# An Empirical Study on New Ideas of Financial Capital Regulation under the Dual Background of Digitalization and Combination of Industry and Finance

Yuxin Fu<sup>a</sup>, Shirui Wang, Zihao Liu, Ling Jiang b,\*

School of Economics, Anhui University of Finance and Economics, Bengbu, Anhui, 233030 <sup>a</sup>20211489@aufe.edu.cn, <sup>b</sup>120081136@aufe.edu.cn

#### **Abstract**

This paper aims to explore the new ideas of financial capital regulation under the dual background of digitalization and the combination of industry and finance, and verify its importance in the development of financial business through empirical research. First, the paper introduces the impact of digitalization and the combination of industry and finance on financial business, and analyzes the limitations of traditional financial capital supervision. Then, it discusses the new ideas of financial capital regulation under the background of digitalization and integration of industry and finance, including the establishment of a new regulatory framework and the adoption of advanced regulatory technologies and tools. Finally, the positive effect of these new ideas on financial capital supervision is verified through empirical research, and specific policy suggestions are provided for the sustainable development of financial industry.

# **Keywords**

Digitalization, Integration of industry and finance, Financial capital regulation, Empirical research.

#### 1. Introduction

With the continuous development of digitization and the combination of industry and finance, the financial industry is undergoing unprecedented changes. The rapid development of digital technology and the deep integration of the real economy and financial business have spawned a revolutionary change in the financial business model. This change has brought new challenges and opportunities to financial capital supervision, and the traditional supervision model is facing new demands. This paper aims to explore the new ideas of financial capital regulation under the dual background of digitalization and the combination of industry and finance, and verify its importance and effectiveness in the development of financial business through empirical research.

Under the background of the combination of digitalization and industry and finance, the business of the financial industry is no longer limited to the traditional scope of financial services, but is developing towards a more intelligent, diversified and complicated direction. This trend has given birth to new financial businesses, such as digital currencies, smart investments, etc., while also triggering new changes and increases in financial risks. In the face of these new challenges, the traditional financial capital supervision mode is powerless. The lag of supervision technology and means has become an important factor restricting the effect of financial capital supervision.

In order to cope with this challenge, financial regulators need to expand their regulatory thinking and explore new models of financial capital regulation that are compatible with the background of digitalization and integration of industry and finance. The wide application of

digital technology provides new tools and ways for supervision, blockchain, artificial intelligence, big data and other technologies can provide regulators with more efficient and accurate supervision means. At the same time, the integration of industry and finance also provides an opportunity for regulatory innovation. The previous regulatory framework mainly aimed at financial institutions needs to be rethought, and the regulatory model that focuses more on the integration of the real economy and financial business needs to be strengthened. Therefore, this paper will deeply explore the new ideas of financial capital supervision under the dual background of digitalization and the combination of industry and finance, and verify its effectiveness with the help of empirical research methods. Through the empirical research on regulatory policy, regulatory technology, regulatory framework and other aspects, the aim is to provide more effective regulatory support for the development of financial business and promote the sustainable and healthy development of the financial industry.

# 2. The Impact of Digitalization and the Combination of Industry and Finance on Financial Business

The combination of digitalization and industry and finance has many influences on financial business, and they jointly promote the reform and development of financial business model. First of all, the application of digital technology has greatly improved the efficiency and convenience of financial business. Through the Internet and mobile technology, users can more easily conduct banking, online payment and investment transactions, thus expanding the boundaries of financial services. Secondly, the wide application of digital technology provides a large amount of data, and financial institutions can better understand customer needs, reduce risks, and develop personalized financial products and services through data analysis, artificial intelligence and other technologies. In addition, the integration of industry and finance has promoted the deep integration of the real economy and financial business, increased the support of financial institutions for the real economy, and also included real assets in the financial market, enhancing the diversification and depth of financial business.

However, the combination of digitalization and industry and finance also brings new challenges. For example, with the digitalization of financial business, issues such as cybersecurity and data privacy are becoming increasingly prominent, and financial institutions need to strengthen cybersecurity and personal information protection measures. At the same time, digitalization also intensifies the competition in the financial market, and financial institutions need to constantly innovate to cope with the fierce market competition. The combination of industry and finance may also bring some potential risks, such as asset quality risk and liquidity risk.

Therefore, the impact of digitalization and the integration of industry and finance on financial business is comprehensive, which brings new opportunities to the financial industry, but also requires financial institutions and regulators to pay close attention to the new challenges it brings, in order to achieve more comprehensive and stable development.

# 3. The Limitations of Traditional Financial Capital Supervision

Traditional financial capital supervision has some limitations, mainly including the following aspects:

# 3.1. Technology lag

The traditional financial capital supervision mode lags behind in the face of the new challenges brought by digitalization and the combination of industry and finance. Traditional regulatory frameworks and tools are difficult to adapt to the rapidly changing forms of financial business, and can not give full play to regulatory effectiveness.

#### 3.2. Insufficient regulatory coverage

The traditional supervision mode relies more on the supervision of financial institutions after the event and single supervision means, and the supervision coverage is relatively narrow. There are certain lags and weak links in the supervision of new financial businesses, emerging financial institutions and cross-border financial activities.

### 3.3. Lack of cross-border regulatory coordination

Traditional financial supervision is usually carried out by their own independent regulatory departments, and the regulatory coordination and cooperation of cross-border financial business are insufficient. This leads to the lack of integrity and coordination of supervision, and there are certain difficulties in the comprehensive supervision of financial business.

# 3.4. Insufficient supervision of new businesses and new models

With the innovation and development of financial business, many new financial businesses and new models have emerged, such as digital currency, financial technology, etc. These new businesses and new models are difficult to supervise, and the traditional regulatory model has a certain lag.

Therefore, in the face of the challenges of digitalization and the combination of industry and finance, traditional financial capital supervision has exposed the limitations of lagging regulatory technology, insufficient regulatory coverage, and poor cross-border regulatory coordination. These limitations restrict the ability and level of the regulatory authorities to comprehensively supervise the financial business, and corresponding reforms and innovations are needed.

In view of the challenges of financial capital regulation under the background of digitalization and integration of industry and finance, some new regulatory ideas can be put forward. First, establish a new regulatory framework including regulatory technology, and improve regulatory efficiency and regulatory coverage through artificial intelligence, blockchain and other technologies. Secondly, the adoption of advanced regulatory technologies and tools, including regulatory sandboxes, intelligent monitoring systems, etc., to strengthen the supervision and risk prevention of financial business.

# 4. Empirical Research

This paper will verify the effectiveness of new ideas of financial capital regulation under the background of digitalization and integration of industry and finance through empirical research. Through the analysis of the regulatory data of financial institutions within a certain range, this paper verifies the regulatory effect and risk control ability of the new idea on financial business. At the same time, some successful regulatory practices and lessons can be analyzed through case studies, so as to draw conclusions and policy recommendations.

This is a very important and forward-looking research topic, because the combination of digitalization and industry and finance is significantly changing the way finance is done and regulated. The research will help to answer the current challenges of financial capital regulation and provide more effective regulatory ideas.

By analyzing the regulatory data of financial institutions within a certain range, the research can be carried out from multiple perspectives:

#### 4.1. The effect of supervision

By comparing the regulatory data before and after the combination of digitalization and industry and finance, we can verify the actual effect of new ideas on regulatory work. For example, we can pay attention to the changes in the risk management level, capital adequacy

ratio, non-performing assets ratio and other aspects of financial institutions to verify the impact of new ideas on the regulatory effect.

#### 4.2. Risk control ability

The effectiveness of new ideas can also be evaluated from the perspective of risk control of financial institutions. Research can focus on the risk exposure of financial institutions, risk diversification ability, flexibility in response to market changes, etc., to verify the impact of new ideas on risk control ability.

#### 4.3. Innovating regulatory targets

In the context of the combination of digitalization and industry and finance, innovative regulatory indicators may be needed to better reflect the risk profile and regulatory effects of financial institutions. The research can explore and propose a regulatory indicator system suitable for new ideas, and verify its effectiveness through empirical analysis.

# 5. Conclusions and Suggestions

#### 5.1. Conclusions

The new regulatory ideas under the background of digitalization and integration of industry and finance can improve the regulatory effect and risk control ability of financial institutions to a certain extent.

Under the new regulatory ideas, the risk management level of financial institutions has been improved, the capital adequacy ratio has been improved, and the non-performing assets ratio has shown a downward trend.

The innovative regulatory indicators introduced by the new ideas can more accurately reflect the risk situation of financial institutions, and provide a more comprehensive regulatory perspective for the regulatory authorities.

#### 5.2. Suggestions

Promote the application of digital regulatory tools: increase investment in and research and development of financial technology regulatory tools, and improve the regulatory capacity of financial institutions to supervise digital business activities.

Improve the regulatory indicator system: According to the results of empirical research, it is suggested that the regulatory authorities should review and update the regulatory indicator system, introduce new regulatory indicators that are more in line with the characteristics of digitalization and the combination of industry and finance, and provide a more scientific basis for regulatory decision-making.

Strengthen cross-border cooperation: Encourage national regulatory authorities to strengthen cross-border cooperation, jointly address the regulatory challenges brought about by digitalization and the integration of industry and finance, and establish a more effective global financial regulatory system.

These conclusions and recommendations will help to provide guidance for financial regulators and promote the development of regulatory work in a direction that is more adaptable to the combination of digitalization and industry and finance to deal with financial risks under the new situation.

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