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Research on the Impact of Digital Currency on the Money Multiplier: Insights from the Money Multiplier Formula

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Abstract

This study examines the impact of digital currencies on the money multiplier. Through a comprehensive analysis of various factors, including cash leakage rate, deposit reserve ratio, time deposit ratio, and the proportion of digital currencies in circulation, the study reveals important insights into the relationship between digital currencies and the money multiplier. The findings indicate that the adoption of digital currencies reduces cash leakage rate by providing an alternative to traditional cash, thereby expanding the money multiplier. Digital currencies also influence deposit reserve requirements, either decreasing or increasing the need for reserves, depending on regulatory responses. Furthermore, digital currencies affect the proportion of time deposits, as they lower transaction costs and make long-term deposits more attractive, contributing to the expansion of the money multiplier. Importantly, the study uncovers a positive relationship between the proportion of digital currencies and the magnitude of the money multiplier. As digital currencies gain prominence and their share in the currency system increases, their impact on the money multiplier becomes more pronounced.The study highlights the implications for policymakers, central banks, and financial institutions, emphasizing the need for adaptive strategies in response to the changing landscape of digital currencies. Further research is encouraged to deepen our understanding of the broader implications of digital currencies on the economy and financial system.

Keywords: cash leakage rate, deposit reserve ratio, digital currency, money multiplier, the proportion of digital currencies in circulation, the proportion of digital currencies in circulation time deposit ratio