Banking & financial markets

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Research Impact

The research presented in this thesis addresses three questions that are of interest to both academic and public audiences.

Chapter 2, titled *"Credit Supply: Are there negative spillovers from banks' proprietary trading?"*, investigated the impact of banks' proprietary trading on credit supply. Due to their systemic importance and due to the implicit and explicit government guarantees that banks enjoy, banks' business practices are the frequent topic of discussion around economic policy and are subject to significant public scrutiny. In particular, the proprietary trading activities of banks have come under great scrutiny since the financial crisis that began in 2007. The Volcker Rule in the US, the Vickers Report in the UK, and the Liikanen and European Commission proposals in the EU all aim at a limitation of risks believed to emanate from banks' trading activities by strictly separating trading from commercial

banking business. The concern reflected in these rules is that banks take on large risky bets, while relying on implicit or explicit government guarantees for cheap funding and threatening to reduce their credit supply to the real economy. Indeed, the results in Chapter 2 show that compared to non-trading banks, trading banks reduce credit supply to corporate borrowers by 19% and reduce it even further during periods of crisis. Moreover, the findings in Chapter 2 also indicate that these spillovers from trading to credit supply have adverse consequences for the real economy as firms that borrow from trading banks have a lower ability to invest in capital and expand their workforce. However, these real economic effects are rather weak compared to the decline in credit supply. Thus, when discussing new regulations regarding banks' proprietary trading, policymakers and regulators should consider the possibility that borrowers may have the ability to compensate for reduced bank credit supply through other means of financing. Additionally, Chapter 2 contributes to the policy discourse by showing that even for globally active banks the relation between proprietary trading and credit supply is not homogeneous across country borders. More stringent regulations on banks' proprietary trading in the US compared to other economies' regulations appear justified, as US banks reduce credit supply more heavily if they engage in proprietary trading. Overall, the results in Chapter 2 highlight that policymakers and regulators should initiate careful cost-benefit analyses of the implementation of bans on proprietary trading or separation of proprietary trading from commercial banking. Chapter 2 is a first step towards such cost-benefit analyses.

Chapter 3 addressed another aspect of banks' business practices that is controversially discussed whereas the chapter's central question is posed in its title: *"Is Reported Derivative Use Informative About Risk-Taking?"* This question directly derives from a more fundamental question that is relevant for everyone who analyzes accounting data, no matter whether it is for academic research, supervisory purpose or investment choices: Do reported accounting figures provide accurate information about a firm's economic reality, given that managers can often exercise considerable discretion when compiling balance sheets? Chapter 3 demonstrates a possible approach to combining corporate finance theory with statistical data analysis to obtain an estimate of a bank's economic reality of derivatives use that can be compared with the reported reality. Supervisory authorities and auditors could use similar approaches for plausibility checks of accounting figures in cases in which managers have significant discretion when compiling the figures or in cases of voluntary reporting.

Since investors and regulators need to rely on what is observable about banks' economic reality, it is important to design reporting rules such that banks have incentives to accurately report how they use derivatives. The results in Chapter 3 indicate that in many situations, banks under-report the extent of their hedging activities. While this may be seen as desirable from a regulatory perspective, as it leads to an overestimation rather than an underestimation of potential risks in the banking sector, it also carries the risk of choking financial innovation or deters banks from effective hedging opportunities. Therefore, the chapter's results suggest that current hedge accounting rules should be simplified.

Finally, Chapter 4, titled *"Nobody Knew that Measurement Error Could be so Complicated: A Note on Estimating Betas & Market Risk Premiums"*, showed that a negative or flat market risk premium (i.e. a low-beta anomaly) can be explained by statistical biases rather than behavioral bias or market frictions. Therefore, the low-beta anomaly appears to be an artifact of mis-measuring market risk. In the introductory chapter of this thesis (Chapter 1) the analysis presented in Chapter 4 is motivated from a banking perspective. Since banks largely depend on financial markets to raise capital to meet regulatory capital requirements, the presence of a low-beta anomaly would directly impact banks' cost of capital. Put in simplified terms the low-risk anomaly constitutes that investors require compensation for excepting less rather than more risk. In such an environment, banks would face higher cost of capital as they increase equity and become saver as a consequence. Therefore, the results in Chapter 4 have direct consequences for policy discussions around capital requirements for banks. The presence of a low-beta anomaly should not be accepted as a potential excuse against higher equity capital.

Besides this more indirect implication, the results in Chapter 4 also have direct implications for the investors applying betting-against-beta strategies or investing in low-beta ETFs. The good performance of such strategies and ETFs is not due to an out-performance of low-beta stocks compared to high-beta stocks but is due to an illiquidity premium and mis-measured betas of illiquid stocks. Betas are difficult to estimate precisely. Investors using betas as an ingredient in their investment strategies should pay careful attention to the fundamental statistical properties of the beta estimators, even if the estimator is as simple as OLS, to avoid misleading conclusions.