Learning by doing effect of U.S. shale E&P players

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Overview

U.S. Shale exploration and production(E&P) industry has growth from 2007 with adopting new techniques which is hydraulic fracturing and horizontal drilling. As a result of adopting new techniques, the share of shale gas of U.S. natural gas production is 50% and the share of tight oil of U.S. crude oil production is 52%. Even crude oil and natural gas prices rapidly decreased in 2014, production amount of shale gas and tight oil increased from 2014 to 2015. At the low commodity price environment, each player should develop their productivity for successful management of corporation. To confirm the dynamics of U.S. shale E&P company, I will check and analyze learning rate and production data. At this study, I use of fifteen companies using production amount and production cost.

Methods

Learning by doing.

Results

First, average learning rate of common model is minus 5%.

Second, average learning rate of restricted oil production weight effect model is plus 9%.

Third, production amount of U.S. shale E&P players decrease after 2014.

Conclusions

This study briefly reviews on company of US shale E&P player strategy with considering learning rate at low oil price. As a result, majority of companies perform long-term strategy that enhance productivity. But, short-term strategy is shown also, from 2015 to 2016. Despite the decrease production amount from 2015 to 2016, long-term strategy is identified for the same period. The following implication to identified long-term strategy, it implicates that even overall decrease of production volume, individual company could increase their production volume if they achieve sufficient learning at production activity.

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