

# *DYNAMIC RELATIONSHIP BETWEEN CDS PREMIA VOLATILITY AND OIL PRICE SHOCKS: ANALYSIS OF OIL RICH COUNTRIES.*

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## **Overview**

This study investigates the effects of oil price [shocks](#) on volatility of cds premia of 5 years maturity of oil rich countries. We decompose an oil price shock to its underlying components, including [macroeconomics](#) and oil specific shocks. The applied method is the structural vector autoregressive (SVAR) model and the time span is from April 2010 to March 2017. The investigation is divided into two subsamples, **before and after june 2014 for taking into account the oil slump of this year**. We find that, based on impulse response functions, the response of volatility of each cds to an oil price shock differs significantly depending on the underlying cause of the shock for the both periods. Moreover, according to [variance](#) decomposition the explanatory power of oil shocks becomes stronger after the crisis. The different responses of commodities are described in detail by investigating the situation of different countries of our data.

## **Methods**

Cubic spline for making cds premia data at the same frequency with oil data. I apply Structural Vector autoregressive-approach (SVAR) to analyse the effects of five different shocks (supply shocks ,demand shocks , speculative shocks residual shocks and volatility shocks of cds premia) .

## **Results**

First the oil slump of 2014 have contribute to enhance the volatility of cds premia of all countries. We switch from a model without leverage effect in the volatility cds premia with a more pronounced level of leverage with a EGARCH model.

Second, biggest oil producer like Saudi Arabia, Russia and Venezuela cds premia volatility are more sensitive to supply oil shocks than small producer like Kazakhstan or Qatar. Amazingly Norway the most diversified economy within our panel shows a high level of sensitivity to oil price shocks particularly to speculative shocks.

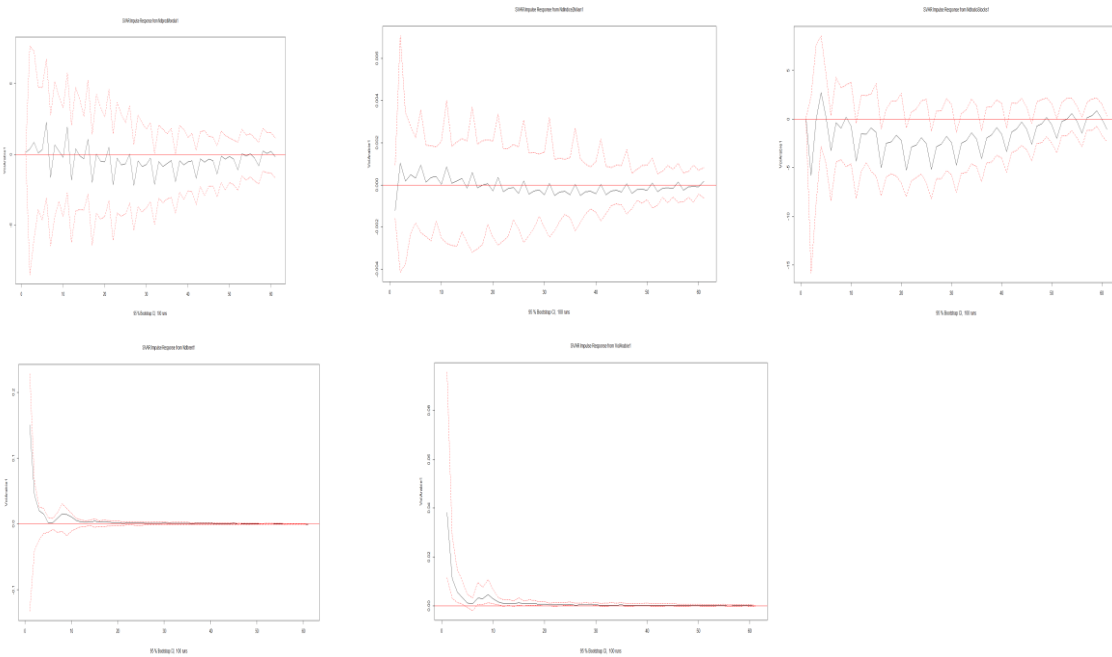
Third demand shocks for speculative purpose have gained more importance for all countries except Russia after the oil price slump of 2014 when the supply shocks lost contribution to oil cds premia volatility on the two months ahead.

**a) Forecast error variance decomposition of cds premia volatility of saudi arabia before and after the slump of 2014.**

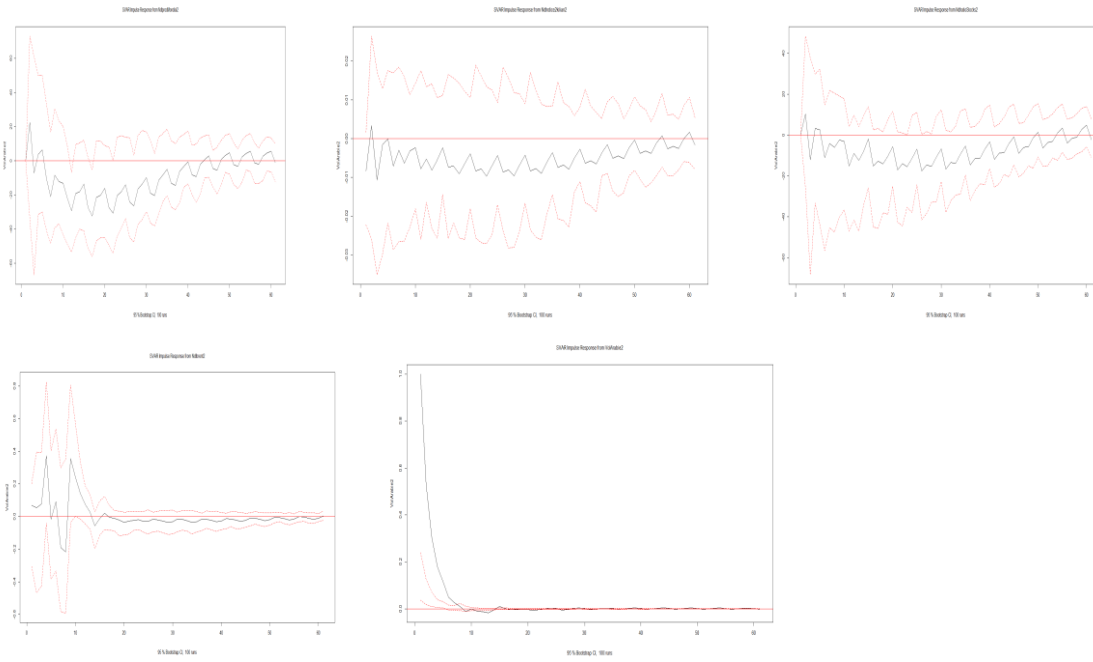
	Before 2014 slump					After 2014 Oil slump				
	Supply Shocks	Demand Shocks	Spéculative shock	Residual Shocks	Volatility Shocks	Supply Shocks	Demand Shocks	Spéculative shock	Residual Shocks	Volatility Shocks
<b>Saudi Arabia</b>										
1 day	37.6474					1.7051				
5 days	96.0351	14.1104	12.4247	33.6531	2.1641	69.2587	6.6451e-03	1.9759	0.4626	95.8495
15 days	96.3792	0.9144	2.4597	0.5549	0.0357	78.1070	2.2454e-05	30.5631	0.0172	0.1607
30 days	96.5531	0.8598	2.4470	0.2946	0.0190	75.6321	1.0576e-05	21.0630	0.0096	0.0298
60 days	96.5712	0.8518	2.4853	0.1029	0.0066	70.1855	9.0721e-06	24.3549	0.0031	0.0096
		0.8543	2.4972	0.0724	0.0046		1.1168e-05	29.8041	0.0026	0.0077

**b) Impulse response function of cds premia volatility of saudi arabia before and after the slump of 2014.**

b-1) Before the oil price slump.



b-1) After the oil price slump of 2014.



## Conclusions.

We need to further investigate the effect of oil market on oil rich countries perceived risk (cds premia volatility) on financial markets. Even well diversified countries are not immune against oil price sources of fluctuations. Biggest producer and small producers are more sensitive to supply oil shocks except Russia which is more sensitive to residual shocks. Supply shocks contribution to cds premia volatility diminish after the oil slump this probably have something to do with the recent shale oil expansion in the USA.

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