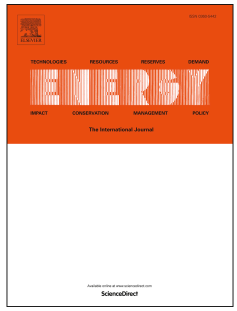
Accepted Manuscript



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PII: S0360-5442(17)31342-7

DOI: 10.1016/j.energy.2017.07.158

Reference: EGY 11346

To appear in: *Energy*

Received Date: 28 June 2016

Revised Date: 15 July 2017

Accepted Date: 26 July 2017

Please cite this article as: Huang S, An H, Wen S, An F, Revisiting driving factors of oil price shocks across time scales, *Energy* (2017), doi: 10.1016/j.energy.2017.07.158.

Revisiting driving factors of oil price shocks across time scales

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Abstract: Oil price shocks continue to provide surprises, even with known driving factors. Unlike previous studies limited in original holistic time horizons, we examine impacts of oil supply and demand, the world economy, oil stocks, the futures market and the political stability in the Middle East on oil price fluctuations in multiple time horizons; the original time horizon serves as a comparison. We find that only oil supply and demand were able to influence the oil price shocks in the original time horizon, whereas the futures market was a significant factor across all decomposed time scales, political instability and oil stocks affected the oil price over the short and medium time horizons, and the world economy and oil production only exerted their influence on oil price over medium and long time horizons. The factors rooted in short and medium time horizons are transitory and last for approximately 10 months with high fluctuations, whereas those in long term are more stable and disappear within 60 months. All of these results conclude that the driving factors of the oil price in the long term determine the basic trend, while the short- and medium-term components enhance the fluctuation of the oil price.

Key words: oil price; driving factors; multiscale

1. Introduction

Oil price fluctuations affect not only the production markets but also the financial market [1-7]; therefore, oil price fluctuations are an attractive focus for economic

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