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THEORETICAL FOUNDATIONS OF CREDIT RISK REGULATION IN THE NON-BANK FINTECH SECTOR

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Introduction

Over the past two decades, the global financial market has undergone a large-scale digital transformation driven by the rapid development of information and communication technologies, artificial intelligence (AI), big data analytics, and cloud computing. One of the most significant outcomes of this transformation has been the emergence of the non-bank FinTech sector, which encompasses a wide range of organizations providing financial services without the status of traditional commercial banks. These organizations include digital lending platforms, peer-to-peer (P2P) lending companies, Buy Now Pay Later (BNPL) service providers, microfinance institutions, electronic payment systems, digital wallets, Embedded Finance platforms, and various technology companies offering lending services through advanced digital solutions.

Evolution of Credit Risk Assessment

The growth of the non-bank FinTech sector has been accompanied by substantial changes in the methods used to assess borrowers' creditworthiness. For decades, traditional banks relied on standardized procedures for evaluating clients' financial conditions, including verification of official income, credit history, collateral, and debt burden. In contrast, modern FinTech companies actively employ automated machine learning algorithms capable of incorporating a much broader range of variables.

Unlike conventional credit scoring models, contemporary AI-based systems can simultaneously analyze thousands of features, identify hidden behavioral patterns, and predict the probability of default with a high degree of accuracy.

The Use of Alternative Data

The advancement of digital technologies has significantly expanded the volume of information available for credit decision-making. In addition to traditional financial indicators, FinTech algorithms analyze mobile device data, users' digital activities, online shopping history, utility payment records, smartphone characteristics, SIM card replacement frequency, applicants' behavior while completing loan applications, online payment history, social media activity, and numerous other alternative data sources.

The use of such information enables lenders to evaluate the creditworthiness of customers who were previously excluded from the traditional banking system due to the absence of an official credit history or insufficient financial information.

Risks Associated with Artificial Intelligence

However, the widespread adoption of artificial intelligence introduces a range of new risks that were largely absent in the traditional banking model. One of the most significant challenges is the limited transparency of machine learning algorithms. Modern AI models, particularly those based on deep neural networks, often achieve high predictive accuracy while their decision-making processes remain difficult to interpret even for developers and financial regulators.

This challenge is commonly referred to as the **Black Box Problem**, where it is impossible to clearly explain which specific factors had the greatest influence on the final lending decision.

Algorithmic Fairness and Consumer Protection

An additional challenge arises from the use of alternative data, which may contain hidden social, demographic, or behavioral characteristics capable of producing indirect discrimination against certain categories of borrowers. For example, an algorithm may identify a statistical relationship between a particular residential area and a higher probability of loan default. Although the model does not explicitly use information regarding ethnicity, social status, or other protected characteristics, its decisions may effectively create unequal access to credit.

For this reason, increasing attention has recently been devoted to issues of **algorithmic fairness**, AI model transparency, and the explainability of automated credit scoring systems.

Regulatory Challenges

Regulating the activities of non-bank FinTech companies has become one of the primary responsibilities of financial supervisory authorities worldwide. Unlike commercial banks, whose operations have long been governed by comprehensive international standards—including the recommendations of the Basel Committee on Banking Supervision—digital lending platforms often operate within less detailed regulatory frameworks.

This situation creates potential risks both for national financial stability and for the protection of financial consumers.

Balancing Innovation and Financial Stability

Modern regulators seek to strike an appropriate balance between encouraging innovation and maintaining the stability of the financial system. Excessively strict regulation may significantly slow the development of digital financial technologies, limit public access to credit, and reduce competition within financial markets. Conversely, insufficient regulatory oversight increases the likelihood of widespread defaults, financial fraud, misuse of personal data, and systemic risks that may negatively affect the entire financial system.

Risk-Based Regulatory Approach

In recent years, many countries have adopted a **risk-based approach** to regulating FinTech companies. Under this model, the intensity of supervisory activities is determined not by the legal status of an institution but by the level of financial risks it assumes, the volume of its operations, the number of customers it serves, and the extent to which automated decision-making algorithms are employed.

Particular emphasis is placed on mandatory periodic audits of machine learning models, verification of data quality, continuous monitoring of predictive stability, and ensuring that automated credit decisions can be adequately explained.

Conclusion

In conclusion, the modern framework for regulating credit risk in the non-bank FinTech sector represents a comprehensive system of legal, technological, and organizational mechanisms aimed at ensuring the stability of digital lending, improving the transparency of artificial intelligence algorithms, protecting users' personal data, and creating conditions for the safe implementation of innovative financial technologies.

As the digitalization of the global economy continues to accelerate, the effectiveness of these regulatory mechanisms will play a decisive role in maintaining the resilience of national financial systems and strengthening public trust in digital financial services.

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