UNIVERSITI TEKNOLOGI MARA

A MODIFIED KMV-MERTON MODEL FOR PREDICTING THE LEVELS OF CREDIT RISK AMONG MALAYSIAN PUBLIC LISTED COMPANIES

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of the requirements for the degree of
Master of Science

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any other degree of qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Measuring credit risk is always a primary matter, mainly in the institution of banking. Several efforts have been adopted by banks to ensure the security of their loans. Accordingly, three objectives are introduced in this study as an effort to complement banks' current credit risk management tools. The first objective is to modify the KMV-Merton model according to the assumptions and condition of companies' extreme cases made in this study. The second objective is to adapt the modified KMV-Merton model to the cases of estimating the probability of default of Malaysian companies, and the results of the adaptation are validated through credit ratings and EBIT interest coverage ratios. It appears that the probability of default estimated by the modified KMV-Merton model is able to react significantly and coincides with the given credit ratings and EBIT interest coverage ratios in a way of measuring the credit risk of Malaysian companies. This study also focuses on the probability of default estimated by the modified KMV-Merton model for the PN17 Companies. The analysis shows that the modified KMV-Merton model is able to predict future default of the companies up to three years in advance. These conclude that the modified KMV-Merton model is a convincing default forecaster model for Malaysian companies. Consequently, a framework which is called the Loan Credit Risk Indicator (LCRI) is developed as the last objective of this study. The LCRI is developed to assist banks in the loan decision-making and the repayment process.

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TABLE OF CONTENTS