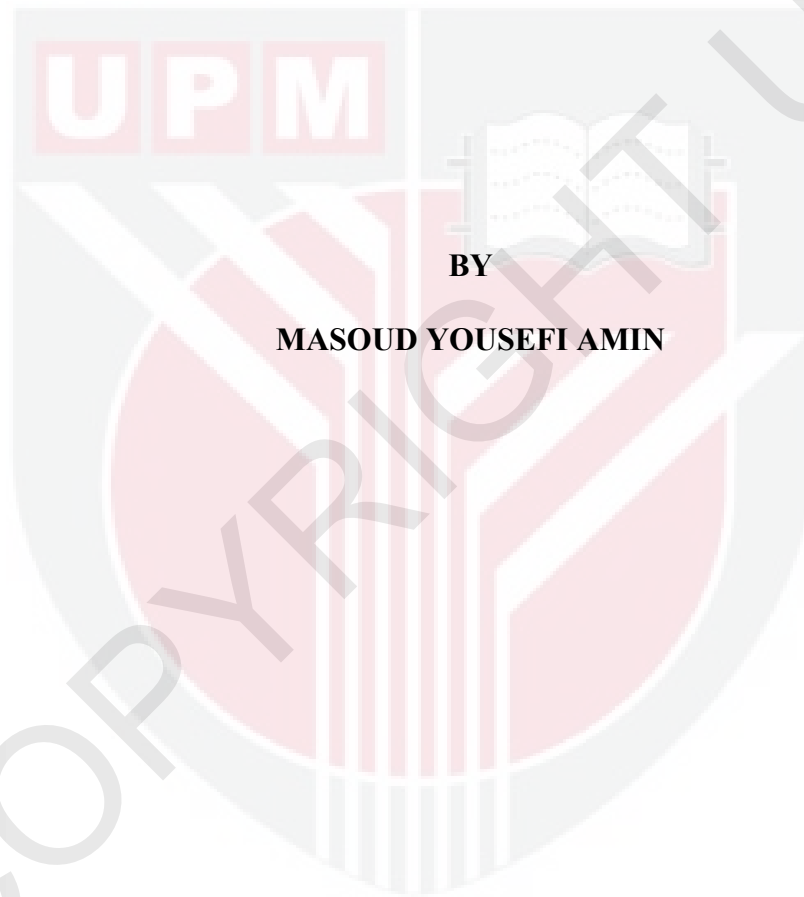**UNIVERSITI PUTRA MALAYSIA**

**EFFECT OF OIL PRICE ON THE STOCK MARKET RETURN AND VOLATILITY IN SIX MAJOR OIL EXPORTING COUNTRIES**

**MASOUD YOUSEFI AMIN**

**FEP 2011 14**

# EFFECT OF OIL PRICE ON THE STOCK MARKET RETURN AND VOLATILITY IN SIX MAJOR OIL EXPORTING COUNTRIES

**BY**

**MASOUD YOUSEFI AMIN**

**Thesis submitted to the School of Graduate Studies, University of Putra Malaysia in fulfillment of requirements for the Degree of Master of Science**

**August 2011**

# DEDICATION

Specially dedicated to my beloved parents for their endless support

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Abstract of dissertation presented to the senate of University Putra Malaysia in fulfillment of requirement for the degree of Master of Science

## EFFECT OF OIL PRICE ON THE STOCK MARKET RETURN AND VOLATILITY IN SIX MAJOR OIL EXPORTING COUNTRIES

By

**MASOUD YOUSEFI AMIN**
**August 2011**

**Chairman : Dr.Normaz Wana Binti Ismail**

**Faculty: Economics and Management**

This dissertation analyzes the dynamic relationship between oil price changes and stock market for the six main net oil exporting countries namely IRAN, RUSSIA, SAUDI ARABIA, NIGERIA, NORWAY and United Arab Emirates using weekly data from 16/1/2005–15/6/2010. The unrestricted multivariate Vector Autoregressions (VAR) model with 4 parameters (stock market return, oil domestic price changes, industrial production growth and world market return) is estimated as well as impulse response function and variance decomposition. The bivariate BEKK GARCH (1, 1) model is also used to show the impact of oil price volatility spillover on stock market volatility.

The empirical results of the impact of oil price shocks on the stock market return indicate that in most oil exporting countries, oil price shocks have undeniable effect on the stock market variation in the same week or in two weeks. However, the strength of shocks response in the stock market of countries changes adversely by the pick in

RUSSIA and the least in NIGERIA and NORWAY. The comparison between impacts of oil price shocks and world market return shocks on the stock market show that in four out of six countries world market shocks have much more influential role in stock market variation than oil price shocks.

By exception of NORWAY it is found that most of oil exporters' countries are much more sensitive to the shock by fall in oil price. However, empirical evidence is supported higher effective impact of surge shocks in NORWAY stock market return. Taking to the account different levels of reaction to the positive and negative oil price shocks the asymmetric impact of oil price shocks is completely apparent among most of countries.

In the sub-sample of 2005 to 2010 stock market have experienced high volatility weeks. Experimental findings of BEKK GARCH (1, 1) in the oil exporter countries financial market indicates that there is some strong evidence on linkage of lag-leads effect of oil price variation on stock market return volatility in RUSSIA, NIGERIA, NORWAY and IRAN. It is also highlighted that oil price volatility of first lag can be better traced by the domestic volatility identifications of oil price change in comparison to the US dollar.

Abstrak disertasi untuk dikemukakan kepada senat Universiti Putra Malaysia untuk memenuhi keperluan pengajian dalam ijazah, Master sains.

## KESAN HARGA MINYAK ON THE RETURN STOK PASARAN DAN TURUN NAIK DALAM ENAM UTAMA MINYAK MENGEKSPORT NEGARA

**Oleh**

**MASOUD YOUSEFI AMIN**

**Ogos 2011**

**Pengerusi : Dr.Normaz Wana Binti Ismail**

**Fakulti: Ekonomi dan Pengurusan**

Disertasi ini menganalisis hubangan dinamik antara perubahan harga minyak dengan pasaran saham bagi enam negara pengeksport minyak utama iaitu IRAN, Rusia, Arab Saudi, NIGERIA, NORWAY dan Emiriah Arab Bersatu berdasarkan data mingguan bermula dari 16/1/2005 hingga 15/6/2010. Model multi-variate 'Vector Autoregressions (VAR) dengan empat parameter (pulangan pasaran saham, perubahan harga minyak tempatan, pertumbuhan pengeluaran industri, dan pulangan pasaran saham dunia) telah dianggarkan estimasi dan juga fungsi respon impuls dan dekomposisi varians. Dwi-variate model BEKK GARCH (1,1) juga digunakan untuk mengkaji kesan kemeruapan harga minyak terhadap kemeruapan pasaran saham.

Keputusan empirik mengenai kesan kejutan harga minyak terhadap pulangan pasaran saham menunjukkan bahawa kebanyakan negara pengeksport minyak memberi kesan

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ke atas variasi pasaran saham dalam minggu yang sama atau dua minggu yang berikutnya. Namun, kekuatan respons kejutan dalam pasaran saham negara-negara berkenaan berubah secara ketara bagi negara Rusia dan paling kurang bagi negara NIGERIA dan NORWAY. Perbandingan impak kejutan harga minyak dan kejutan pulangan pasaran dunia ke atas pasaran saham menunjukkan bagi empat daripada exam negara kejutan pasaran dunia mempunyai peranan yang lebih besar dalam variasi pasaran saham berbanding kejutan harga minyak.

Keputusan juga menunjukkan bahawa kebanyakan negara pengeksport minyak lebih sensitif kepada kejutan penurunan harga minyak, kecuali NORWAY. Namun, bukti empirik menunjukkan kesan efektif yang lebih tinggi pada kejutan pulangan pasaran saham NORWAY. Dengan mengambil kira tahap reaksi yang berbeza pada kejutan harga minyak yang positif serta negatif, impak tidak simetri kejutan harga minyak adalah lebih ketara bagi kebanyakan negara.

Berdasarkan sampel tahun 2005 ke 2010, pasaran saham telah mengalami minggu kemeruapan yang tinggi. Keputusan eksperimental BEKK GARCH (1,1) dalam pasaran kewangan negara pengeksport minyak menunjukkan bukti yang kukuh dalam hubungan kesan 'lag-leads' variasi harga minyak pada pulangan pasaran saham di Rusia, NIGERIA, NORWAY dan IRAN. Kmeruapan harga minyak pada 'first lag' boleh dikesan dengan lebih baik menggunakan perbandingan identifikasi kemeruapan harga minyak tempatan dengan dolar Amerika Syarikat.

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I certify that an Examination Committee met on date of viva voce to conduct the final examination of Masoud Yousefi Amin on his Master of Science thesis entitled "effect of oil price on the stock market return and volatility in six major oil exporting countries " in accordance with Universities and University College Act 1971 and the Constitution of the University Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the candidate be awarded the Master of Science.

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This thesis was submitted to the Senate of University Putra Malaysia has been accepted as fulfillment of the requirements for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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**BUJANG BIN KIM HUAT**
**BUJANG BIN KIM HUAT**
Professor and Dean
School of Graduate Studies
University Putra Malaysia

**Date:**

# DECLARATION

I declare that the thesis is my original work expect for quotations and citations which have been duly acknowledged. I also declare that it has not been previously, and is not currently submitted for any of other degree at University Putra Malaysia or at any other institutions.
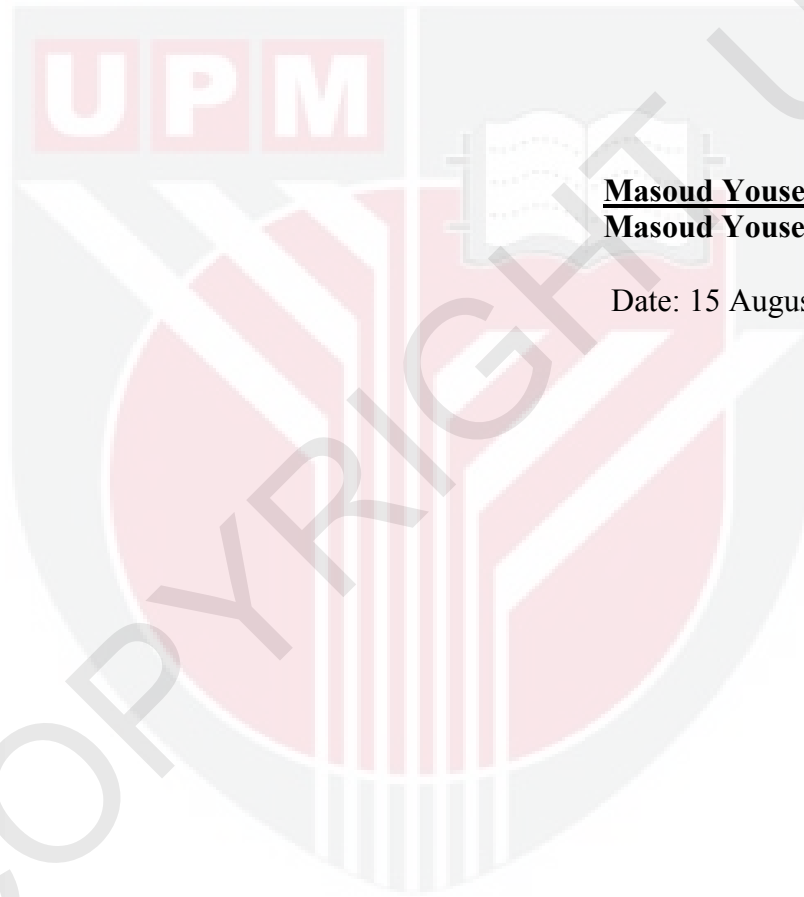
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**Masoud Yousefi Amin**

Date: 15 August 2011

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