Essays on Liquidity Risk and Banking Fragility, Dynamic Depositor Discipline and Information Disclosure: An Empirical Analysis on the East Asian Banks

Submitted by Fazelina Sahul Hamid to the University of Exeter
as a thesis for the degree of
Doctor of Philosophy in Economics
in April, 2012

I certify that all material in this thesis which is not my own has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

Signature:.....................................

Acknowledgements

My deepest gratitude goes to Allah for giving me the opportunity to venture into this journey in acquiring knowledge. This has been a very humbling experience indeed. This thesis is a very challenging assignment that could not have been completed without the help, support and guidance of a few people. I would like to take this opportunity to acknowledge those people whom have contributed to the success of this research, and express my sincere gratitude and appreciation for them. First of all, I am deeply grateful to the Ministry of Higher Education of Malaysia and University Sains Malaysia for giving the financial support that enabled me to pursue my studies in the United Kingdom. I would like to take this opportunity to thank both of my supervisors, Dr. Surajeet Chakravarty and Professor James Davidson, for their guidance and help. I would also like to express my appreciation to Professor John Maloney for his support and feedback. My gratitude also goes to the staffs of University of Exeter whom have always been gracious and helpful.

Many friends provided emotional support throughout my studies and I would like to take this opportunity to thank them all. Special thanks go to all the Ph.D. students from the Economic Department whom have been very supportive and have facilitated my studies. I am also very grateful to my family for their unconditional love and encouragements. This thesis would not have been possible without the love and support from my two beautiful daughters, Syahmin and Alisha. They are the source of motivation that has kept me going at the most difficult times. Last but not least, my warmest thanks go to my best friend and husband, Junid Abdussalam. Any of my accomplishments are his as much as mine, for without his unselfish love, sacrifice and encouragement none of this would have been possible.

Table of Contents

List of Tables

List of Figures

Abstract

This thesis contains three empirical essays in banking. The empirical analyses focus on the role of information in banking. This will be done by analyzing the effectiveness of three types of signals that are sent by banks. The first signal is the CAMEL-type indicators that measure the soundness of the banks. The second signal is the price offered by banks in attracting deposits. The third signal is the amount of risk related information that banks disclose in their financial statements. This thesis aims to answer a few key questions that are relevant in banking. Firstly, it aims to find if CAMEL-type indicators are able to predict subsequent decisions by regulators to fail banks. This analysis will focus on the banks' liquidity ratio before and during crises in finding whether high liquidity holding and high reliance on external funding contribute towards the subsequent failure of the banks. Secondly, it aims to find if depositors discipline banks by focusing on depositors' reaction to the price signal from banks. Lastly, it aims to find if depositors react to the amount of risk-related information that banks disclose. The empirical issues are analyzed using the sample of financial institutions in five crisis led East Asian countries namely Indonesia, Korea, Malaysia, Philippines and Thailand. Among the striking findings in Chapter 2 are that the effect of liquidity on the probability of bank failure varies before and during a crisis. The results show the vulnerabilities of banks to failure declines as a result of higher liquidity holding. The results also show that banks' probability of failure increases as a result of high reliance on external funding. Findings in Chapter 3 confirm the endogenous relationship between the price and quantity of deposits in the depositor discipline model. Panel data analysis shows that depositors' behavior in East Asia is driven by bank fundamentals and risk aversion activities and also by price movements. Dynamic panel data analysis is carried out to account for the lagged dependency of the deposits growth variable and endogeneity of the price mechanism in

the depositor discipline model. The results show that depositors in East Asia do not demand a higher price for deposits. Analysis by subdividing the sample of banks into healthy and weak banks shows that the relationship between price and quantity is not non-linear. Healthy banks are not able to attract more deposits by raising price. Depositors do not discipline weak banks by demanding a higher return. Lack of responsiveness by depositors to price signals may be attributable to large the outflow of deposits that happened during the crisis period and regulations on interest rates. Analysis in Chapter 4 confirms that depositors are influenced by the content and also quantity of risk-related information disclosure. Panel data analysis shows that higher risk-related information disclosure enables banks to attract more funds only during the post-crisis period. Once the lagged dependency of the deposits growth variable and endogeneity of the price and disclosure mechanism is taken into account, estimation using dynamic panel data analysis shows that disclosure is a more effective signal in attracting deposits than price. These findings provide support to the proposition of the third pillar of the Basel II which aims to encourage market discipline by requiring banks to disclose more risk-related information. In line with the wake-up-call hypothesis, the findings show that depositors' responsiveness to the amount of information disclosure is higher during the post-crisis period. This study also finds that the effectiveness of disclosure signal varies according to the quality of banks. Depositors in East Asia reward good banks for disclosing more information but they do not discipline weak banks by demanding greater disclosure. Greater responsiveness of depositors to the disclosure signal of healthy banks compared to weak banks implies that disclosure is a more effective signal for healthy banks than for weak ones. Other issues analyzed in the thesis pertain to the relevance of the different type of econometric analysis used in carrying out the empirical analyses.