

## Research Article

# Analysis of the Impact of Financial Structure Evolution on Economic Growth and Management Efficiency

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Under the development of social economy and the gradual improvement and optimization of the financial and economic system, China's financial structure is constantly changing and evolving. Financial institutions are the interrelations and connections between the various parts of the economy as a whole. They represent the role and achievements of the financial economy. Research shows that the transformation and evolution of financial structure promotes economic development and management efficiency. Therefore, under the background of the continuous evolution of financial structure, this article explores the factors of the evolution of financial structure on economic growth and management efficiency. The results of the experiment are as follows: (1) this article investigates developments of the evolution of financial structure, economic development, and management efficiency, determines the research direction of the experiment, provides background support for the subject research of this paper, and explores the influencing factors according to the impact mechanism on economic development and management efficiency and (2) put the evolution background of the financial structure in the degree of economic development and management efficiency. By using the economic growth calculation algorithm and management efficiency calculation algorithm, calculate the change trend of the range of economic growth and the fluctuation of the degree of management efficiency under the background of the evolution of the financial structure. The experimental results show that under the background of the evolution of the financial structure, the total development of the national economy has been effectively broken through, and the management mode of enterprises has been improved to effectively improve the management efficiency.

## 1. Introduction

This paper uses the expansion of brown filter and the change of probability to simulate the insider's observation of the financial market. The characteristics and optimization criteria of admissible policies are given. Then, a statistical test is proposed to test whether the trader is an insider [1]. This paper is aimed at exploring the relationship between professional ethics and personal injury litigation and negotiation strategies. However, its theme is the cooperative role of the representatives of the plaintiff and the defendant in the adversarial litigation system, which must be examined in the institutional context of the personal injury group of the law society, which promotes a set of specific professional norms in civil litigation. This method is inspired by Axelrod's research on strategic cooperation and Kantlin's research on negotiation ethics. In addition, I believe that

we must heed the call of grant for a background note on the dispute settlement process. The strategies of four male lawyers constitute the empirical focus of this paper. They are selected from the samples that accept the instructions under the personal injury plan of the trade union and professional associations. The trade union instructs private lawyers to deal with claims for personal injury suffered by their members [2]. A method of creating investment funds and selling fund shares to individual investors. The investment ratio of each individual investor is defined by dividing the dollar amount of direct real estate investment held by investors outside the fund by the dollar amount of fund shares held by individual investors. Select a target range of investment ratios for the fund. Select the target geographical area where individual investors of the fund hold direct real estate investment. The asset portfolio of a model composite portfolio includes the following: direct real estate investment

held by individual investors in the target geographical region and fund shares held by individual investors [3]. Refinancing refers to using a lower interest rate to replace the existing financing debt with another debt. In order to highlight the ongoing experimental projects, it is necessary to find a suitable and effective investment time for customers in an irregular time environment, so as to reduce the cost input. In order to show the capital investment service that the actual market can bring, simulate a virtual framework that can change the future investment interest rate. Its role is that we can make project investment according to the change of the market interest rate. By checking and analyzing the experimental model with the values of different market interest rates, it is found that the experimental model method is correct, stable, and friendly to customers; so, the experimental model plays an important role in economic investment [4]. Identifying unusual user behavior is important in many application areas because it may indicate fraud. The work presented here focuses on identifying and subsequently investigating suspicious interactions in financial transaction networks. The network is built from the data of the point-to-point loan system, and the links between members indicate the beginning of the loan. The network is time sliced to facilitate time analysis. Find the abnormal network structure in the time slice network and explain the abnormal behavior between members. In order to evaluate the importance of the returned dense structures, the richness of member attributes in these structures is checked. The compact structure seems to be related to the geographical region [5]. This paper studies that the development and changes of social economy are closely related to people's daily consumption patterns. This paper also discusses the impact of the Solow model on the convergence of living standards, that is, whether the development speed of poor countries is higher than that of rich countries. Based on the analysis of relevant data from the World Bank, this paper draws this conclusion and puts forward some policy suggestions. The first is to strengthen investment in education. The evidence shows that when population growth and capital accumulation are maintained, the convergence rate of each country is about the same as that predicted by the augmented Solow model [6]. In the period just after the Second World War, the growth rate of labor productivity in Italy was greater than that of real wages. The repeated explanation of this phenomenon is based on the fact that trade unions have become weak because of the huge "reserve industrial army." Over time, this "army" should have been reduced, and the bargaining power of trade unions should have been gradually improved. However, empirical evidence suggests that the strength of trade unions (at least in terms of membership) declined throughout the 1950s. Nevertheless, the gap between productivity and real wage growth tends to narrow. This paper attempts to explain this process, focusing on labor supply rather than labor demand, especially the evolution of the bargaining power of trade unions in industrial enterprises [7]. Although the law finance growth relationship applies to the state-owned sector and the listed sector, it can be said that the applicable laws and financial mechanisms are poor, but the growth rate of the private sector is

much faster than that of other sectors and provides most of the economic growth [8]. National and international economic policies generally ignore the environment. In the field where the environment begins to affect policies, this is still an insignificant problem, which is estimated to be based on the premise that the above consequences can be solved by themselves or separately. However, in many cases, this view does not hold because economic activities have a great impact on the environment. Therefore, it is necessary to explore the issues of coordinated development of economic development and environmental protection. This paper discusses the impact of economic growth on environmental quality and the impact of economic activities on environmental carrying capacity and elasticity [9]. Globally, fish and fisheries are declining significantly, and the most important thing is the growth in the number of people and the development of social economy. Although good achievements have been made in protecting natural ecology and correcting human behavior, the rise of the human population is closely related to the decrease of the ecological fish population. Due to the dependence on limited resources, the unlimited growth of human enterprises is impossible. Therefore, when dealing with the biophysical environment, the policy should leave some errors. It scientifically puts forward that how to effectively manage the development of the earth is attributed to the problem between ecological environment protection and social and economic development and recognizes that most social and economic development is based on the premise of damaging the natural ecological environment. Human beings play an executive role in the biosphere. Human beings should design to develop social economy without damaging the environment, which will help us transform unsustainable development into sustainable development and develop together with the natural ecological environment [10]. The technical efficiency of the Dutch beam trawl fleet over time was tested using a random production frontier. The study found that the factors to improve efficiency are the improvement of vessel size and the transferability of quotas, while vessel age, fishing gear restrictions, and total allowable catch (which means a higher abandonment rate) have a negative impact. Compared with the size of the EU fleet, the average technical efficiency decreases with the reduction of population abundance but increases with the restriction of fishing areas, which may be due to the reduction of crowding caused by more dispersed fishing activities. The results show that the EU fleet reduction plan may lead to a disproportionate decline in harvest capacity, and the fleet replacement plan related to the reduction plan may largely offset the decline in capacity [11]. The study also attempts to extend Gil and Shah's findings. Design/method/approach is as follows: this study used the relevant study design. Although this paper puts forward some conjectures about the research results, it is possible that the experimental results of this project can only meet the requirements of enterprises and companies matching such projects. The research of this project can better help enterprises to analyze the influencing factors of promoting industrial capital operation [12]. In the Turkish oak forest in central Italy, the results of forest density reduction and

deforestation were investigated to analyze the number of remaining trees and environmental conditions after previous deforestation, and then a model was designed to restore the high density of forests. The working hypothesis is that the significant reduction of stand density will lead to the reduction of water use efficiency within the canopy, thus increasing the carbon isotope identification of tree rings. Tree rings of remaining trees (survivors) were found during the second to seventh years.  $\delta(13)C$  increased significantly because of thinning of dwarf stands (thinning of high forest conversion). This effect is mainly caused by the large reduction of tree ring  $\delta(13)C$  in the control plot, which is characterized by high density and tree competition. The increase of  $\delta(13)C$  in survivor tree ring may indicate that the availability of water is improved, and this phenomenon may be caused by the reduction of rain-water content due to competition among enterprises and excessive logging. After 7 years of thinning, leaf nitrogen and leaf  $\delta(13)C$  and chlorophyll contents also changed. By increasing the availability of light and water, the abandoned old dwarf forest will be transformed into tall forest, thus stimulating the growth of Turkish oak in a short time. We can use tree ring wood  $\delta(13)C$  time series to reconstruct in detail the impact of previous afforestation treatments on stands [13]. The continuous growth of renewable energy power generation in the United States has brought problems of supply-demand mismatch and grid stability to the German power supply. Need control is a series of methods aimed at improving the energy system on the consumer side, which will help to meet the challenges that the smart grid will face in the future. Although the transfer method of thermal energy is the most advanced at present, its technology still needs to be improved. Various heat pump systems (HPS) and control strategies offer different potential for load transfer. The purpose of this simulation study is to examine the changes in efficiency and DSM potential of typical single family residential HPS. Six cases in 2012 and 2030 are analyzed, including different buffer storage size, control strategy, and heat pump capacity. The condition for effective energy transfer of thermal energy is to prevent excessive changes in external temperature. However, load transfer resulted in a 19% increase in power consumption [14]. This paper is aimed at examining economic sanctions as a foreign policy tool and to judge its efficiency and impact. Since the first World War, economic sanctions have been used as a tool for conflict prevention and a signal tool for foreign policy. Their efficiency and impact have been the subject of much discussion. Since the Yugoslav war in 1991, the importance and use of economic sanctions have been increasing. This article will discuss two classic examples of economic sanctions: the Yugoslav war and sanctions against Iran. Economic sanctions seem to be unsuccessful in most cases, and the victims are usually innocent residents [15].

## 2. The Theoretical Basis of the Evolution of Financial Structure on Economic Growth and Management Efficiency

*2.1. Evolution of Economic System.* Financial intermediaries are further divided into two categories: purchasing primary

securities and purchasing indirect securities. Indirect financing has the advantages of high liquidity, low cost, and low risk. Although the research done by Gree and Shaw did not present a systematic and clear meaning for the economic system, the classification of economic intermediaries and the division of financing methods not only expanded an important content in the early financial intermediary theory that only took banks as the research subject but also made a tentative discussion on the relevant contents of the economic system in the context of the gradual diversification of economic institutions and financial instruments.

*2.1.1. Analysis Basis of Economic System Evolution.* The evolution of economic system and financial development is closely linked, but there are differences between the evolution of economic system and economic development. Financial development refers to the improvement of the development level of the financial industry as a whole or a certain type of financial industry, while financial structure adjustment mainly refers to the reform and adjustment of the traditional financial system and financial market. Both have similarities and differences. In the process of financial development, there are differences in the proportion of different types of financial components and financial activities. Today, when the financial structure is diversified, the dominant theory of financial structure evolution provides us with a research idea. It analyzes the relative size and proportion of each part of the financial system and the ratio of effective economic investment to actual investment.

*2.2. The Influence Mechanism of Economic System Evolution on Economic Growth.* The evolution of the financial structure is a relative size composed of economic boom and financial interior; so, the mechanism of the evolution of the financial structure in economic development is also analyzed from these two aspects. Financial development theory is the most important and representative branch in the field of financial research. It is mainly divided into endogenous financial development theory and economic system optimization theory. The optimization of the economic system means to realize the coordinated development of financial intermediary and financial market by adjusting the position and function of financial industry and financial intermediary in the financial market, so as to optimize the financial structure to meet the needs of economic society and enterprise financing.

The theory about the evolution of the financial structure in analytic hierarchy process lays a foundation for explaining the diversified development of finance and the evolution of financial structure from single to multiple. The reasons for the evolution of the financial structure include economic growth and industrial structure adjustment, government macrocontrol, institutional innovation, market development, and scientific and technological progress. The main variables that influence the evolution of economic system are regional economic strength, industrial structure, and the level of marketization.

**2.2.1. Endogenous Economic System Development Theory.** As the development of financial markets and financial institutions are endogenous changes, a series of models are constructed. In combination with Goldsmith's view that the evolution of economic system is financial development, this paper uses the model, the representative of endogenous financial development theory, to clarify the mechanism of the evolution of financial structure in economic development, and the expression of economic growth rate  $G$ :

$$g = M \frac{N}{Y} - \delta = A\phi k - \delta. \quad (1)$$

In formula (1),  $M$  represents the production rate,  $n$  represents the total intake cost,  $K$  represents the storage rate, and  $\delta$  represents the cost depreciation rate.

Figure 1 shows the model framework of economic development rate in the financial structure.

### 2.3. Management Efficiency

- (1) In a broad sense, management efficiency is the total input-output ratio for the industrial side. In a narrow sense, management activities are defined as the ratio of expenses to income per unit time, that is, the ratio of expenses to income per unit time. The two are only quantitative differences and are usually used equivalently in theory. Management efficiency refers to the sum of human, material, and financial resources consumed per unit time, that is, the ratio of expenses incurred per unit time to investment, that is, the proportion of expenses incurred per unit time to the total expenses of the whole operation and management activities, and its size directly affects the management efficiency of the enterprise. The management efficiency comprehensively reflects whether the technology can be brought into full play, whether the resource allocation can be reasonable, and whether the production scale can be optimized
- (2) Allocation efficiency reflects whether the allocation of various elements in an enterprise's production and operation is effective, which refers to whether the investment utilization capacity of the investigated enterprise is optimal under the given investment and technical conditions
- (3) Range skill efficiency is composed of range efficiency and skill efficiency, also known as overall efficiency. It reflects the relationship between the cost of investment and sales output in the operating activities of production enterprises
- (4) Technical efficiency reflects whether the technology utilization is effective in production and operation, that is, the ability to achieve the maximum output under the given input of the assessed object

Figure 2 shows the division of economic management efficiency zones.

## 3. Calculation Algorithm of Financial Structure Evolution on Economic Growth and Management Efficiency

**3.1. Calculation Algorithm of Financial Structure Evolution on Economic Growth.** The extended AK model is cited. The model is on account of the theory of economic inoculation and improves the AK model. This paper first introduces the model and then applies it to the study of economic breeding. (1) According to the introduction in the modern economic system, there are two types of economic activities: one is production and second is exchange and distribution. The model assumes that the population size is constant. An economy produces only certain goods that can be invested or consumed. Assuming that this kind of goods is used for investment, depreciation is accrued at rate in each period. When the conditions are satisfied, the production function can be expressed in the following linear form:

$$Y = AK_t. \quad (2)$$

$K$  refers to the total capital stock. It is found that economic growth is mainly determined by two factors: one is the marginal productivity of capital. Second, the amount of capital invested.

$$I_t = K_{t+1} - (1 - \delta)K_t. \quad (3)$$

By extending formula (3) with the  $n + 1$  growth rate, the mathematical expression is

$$\delta_{n+1} = \frac{Y_{n+1}}{Y_t} - 1 = \frac{K_{n+1}}{K_t} - 1. \quad (4)$$

Combining formula (3) and formula (4), we can get

$$\begin{aligned} \delta_{t+1} &= \frac{Y_{t+1}}{Y_t} - 1 = \frac{K_{t+1}}{K_t} - 1 = \frac{K_{t+1} - K_t}{K_t} \\ &= \frac{I_t + (1 - \delta)K_t - K_t}{K_t} = \frac{I_t - \delta K_t}{K_t}. \end{aligned} \quad (5)$$

By taking  $I$  as the cost input ratio and combining the time conditions of formula (5), the economic development formula under equilibrium state is constructed. The mathematical expression is

$$g = A \frac{I}{Y} - \delta. \quad (6)$$

The above formula shows that economic growth depends on the relationship between investment rate  $I$  and capital marginal productivity  $a$ . The investment rate depends on the level of investment demand, investment scale, and capital supply capacity. The marginal productivity of capital reflects the degree of capital accumulation. Investment rate and capital marginal productivity affect and restrict each other.

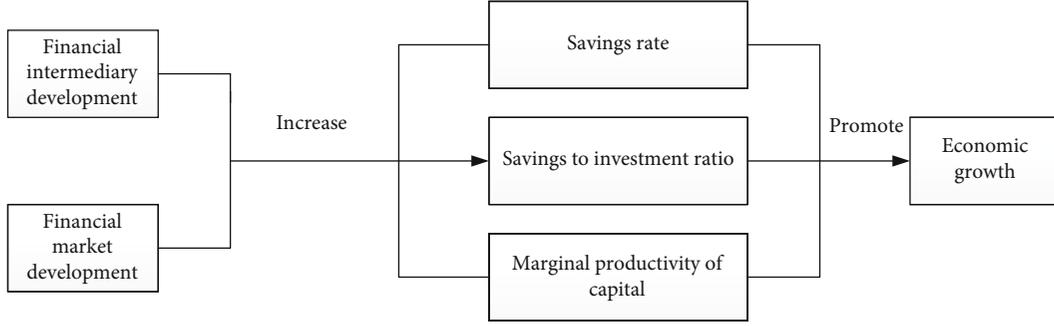


FIGURE 1: Framework model of economic development rate.

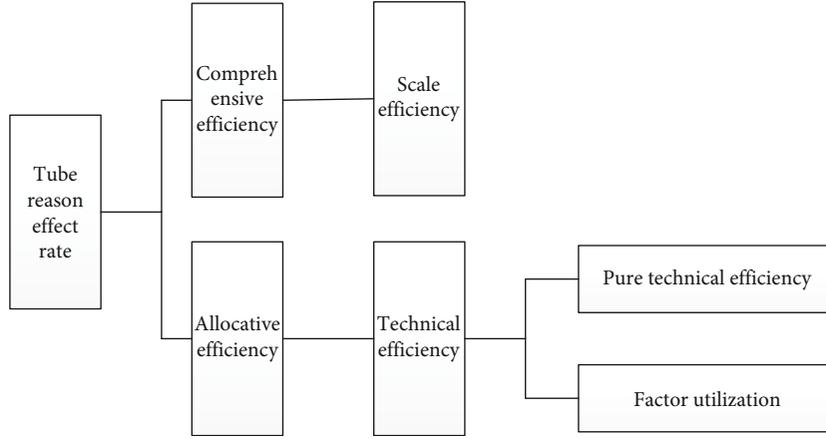


FIGURE 2: Management efficiency differentiation diagram.

Equation Formula (6) is further decomposed. The total input cost is equal to the actual loss of funds. The mathematical expression is

$$I_t = \varphi S_n. \quad (7)$$

In formula (7),  $\varphi$  represents the conversion rate of deposited funds, and  $S_n$  represents the amount deposited in the  $n$ -th period.

$$g_{t+1} = A \frac{I_t}{Y_t} - \delta = A \frac{\varphi S_t}{Y_t} - \delta. \quad (8)$$

Taking  $s$  as the saving rate and excluding the time factor in equation (7), the following calculation formula of economic growth rate in equilibrium state is derived:

$$g = A \frac{I}{Y} - \delta = A\varphi s - \delta. \quad (9)$$

On this basis, an endogenous model is established to analyze the interaction mechanism between various factors in China's economic growth. It is found that financial structure and economic growth are mutually promoting and restricting. And the financial structure has an impact on economic growth.

### 3.1.1. The Transmission Path of Financial Structure Evolution to Economic Growth

(1) *Social Production Function Extension.* Considering the general production situation of the society, so as to replace the overall production funds with some funds, in order to obtain the effect of financial capital and scale on enterprise funds, this article explains financial capital into the expanded model and integrates financial capital into the overall production function of the enterprise, so that the model can explain the economic development level of the enterprise in the presence of enterprise financial departments.

Assuming that the total output function of the total social economy is  $Y(t) = F(K_A(t), K_F(t)L(t))$ , the expression is as follows:

$$Y = AL^{1-x-\delta} K_A K_F^\delta. \quad (10)$$

$K_A$  refers to the stock of industrial capital elements, which refers to the quantity of all existing industrial resources.  $K_A$  reflects the existing production and operation scale and development level of an enterprise;  $K_F$  refers to the capital stock of financial factors, which refers to the remaining stock of existing funds.  $K_F$  reflects the use of funds and the state of economic development of enterprises.

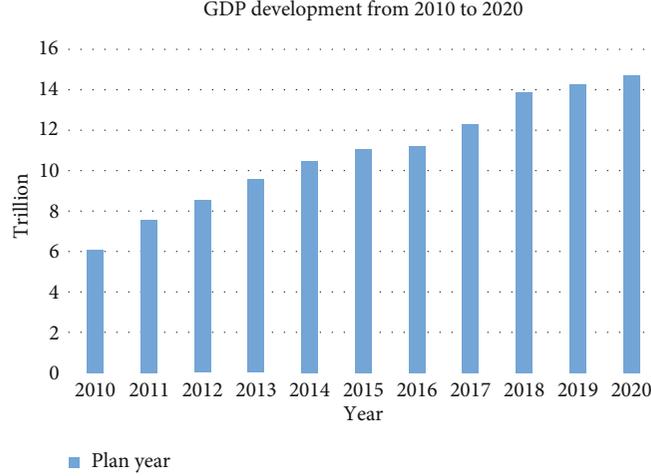


FIGURE 3: The average GDP development of China from 2010 to 2020.

Equation (10) can be changed to

$$Y = LTF\left(\frac{K_A}{L}, \frac{K_F}{L}, 1\right) = LT\gamma(k_a, k_f) = LTk_a^\alpha k_f^\delta \quad (11)$$

(2) *Basic Assumptions of Relevant Variables.* Here are the following examples:

Example 1: there is a fixed proportion of  $y$  value to invest in the real economy. When there is capital depreciation, the marginal increment of enterprise capital can be obtained:

$$\Delta K_A = \frac{dK_A}{dt} = S_A Y - aK_A. \quad (12)$$

Example 2: in the  $y$  value, the investment proportion of capital in the virtual economy is fixed, because financial capital has the characteristics of low replication cost, and can create and recycle itself. In view of the expansion and circular effect of financial capital itself, the marginal increment of financial capital is assumed as follows:

$$\Delta K_F = \frac{dK_F}{dt} = S_F Y - aK_F. \quad (13)$$

Example 3: the labor force is a functional form that changes in a fixed proportion. The total population growth rate is assumed to be  $n$ . Then, the labor growth rate can also be expressed as  $n$ . The general form of labor force growth is exponential. Therefore, the growth rate of labor factors can be obtained:

$$\frac{\Delta L}{L} = \frac{dL/dt}{L} = n. \quad (14)$$

$S_A$  represents the marginal saving trend of capital, which can reflect the capital conversion rate, and  $S_F$  represents the marginal saving trend of financial capital, which can reflect the financial capital conversion rate; therefore, there is  $S_A + S_F = S$ , and  $\alpha$  can also be used to represent capital depreciation.

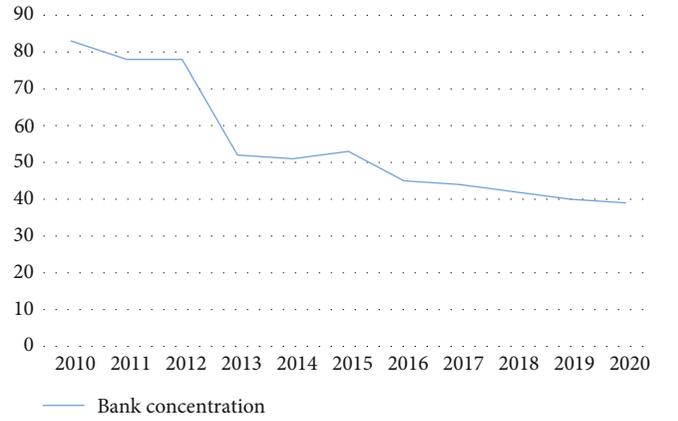


FIGURE 4: Development trend of bank concentration.

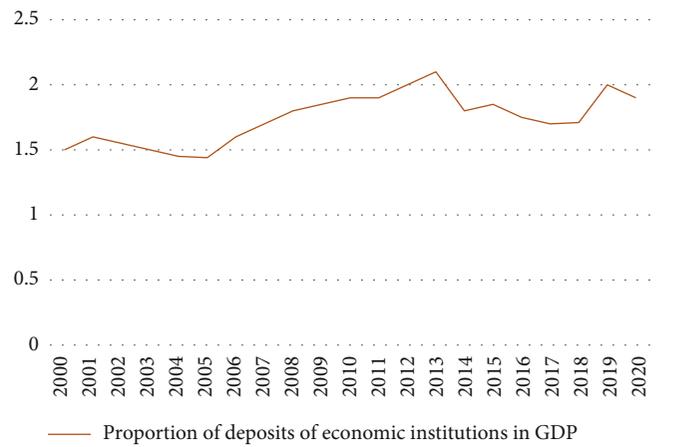


FIGURE 5: Proportion of deposits of economic institutions in GDP.

3.2. *An Algorithm for Calculating the Effect of Financial Structure Evolution on Management Efficiency.* The concept of management effectiveness believes that the management effect can be reflected through the relatively dynamic changes in the comprehensive strength of the enterprise.

TABLE 1: Economic system and economic development index system.

| Variable                       | Index definition                               | Variable calculation                               | Symbol |
|--------------------------------|--|--|--------|
| Gross domestic product         | Trade-off economic index                       | GDP rate   | Y      |
| GDP of social industries       | Trade-off economic index                       | GDP rate of social industries                      | SGDP   |
| Banking                        | Weighing the development degree of the bank    | Total deposits and loans of financial institutions | BANK   |
| Security industry              | Weighing the development of the stock market   | EUR MN   | CAP    |
| Insurance industry             | Weighing the development of the stock market   | Premium income                                     | INS    |
| Financial structure-size       | Measured from the scale of financial structure | Economic structure deposit                         | BC     |
| Financial structure-activities | Measured from financial structure activities   | Stock turnover                                     | BS     |

TABLE 2: Unit factor test analysis.

| Experiment scope | Vector | Type of test | PDJ calculated value | 3% critical point | Possibility | Summary  |
|------------------|--------|--------------|----------------------|-------------------|-------------|----------|
| A                | Y      | (C, 0, 0)    | 3.183                | -2.00             | 0.99        | Unstable |
|                  | BANK   | (C, 0, 0)    | -0.164               | -2.00             | 0.95        | Unstable |
| B                | Y      | (C, 0, 0)    | -0.156               | -2.30             | 0.96        | Unstable |
|                  | BANK   | (C, 0, 0)    | -0.621               | -2.00             | 0.81        | Unstable |
|                  | CAP    | (C, 0, 0)    | -1.621               | -2.00             | 0.05        | Unstable |
|                  | INS    | (C, 0, 0)    | -0.113               | -2.30             | 0.75        | Unstable |

The reference period refers to the comparison and analysis of one or more indicators within a certain period of time to determine whether they have reached the predetermined goals and take them as one of the bases for measuring performance. The evaluation unit is determined according to the objective basic environmental conditions of the enterprise and its own development. Using the input-output analysis of the production field, the management effect of the evaluation unit can be judged by the management possibility set, management frontier, and other indicators. In order to compare and analyze them, a fuzzy evaluation model is established to judge the performance of each evaluation unit.

$$T = \left\{ (x, y) \left| \sum_{i=0}^n \lambda_i x_i \leq x, \sum_{i=0}^n \lambda_i y_i \geq y, \sum_{i=0}^n \lambda_i = 1, \lambda_i \geq 0 \right. \right\}. \quad (15)$$

Obviously, when any group  $(x, y)$  is given, the management frontier has corresponding projections.  $(x, y')$  and  $y'$  represent the maximum achievable index  $t$  of the evaluated object  $(x, y)$  when the parameter index  $x$  is constant, and  $(x, y')$  represents the optimal management level that the evaluated object should achieve when the reference index is  $x$ . Then,

$$\eta = y\sqrt{y'} \times 100\%. \quad (16)$$

$\eta$  is the secondary relative benefit of the test object. It is a measure of the management effectiveness of the tested unit; that is, the management benefit is determined by the distance ratio between the test period management and the optimal management. If  $\eta_1 > \eta_2$ , the management effi-

TABLE 3: Coordination and arrangement of inspection results.

| Vector           | Original hypothesis | Statistic | 3% critical point |
|------------------|---------------------|-----------|-------------------|
| A Y BANK         | Max rank = 1        | 3.3020    | 3.76              |
| A Y BANK CAP INS | Max rank = 2        | 12.5536   | 15.41             |

TABLE 4: Model residual autocorrelation test.

| Experiment scope | Dag | Fig     | DK | Pro > Fig |
|------------------|-----|---------|----|-----------|
| A                | 1   | 2.6469  | 4  | 0.61854   |
|                  | 2   | 3.6560  | 4  | 0.45456   |
| B                | 1   | 10.9129 | 16 | 0.52750   |
|                  | 2   | 23.6471 | 16 | 0.09750   |

ciency of evaluation object  $(x_1, y_1)$  is relatively effective than that of  $(x_2, y_2)$ , and vice versa.

The distributed planning expression of the model is

$$V_p = \min \frac{v^T x_i}{u^T y_i}, \quad (17)$$

$$\frac{v^T x_i}{u^T y_i} \geq 1, i = 1, 2, \dots, n.$$

Carry out dual exchange for the model, and its distributed planning expression is

$$\max \theta_i = V_{BCC}. \quad (18)$$

TABLE 5: Turnover period of business activities.

| Year | Procurement capital turnover period | Production capital turnover period | Marketing capital turnover period | Operating capital turnover period |
|------|-------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|
| 2018 | 20.7                                | -0.4                               | 53.6                              | 51.2                              |
| 2019 | 18.5                                | 10.2                               | 38.3                              | 69.7                              |
| 2020 | 7.3                                 | 7.9                                | 35.8                              | 46.3                              |

$\theta_i$  refers to the degree of management test efficiency. If  $\theta_i = 1$ , it means that the management of the evaluation object is effective and at the forefront of management; that is, the evaluated enterprise has the best management practice. If  $\theta_i > 1$ , it means that the management is invalid and below the management frontier; that is, the management effectiveness of the evaluated enterprise is insufficient.

$$\sum_{i=1}^n x_i \lambda_i \leq x_i, \sum_{i=1}^n xy \lambda_i \geq \theta_i y_i. \quad (19)$$

Set  $\theta_i$  as the planning target value, and then

$$\eta = \frac{1}{\theta_i} \times 100\%. \quad (20)$$

For the management benefit of the evaluation unit  $I$ , it represents the ratio of the current index of each evaluation unit to the current maximum index that can be achieved under the same reference conditions. Therefore, the management benefit formula of the evaluation unit  $(x, y)$  is as follows:

$$\eta = y \sqrt{y} \times 100\% = \frac{1}{\theta_i} \times 100\%. \quad (21)$$

#### 4. Experimental Research of the Impact of the Evolution of Economic System on Economic Breeding and Management Efficiency

*4.1. Experimental Analysis and Investigation on the Impact of Economic System Evolution on Economic Breeding.* The total social and economic volume is measured by GDP. Since the improvement of the social and economic system, the amount of economic development has continued to grow.

As shown in Figure 3, as a country with a large population, compared with other countries' per capita GDP, China's per capita GDP is not very high; so, it continues to increase per capita GDP and improve people's living standards.

*4.1.1. Evolution and Development of Financial Structure.* In order to analyze the structure of the financial industry, it is necessary to analyze the relative relationship between the various financial institutions that constitute the financial industry. Through the empirical study on the composition and structural evolution of China's financial system, this paper finds that with the continuous deepening of the financial system reform and the continuous improvement of the

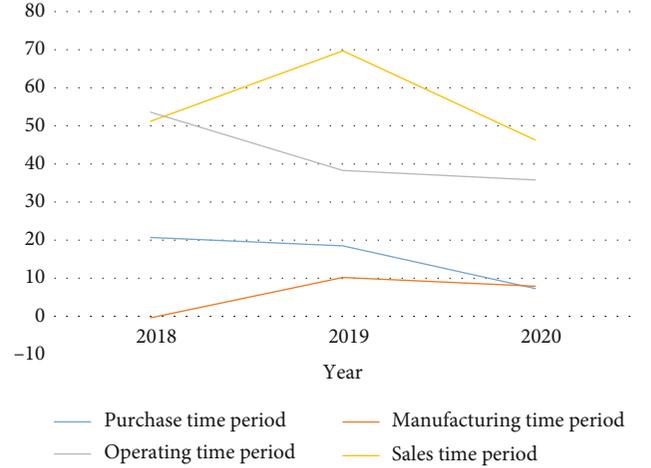


FIGURE 6: Change in turnover period of business activities.

financial market, China's financial system has gradually formed a multilevel and multipillar pattern. The overall development level of the financial industry is relatively high. Based on this, although the current financial industry structure is still dominated by the banking industry, especially the four state-owned holding corporate banking is still in absolute dominant position of the entire financial institution system, the financial industry as a whole is developing in the direction of institutional diversification, the bank concentration is declining, and the competition among financial institutions is becoming more and more rational.

As shown in Figure 4, the data show that since 2010, the financial structure has been gradually improved and optimized, and the social and economic development has been gradually prosperous.

As shown in Figure 5, the data show that from 1.50 in 2000 to 1.90 in 2020 and then to 1.96 in 2021, the scale of banking business is gradually expanding, reflecting the continuous development and growth of the banking industry.

Based on the theory of endogenous financial development and the theory of financial structure optimization, this paper studies the impact of the evolution of social financial structure on economic development.

*4.1.2. Experimental Sample and Variable Selection of the Impact of Financial Structure Evolution on Economic Growth.* Using SPSS software for regression analysis, the accounting factor index and calculation method of agricultural technology investment based on the principal component analysis method are established. The method is applied to the comprehensive evaluation value of financial

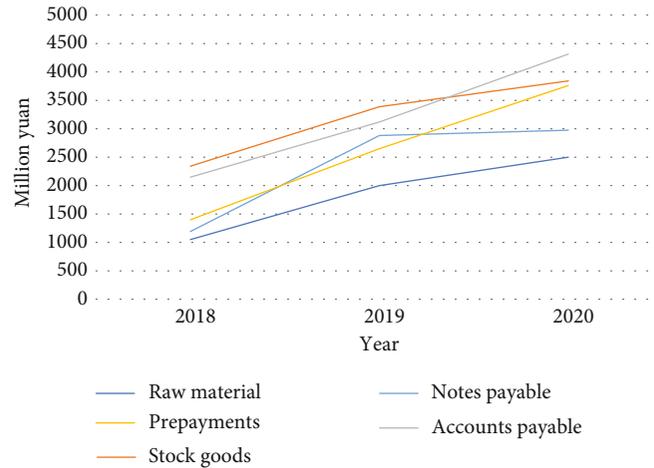


FIGURE 7: Financial indicators of operating costs.

structure and economic development indicators, and satisfactory results are obtained, refer to Table 1.

Table 1 shows the financial structure and economic development indicator system.

*4.1.3. Research on the Influence of Diversification Evolution of Economic System on Economic Breeding.* The gradual improvement of the financial structure has promoted economic development. By testing the cointegration relationship between two-stage financial structure and economic development, this paper constructs a cointegration equation based on vector error correction model and examines the impact of the evolution of financial structure from single to diversified on the long-term equilibrium of economic development.

*(1) Unit Root Test.* In practical applications, it is often necessary to test the unit root of multiple observations, which brings difficulties to data preprocessing. In this paper, the unit root is used to test the stationarity of variables.

As shown in Table 2, the unit root test results are analyzed, and the result values corresponding to the variables existing between the sample intervals A and B are analyzed.

The results in Table 2 show that the variable series cannot significantly discard initial unit analysis. After the comparison, difference is made for each variable, the variables can reject the original assumption of unit root, indicating that all variables belong to the first-order single integration series, and it is necessary to analyze the coordination relationship of variables.

*(2) Coordination Test.* The maximum coordination relationship between variables is tested by the maximum eigenvalue.

Table 3 shows the inspection results of coordination and arrangement.

#### 4.1.4. Model Correlation Test and Empirical Result Analysis

*(1) Correlation Test of Vector Error Correction Model.* On this basis, we use causal analysis and impulse response function to investigate the dynamic relationship between China's

economic growth and inflation and compare the two models.

As shown in Table 4, when the original assumption is accepted, there is no autocorrelation between the two model residuals, and the lag order of the model is designed reasonably.

*(2) Result Analysis.* The coordination equation reflects the role played by the evolution of financial structure in the long-term equilibrium in the process of economic development. Through the analysis of (4-1) and (4-2) in the coordination equation, the effects of the internal structure of the financial industry in the process of economic development from single to diversified are compared.

#### 4.2. An Experimental Investigation on the Impact of Financial Structure Evolution on Management Efficiency

*4.2.1. Analysis on the Influence of Fund Management Efficiency of Operating Activities.* After the data investigation and statistics, the working capital turnover period under the three channels is calculated, respectively, and finally, the working capital turnover period in the operation process is calculated comprehensively.

As shown in Table 5, after the enterprise implemented the Financial Sharing Center at the end of 2018, the working capital turnover period of the procurement channel decreased from 20.7 days to 7.3 days, which significantly improved the efficiency.

As shown in Figure 6, the change chart of the main turnover period of the operating activities week is shown. The investigation and statistical analysis from 2018 to 2019, the purchase time cycle, manufacturing time cycle, operation time cycle, and sales time cycle have all reached the standard.

#### 4.2.2. Procurement Channel Working Capital Management.

As shown in Figure 7, the increase of working capital turnover, management efficiency, and inventory is much smaller than that of accounts payable, reflecting the impact of the evolution of financial structure on management efficiency.

TABLE 6: Specific financial statement of production and working capital (unit: million yuan).

| Time | Vulnerable articles | Charge quantity | Payment quantity | Employee salary |
|------|---------------------|-----------------|------------------|-----------------|
| 2018 | 110.74              | 2233.45         | 3982.23          | 1163.62         |
| 2019 | 563.51              | 8068.29         | 4529.72          | 2570.31         |
| 2020 | 691.35              | 9349.23         | 6514.56          | 1486.45         |

TABLE 7: Income working capital financial statement (unit: million yuan).

| Time | Storage industry | Real income | Actual taxes | Estimated revenue |
|------|------------------|-------------|--------------|-------------------|
| 2018 | 3341.43          | 1572.50     | 356.41       | 1234.31           |
| 2019 | 63469.93         | 2241.58     | 558.31       | 2761.54           |
| 2020 | 5352.46          | 2132.67     | 510.42       | 3135.61           |

According to Figure 7, the data shows that the working capital turnover speed is improved, the management efficiency is increased, and the increase of inventory goods is much smaller than that of accounts payable, reflecting that the evolution of economic system has promoted the improvement of management efficiency.

4.2.3. *Production Channel Working Capital Management.* In this article, the cost is used to measure the working capital management of production channels, see Table 6 for detailed data.

As shown in Table 6, after the evolution of the financial structure, the working capital management of the channel has improved, and the employee compensation payable of the enterprise has increased gradually.

4.2.4. *Marketing Channel Working Capital Management.* As shown in Table 7, although the growth rate of accounts receivable and taxes payable in 2011 was very high, the growth rate in 2012 decreased significantly. With the expansion of business, the evolution of the financial structure also actively controlled the growth rate of accounts receivable.

## 5. Conclusion

Firstly, this paper introduces the concept of economic system evolution, the development of financial structure evolution, and the impact mechanism of financial structure evolution on economic growth and management efficiency. Then, it analyzes the theme and background of this article and studies the current trend of economic development and the level of management efficiency, and whether the evolution of the financial structure has an impact on economic development and management efficiency. Then, it introduces the calculation algorithm of financial structure evolution on economic growth and management efficiency, mainly including the calculation algorithm of financial structure evolution on economic growth range and the calculation algorithm of financial structure evolution on

management efficiency. Finally, through the experimental investigation and analysis of the impact of the evolution of economic system on economic breeding and management efficiency, and sorting out the results of the experimental analysis, it is verified that the evolution of the financial structure plays a role in promoting economic growth and management efficiency.

## Data Availability

The experimental data used to support the findings of this study are available from the corresponding author upon request.

## Conflicts of Interest

The author declares no conflicts of interest regarding this work.

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