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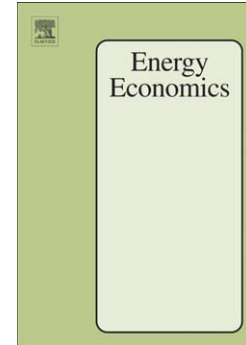
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James L. Smith, Thomas K. Lee

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The Price Elasticity of U.S. Shale Oil Reserves
(revised)

James L. Smith
Southern Methodist University

Thomas K. Lee
U.S. Energy Information Administration

Abstract

We formulate a model of shale oil development that identifies how much of the U.S. resource base is likely to be economically viable at various price levels, and what share of potential drilling sites are likely to be exploited. The analysis is driven by the lognormal variability in productivity of individual wells. We find the volume of reserves to be highly inelastic with respect to price. The number of viable drilling sites is less inelastic, which may explain why reserve additions and production fell much less than drilling activity during the recent industry slump.

Keywords: shale oil, price elasticity, drilling productivity, lognormal distribution

JEL Codes: L71, Q31, Q33, Q35, Q41

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