = \sum_{-\infty}^{+\infty} m(t)e^{-jwt}\Delta t \tag{6}$$

Since the Fourier series expansion of the pulse sequence is:

$$\delta(t) = \frac{1}{\Delta t}\sum_{y=-\infty}^{\infty} e^{jyw_0 t} \tag{7}$$

Then it gets:

$$\Delta(w) = \int_{-\infty}^{\infty} \frac{1}{\Delta t}\sum_{y=-\infty}^{\infty} e^{jyw_0 t} \cdot e^{-jwt} dt \tag{8}$$

$$\Delta(w) = \int_{-\infty}^{\infty} \frac{1}{\Delta t}\sum_{y=-\infty}^{\infty} e^{jy2\pi f_0 t} \cdot e^{-j2\pi ft} dt \tag{9}$$

$$\Delta(w) = \frac{1}{\Delta t}\sum_{y=-\infty}^{\infty} \int_{-\infty}^{\infty} e^{-j2\pi(f-yf_0)t}\, dt \tag{10}$$

The time domain expression for a symmetric rectangular window function of length T is:

$$m(t) = \begin{cases} 1 & 0 \le |t| \le T/2 \\ 0 & |t| \ge T/2 \end{cases} \tag{11}$$

Its Fourier transform is:

$$m(f) = \frac{\sin(\pi Tf)}{\pi f} \tag{12}$$

When the window function is shifted by T/2, its Fourier transform is:

$$m'(f) = e^{-j\pi Tf}\frac{\sin(\pi Tf)}{\pi f} \tag{13}$$

The ratio correction method is to use the ratio of the window function spectrum to establish an equation to obtain the normalized correction frequency, and then perform the correction of frequency, amplitude and phase. The established equation must take the normalized correction frequency as a variable, and the amplitude ratio function is:

$$v = \frac{W_1(\nabla f^1)}{W_1(\nabla f^1 + 1)} \tag{14}$$

$$v = \frac{n_k}{n_{k+1}} \tag{15}$$

The phase correction formula of the ratio correction method is:

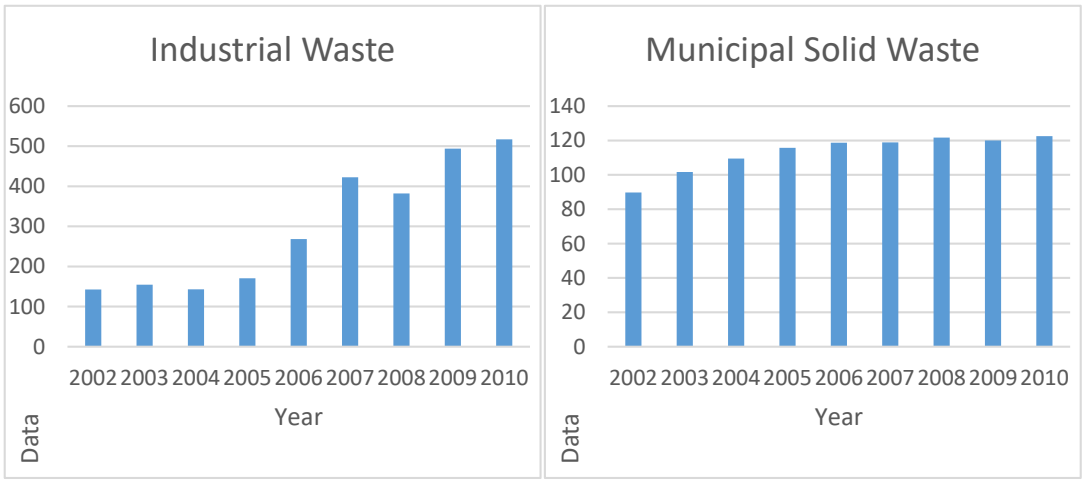
$$\theta = \gamma_k + \pi \cdot \nabla f^1 \tag{16}$$

Among them, γk is the phase angle corresponding to the kth line spectrum.

4. Digital Finance Development of Circular Economy in a Sustainable Environment

4.1. Pressure of Circular Economy Development

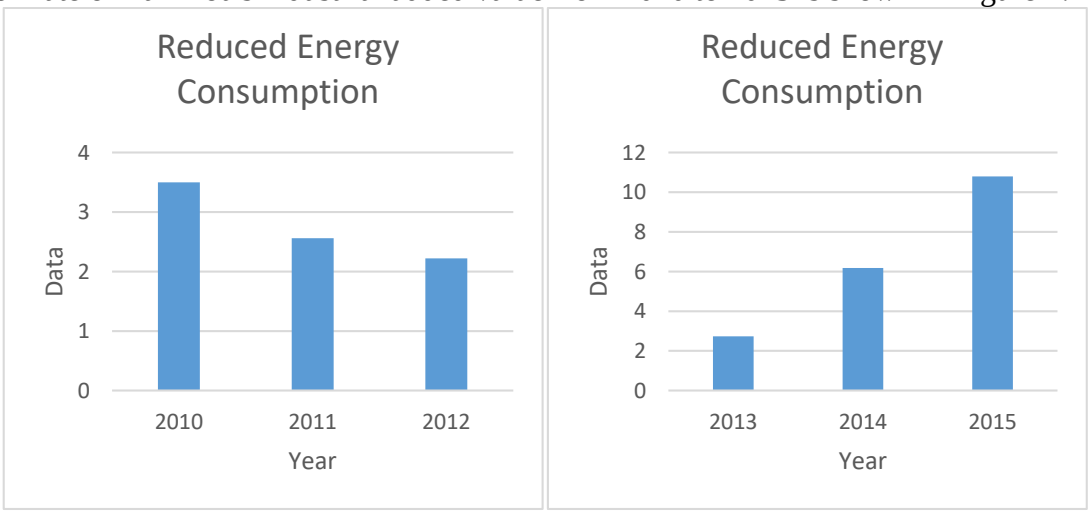
This part is to study and analyze the digital finance development of circular economy for better energy saving, and select Lanzhou City, China as the research object. Lanzhou is located in the geographic center of China and is an important heavy industry city in the northwest. Since the reform and opening up, Lanzhou has neglected environmental protection in the process of economic development due to the erroneous concept of economic development that emphasizes development and neglects protection, which further aggravates the pressure on the ecological environment. The environmental status of waste in Lanzhou from 2002 to 2010 is shown in Figure 6.



(a) (b)

Figure 6: 2002-2010 Lanzhou City Waste Environment Status

Figure 6(a) shows the amount of industrial waste generated in Lanzhou from 2002 to 2010 (10,000 tons), and Figure 6(b) shows the amount of municipal solid waste removed (10,000 tons). It can be seen from Figure 6 that from 2002 to 2010, the production of industrial waste in Lanzhou increased by 3,746,400 tons, and the removal and transportation of municipal solid waste increased by 328,700 tons. It can be seen from the above data that from 2002 to 2010, the amount of waste generated in Lanzhou increased year by year. Among them, the industrial waste in 2010 reached nearly 4 times that in 2002, and the environmental pressure was huge. The energy consumption reduction rate of Lanzhou's industrial added value from 2010 to 2015 is shown in Figure 7:



(a) (b)

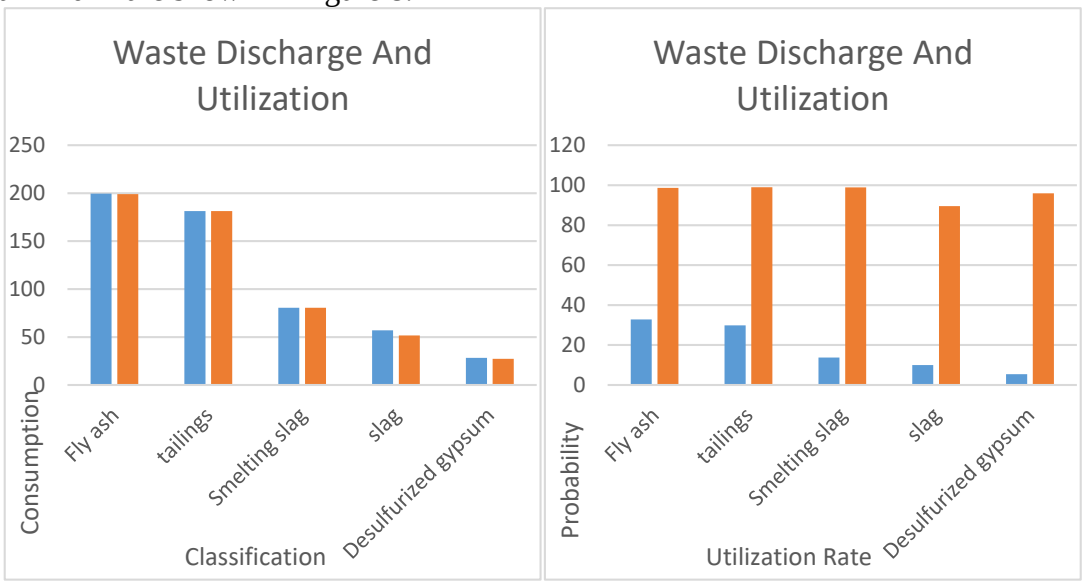
Figure 7: 2010-2015 Lanzhou City's Industrial Added Value Energy Consumption Reduction Rate

Figure 7(a) shows the energy consumption reduction rate in Lanzhou from 2010 to 2012, and Figure 7(b) shows the energy consumption reduction rate from 2013 to 2015. As can be seen from Figure 7, energy consumption decreased by 3.5% in 2010, 2.56% in 2011, 2.22% in 2012, 2.73% in 2013, and 6.18% in 2014, and energy consumption decreased by 10.8% in 2015. The energy consumption of the six major energy-consuming industries in Lanzhou in 2015 is shown in Table 1.

Table 1: Energy consumption of the six major energy-consuming industries in Lanzhou in 2015

	Consumption(10000 tons)	Growth rate (%)	Pull point (%)
Energy consuming industry	1655.55	-6.93	-8.52
petroleum	501.44	11.29	3.43
Chemical raw materials	179.78	-15.98	-0.9
Nonmetallic mineral	208.06	5.4	1.45
Ferrous metal smelting	242.56	-38.63	-7.24
Nonferrous metal smelting	444.4	-8.43	-1.4
Power and heat supply	79.31	4.79	1.15

It can be seen from Table 1 that the energy consumption of petroleum processing is 501.44, the consumption of chemical raw materials is 179.78, the consumption of non-metallic mineral products is 208.06, the consumption of ferrous metal smelting is 242.56, and the consumption of non-ferrous metal smelting is 444.4. The electricity and heat consumption was 79.31, and the total energy consumption was 1655.55. The discharge and utilization of major industrial wastes in Lanzhou in 2014 are shown in Figure 8.



(a) (b)

Figure 8: Discharge and utilization of major industrial wastes in Lanzhou in 2014

Figure 8(a) shows the generation and comprehensive utilization of major industrial wastes in 2014, and Figure 8(b) shows the total proportion and comprehensive utilization of major industrial wastes in 2014. It can be seen from Figure 8 that in 2014, the production of fly ash in Lanzhou was 1.996 million tons, accounting for 32.8% of the total; the production of tailings was 181.43, accounting for 29.89% of the total; the production of smelting waste slag was 80.5465, accounting for 13.74% of the total; the production of slag was 56.98, accounting for 9.96% of the total; the production of desulfurized gypsum was 28.23, accounting for 5.4% of the total.

4.2. Role of Digital Finance in Promoting the Development of Circular Economy

Based on the research and analysis of the circular economy development in Lanzhou in the previous part, this section studies the digital finance situation of promoting circular economy development in Lanzhou in a sustainable environment. In 2015, Lanzhou increased its digital financial support for the development of circular economy, and set up special funds for circular

economy projects, new energy development, new product technology promotion, and circular economy publicity and education. Equipment investment subsidies are also given to enterprises that purchase advanced energy utilization equipment. From April to July 2015, the amount of sewage charges paid by some enterprises in Lanzhou City is shown in Table 2.

Table 2: The amount of sewage charges paid by some enterprises in Lanzhou from April to July 2015

Company	date	Amount (10000 yuan)
Brilliant enterprise	2015.04.07	1.5600
oil companies	2015.05.14	165.8264
Steel company	2015.05.20	101
Uranium enrichment company	20.15.06.28	6.8933
Aluminum Lanzhou company	20.15.07.01	78.1806
Aluminum Liancheng company	2015.07.22	56.7113
cement company	2015.07.30	50.6741

It can be seen from Table 2 that from April to July 2015, some enterprises in Lanzhou paid 1.5600 yuan, 165.8264 yuan, 101 yuan, 6.8933 yuan, 78.1806 yuan, 56.7113 yuan, and 506,741 yuan respectively. From the above data, it can be seen that in 2015, a differentiated charging policy was implemented, with more levies being doubled, and fewer levies being reduced. The general public budget expenditure of Lanzhou in 2014-2015 is shown in Table 3:

Table 3: Lanzhou general public budget expenditure in 2014-2015

index	2014		2015	
	Cumulative	increase	Cumulative	increase
Public budget	282.19	16.61	349.0	23.85
public service	57.33	51.20	47.46	-17.96
Public safety	19.47	7.96	23.38	22.17
education	52.50	20.92	65.10	25.45
science	4.16	4.75	5.14	31.83
media	6.64	10.49	6.93	6.14
obtain employment	28.41	0	33.68	20.23
medical care	26.75	13.75	32.74	24.24
energy conservation	10.68	18.33	16.32	59.27
Community things	20.82	-1.16	38.98	92.36
Agriculture	18.49	3.28	28.94	60.76
traffic	7.62	8.86	8.93	20.81
meteorological	4.94	18.70	4.10	-20.29
housing	7.57	16.52	11.02	53.55
other	16.81	18.70	26.79	75.11

As can be seen from Table 3, the budget expenditures in 2014 were 281.14, 5.733, 19.47, 52.50, 4.16, 6.64, 28.41, 26.75, 10.68, 20.82, 18.49, 7.62, 4.94, 7.57, and 1.681 billion yuan respectively; The budget expenditures in 2015 were 345, 4.746, 23.38, 65.10, 5.14, 6.93, 33.68, 32.74, 16.32, 38.98, 28.94, 8.93, 4.10, 1.102 and 2.679 billion yuan respectively. It can be seen from the above data that in 2015, the general public budget expenditure of Lanzhou Municipal Government increased from 28.219 billion yuan in 2014 to 34.9 billion yuan, an increase of 6.681 billion yuan, and the growth rate also increased from 16.61% in 2014 to 23.85%. Among them, the government's expenditure on energy conservation and environmental protection has also increased from 1.068 billion yuan in 2014 to 1.632 billion yuan.

5. Conclusions

As a new economic development model, circular economy overcomes the vicious circle of traditional economy, which helps to improve the efficiency of resource utilization, minimize waste, and achieve win-win for society, economy and environment. However, the circular economy is an external problem. It is difficult to achieve the goals of optimal resource allocation and environmental pollution control only by relying on market mechanisms. It needs the support of relevant government policies, especially taxation and taxation policies. The government's fiscal and taxation policies are the catalyst for the development of circular economy. China's circular economy is still in its infancy, and the government's taxation and taxation policies play an important role in supporting and guiding the development of China's circular economy. Therefore, through the study of circular economy in a sustainable environment, this paper puts forward practical suggestions for digital financial support, which has important theoretical and practical significance.

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