

THE DYNAMICS OF OIL PRODUCTION IN INDONESIA: TECHNICAL AND ECONOMICAL ANALYSIS

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Overview

Oil has important role since its derivatives have a lot of functions in human life. Because of its role, oil may cause war or dispute between nations. In Indonesia, oil extraction sector has large forward-linkages to the economy. Revenues from oil extraction also became source of funds for development in 1970's-1980's. Unfortunately, in 1995-2013 oil extraction was decreasing while domestic consumption was increasing. The decrease in oil extraction happened since 1989, where proven oil reserve was drastically dropped under 4.5 billion barrels. From viewpoint of regulation, Indonesian government recognize production sharing contract based on cost recovery. From the last 53 years, Indonesian government has used five cost recovery regimes to support exploration and oil extraction.

From this paper, I would like to describe the dynamic of oil extraction through oil reserve and economic variables such as oil real price and cost recovery regime used. The rest of paper is organized as follow. In section 2, I will explain the theoretical framework. In section 3, I will explain briefly about the history of cost recovery regimes and production sharing contract. I will explain the method used and data in section 4. Section 5 is about the result and section 6 is about conclusion and policy implications which can be implemented by Indonesian government.

Methods

Time Series Ordinary Least Squares (OLS).

Results

First, there is a statistical difference between proven oil reserve in 1960-1988 and in 1989-2013.

Second, proven oil reserve in 1989-2013 had lower effect to the oil production with the reserve in former period. The production set on that later period was more elastic to the proven oil reserves addition.

Third, the growth of oil real price of proven reserve has positive correlation with oil production. But it has low magnitude.

Last, from five regimes used, cost recovery of 100% gross revenue has the largest effects to oil production in Indonesia.

Conclusions

Both of proven oil reserve, growth of oil real price, and cost recovery from proven oil reserve policy have positive correlation with oil extraction in Indonesia. Statistically, oil extraction is more determined by the level of proven oil reserve and cost recovery policy. This condition can have two policy implications. First, Indonesian government needs to apply tax holiday to encourage the exploration of additional proven oil reserve. Last, changing in cost recovery regime perhaps cannot be taken because it is unconstitutional.

References

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