

"The Relationship between Oil Price and Stock Market Index: An Empirical Study from Kuwait"

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The Outline:

- The Introduction.
- The Importance of Oil.
- Aim of the paper.
- The research questions.
- The Literature Review.
- The Methodology.
- Results and Findings.
- Conclusion.

Introduction:

- Globalization of information and investments.
- The world's economy as one economy affected and effected by each other.
- Changing Oil price has an effect on the global economy as well as on the macro and micro economic level of any country.

The Importance of Oil

On the global level:

- Oil price change affects the global economic activity due to the fact that Oil is an important component of the economy,
- Oil Price plays a major role in transferring wealth from oil importing countries to oil exporting countries (Balcilar and Ozdemir, 2013).

The Importance of Oil

On the macro level:

- Oil price change affects:
- economic recessions,
- GDP growth,
- financial markets,
- inflation,
- interest rate,
- exchange rate,

The Importance of Oil

- employment,
- consumer confidence
- and other economic factors in different levels and with different mechanisms in the developed and developing countries
- (Davis and Haltiwanger, 2001; Hamilton and Herrera, 2002; Lee and Ni, 2002; Hooker, 2002; Cunado and Perez de Garcia, 2005; Kilian 2008; Balcilar and Ozdemir, 2013)

The Importance of Oil

On the Micro Level:

- Oil price change affects directly and indirectly the cost of goods and services,
- the cost of production,
- the expected cash flows,
- the variance of the company's returns,
- the company's profit and as a result the stock's cash dividends and the stock market price.

The aim of the paper

- To investigate the relationship between Oil price and Kuwait stock market index using Markov Switching Model to investigate the regime shifts between Low- and High volatility regimes.

The Research Questions

- How do changes in oil prices influence Kuwait's stock market?
- How does the Kuwait stock market react to changes in oil prices over high and low volatility?

The Literature Review

- The relationship between Oil price and stock markets has been the focus of many researches in the last two decades.
- Most researches however, focused on the developed more than on the developing and emerging financial markets.

The Literature Review Continued

- The scale, extent, and direction of movements of stock markets oil price shock is completely diverse from one country to another depending on whether it is Oil-exporting or Oil-importing country, and if the oil price change is caused by Demand or Supply change (Wang et al., 2013).

The Literature Review Continued

Positive:

Developing and Oil-exporting:

Mohanty et al., 2011

Fayyad and Daly, 2011

Hammoudeh and Choi, 2006

Negative:

Developed and Oil-importing:

Driesprong et al. 2008;

Miller and Ratti, 2009;

Basher et al., 2012

No Relationship:

Al Jana bi et al., 2010

The Literature Review Continued

- The contradicting results could be a result of a changing relationship between the two variables “Oil Price and Stock Market Index” (Akoum et al., 2012).

The Literature Review Continued

- The GCC countries are very heavily oil dependent economies.
- Their economies are very sensitive to changes in oil price.
- Oil consists:
- 75% of their total exports
- 85% of government revenues of the GCC countries (Sedik & Williams 2011).

The Literature Review Continued

- According to the [British Petroleum \(BP\) Statistical Review of World Energy 2014](#) report:
- The GCC have the largest proven oil reserves in the world totaling 30% of the world reserve.
- The GCC states produced 24% of the world's total crude oil production in 2013.
- The GCC States controls 36% of the world's Sovereign Wealth.

This shows the critical role that the GCC countries can play in the global energy investment and production.

The Literature Review Continued

- Mohantray et al. (2011) indicated that there is a positive relationship between Oil price and stock market in the GCC except for Kuwait.

The Literature Review Continued

- Malik and Hammoudeh (2007) indicated that there is a high volatility transmission from Oil to all GCC stock markets except for Saudi market.
- Arouri et al. (2011) found a strong volatility linkage between Oil price and all GCC stock markets.

The Literature Review Continued

- On the other hand, however, Awartani and Maghyereh (2013) suggested that the volatility transmission is bi-directional between Oil and GCC stock market especially after the 2008 financial crisis.
- Maghayereh and Al Kandari (2007) indicated that Oil price impact the stock market indices in the GCC countries in a nonlinear way.

The Literature Review Continued

- According to Arouri and Fouguau (2009) the relationship between oil price and stock GCC markets is asymmetric and regime-switching.
- Arouri et al. (2012) stressed that stock prices respond more to negative oil price shocks than to positive oil price shocks.

The Literature Review Continued

- Hammoudeh and Li (2008) showed that GCC stock markets respond to global factors more than regional and local factors.
- Akoum et al., (2012) found an evidence of a changing relationship between oil and stock prices in the GCC in the long term, on the short term, however, the relationship is weak.

The Literature Review Concluded

- The conflicting results of the many studies mentioned in the literature review above shows the importance of studying each financial market separately.

The Methodology and Data

Unit Root Test

- To check stationary problems

Co-integration Tests

- To examine the long run co-integration relationship among variables

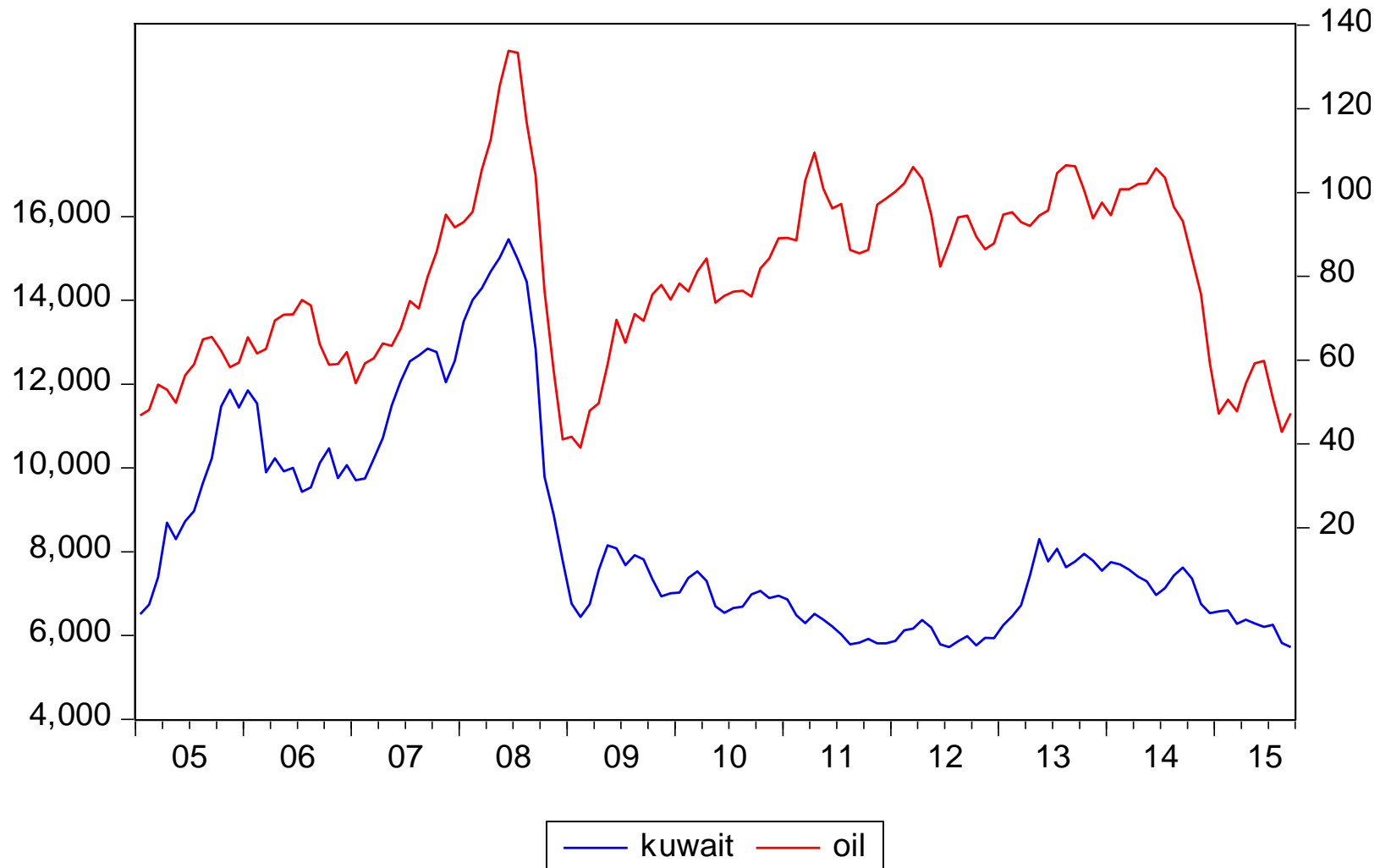
MS-VEC model

- To estimate a two-regime model (high- and low-volatility)

The Methodology and Data

- **Variables**
 - West Texas Intermediate (WTI) spot crude oil price
 - Kuwait Stock Exchange Index (KWSEIDX)
- **Data source**
 - Bloomberg
- **Sample**
 - January 2005 to September 2015.

Results and Findings



Stationary analysis

Table 4.2 Unit Root Test Applied to Variables:

Variables	ADF- Test				Phillips-Perron Test			
	None	Con.	Con. & Trend	Decision	None	Con.	Con. & Trend	Decision
LKUW	-0.25	-1.65	-3.04	I(1)	-0.18	-1.60	-2.93	I(1)
LOIL	-0.16	-1.93	-3.14	I(1)	-0.15	-2.47	-2.32	I(1)
DLKUW	-7.23*	-7.20*	-7.25*	I(0)	-7.25*	-7.21*	-7.28*	I(0)
DLOIL	-7.67*	-7.64*	-7.71*	I(0)	-7.67*	-7.64*	-7.65*	I(0)

Co-integration test results:

Table 4.4: Cointegration Test:

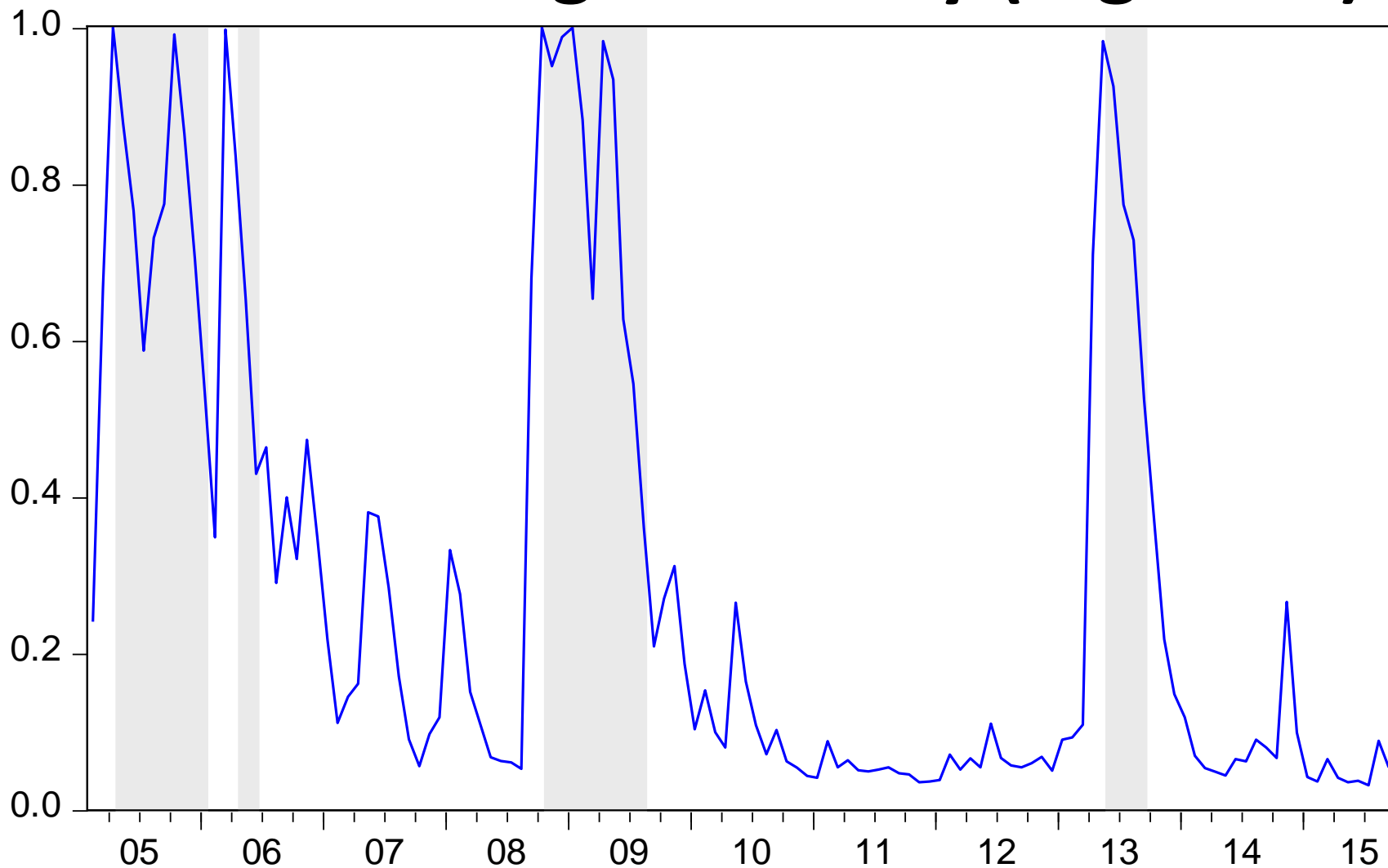
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Max-Eigen Statistic	0.05 Critical Value
None *	15.68511	15.49471	14.39407	14.26460
At most 1	1.291044	3.841466	1.291044	3.841466

Trace and Max-Eigen test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Figure 4.2: Smoothed probability estimates of high volatility (regime 2)



MS(2)-VECM(1)

Table 4.5: Regime properties

	Probability	Observations	Duration (months)
Low Volatility Regime	0.7054	91	23.671
High Volatility Regime	0.2946	38	9.942

Coefficients of the MS(2)-VECM(1)

Table 4.6: Coefficients of the MS(2)-VECM(1)

Variable	Low Volatility Regime		High Volatility Regime	
	DLKUW		DLKUW	
Constant	-0.002084(0.6244)		0.004456(0.415)	
DLOil	0.119225(0.212)		0.442632(0.0001)	

Conclusion

- there is evidence of long run relationship between oil price and stock market.
- low volatility state take place on 91 out of 129 observations
- high volatility state occurs on 38 occasions.
- During high volatility regime, there is a positive and significant relationship between Oil Price and Stock Market Index
- in the low volatility regime there is no relationship between Oil Price and Stock Market Index