ON- AND OFF-BALANCE SHEET CREDIT RISK AND CAPITAL IN U.S. BANKS: EVIDENCE OF UNBALANCED PANEL DATA

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ABSTRACT

This study presents the relationship between capital and on- and off-balance sheet credit risk and the effectiveness of capital standards in the United States. The selected banks are commercial banks and bank holding companies in the United States that involve in securitization from the third quarter of 2001 to the first quarter of 2008. Three simultaneous equations are estimated by using three-stage least squares (3SLS) to account for three endogenous variables, which are capital, on-balance sheet credit risk, and off-balance sheet credit risk.

The results of the main model indicate that banks with securitization only simultaneously determine change in capital and off-balance sheet credit risk and they have a positive relationship, that change in off-balance sheet credit risk exogenously determines change in on-balance sheet credit risk and they have a positive relationship, and that change in capital and change in on-balance sheet credit risk have no significant relationship.

Next, regarding the effectiveness of capital standards, the results show that U.S. capital standards are partially effective during the sample period. Capital standards are effective in that regulatory pressure induces undercapitalized banks to increase book value capital ratio, which is the ratio of equity capital to total assets, and to adjust capital faster than adequately capitalized banks. However, capital standards are ineffective in
that with regulatory pressure, undercapitalized banks take more off-balance sheet credit
risk and decrease in risk-based capital ratios. Moreover, regulatory pressure has no
significant impact on change in on-balance sheet credit risk. Therefore, during the sample
period, U.S. capital standards are not stringent enough to achieve banking safety and
soundness.