

***Sukuk* Structure with Embedded Options as a Risk Mitigation
Tool**



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ABSTRACT

Sukuk market has grown tremendously and has gained attention from many countries. Various innovation has been designed to ensure the marketability of such instruments. However, these innovations have generated various *shariah* and financial issues and controversies. Among others, is the issue of the *sukuk* risk whereby the risk structure needs to be disclosed and conformed with *shariah* values. Even though *sukuk* is recognized as one of the Islamic financial products, it does not necessarily mean that it is free from the elements of risk. Even Islam has acknowledged the concept of risk as *al ghurm bi al ghunm* (entitlement to return is related to the liability of risk) in the application of *muamalah* (transaction, trade). Consequently, the aim of this paper is to suggest the application of *sukuk* with embedded options as to mitigate the risk faced by *sukuk* holders. Previous research has suggested the use of embedded options as a way to mitigate the risk. This paper will cover and discuss the issues pertaining to *sukuk* structures, the *shariah* values and the risk mitigation technique. A proposed *sukuk* structure and the mathematical model for finding the value of the real asset will also be covered in this paper. This study concludes with limitations of the study and recommendation for future research.

Keywords: *Sukuk*, risk, embedded options, assets value, multifactor model

FULL REPORT

1.INTRODUCTION

Sukuk market has developed rapidly over the years. Both Government and corporate companies has issued *sukuk* to raise capital and financing. In Malaysia, the development of the *shariah*-based market has grown rapidly, driven by the growth of the *shariah*-based banking, mutual funds as well as *takaful*. Malaysia is the largest *sukuk* issuer in the world for the first seven months of 2009 comprising 45 per cent of US\$93 billion worth of new issuances (IFR, 2009). In addition the Malaysian government had facilitated a platform for *sukuk* issuance and trading activities capable of more efficient issuances and enhanced the price discovery process. For global investments, flexibility is also accorded for foreign investors to leverage on international clearing and settlement systems.

To ensure success of the *sukuk* market, various and more dynamic *sukuk* structures are needed as to mitigate the risk in the financial market. As investors are becoming more sophisticated and well-informed, their expectation towards the products innovation has changed. Thus, more suitable *sukuk* structures should be innovated and not limit to just looking at the fundamental part of *sukuk*. This study will focus on the embedded options as the way to mitigate risk. An embedded option is an alternative whereby the *sukuk* holders can convert *sukuk* into real assets. This type of *sukuk* is also known as convertible or exchangeable *sukuk*.



**FINAL REPORT
FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS)**

Laporan Akhir Skim Geran Penyelidikan Asas (FRGS) IPT

Pindaan 1/2010

A RESEARCH TITLE : MODELING SUKUK STRUCTURE BY USING EMBEDDED OPTION AS A RISK MITIGATION TECHNIQUE
Tajuk Penyelidikan

PROJECT LEADER : ROSLINA MOHAMAD SHAFI
Ketua Projek

PROJECT MEMBERS : 1. NUR AFIZAH MUHAMAD ARIFIN
(including GRA) 2. NORHANA SALAMUDIN, PROF
Ahli Projek

PROJECT ACHIEVEMENT (*Prestasi Projek*)

B

ACHIEVEMENT PERCENTAGE

Project progress according to milestones achieved up to this period	0 - 50%	51 - 75%	76 - 100%
Percentage			100%

RESEARCH OUTPUT

Number of articles/ manuscripts/ books <i>(Please attach the First Page of Publication)</i>	Indexed Journal	Non-Indexed Journal
Conference Proceeding <i>(Please attach the First Page of Publication)</i>	International	National
	1. MFA Conference 2011, Langkawi, Kedah 2. International Conference on Islamic Economic, 2013, Istanbul, Turkey	1. Seminar Hasil Penyelidikan KPT 2013, Universiti Utara Malaysia, Kedah
Intellectual Property <i>(Please specify)</i>	1. Proceedings (as above) 2. IID UiTM Johor 2013 (Silver Award)	

HUMAN CAPITAL DEVELOPMENT

Human Capital	Number				Others (please specify)
	On-going		Graduated		
Citizen	Malaysian	Non Malaysian	Malaysian	Non Malaysian	
PhD Student					
Master Student					
Undergraduate Student					
Total					