



**UNIVERSITI PUTRA MALAYSIA**

**TERM STRUCTURE, INFLATION, AND ECONOMIC GROWTH IN  
SELECTED EAST ASIAN COUNTRIES**

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By

**ELGILANI ELTAHIR ELSHAREIF**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfilment of the Requirement for the Degree of Doctor of Philosophy**

**October 2007**



***SPECIALLY DEDICATED TO***

***My beloved mother, Alshahida Fatima; my father, Eltahir; my lovely wife, Rufida;  
and my lovely daughter, Lina; and my beloved sons, Mohamed and Munzir; and my  
supportive brothers and sisters***



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in  
fulfilment of the requirement for the degree of Doctor of Philosophy

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The issue of term structure of interest rates has been a much-researched area in economics and finance in several developed economies for over a century. It is argued that the term spread between long and short rates contain useful information about future interest rates, inflation, and real economic activity which is of great importance to policy makers.

This study attempts, first, to determine whether there is a time-varying risk premium in the short-term interest rate, and secondly, to provide an in-depth study on the term structure of interest rates and its impacts on the movements of short-term interest rates, inflation rates and real output in the five selected East Asian countries via an extended model of Expectation Hypothesis Theory of Term Structure. The five selected Asian countries are Japan, South Korea, Malaysia, Thailand and the Philippines. These objectives are achieved through the employment of the Generalized Method of Moment and Ordinary Least

Square with Newey-West standard errors and Heteroskedasticity and autocorrelation consistent covariance correction.

One interesting finding of this analysis is that there is a small risk premium in the short-term interest rates of Japan and Thailand, whereas there is none in those of Korea, Malaysia and the Philippines. This implies the stability of the short-term interest rates in the latter. In all the five cases, regardless of a time-varying risk premium in the interest rate, the term spreads of all these countries seem to contain useful information for predicting movements in the short-term interest rates. On the other hand, for the case of predicting the path of inflation rate, only three countries, namely, Japan, Korea and Malaysia, indicate a possible increase in future inflationary pressure. The two other countries, the Philippines and Thailand, did not benefit any useful information regarding the future inflation rates from term spreads. Similarly, the term spread also does not provide any relevant information on the real output of Malaysia, the Philippines and Thailand. However, it does provide relevant information for the case of Japan and Korea.

The estimated results and findings of this study provide some very useful insight on the information contained in interest rate term spreads of the five countries. This useful information on interest rate, inflation and economic activity can benefit both the government and private sectors of the five countries

in developing macroeconomic policies and gaining competitiveness in the global market.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

**TERMA STRUKTUR, INFLASI, DAN PERTUMBUHAN EKONOMI  
DALAM NEGARA ASIA TIMUR TERPILIH**

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Isu berkenaan terma struktur kadar faedah merupakan isu yang sering dikaji di dalam bidang ekonomi dan kewangan di kebanyakan negara maju sejak se abad yang lalu. Banyak perdebatan telah berlaku dalam membincangkan samada julat terma antara kadar faedah jangka panjang dan pendek mengandungi maklumat mengenai kadar faedah masa hadapan, inflasi dan aktiviti benar ekonomi, yang merupakan maklumat penting kepada pembuat-pembuat polisi.

Kajian ini bertujuan, pertamanya untuk menentukan samada terdapat premium risiko masa berubah dalam kadar faedah jangka pendek, dan keduanya, untuk memberikan kajian mendalam ke atas terma struktur kadar faedah dan

kesannya ke atas pergerakan kadar faedah jangka pendek, kadar inflasi, dan pengeluaran sebenar bagi lima (5) negara Asia Timur terpilih dengan menggunakan model tambahan kepada Teori Hipotesis Jangkaan terma struktur. Kelima-lima negara yang terpilih tersebut adalah Jepun, Korea Selatan, Malaysia, Thailand, dan Filipina. Objektif-objektif ini dicapai dengan menggunakan Kaedah Am Masa dan OLS dengan piawai kesilapan Newey dan pembedahan HAC.

Salah satu penemuan menarik dari analisis ini ialah terdapat premium risiko yang kecil di dalam kadar faedah jangka pendek untuk Jepun dan Thailand, tetapi tiada premium risiko di dalam kadar faedah jangka pendek untuk Korea Selatan, Malaysia dan Filipina. Ini menunjukkan bahawa kadar faedah jangka pendek untuk Korea Selatan, Malaysia dan Filipina adalah stabil. Tanpa mengira samada terdapat premium risiko masa berubah dalam kadar faedah jangka pendek, julat terma untuk kesemua negara tersebut seperti mengandungi maklumat berguna untuk meramalkan pergerakan kadar faedah jangka pendek. Di sebalik itu, bagi tujuan meramalkan kadar inflasi, hanya tiga (3) negara, iaitu Jepun, Korea Selatan, dan Malaysia menunjukkan kemungkinan peningkatan tekanan kadar inflasi di masa hadapan. Bagi Jepun dan Filipina pula, kajian ini menunjukkan bahawa tidak terdapat maklumat berguna untuk meramalkan pergerakan kadar faedah jangka pendek dari julat terma untuk kedua-dua negara ini. Julat terma juga tidak memberikan apa-apa



maklumat berguna terhadap pengeluaran benar untuk Malaysia, Filipina dan Thailand tetapi terdapat maklumat berguna untuk Jepun dan Korea Selatan.

Keputusan-keputusan empirikal dan penemuan-penemuan dari kajian ini telah memberikan satu pengertian yang mendalam tentang maklumat-maklumat yang terkandung di dalam julat terma kadar faedah bagi lima (5) negara yang terpilih. Maklumat-maklumat berguna ke atas kadar faedah, inflasi dan aktiviti ekonomi ini boleh memberikan manfaat kepada pihak kerajaan dan sektor swasta di kelima-lima negara yang terpilih dalam membangunkan polisi-polisi makroekonomi dan meningkatkan daya persaingan dalam pasaran global.

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## LIST OF ABBREVIATIONS/GLOSSARY

ADAPS	Automated Debt Auction Processing System
ADF	Augmented Dickey-Fuller
APEC	Asia-Pacific Economic Cooperation
ARCH	Autoregressive Conditional Heteroskedasticity
ATSM	Affine Term Structure Model
BDC	Bond Dealing Centre
BIS	Bank for International Settlements
BNBs	Bank Negara Bills
BNM	Bank Negara Malaysia
BOK	Bank Of Korea
BSP	Bangko Sentral ng Pilipinas
BTr	The Bureau of the Treasury
CBR	Central Bank Rate
CD	Certificate of Deposit
CGFS	Committee on the Global Financial System
CP	Commercial Paper
CPI	Consumer Price Index
DR	Deposit Rate
DST	Documentary Stamp Tax
ECM	Error Correction Model

EHTS	Expectation Hypothesis of Term Structure
EMEAP	Executives' Meeting of East Asia-Pacific Central Banks
EPF	Employees Provident Fund
ET	Expectations Theory
ETP	Electronic Trading Platform
FESBs	Foreign Exchange Stabilization Bonds
FESF	Foreign Exchange Stabilization Fund bonds
FRTNs	Floating Rate Treasury Notes
G_RATE	Real GDP Growth
GARCH	Generalized Autoregressive Conditional Heteroskedasticity
GDP	Gross Domestic Products
GICs	Government Investment Certificates
GLS	Generalized Least Square
GMM	Generalised Method of Moments
GSED	Government Securities Dealers
GSs	Grain Securities
GVTB	Government Bond Yield
HCB	Housing & Commercial Bank
IFS	International Financial Statistics
IMF	International Monetary Fund
INF_RATE	Changes in Consumer Price Index