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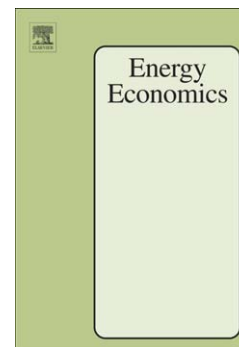
Regime Switching Model of US Crude Oil and Stock Market Prices: 1859 to 2013

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**Regime Switching Model of
US Crude Oil and Stock Market Prices:
1859 to 2013***

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Abstract:

This paper examines the relationship between US crude oil and stock market prices, using a Markov-Switching vector error-correction model and a monthly data set from 1859 to 2013. The sample covers the entire modern era of the petroleum industry, which typically begins with the first drilled oil well in Titusville, Pennsylvania in 1858. We estimate a two-regime model that divides the sample into high- and low-volatility regimes based on the variance-covariance matrix of the oil and stock prices. We find that the high-volatility regime more frequently exists prior to the Great Depression and after the 1973 oil price shock caused by the Organization of Petroleum Exporting Countries. The low-volatility regime occurs more frequently when the oil markets fell largely under the control of the major international oil companies from the end of the Great Depression to the first oil price shock in 1973. Using the National Bureau of Economic research business cycle dates, we also find that the high-volatility regime more likely occurs when the economy experiences a recession.

Keywords: Markov switching, vector error correction, oil and stock prices

JEL classification: C32, E37

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