UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

PREDICTING DEFAULT RISK OF FIRMS USING ITERATED MERTON'S MODEL WITH A MAPLE PROGRAMMING

FARAH WAHIDA BINTI MOHD ISA – 2016707113
NURSAFIQAH BINTI MAZLAN – 2016707115
SITI NADIAH BINTI KHALIL – 2016707119

P35/S18

Bachelor of Science (Hons.) (Management Mathematics)
Faculty of Computer and Mathematical Sciences

DECEMBER 2018

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Our research referred to a few studies that conducted about how to estimate probability of default risk using Merton Model by applying iteration method. Based on our intensive reading, we found that Merton model are able to predict probability of default accurately by using iteration method. Our objectives of this studies are to implement the iterated Merton's model into a Maple programming and to generate the iterated market value of asset, asset volatility and probability of default. The result shows that the iterated market value of asset, asset volatility and probability of default converges at second iteration. In order to make sure the output that generated from the Maple programming are valid, we compare the output from Maple programming with the value that we obtained from excel calculation. By implementing the model into a Maple programming, it can reduce time calculated for default risk. Moreover, other people can make use of our Maple coding to predict the probability of default.