
Degree of Integration between Brent Oil Spot and Futures Markets: Intraday Evidence

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Abstract

We investigate the integration of spot and futures markets using matched, intraday data to avoid non-synchronous trading issues from 2009 through 2014. Our evidence indicates highly integration spot and futures markets. Economic shocks that arise in spot markets are quickly transmitted to the futures markets approximately one for one. Most of the reaction takes place within minutes. Similarly, economic shocks arriving in futures markets are transmitted to spot markets one for one, once again, within minutes consistent with market efficiency. Overall, our findings indicate well-functioning, well-integrated spot and futures oil markets that are informationally efficient and that perform the functions of both price discovery and risk transfer. This is an important issue to traders, producers and consumers of oil, as well as speculators, arbitrageurs and policy makers since well-integrated spot and futures markets indicate that oil markets function well in discovering new, important and relevant information necessary for pricing and transferring this information, quickly and fully to all related markets. Similarly, closely integrated oil markets will perform the risk transfer function that is essential to hedgers, speculators and arbitrageurs. In the study we use cointegrating regressions with augmented Dickey-Fuller tests. We examine Granger-causality from spot to futures markets and from futures markets to spot markets. We also find that previously reported lead-lag relations between spot and futures market do not tend to be weak or non-existent at the daily level. The important innovation in this paper is the introduction and utilization of intraday data.
