Review Article

Research on the Coordinated Development of Regional Finance Under the Background of the Integrated Development of the Yangtze River Delta in China

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Abstract - The Yangtze River Delta has a strong economic foundation, and the level and quality of economic development are at the forefront of the country, especially after the integration of the Yangtze River Delta into a national strategy in November 2018, the high-quality, coordinated development of the Yangtze River Delta has attracted widespread attention. From the perspective of finance promoting economic development, the fh model is used to analyze the main problems in the coordinated financial development of the Yangtze River Delta. The study found that the regional synergy of the Yangtze River Delta has a good cooperation foundation and development prospects, but the coordinated financial development is still in its initial stage and has not yet Form a coordinated path for the coordinated development of industrial clusters and regional finance, and conduct research from the government's development platform and regional financial corresponding environment, and propose countermeasures.

Keywords - *Yangtze River Delta integration; coordinated financial development; F-H model.*

I. INTRODUCTION

In the context of globalization, regional integration is an inevitable trend, and urban agglomerations are an important force for promoting regional economic development and a highly developed region for financial integration. It can be seen that regional integration must accompany the development of financial coordination.

In 2010, the State Council approved the implementation of "the Yangtze River Delta Regional Planning", which shows that the Yangtze River Delta region is one of the earliest budding regions in China's financial industry. Its financial development level is at the forefront of the country, and it has strong international competitiveness. In November 2018, President Xi Jinping The Secretary announced at the first China International

Import Expo that supporting the development of the Yangtze River Delta regional integration has become a national strategy, which means that promoting the Yangtze River Delta integration is the general trend, and it is necessary to learn from the development experience of the world's five major urban agglomerations. Coordinated financial development is the economy. The core content of development is an important link of economic integration. "The 2018 Yangtze River Delta Financial Development Research Report," released on April 26, 2019, provides guidance for the development of regional finance, explaining that the advantages and challenges of financial development in the Yangtze River Delta coexist.

If we can make full use of the advantages, cooperate with each other, and learn from each other, a good financial coordinated development mechanism will greatly accelerate the pace of regional economic integration, promote mutual penetration between financial institutions, and complementarity of industrial layout. At the same time, it will help provinces and cities to establish formal official The financial cooperation mechanism breaks down the barriers to resource flows and the restrictions of administrative divisions, and strengthens the division of labor and cooperation between regions. This article uses the F-H model to analyze the major problems in the coordinated development of the Yangtze River Delta financial sector from the perspective of finance promoting economic development. On this basis, relevant policy recommendations are made.

II. LITERATURE REVIEW

A. Background of the Coordinated Development of Regional Finance

First of all, starting from the theory of coordinated financial development, coordinated financial development refers to the development of regional financial services to achieve the full flow of financial elements and the reasonable allocation of resources in the region. It first appeared in "The Theory of Optimal Currency Areas", and the need to establish regional Monetary policy and the issuance of a unified currency is closely related to regions ^[1]. Alfred P. Johnson (1971) proposed that in order to adapt to the new competition, a unified financial policy should be implemented to promote the development of financial integration ^[2]. Stiglitz (1996) believes that there must be different financial policies for different regions, and financial policies can better promote regional economic development than competitive policies ^[3].

In China, there are also a number of scholars who have carried out a comprehensive analysis and a large number of innovations in the coordinated development of the Yangtze River Delta region. Liu Xinyi (2018) analyzed the development plan of the Yangtze River Delta regional integration over the past three years, indicating that the Yangtze River Delta region will be in the next three years. It can focus on the development of business finance, science, and technology, industry, etc., and can formulate a clear and implementable work plan. Ding Yuanchun and Cheng Guoxiong (2018) constructed by selecting indicators of financial development and economic growth in the two provinces and one city of the Yangtze River Delta. Econometric model, the results show that bank loans have significantly promoted the economic growth of Jiangsu and Zhejiang [4]. Hou Yihui and Wang Lihua (2019) used social network analysis to measure the financial structure changes of the Yangtze River Delta city group, and found that the Yangtze River Delta city The financial relationship structure of the group is getting closer and closer, and the improvement of the degree of financial integration and the optimization of the industrial structure mutually promote the transformation and development of the Yangtze River Delta region to a certain extent [5]. Therefore, the implementation of the concept and policy of coordinated financial development in the Yangtze River Delta region can effectively promote the development of the financial industry.

B.Necessity and Importance of Coordinated Development of regional finance

Several scholars affirmed the necessity and importance of coordinated development of regional finance. Wang Xiaocai, Wei Huiying, Meng Xiaoqian (2017) measured the degree of coordinated development of regional finance through the fh model, affirming the importance and necessity of coordinated development of regional finance. Hong Yinxing, Wang Zhen, Zeng Gang, Teng Tangwei, Li Zhan, Wang Xiaojuan, Yu Hongsheng, Li Na, Zhang Yan (2018) combined with the report of the 19th National Congress of the CPC, respectively, from the development trend and path of the integration of the Yangtze River Delta, Explore and analyze with opportunities, regional coordination mechanisms, and systems, etc., and find that the coordinated development of regional finance in the Yangtze River Delta is an inevitable trend, and synergy is more conducive to the long-term and efficient development of the financial industry [6]. Du Wenya and Zhang Yisi (2019) The relevant data and statistically complete data on the coordinated development of the financial industry provide a deep analysis of the major problems in the coordinated development of Beijing-Tianjin-Hebei finance [7]. Tao Jin (2020) based on the coordinated development of Beijing-Tianjin-Hebei The regional financial development gap is compared, and it is concluded that in the case of regional coordinated development, more attention should be paid to the development of the financial industry [8].

In terms of financial integration research, foreign scholar Scitovsky (1958) believes that the development of financial integration can optimize the allocation of economic capital, which is likely to solve transaction barriers, reduce economic costs, improve efficiency, and promote economic growth. Luigi Guiso, Tullio Jappelli, Mario Padula, And Pagano (2004) believe that the development of the integration of financial markets promotes the development of finance through competition to reduce operating costs and improve financial supervision and regulatory standards. The Yangtze River Delta region is in a rising period of economic development, and further economic development is accompanied by Regional financial synergy that promotes economic development through financial integration. Yang Yanlei (2015) believes that in the process of Beijing-Tianjin-Hebei integration, the establishment of coordinated development of regional finance will optimize the resource allocation and accelerate the integration process of the three places[9].

C. Coordinated Financial Development Under Big Data

In the era of big data with rapid technological development, the development of the financial industry cannot be separated from data, and changes in data cannot be separated from technology. The coordinated development of regional finance must be based on data. Wang Ning, Mu Ruili, and Wang Bo (2020) analyzed Beijing and Tianjin through The status quo and problems of scientific and technological collaboration and financial cooperation in the Hebei region, combining scientific and technological innovation with financial innovation, so as to further implement the coordinated development of financial cooperation in Beijing, Tianjin, and Hebei [10]. Wang Hong-qi, XU Yu-lian (2019) Based on the definition of science and technology and finance, an orderly model of science and technology innovation and the science and technology and finance subsystem and a synergy model of the composite system are constructed, and an empirical analysis is made based on China's science and technology innovation and technology and finance development data from 2000 to 2010. This research fully reflects In order to realize the importance of data for the coordinated development of finance, under this premise, the financial industry can build a "blockchain +" big data dual-channel credit information technology framework combining a centralized and decentralized system analysis framework to achieve financial credit Data sharing to promote further development of the financial industry [11].

D. Industry-finance Integration

The combination of industry and finance, that is, the synergy between industry and the financial industry, has far-reaching significance for the long-term development of finance. Le Xiaojuan (2019) believes that in the context of coordinated financial development, enterprises can optimize resource allocation through the combination of industry and finance [12]. Hu Yao (2019) Through a comprehensive analysis of the mode of enterprise integration and development, it is found that coordinated development of industry-financed integration enhances corporate value [13]. Che Jian (2020) found that the combination of industry and finance is conducive to the realization of scale economy and reduction of benefits for industrial groups, which is an objective requirement for the effective allocation of social resources[14]. Many foreign scholars have also studied the integration of industryfinanced integration. Among them, Join B. Cobb, Jr (2016) analyzed China Economic-specific phenomena and changes in the core driving factors of the new economic cycle, and proposed to coordinate and promote the construction of manufacturing and financial powers; fiscal and monetary policies should reflect greater accuracy and flexibility; improve reform efficiency and avoid the emergence of medium- and long-term Recommendations such as the risk of economic stagnation [15]. Therefore, research on the coordinated development of regional finance will help Chinese companies better grasp the degree of industry-financed integration and choose the type of industry-financed integration to provide theoretical and practical significance for further rationally utilizing the combination of industry and finance to improve the investment efficiency of listed companies.

E. Review

a) Regional Financial Synergy is the Focus of Development

The Yangtze River Delta is in an important process of regional economic integration, and regional financial coordination is the focus of its development. Regional financial coordination is through the integration of the financial industry in many fields, the integration of financial industry carriers, and the construction of the financial industry system. The innovation of regional financial industry cooperation mechanisms has led to the circulation of technology and labor factors in the region, which has adversely affected the development of economic integration.

b) Limitations of Research Status

At this stage, the coordinated development of financial cooperation in the Yangtze River Delta region has certain limitations. There are problems such as too little innovation in the financial industry, weak independence of the financial industry, and a low degree of coordination. Therefore, we must vigorously promote innovation in the financial industry and improve integration. The system can accelerate the cross-border flow of innovation elements and increase sharing efforts. In addition, we must reduce dependence on external technologies, improve the

efficiency of the carrier of independent collaborative innovation, develop science and technology, Internet finance, and actively use the breakthrough of factor markets to improve regional financial synergy. Degree and promote the development of financial integration.

III. THEORETICAL ANALYSIS

A. Financial Integration Theory

Financial integration is generally defined as the financial resources in a region flowing with each other under the condition that the system and policies are not affected within a region. A regional financial integration generally includes the following parts:

Development of financial market integration. Financial market integration not only refers to the integration of financial instruments and financial systems, but also includes the establishment of a unified currency market and bond market.

Unrestricted and free flow of financial resources in the region, especially the flow of funds, in areas with more financial resources in the region, rationally allocate to areas with less financial resources.

The establishment of financial policies in the region and the establishment of a unified financial organization system also includes the unification of financial instruments. Financial institutions in the financial organization system are continually integrated to reduce the phenomenon of separation due to regional issues.

Achieve common financial information in the region, achieve a high degree of sharing of information, and have a sufficient flow of financial talents in the region to promote economic development in the region.

B. Regional Financial Growth Theory

a) Regional Financial Growth Promotes Savings

The level of regional savings and regional competitiveness are complementary and interrelated. The level of regional savings determines the size of regional competitiveness, and the development of regional competitiveness, in turn, affects the improvement of regional savings levels. The amount of savings in a region will It greatly affects the level of regional investment and the amount of capital accumulation, and the amount of capital accumulation, and the amount of capital accumulation will directly affect the development speed and equilibrium of the regional economy. Therefore, when the amount of currency savings in a region is insufficient, it will cause the regional economy to decline. To further maintain and improve regional economic development, it is necessary to ensure a steady rise in savings in the region.

If we combine regional financial development with cost savings and use the Harold-Domar model under the premise of a fixed short-term capital-output ratio, the level of savings and the accumulation of capital plays a decisive role in the level of economic growth. In other words, the level of savings has a direct impact on the amount of capital accumulation and the speed of economic growth. In the Rosenstein-Rhodan study, they believe that strengthening the formation of the national capital by increasing the country's savings rate is not enough. The necessary ways for developed countries to improve their level of economic development have led to the conclusion that a high savings rate equals a high investment rate equals a high economic development rate.

The growth of regional finance promotes the growth of regional savings and thus promotes the development of regional integration. Specifically, it includes the following two areas of growth: First, national income will usually be divided into two parts: consumption and savings, or consumption and investment. In the real economy, there are a variety of factors that have a direct impact on the ratio of consumption to savings, but in a financial system where capital flows completely free, savings quickly translates into consumption. Second, it is assumed that under a good financial system, financial In the state of institutional construction, organizational structure, and investment channels, and a good service system, by encouraging owners of saving capital to give up control of the capital, the cost of information and transactions will be reduced, and the reduced cost will be used. In new financial activities, the total amounts of savings will be increasing.

b) Increase in Regional Finance Promotes Capital Formation

In the national economic construction, capital plays a very important role. The size of the national savings largely determines the size of the capital. In addition, the amount of capital also depends on the ability of the national savings to be converted into capital. Saving capacity refers to the savings part of the country's financial source that is not consumed. That is, government products are not purchased. It is the part that does not invest savings funds into financial investment, but only the physical investment part, and the remaining savings funds will be used by this country. The main source of funds is an investment. The remaining savings funds for investment will strengthen the country's productive forces. If the saving capacity can be transformed into investment capital, it can indicate that the country's economic development level is gradually increasing, but it is more important to use the country's Saving capacity is converted it into investment funds to form capital. Under normal circumstances, the amount of savings is determined by the relevant financial institutions and is responsible for the reasonable allocation of departments of different funding levels. Therefore, financial institutions that want to improve the ability to convert savings into funds Need to shoulder great tasks and responsibilities. Financial institutions must improve their professional capabilities in the transformation of investment to create a relatively complete financial environment. A good financial environment helps to form a variety of investment transformations and increases the possibility of profit. In

addition, it will also form various benign competition relationships. The ultimate purpose of the competition is not only for its own sake. Development is in the direction of higher returns; of course, having a good financial market environment can also improve the efficiency of financial institutions in completing transactions, thereby improving the efficiency of the overall market environment and reducing the cost of financial management. If the overall market price is at a relatively stable position is conducive to improving the ability of enterprises to obtain funds and helping enterprises to obtain more investment. This will help smooth the company's working capital, reduce the time for investment conversion, and accelerate the economic development rate [16]

IV. EMPIRICAL ANALYSIS

A. Model

To fully understand the level of financial synergy development in a particular region, you can judge the degree of financial synergy development in the region by paying attention to its financial integration development process and by effectively measuring the degree of financial integration in the region.

At present, in the international and domestic academic research process, the commonly used financial integration measurement methods include the price method and quantity method. After detailed judgment, in order to ensure the effectiveness of empirical analysis, the team will use investment-saving related to the empirical research. The sexuality test method (the fh method) is used to quantitatively measure the degree of financial integration of the two provinces and one city that are representative of the Yangtze River Delta.

The investment-savings correlation test was proposed by Feldstein and Horioke in 1980. The core idea is to use the regional investment and savings data of the research area in the relevant research interval, and use the difference between the investment rate and the savings rate in the research year in the place. Correlation to indicate the degree of economic openness of the region, and the degree of financial integration ^[17] of the study area is indirectly expressed through the magnitude of the correlation. The basic principle is as follows:

First, using the three-sector national incomeexpenditure method in Keynes's macroeconomic theory, the calculation formula is:

Second, using Keynes's three-sector national income kernel algorithm, the calculation formula is:

The expression that gets its regional savings is: G

In a closed economy, that is, in the absence of balance of payments, investment and savings in a country are

generally equal. That is, domestic investment is realized by domestic savings, which is expressed by the formula: S=I=Y-C-G

However, in an internationally integrated market, because financial resources can fully flow around the world, savings in various countries are no longer limited to transforming into investment in their own countries, and they can fully flow around the world. A huge global savings pool, and global investments can be transformed through this huge savings pool, so that the source of investment capital for a country or region will change from local savings to global savings. If the region is open to the outside world, the financial industry A high degree of development facilitates the inflow and outflow of financial resources, prompting financial capital to invest in various regions of the world and chase profits. Similarly, based on the theory of reverse analysis, if most of the investment in a country is still saved by domestic savings, The transformation can explain that the region's financial openness is low, which is not conducive to global financial capital's investment in the region, which proves that its degree of financial integration is low.

In this way, we can measure the correlation between investment and savings through the following, onevariable linear equation:

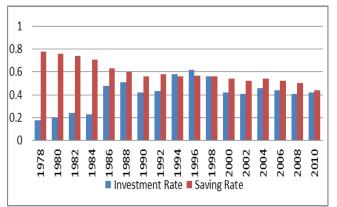
$$\frac{I}{V} = a + b\frac{S}{Y} + e$$

Among them, Y The ratio of total regional capital formation to regional GDP, that is, the investment S

rate;*Y*Represents the ratio of regional savings to regional GDP, that is, the savings rate. The b value represents the correlation between the regional investment rate and the savings rate. E is the difference in the calculation.

According to the basic definition of investment equal to savings in macroeconomics, this article defines regional savings as the balance of regional gross domestic product minus household consumption and government expenditure, and defines the savings rate as the ratio of savings to the total regional GDP. The ratio of income; similarly, the investment is defined as the total regional capital formation, and the investment rate is defined as the ratio of the total regional capital formation to the total regional GDP.

When conducting the savings-investment correlation test, we selected Shanghai, Jiangsu, and Zhejiang provinces and one city in the Yangtze River Delta region from 1978 to 2010, and the total regional capital formation from the thirty-two years. The two are compared with the overall GDP of the region to obtain the investment rate and a savings rate of the two provinces and one city in the sample interval, and summarize the trend chart of the investment rate and savings rate from 1978 to 2010. The following is a line chart of the changes in the investment rate and a savings rate of the two provinces and one city from 1978 to 2010.



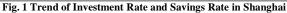




Fig. 2 Trend of Investment Rate and Savings Rate in Jiangsu Province



Fig. 3 Trend of Investment Rate and Savings Rate in Zhejiang Province

B. Data

a) Index Selection

An empirical analysis, we use the investment-savings correlation test to reasonably measure the degree of financial integration in the Yangtze River Delta region. Based on the existing data, we use related mathematical analysis methods to mathematically correlate the investment rate and the savings rate. By formula, find the specific value of b that represents the correlation between the two. If the value of b is small, it means that there is no large correlation between the investment in the area and the savings in the area itself. That is, most of the investment in the area consists of The conversion of global savings also indirectly reflects the relatively high degree of financial integration in the region; and vice versa. Therefore, we choose the value of b in the test formula for savings-investment correlation as an analysis indicator that represents the degree of financial integration in a certain region.

b) Source of Data

During the empirical test, in order to ensure the accuracy of the data during the test, the relevant data we used were obtained from the "Compilation of Statistical Data for Sixty Years of New China". Excerpts from Shanghai, Zhejiang, The annual savings value, total regional capital formation, and annual regional GDP of the three places in Jiangsu Province are obtained by calculating the annual investment rates and savings rates of each region and each year, and using the relevant data to perform correlation tests to obtain the three places. The level of financial integration.

C. Results

Based on the relevant data, we use the investmentsaving correlation test to study the degree of financial integration between the two provinces and one city. We get the following results:

According to the above relevant data, we can know that the investment rate and a savings rates of Jiangsu Province and Zhejiang Province are close, and they are closely related, while the difference between investment and savings in Shanghai is relatively large.

Through calculation, the correlation between investment and savings in Shanghai is negative, and the b value in Zhejiang Province and Jiangsu Province is positive and greater than 1.

From this analysis, it is concluded that investment in Shanghai is less dependent on savings, and in Shanghai, The capital flows are relatively frequent, and the degree of financial integration and openness is high; the investment in Zhejiang and Jiangsu provinces is more dependent on savings, the phenomenon of financial market segmentation still exists, and inter-regional capital flows are insufficient.

V. CONCLUSION

The regional integration of the Yangtze River Delta will inevitably be accompanied by coordinated financial development, and the development of the Yangtze River Delta urban agglomeration has good prospects. Under the future trend of technology finance and Internet finance, the coordinated financial development of the Yangtze River Delta is bound to usher in more Big opportunities and challenges.

The government of the Yangtze River Delta city group urgently needs to strengthen contact and cooperation, enrich characteristic financial services, gather financial institutions, spread a healthy financial culture, and innovate financial services.

At present, the Yangtze River Delta region is in the initial stage of coordinated financial development, and a coordinated path for the coordinated development of industrial clusters and regions has not yet been formed. This article analyses that the cause of this phenomenon is that the financial system is not yet complete, financial infrastructure is backward, and the industry. The quality of development is not high, and the financial regulatory system is fragmented.

VI. POLICY RECOMMENDATIONS

The overall planning of the government is to build a development platform. The government should plan the financial coordination mechanism of the Yangtze River Delta region as a whole, coordinate the overall planning of the financial development of the Yangtze River Delta region, and build a platform that is conducive to the coordinated development of the Yangtze River Delta region's financial development.

Focus on the capital market to promote product innovation. At this stage, the Yangtze River Delta region should focus on high-end manufacturing, electronic information, biomedical and other advantageous industries, and upstream and downstream key enterprises, strengthen the horizontal adjustment and financing of funds, and support the upgrading and acquisition of advantageous industries. Promote capital market companies to go global and establish and improve financial service systems.

Focus on the construction of a regional financial environment. Increase support for financial synergy industry clusters, carry out preferential policies, and encourage the establishment of new financial service institutions. Give full play to the government's joint efforts to explore diversified financing methods for the finance of the Yangtze River Delta region. Industry synergy develops fresh blood.

Promote talent training. The government must carry out scientific development planning in a unified manner, promote the flow of talents, provide policy support for the introduction of talents, build a comprehensive talent system, build on a solid development foundation in the region, and promote industrial innovation.

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