Integrated Financial Supervision Research under the Big Data of Bank and Insurance

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Abstract. Recently, the mixed operation is a trend. We would develop a new model to solve the problems for the out-dated integrated financial supervision. After analyzing the finance in the era of Big Data, we comb the logical structure of the traditional separated supervision mode with model diagrams. Studying academic journals, we summarized characteristics and found the mechanism of the integrated financial supervision. Accordingly, we designed a process model of the financial integrated function supervision. All the work was under the guidance of macro, micro and comprehensive equilibrium analysis of Comprehensive Economics. We still established the model’s structure framework to demonstrate the innovation—the two-way coordination of institutional supervision and functional supervision, and the matrix supervision structure. Our model will guide the process of integrated financial supervision, maintain the stability of the financial market, and reduce the financial supervision risk and other existing problems.

Introduction

In March 2018, the first session of the 13th National People's Congress voted to establish the China Banking and Insurance Regulatory Commission, which is the second milestone in the history of China's financial supervision system since the establishment of the Financial Stability and Development Commission of the State Council [1]. In the past decade of the 2008 financial crisis, China's such regulatory reform can be said to be a review and reflection on the historical experience and lessons learned from previous financial crises in various countries [2]. From the historical process of China's supervision system, China's financial supervision history started later than that of Western capitalist countries, lacking experience and having strong characteristics of socialist countries. Therefore, it is necessary to use the relevant economic logic and combine the current situation of China's mixed financial operation and integrated supervision in the era of Big Data, draw lessons from the advanced western supervision mode, innovate the financial supervision mode, strengthen the construction of macro-prudential management system, strengthen functional supervision, pay more attention to behavioral supervision, and find a regulatory model that is conducive to the sustained and healthy development of China's financial industry at this stage [3].

Analysis of the Development Environment of Banking and Insurance Industry

Big Data Era

With the change of modern data generation mode, speed and quantity, massive data appears in various fields of production and life [4]. Following the era of Big Data, Big Data has gradually expanded from a trend to an influence, which has aroused the attention of all countries in various fields.

Since Nature published the special issue Big Data in 2008 and discussed the impact and challenges of Big Data in various fields, the term Big Data has gradually attracted the attention of various
countries in various fields. In March 2012, the United States announced the "Big Data research and development initiative" aimed at improving people's ability to obtain information from massive information data. In July of the same year, Japan launched the New ICT Strategic Research Plan, which also positioned Big Data as one of the strategic areas. [5] It can be seen that Big Data has great prospects for development in the future.

Sorting the Big Data by its connotation, it includes three main aspects: data, technology and application. On the data type, besides a large number of structured and unstructured transaction data, there are a large number of unstructured data and interactive data. On the technical level, it would be how to obtain the valuable information from the massive data by effective means of technology. On the data application, it is to analyze and process specific databases and then figure out the valuable information. [6]

**Trends and Obstacles of Banking and Insurance Industry in the Era of Big Data**

**Trend of Banking and Insurance Industry in the Era of Big Data.** The financial business of banks and insurances is integrated. In the era of Big Data, in order to meet the financial needs of financial consumers and maintain or expand the market, financial institutions will use the platforms of Big Data to continuously launch more refined products to meet consumer needs. Taking China Life Insurance Company's acquisition of China Guangfa Bank as an example is proper when talking financial products' trend in the Big Data era. The China Guangfa Bank’s credit card is linked to automobile insurance to meet most of the financial needs. [7]

The financial architecture of the banking and insurance industry will be reshaped. The increase of cross-financial business between banking and insurance industry, the expansion of business similar to the mixed operation of finance and financial holding groups will surely promote the reform or remodeling of the financial supervision mode. From mixed operation to integrated supervision is an important link during the development of financial industry, lead to the banking and insurance industry, the most universal and influential financial service system, to take on the pioneer of reform.

**Obstacles to Banking and Insurance Industry in the Era of Big Data.** With the advent of the era of Big Data, the banking and insurance industry must be reformed in view of the triple obstacles of innovation, management and technology in order to gain market recognition, maintain market position advantages and seize market heights. In the innovation, for the banking industry with a certain historical tradition, it has formed the inherent management concept of capital center, so it is difficult to make real-time transformation and innovation in the management mode. In the administration, On the one hand, because of the huge scale of large data, it is difficult for the traditional banking industry to carry out business innovation based on unstructured data. On the other hand, the conduction of system based on business blocks aggravated the redundancy and inconsistency of data. Technically, the characteristic of large-scale data, many types, fast change, low value density, low authenticity and high complexity make it difficult for existing technology to analyze and process them reasonably. So it is necessary to intensify the research of database software and forward-looking data. [8]

**Analysis on the Supervision Problems of Banking and Insurance Industry**

Before the establishment of the Banking and Insurance Regulatory Commission, China's "One bank and three commissions" mode of industrial supervision was criticized. Facing the development of mixed operation, its drawbacks gradually emerged. The traditional banking and insurance industry supervision mode is shown in Figure 1.
When needing to solve problems cooperatively, it often led to inconsistencies in communication and difficulties in coordination for the three committees, increasing the cost of communication and coordination. Because the three committees had the same administrative level and equal status, but their regulatory objectives and scope were quite different. At the same time, the information asymmetry caused by the absence of information sharing mechanism would also increase the cost problem in the process of obtaining information.

In the era of Big Data, there are a lot of cross-financial services in the banking and insurance industry. The banks and insurances penetrate each other, such as agency insurance business and agency banking business. At the same time, some financial holding groups also promote the operation of mixed operation, such as CHINA EVERBRIGHT GROUP, PING AN INSURANCE(GROUP) COMPANY OF CHINA, LTD and CITIC GROUP. The phenomenon of mixed operation appears more and more frequently. Before the emergence of the new regulatory regulations, there will be regulatory gaps and blurred regulatory boundaries in the absence of corresponding enlargement of the respective regulatory scope and clear legal basis for the management of new categories. As a result, some financial institutions take advantage of regulatory loopholes to carry out mixed operation arbitrage, which further aggravates the seriousness of regulatory problems.

**Model Design for the Process of Integrated Functional Supervision of Banking and Insurance Industry**

Through the organic combination of the vertical and the horizontal, we can find the essential nature of things, and then increase the comprehensive economic benefits to achieve faster development of social productive forces. Therefore, Comprehensive Economics is a theory that integrates three methods of micro, macro and comprehensive equilibrium analysis, which has the significance of modern economics. Comprehensive Economics is holistic. It not only studies both macro and micro economic phenomena but also analyses principles and laws vertically and horizontally. In addition, it emphasizes coordination, systematicness, practicality, pluralism and comprehensive regulation. These characteristics have important theoretical guidance for the reform of supervision mode at present stage in China. Applying Comprehensive Economics, we design a process model for the integrated function supervision of banking and insurance industry, as shown in Figure 2.
In the era of information expansion, information among industries can be shared. In order to gain profits, new business forms have gone beyond the regulatory barrier and evolved into mixed business forms. As a result, various types of principal-agent business, the group business after merger and reorganization and other mixed operation business continue to expand. The separated supervision model, however, can’t adapt to the current mixed operation situation. By identifying the "identity" and business attributes of financial products or business, the financial business is regulated in different categories, and the financial business belonging to different regulatory departments with similar functions will be regulated by the unified function supervision. Then the conduction will realize the two-way coordination of institutional supervision and functional supervision, and form a matrix supervision structure, thus avoiding the disadvantages of separated supervision under the trend of mixed operation, maintaining the stability of financial market and reducing systemic risk. Functional regulation draws lessons from separated supervision, integrates the actual situation of financial development in innovative forms of supervision, and solves the existing cross-financial problems.

The Case of China's Integrated Supervision in Banking and Insurance Industry at the Present Stage

Since the establishment of the Financial Stability and Development Committee of the State Council in 2017, China has begun to carry out drastic institutional regulatory reforms in response to the regulatory chaos caused by shadow banks, asset management, Internet finance and financial holding groups in the financial industry. Firstly, the Financial Stability and Development Management Committee of the State Council was established. By March 2018, the Bank of China Regulatory Commission and the Insurance Regulatory Commission of China were merged to form the Bank of China Insurance Regulatory Commission.

Financial Stability and Development Committee of the State Council

Firstly, our country is still in a special period when separated operation and integrated operation compete with each other, and separated supervision is difficult to directly carry out the transition to operation supervision. It is also a transitional period. At this stage, if we copy the western integrated supervision mode, in the era of information expansion, dynamic change of Big Data and rapid transmission, it will cause panic and bad stimulation to the domestic financial industry. But the establishment of the State Council's Financial Supervision and Management Commission is a step-by-step approach helping to carry out the transition to an integrated supervision model step by step. This is also the necessary stage of integrated supervision in the era of Big Data.

China Banking and Insurance Regulatory Commission

Nature: Banking and Insurance Regulatory Authority.
Main Responsibilities: To supervise and manage the banking and insurance industry, to prevent and resolve financial risks in the banking and insurance industry, to safeguard the legitimate rights and interests of consumers, and to ensure the sustained, healthy and stable development of the banking and insurance industry in accordance with relevant laws and regulations.

At present, the financial business scope of shadow banking, asset management, Internet Finance and financial holding groups with chaos is mainly concentrated in the banking and insurance industry. The author believes that in March 2018, the measure in the first session of the 13th National People's Congress, that voted to establish the China Banking and Insurance Regulatory Commission, was not only caused by the conditions for merger of the CBRC and the CIRC themselves but also above frequent occurrence of a series of chaotic phenomena. The establishment of China Banking and Insurance Regulatory Commission is a milestone reform of financial supervision in China. It will reduce the problems of supervision vacancy, supervision overlap and supervision blankness in China's banking and insurance industry.

Summary

In summary, the establishment of the China Banking Insurance Regulatory Commission is only an exploration of China's integrated supervision in banking and insurance industry. The promotion of integrated supervision for the banking and insurance industry in China will affect the superstructure of China's integrated supervision. Therefore, the paper made a comparative study of international integrated supervision and domestic regulatory mechanism, and then innovatively established the model for the process of integrated functional supervision of banking and insurance industry. The model also demonstrated the rationality of the matrix supervision mode of the model and hoped to contribute to the reform of financial supervision mechanism.

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