

# **The Role of Liquidity in Financial Intermediation**

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## **Certificate of Original Authorship**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as part of the collaborative doctoral degree and/or fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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## Abstract

Bank liquidity has become an important focus of financial regulatory reforms since the dangers of liquidity crunches became all too apparent in the recent global financial crisis. The Basel Committee on Banking Supervision initiated two new liquidity standards in global banking regulation – the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) which are designed to increase banks' liquidity buffers and funding stability respectively. This dissertation contributes to the literature on financial intermediaries by investigating the role of liquidity on banks' risk taking, financial performance, funding costs, probability of failure and credit risk, and by investigating stock market investors' perceptions on bank liquidity.

The first essay examines the relationship between funding liquidity and bank risk taking. Using quarterly data for US bank holding companies (BHC) from 1986 to 2014, we find evidence that banks with lower funding liquidity risk, as proxied by higher deposit ratios, take more risk. A reduction in banks' funding liquidity risk increases bank risk, as evidenced by higher risk-weighted assets, greater liquidity creation and lower z-scores. However, our results show that bank size and capital buffers usually limit banks from taking more risk when they have lower funding liquidity risk. Moreover, during the global financial crisis banks with lower funding liquidity risk took less risk. The findings of this study have implications for bank regulators advocating greater liquidity and capital requirements for banks under Basel III.

The second essay investigates the effects of liquidity creation on funding costs, profitability and market value in US bank holding companies. We find empirical evidence to suggest that bank liquidity creation lowers funding costs and improves BHC profitability and market value. However, our findings indicate that larger banks face higher costs of debt funding in response to higher liquidity creation due to their need for more expensive wholesale debt funding resulting in lower profitability and market values compared to smaller banks that remain reliant on deposit taking.

The third essay investigates the links between asset liquidity, funding stability and the adjusted market-to-book value of the equity of US bank holding companies. We find that a reduction in banks' liquidity risk destroys bank market value. However, a reduction in liquidity risk enhanced bank market value during the global financial crisis and the post-Basel III announcement period. Moreover, liquidity risk is inversely related to bank market value for large banks, for banks with higher capital buffers and for banks that are more profitable and

liquid. Our results indicate that there are direct regulatory costs arising from Basel III liquidity standards during normal times but the costs are lower during a financial crisis.

The fourth essay investigates the links between liquidity risk and credit risk in US commercial banks. High funding stability and low liquidity creation indicate low liquidity risk. We consider the probability of failure and credit default swaps (CDS) spreads as proxies of banks' credit risks. Using logit regressions, we find that a reduction in liquidity risk proxied by high funding stability and low liquidity creation reduces the probability of the failure of US commercial banks for the period from 2001–2014. We also find that increases in NSFR and decreases in the liquidity creation of banks that have low funding stability and high liquidity creation have a lower probability of failure. Using three-stage least squares (3SLS) simultaneous regressions, we find evidence that reductions in liquidity risk reduce banks' credit risk proxied by CDS spreads.

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