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## Trusting markets: Energy security and strategic storage from a financial option perspective

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There are many approaches to measuring energy security: Some researchers use geologic and technical factors while others focus upon consumption and import dependence. Common to these approaches is the emphasis upon exposure to petroleum supply disruptions and the scope for mitigation but not to the probability of its occurrence. As petroleum markets have shown themselves resilient to quite extreme secular events, we ask if an alternative approach might be useful in quantifying energy security. We apply financial option theory to three eventful periods to learn the expectations

of market participants to disruptions. We find the forward-looking views of petroleum participants to be accurate with regard to both price persistence and the ability of markets to absorb shocks, lending support to the proposition that markets can be trusted to deliver both secure and affordable supplies of petroleum. In light of the major structural changes to petroleum markets in the last half-century, our results cast doubt upon the need for emergency inventories unless justified to dampen market volatility on public good grounds.

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