UNIVERSITI TEKNOLOGI MARA

ANALYSIS ON ASSET ACQUISITION USING DIMINISHING MUSYARAKAH MODEL

SITI ZAHARAH BINTI MOHD RUSLAN

Thesis submitted in fulfillment of the requirements for the degree of **Master of Science**

Faculty of Computer and Mathematical Sciences

April 2014

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 results 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 degree or 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.

Name of Student : Siti Zaharah Binti Mohd Ruslan

Student I.D. No. : 2010353595

Programme : Master of Science (CS780)

Faculty : Computer and Mathematical Sciences

Thesis Title : Analysis on Asset Acquisition using Diminishing

Musyarakah Model

Signature of Student :

Date : April 2014

ABSTRACT

Asset acquisition is one of the many strategic ways to expand the business. Due to that, a lot of investment companies and financial institutions are competing with each other in offering the best financing products to the customers. In Malaysia, the financial institution has developed dual banking systems which are conventional and Islamic banking system. This situation gives more opportunities to the customer as entrepreneur to choose the best financial product in managing their investment. One of the products that is introduced by Islamic banks is diminishing musyarakah concept. The application of diminishing musyarakah can help Muslims to avoid lending that is based on riba since it is based on svariah principle. The objective of this study is to determine the net present value and the internal rate of return for a proposed diminishing musyarakah model in calculating the investment performance. This study calculate the net present value using MATLAB and calculate the internal rate of return using bisection method and secant method. The forecast profit rate was also calculated by using the geometric Brownian motion. Then, the net present value for the forecast profit rate and the suitable monthly cash flows using internal rate of return was obtained. It is found that the diminishing musyarakah model can be adapted in determining the investment performance for asset acquisition using net present value and the internal rate of return. Thus, this study may encourage the financial institution and Islamic banks to use the proposed diminishing musyarakah model in managing their investment performance.

ACKNOWLEDGEMENT

Bismillahirrahmanirrahim In the name of Allah, Most Gracious, Most Merciful.

This thesis would not have been possible without the guidance and the help of several individuals who are in one way or another have contributed and extended their valuable assistance in the preparation and completion of this thesis.

Alhamdulillah, all of honors are just for Allah S.W.T for giving me strength of mind, spirit and ability in completing this thesis. First and foremost, my utmost gratitude is to my supervisor, Associate Professor Dr. Maheran Mohd Jaffar for her excellent guidance, encouragement, patient, advice, and suggestions which are very helpful in finishing this thesis despite her tight scheduled of work.

Very special thanks to my husband Mohd Haikal Mohammed Hashim, for his support and assistance in every step of my thesis. I would like to thank him for the moral support, great encouragement and patient during the hard times of my thesis. I also would like to thank my daughter, Hannah Nur Zaira for giving me the unlimited happiness and pleasure. I owe so much gratitude to my beloved parents, Mohd Ruslan Ahmad and also my siblings who are continuously supporting me throughout my life and respect my decisions in life.

I would also like to extend my appreciation to the all the lecturers in the Faculty of Computer and Mathematical Sciences and all of my friends who have involved in contributing and supporting me in completing of this thesis.

Finally, may Allah SWT repay all their contribution and kindnesses. Amin.

TABLE OF CONTENTS

		Page			
AUT	HOR'S DECLARATION	ii			
ABSTRACT ACKNOWLEDGEMENT TABLE OF CONTENTS LIST OF TABLES LIST OF FIGURES		iii iv v viii ix			
			СНА	PTER ONE: INTRODUCTION	1
			1.1	Background of Study	1
			1.2	Islamic Banking	4
1.3	Islamic Products	6			
1.4	Mathematical Model	11			
	1.4.1 Conventional Model	11			
	1.4.2 Diminishing Musyarakah Model	14			
1.5	Problem Statement	16			
1.6	Objectives of the Study	16			
1.7	Significance of the Study	16			
1.8	Scope and Limitation of the Study	17			
1.9	Project Benefits	18			
1.10	Organization Flow of the Study	18			
1.11	Summary	18			
СНА	PTER TWO: PREMILINARIES DEFINITION AND CONCEPTS	19			
2.1	Musyarakah	19			
2.2	Diminishing Musyarakah	20			
2.3	The Conventional Mathematical Model	21			
2.4	The Islamic Diminishing Musyarakah Mathematical Model	26			
2.5	Net Present Value	38			
2.6	Internal Rate of Return	40			