

Extended Abstract

Purpose

Fintech innovations have led to extensive changes in the banking system, including risk management. In the field of fintech innovation development, the use of fintech innovation by commercial banks can improve risk management capability and thus reduce risk taking. FinTech innovation has impacted commercial banks and changed their business practices. In order to better adapt to the development trend of fintech innovation, the commercial banking industry is accelerating digital transformation and improving the level of fintech bank innovation. However, there is insufficient evidence on whether fintech bank innovation currently affects the level of risk-taking of commercial banks. Existing studies show that various factors, including; Bank size, ownership structure, bank concentration, level of competition in the banking market, capital adequacy ratio, GDP growth rate and inflation can affect the bank's risk-taking level. Therefore, the present study was considered with the aim of investigating and analyzing the heterogeneity and mechanism of the effect of fintech innovation on the risk-taking of commercial banks. Various factors including; Bank size, ownership structure, bank concentration, GDP, and inflation can affect a bank's level of risk-taking. However, there is insufficient evidence on whether fintech bank innovation affects the level of risk-taking of commercial banks. The growing influence of emerging fintech companies has caused banks to face tremendous operational pressures that affect their risk-taking levels. The findings of the existing studies show that commercial banks can benefit from the technology spillover effect by using fintech innovation in terms of optimizing operational performance and improving risk control capabilities. In terms of operational performance, commercial banks can strengthen profitability with fintech innovation to increase service options, respond to diverse customer needs, and increase their growth space. In terms of risk control, fintech innovation can use advanced technologies, including biometrics and voice recognition, to reduce labor, capital and time costs to improve data accuracy, which in turn can reduce the internal risk of fraud as well as the risk of systematic risk. Reduce. In addition, fintech innovation can be combined with banks' loan services to reduce information asymmetry between banks and borrowers, thereby making banks safer and more resilient, while also reducing the likelihood of borrowers defaulting on loans. Therefore, fintech innovation may reduce the risk-taking of commercial banks.

Methodology

The data used in this study were collected from the central bank database, the central office of each bank and the financial statements of banks in the Kodal system. FinTech Bank Innovation Index is an index that is measured based on the number of keywords related to FinTech news considered as a ratio of the value of exchanges through the Internet and mobile for online shopping and bill payment to GDP. The final sample included 20 non-governmental commercial banks in the period from 1392 to 1401 on an annual basis and a balanced panel was considered. In order to create the FinTech innovation index, the number of FinTech words in the news related to the FinTech innovation of each bank was considered through advanced artificial intelligence search and ChatGPT program. For example, "Pasargad Commercial Bank + Mobile Payment" and after summarizing and normalizing the number of fintech bank innovation words, the fintech bank innovation index (FTII) is obtained. The larger the FTII, the higher the degree of fintech innovation of commercial banks.

Finding

Relying on the step-by-step method of mediation effects, a multiple mediation effects model consisting of a system of equations was created with operating income and the bank's capital adequacy ratio as mediating variables, and the results showed that the fintech bank innovation coefficient will be negative and significant. Also, fintech bank innovation increases operating income and thus increases the operational capacity of commercial banks. In the following, the effect of fintech

innovation on risk-taking according to three components; Bank size, bank type and market structure (competitiveness) were analyzed. The results showed that the bigger the commercial bank is, the lower its risk tolerance, and the bigger the bank, the stronger its fintech effect, also the state commercial banks have a more important effect on reducing risk tolerance in the development of fintech innovation. In fact, the social responsibility and maintenance of financial stability of the regulatory systems and governance mechanisms of state-owned commercial banks are more mature and have better risk control capabilities due to facing additional risk management, information disclosure and corporate governance. On the other hand, since state-owned commercial banks have to consider more complex factors in the exploitation process, they are more cautious than other banks. Finally, in banks with a strong competitive banking system, fintech innovation shows more obvious effects on risk-taking.

Improving a commercial bank's fintech innovation can reduce its overall risk-taking levels. The more fintech innovation a commercial bank has, the lower its risk-taking levels will be. The analysis of the heterogeneity of bank size, bank type, and competitiveness shows that larger, public, private, and highly competitive commercial banks have a more pronounced effect on reducing risk-taking in the development of technological innovation. According to the above results, suggestions can be made for commercial banks. Second, since the use of fintech by commercial banks entails certain potential risks, all banks should enhance risk management. Third, the government should implement applicable regulatory measures, such as information disclosure standards and risk management indicators.

Conclusion

The findings showed that improvements in bank fintech innovation significantly reduce risk-taking. The analysis of the heterogeneity of bank size, bank type, and competitiveness shows that larger, public, private, and highly competitive commercial banks have a more pronounced effect on reducing risk-taking in the development of technological innovation. Also, robustness and stability tests, including changing the methods of constructing the FinTech innovation index, replacing risk-taking indicators, and the method of reducing the change of the study sample, showed that the findings have not changed.