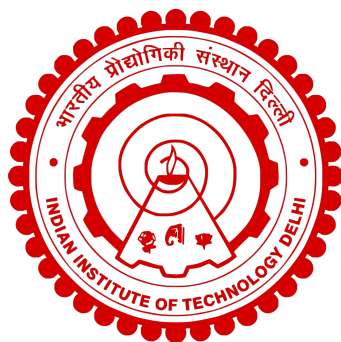


**BANKING CONCENTRATION AND BANKS STABILITY:
EVIDENCE FROM INDIAN BANKING SYSTEM**

MD ZEESHAN



**DEPARTMENT OF MANAGEMENT STUDIES
INDIAN INSTITUTE OF TECHNOLOGY DELHI**

August 2025

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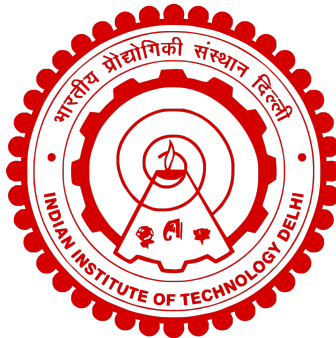
**Banking Concentration and Banks Stability: Evidence from
Indian Banking System**

by

**Md Zeeshan
Department of Management Studies**

**Submitted
in fulfilment of the requirements of the degree of
Doctor of Philosophy**

to the



Indian Institute of Technology Delhi

August 2025

Dedicated to my family

CERTIFICATE

The thesis titled “**Banking Concentration and Banks Stability: Evidence from Indian Banking System**,” being submitted by **Md Zeeshan** to the Indian Institute of Technology Delhi for the award of the degree of Doctor of Philosophy is a record of bonafide research work carried out by him. He has worked under our supervision and has fulfilled all the requirements for submitting this thesis, which has attained the standard required for a Ph.D. degree at this institute. The results presented in this thesis have not been submitted elsewhere for awarding any degree or diploma.

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ACKNOWLEDGEMENTS

I wish to express my deepest gratitude to my supervisors, Prof. Eri Ikeda and Prof. Manish Kumar Singh, for their invaluable guidance, encouragement, and constant support. They always motivated me to do good work and has been a pillar of support through turbulent times. If it were not for them completing my PhD would have remained a distant dream. Our discussions have always filled me with positivity and have helped me progress on the research path.

I want to thank my student research committee members: Chairperson - Prof. Amlendu Kumar Dubey (Department of Management Studies), internal expert- Prof. Smita Kashiramka (Department of Management Studies), and external expert- Prof. Saurabh Bikash Paul (Department of Humanities and Social Sciences, IIT Delhi) for their constructive feedback on my research and thoughtful questions to help me improve my research which gave me a better perspective on my thesis.

I am indebted to Nausherwan Raunaque (IIM Kashipur), Md Asif Raja (NTU-Taiwan), and Shah Qamar (JNU) for providing me with unconditional support on my research journey and pushing me towards research. Their help was instrumental in my selection at DMS, IIT Delhi. I am incredibly grateful to Gaurav Aggarwal, Sakshi Narula, Neha Gupta for sparing time from their schedule and helping me with my research throughout the doctoral program. My special thanks to the staff members of DMS for extending their help in official processes.

I would like to express my heartfelt gratitude to Abhishek Seth, Swayamshree Barik, Hemant Kumar, Anshul Bishnoi, And Siddharth Raghunath at IIT Roorkee for their unwavering support and the warm hospitality they extended during my visits to IIT Roorkee. Their kindness and camaraderie made my time there truly memorable, creating a second home away from home. I deeply appreciate the stimulating discussions and the encouragement they provided, which greatly contributed to my academic and personal growth. Thank you for being such an integral part of my journey!

I am thankful to my family, for their love, and prayers and for laying a solid foundation that enabled me to evolve into a sound researcher. Had it not been for them, I would have never been pursuing my PhD. Their words gave me comfort during difficult times and imbibed wisdom in me to make the right decisions. My brother, Mohammad Meraj, instil confidence in me and show unwavering faith in my abilities. I thank the Almighty for being there for me always!

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Date: 14-08-2025

ABSTRACT

The structure and stability of the banking sector are fundamental to economic growth and financial resilience. This thesis examines the intricate relationship between banking concentration and financial stability within India's evolving financial landscape—a context marked by unique regulatory interventions, predominant public ownership, and rapid structural transformations. In doing so, the study focuses on three key dimensions: asset concentration, the balance between lending specialization and diversification, and the impact of bank mergers. Together, these dimensions illuminate the systemic risks and policy challenges that emerging economies face.

The first dimension of analysis explores how increased banking sector concentration influences individual bank stability. Drawing on comprehensive data from 1998 to 2022, the research employs concentration metrics such as the Herfindahl-Hirschman Index and the n -bank concentration ratio, alongside risk measures like the z -score and *Distance-to-Default (DtD)*. Findings reveal that a one percentage point increase in sector concentration is associated with a 7.37% decline in the z -score and a 3.83% drop in *DtD*. Although these effects are statistically significant, their economic magnitude remains relatively modest. This outcome highlights the trade-offs inherent in highly concentrated banking systems: while dominant banks gain increased market power, the incremental rise in credit risk suggests a need for calibrated regulatory oversight. Policymakers, therefore, must strike a delicate balance between fostering competitive markets and exploiting economies of scale to enhance operational efficiency without jeopardizing stability.

The second dimension addresses the long-standing debate over whether banks should specialize in particular lending areas or diversify their portfolios. By leveraging novel metrics—*AggDiv* (aggregate diversification) and *DiffSpec* (deviation from average specialization)—the study examines the lending strategies of Indian commercial banks using stock market and accounting data from 2006 to 2022. Results indicate that banks with diversified lending portfolios tend to exhibit lower risk levels, while those with excessive specialization experience higher risk. Specifically, a one standard deviation increase in *AggDiv* improves the average *DtD* by 3.58%, whereas an equivalent increase in *DiffSpec* results in a 4.51% decrease in *DtD*. These insights underscore the importance of a balanced approach in lending strategies, one that mitigates risk through diversification while maintaining sector-specific expertise.

Finally, the research evaluates the role of bank mergers in shaping systemic risk. Over the past three decades, India has experienced 45 significant merger events, both compulsory and voluntary. Using multinomial logistic regression and panel OLS models, the study finds that mergers often exert a short-term destabilizing effect on acquiring banks by reducing their z -scores and elevating risk levels. However, well-designed strategic mergers aimed at resource consolidation and market expansion may ultimately enhance long-term stability.

The research underscores the importance of dynamic, context-sensitive regulatory approaches to banking stability in emerging markets. By addressing the interconnected challenges of concentration, specialization, and mergers, this study equips policymakers, financial institutions, and researchers with actionable strategies to build a resilient banking system that supports sustained economic growth in India and similar emerging economies.

सारांश

बैंकिंग क्षेत्र की संरचना और स्थिरता आर्थिक विकास तथा वित्तीय लचीलापन के लिए मौलिक आधार हैं। यह शोध भारत के बदलते वित्तीय परिदृश्य में बैंकिंग एकाग्रता और वित्तीय स्थिरता के बीच जटिल संबंध की गहन पड़ताल करता है। अध्ययन ने तीन प्रमुख आयामों पर केंद्रित किया है: परिसंपत्ति एकाग्रता, ऋण देने में विशेषज्ञता बनाम विविधीकरण, और बैंक विलयों का प्रभाव। ये आयाम उभरती अर्थव्यवस्थाओं में प्रणालीगत जोखिमों तथा नीतिगत चुनौतियों को उजागर करते हैं, जो अद्वितीय नियामक हस्तक्षेप, प्रमुख सार्वजनिक स्वामित्व और तीव्र संरचनात्मक परिवर्तनों द्वारा चिह्नित हैं।

पहले आयाम में, शोध 1998 से 2022 तक के व्यापक डेटा के आधार पर यह विश्लेषण करता है कि बैंकिंग क्षेत्र में बढ़ती एकाग्रता से व्यक्तिगत बैंकों की स्थिरता पर क्या प्रभाव पड़ता है। Herfindahl-Hirschman Index और n -bank concentration ratio जैसे एकाग्रता संकेतकों के साथ-साथ जोखिम मापदंड जैसे कि z -score और *Distance-to-Default (DtD)* का उपयोग किया गया है। परिणाम बताते हैं कि बैंकिंग एकाग्रता में एक प्रतिशत बिंदु की वृद्धि z -score में 7.37% की गिरावट और *DtD* में 3.83% की कमी का कारण बनती है। भले ही ये प्रभाव सांख्यिकीय दृष्टि से महत्वपूर्ण हों, परन्तु आर्थिक दृष्टिकोण से वे अपेक्षाकृत मामूली हैं। यह निष्कर्ष दर्शाता है कि अत्यधिक एकाग्रता वाले बैंकिंग तंत्र में प्रतिस्पर्धा बढ़ाने और पैमाने की अर्थव्यवस्थाओं का लाभ उठाने के बीच संतुलन बनाए रखना आवश्यक है, जिससे नियामक उपायों को सावधानीपूर्वक समायोजित किया जा सके।

दूसरे आयाम में, यह शोध इस बहस की पड़ताल करता है कि बैंकों को अपने ऋण पोर्टफोलियो में विशेषज्ञता विकसित करनी चाहिए या विविधता अपनानी चाहिए। 2006 से 2022 तक के स्टॉक मार्केट और लेखा डेटा का उपयोग करते हुए, *AggDiv* (कुल विविधीकरण) और *DiffSpec* (औसत विशेषज्ञता से विचलन) जैसे नवीन मीट्रिक का सहारा लिया गया है। परिणामों से पता चलता है कि विविधीकरण अपनाने वाले बैंक अपेक्षाकृत कम जोखिम वाले होते हैं, जबकि अत्यधिक विशेषज्ञता वाले बैंकों में जोखिम अधिक देखने को मिलता है। विशेष रूप से, *AggDiv* में एक मानक विचलन की वृद्धि *DtD* में 3.58% का सुधार करती है, वहीं *DiffSpec* में समान वृद्धि *DtD* में 4.51% की गिरावट का कारण बनती है। ये निष्कर्ष ऋण देने की रणनीतियों में संतुलन बनाए रखने की आवश्यकता को रेखांकित करते हैं।

अंततः, तीसरे आयाम में बैंक विलयों की भूमिका का विश्लेषण किया गया है। पिछले तीन दशकों में भारत ने 45 महत्वपूर्ण विलय घटनाओं का अनुभव किया है, जिनमें अनिवार्य और स्वैच्छिक दोनों प्रकार के विलय शामिल हैं। बहुविकल्पीय लॉजिस्टिक प्रतिगमन और पैनल OLS मॉडलों के उपयोग से, शोध में पाया गया कि विलय अधिग्रहण करने वाले बैंकों पर अल्पकालिक अस्थिरता उत्पन्न करते हैं, जिससे उनके z -score में गिरावट और जोखिम में वृद्धि होती है। हालांकि, रणनीतिक विलय—जो संसाधनों के समेकन, बाजार विस्तार और संकटग्रस्त बैंकों के समाधान पर केंद्रित होते हैं—दीर्घकालिक स्थिरता में योगदान कर सकते हैं।

इस प्रकार, यह शोध भारत के बैंकिंग क्षेत्र के विशिष्ट संदर्भ का विश्लेषण करते हुए वैश्विक वित्तीय स्थिरता पर महत्वपूर्ण योगदान देता है। इसके निष्कर्ष नीति निर्माताओं को यह सुझाव प्रदान करते हैं कि एकाग्रता तथा

प्रतिस्पर्धा के बीच संतुलन बनाए रखते हुए, रणनीतिक ऋण विशेषज्ञता को बढ़ावा देना और सुव्यवस्थित विलय फ्रेमवर्क विकसित करना आवश्यक है, ताकि उभरती अर्थव्यवस्थाओं में निरंतर आर्थिक विकास सुनिश्चित किया जा सके।

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