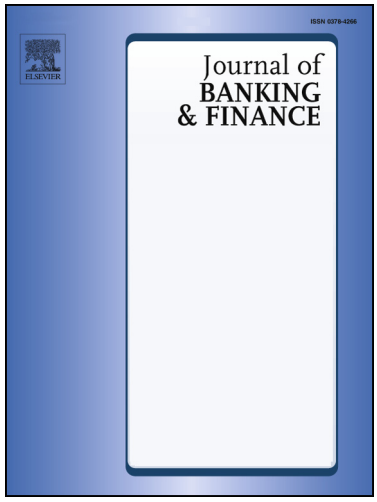

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Stress Testing Interest Rate Risk Exposure

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Abstract

In the current low interest rate environment, the possibility of a sudden increase in rates is a potentially serious threat to financial stability. As a result, analyzing interest rate risk (IRR) is critical for financial institutions and supervisory agencies. We propose a new method for generating yield curve scenarios for stress testing banks' exposure to IRR based on the Nelson-Siegel (1987) yield-curve model. We show that our method produces yield-curve scenarios with a wider variety of slopes and shapes than scenarios generated by the historical and hypothetical methods typically used in the banking industry and proposed in the literature. We stress test the economic value of equity of a bank balance sheet based on Call Report data from a large U.S. bank. We show that our method provides more information about the bank's exposure to IRR using fewer yield-curve scenarios than the alternative historical and hypothetical methods.
(JEL: E47, G21, G28)

Keywords: Bank, Interest Rate Risk, Stress Testing, Scenario Generation, Nelson-Siegel Model

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