Valuation of Production Sharing Contract Cost Recovery Vs Gross Split in Earth Oil and Gas Cooperation Contracts in Indonesia and The Aspect of Public Service

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Abstract. Indonesia became an oil importer for the first time in 2003 and will face an excess demand for natural gas compared to supply in 2019. The reason for the decline in oil and gas supply is a lack of exploration. The implementation of oil and natural gas (oil and gas) business in Indonesia is carried out starting through a cooperation contract between the Government through SKK Migas and the contractor’s cooperation contract (KKKS) under Law Number 22 Year 2001 concerning Oil and Natural Gas. The government's decision to change the Production Sharing Contract (PSC) Cost Recovery into PSC Gross Split in the oil and gas cooperation contract scheme to increase the efficiency and effectiveness of production split between the contractor and the government carried out by SKK Migas as stated in the Regulation of the Minister of Energy and Mineral Resources (ESDM) No. 8/2017 amended by ESDM Minister Regulation No. 52/2018 concerning PSC Gross Split has received a lot of criticism from experts and contractors, even large foreign investors still refrain from wanting to sign the new PSC Gross Split. The aim of the research is to evaluate how the implementation of PSC Cost Recovery is compared with the implementation of PSC Gross Split in the oil and gas cooperation contract in Indonesia, and how the aspects of public services are. The research method used in this research is descriptive method with the application of comparative analysis. While the research approach used is a qualitative approach. Data collection method uses interview, observation and documentation methods. The author concludes, that the government's decision to use PSC Gross Split is considered more profitable for the government than PSC Cost Recovery in the PSC scheme. It is recommended that the government make a major breakthrough as a major step to promote investment through improving the process of bureaucratic improvement, improving regulation, transparency and eliminating uncertainties in implementing PSC Gross Split, as well as providing various fiscal and non-fiscal incentives, improving public services that are disrupted by lack of transparency from the
government, in this case SKK Migas concerning PSC Gross Split, which is caused by uncertainties in the 10 split variables as stipulated in ESDM Minister Regulation No. 08/2017.

Keywords: Production Sharing Contracts, Gross Split, Cost Recovery, Public Services

1. Introduction

Since the first time Indonesian petroleum was discovered in the 1880s in Langkat, North Sumatra, various industrial phenomena have occurred. Had successful in 1977 and 1995 with oil production of around 1.5 million barrels per day (bpd), currently only producing almost half or around 800 thousand bpd. According to Reforminer Institute research, at that time the oil and gas sector contributed significantly to the country's revenues, namely 62.88 percent.\(^1\) At the age of more than 130 years since the findings, oil and gas reserves have tended to decline relatively recently. The low level of exploration activities is the main cause. At present, our oil production averages only 770,000 barrels per day, still below the oil lifting target in the APBN which is pegged at 800,000 barrels per day. While the contribution of Pertamina's oil production is only 25 percent of the total national oil production which is at 700,000-800,000 per barrel per day.\(^2\) This condition cannot be said to be ideal, even not yet popular[1]-[11]

### Table 1 Indonesian Petroleum Production\(^a\)

| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| BP Global | 996  | 972  | 1,003 | 990  | 1,003 | 942  | 918  | 882  | 852  | 825  |
| SKK Migas | 1,006 | 954  | 977  | 949  | 945  | 900  | 860  | 826  | 794  | 786  | 829  |

\(^a\) in million barrels per day (bpd)

Source: BP Statistical Review of World Energy 2016 and SKKMigas, and Yearly Report SKK Migas 2016

### Table 2 Oil Consumption in Indonesia\(^b\)

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| Bpd | 1,303 | 1,244 | 1,318 | 1,287 | 1,297 | 1,402 | 1,589 | 1,631 | 1,643 | 1,676 | 1,628 |

\(^b\) in million barrels per day (bpd)

Source: BP Statistical Review of World Energy 2016

As shown in table 1 and table 2, the lack of exploration and other investments in the oil sector has caused a decline in Indonesian oil production, while Indonesia's petroleum production as shown in Table, is unable to cover oil consumption in Indonesia. This is also the reason why Indonesia's oil and gas reserves are decreasing year by year as shown in table 3 [12]-[14].

### Table 3 Earth Oil Reserve 2012-2016

| Year | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|------|------|------|------|------|------|------|------|
| Proved | 4,23 | 4,04 | 3,74 | 3,69 | 3,62 | 3,60 | 3,30 |
| Potensial | 3,67 | 3,86 | 3,75 | 3,70 | 3,94 |
| Total | 7,41 | 7,55 | 7,37 | 7,30 | 7,24 |

(in billion barrels)

Source: Oil and Gas Statistics 2016 - Ministry of Energy and Mineral Resources, processed by the author
Proven reserve limit is intended is the total volume of petroleum and/or natural gas which based on analysis of geological and engineering data can be obtained commercially within a period that can be determined at the prevailing economic conditions, operating methods and government regulations, while the intended potential reserves are the amount of oil and/or natural gas volume that is estimated to be contained in the reservoir rock, based on exploration geological data, must still be proven by drilling and testing. As shown in table, above, that proven reserve oil reserves continue to decline. Proven petroleum reserves decreased from 4.23 billion barrels in 2010 to 3.6 billion barrels in 2015. The decline also occurred in natural gas proven reserves which in 2010 amounted to 108.4 Trillion Cubic Feet (TCF), down to 98 TCF years 2015. This condition is a sign that exploration needs to be made more extensive, so the chance of finding oil and gas reserves is greater[15]-[17].

The Ministry of Energy and Mineral Resources (ESDM) officially replaced the production sharing contract (PSC) from the scheme of reimbursement of oil and gas operating costs (cost recovery) into a gross scheme split by the issuance of ESDM Ministerial Regulation Number 8 of 2017 concerning Share Contracts Gross Split results[8].

\[\text{\textbf{Figure 1 Production sharing contract (PSC)}}\]

Source: Ministry of Energy and Mineral Resources, processed by the CNBC Research Team

2. Research Methodology
This research will focus on evaluating the application of PSC cost recovery vs. gross PSC split in oil and gas cooperation contracts, by taking into account aspects of public services in Indonesia. This research is important to be carried out on the grounds that there has been no determination from the government in this case SKK Migas which can provide a clear reference with a transparent example of how the gross split system is implemented by the KKKKS after the ESDM Ministerial Regulation Number 8/2017 concerning the Gross Split Production Sharing Contract which is effective in January 2017, so that this creates uncertainty for the KKKKS and also harms the State, because since the new regulation was issued until now no major foreign investors have been interested in PSC under the Gross Split system, which of course has an impact on the decline in state revenues because oil and gas production has fallen, and consequently tax revenues have also been affected.

Data analysis method used in this research is descriptive analysis method by applying comparative research. While the research approach used is a qualitative approach. According to Creswell [2] "an
inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with word, reporting detailed views of information and conducted in a natural setting.* Qualitative approach applies paradigm naturalistic, where the research is carried out in natural settings. In this qualitative research method, the research method used to examine the condition of natural objects, where the researcher is a key instrument, data collection techniques are carried out in triangulation, data analysis is inductive, and the results of qualitative research emphasize the meaning rather than generalization. The research dimension is case study, in the sense of conducting a study of a social reality. In this study, researchers applied a case study that was examined from various aspects as well as a strategy to obtain the relevant data. Qualitative data are in the form of in-depth interviews, observation, literature and documentation studies, but it is also possible to use quantitative data as a complement to the information on each research analysis question. Data collection techniques use: 1. Literature Study in the form of statistics on oil and gas statistics, scientific publications in journals, papers and articles. 2. In-depth, opened ended interviews: to strengthen the results of the analysis and discussion, the authors also conducted in-depth interviews with informants (Executive oil and gas companies, Oil and Gas Observers, Tax Observers, Oil and Gas Companies Association)[18]-[26]

3. Results and Discussion

PSC Difference with Gross Split Oil and Gas. The Gross Split Production Sharing Contract scheme calculates revenue sharing based on oil and gas gross (gross) production results. There are three types of schemes that are applied, namely the base split, the split variable, and the progressive split. Base split is the basic division of the form of cooperation, while the variable split and progressive split are additional factors or reduction in the base split[27]-[31]

The following figure shows in figure 2 (in Indonesia).

Figure 2 The difference between PSC and Gross Split Migas
Source: Ministry of Energy and Mineral Resources 2017

With the input and evaluation from various parties and contractors, finally the government was urged to revise the gross split scheme, so that at the beginning of September 2017, the government issued Ministerial Regulation number 52 of 2017 concerning the revision of the Gross Split Profit Sharing
scheme. In its implementation, the base split has been set out with details, for petroleum 57% of the state and 43% for the contractor, for gas 52% of the state and 48% of the contractor. Whereas the split variables include the status of the work area, the location of the field, the depth of the reservoir, the availability of infrastructure and CO2 content. To do an economic calculation of oil and gas projects, a production sharing contract (PSC) calculation model is needed. The two diagrams below compare the economic conditions of the Gross-Split PSC with the PSC Cost Recovery. The calculation of governments and contractors take based on the different PSC scheme and data that are already mentioned below:

Table 4 A Comparison of The Split of One Barrel Oil in Standard PSC

| Contractor Share | Government Share |
|------------------|-------------------|
| 2.69 FTP 20%     | 37.32             |
| 23.00 Cost Recovery | 14.32           |
| 4.13 Profit Oil Split 29.71 | 10.19 |
| 7.21 DMO 25%     | 7.21              |
| 1.80 DMO Fee     | -1.80             |
| 1.23 Effective Tax 40% | -1.23 |
| 25.65 Division of Gross revenue | 21.00 |
| 2.63 Division of Cash Flow | 21.00 |
| 11.19 Take       | 88.81             |
| 63.93 Lifting Entitlement | 36.07 |

Source: [2]

Table 5 A Comparison of The Split of One Barrel Oil in Gross Split PSC

| Contractor Share | Government Share |
|------------------|-------------------|
| 25.19 Profit Oil Split 54/46 | 21.46 |
| 20.00 Deductions | 5.19 Taxable Income |
| -2.08 Effective Tax 40% | 2.08 |
| 0.00 Other Tax | 0.00 |
| 25.19 Division of Gross revenue | 23.54 |
| 3.11 Division of Cash Flow | 23.54 |
| 11.69 Take | 88.31 |
| 54.00 Lifting Entitlement | 46.00 |

Source: [2]

The numerical data to be quantitatively analysed at table 4 and table 5 is obtained from a report of Wood Mackenzie regarding Rokan PSC in Central Sumatra. This data is selected due to the fact that the project will be expired in October 2021 and will sign a new contract of gross split PSC. The data based on
4. Conclusions

In the oil and gas cooperation contract in Indonesia with the implementation of a cost recovery scheme:

1. Under the PSC Model Cost recovery regulation conditions prior to the issuance of ESDM Minister Regulation No. 08/2017 opens a gap for oil and gas contractors to inflate investment (gold plating or markup) including investments that are not really needed to get a large replacement fee, BPK Findings from the BPK Audit Results in 2004, 2005, 2014, 2015 and 2017 RI concerning Deviations / misappropriation In the implementation of the Cost Recovery scheme as described in advance, it proves that the application of the cost recovery model in the production sharing contract has many weaknesses and has caused a very large due to unnecessary costs of posting into cost recovery.

2. The application of the PSC Model Cost recovery is detrimental to the government because government revenue (Government take) is smaller than the receipt of the contractor (Contractor take).

3. Long bureaucracy and long procedures for oil and gas production are one of the things that often become obstacles for investors / contractors, the time taken since the discovery of oil and gas reserves to commercialization (first production) reached 15 years, and this has resulted in a decline in oil and gas production.

In the oil and gas cooperation contract in Indonesia with the application of the gross split scheme:

1. The implementation of the Gross Split scheme in oil and gas exploration provides greater state revenue compared to the Cost recovery model.

2. The government can reduce the burden on the state budget (APBN), because operating costs are no longer charged to the state, but to contractors.

3. Gross split PSC is not superior to the fiscal regime compared to clean standard PSCs. Although the gross split PSC provides a better structure than simple progression and administration, the risk that exceeds the contractor's profitability makes the risk of sharing unbalanced. The method that can be done by contractors is cost efficiency and encouraging production. Turning back to the PSC the cost recovery model is not a good choice because investors do not like regulatory instability. In the management of these exploration activities, the government's decision to use the Gross Split model is considered more profitable for the government than the Cost Recovery model in the PSC scheme.

4. The adoption of the PSC's gross split system is to look more at the practical aspects of the approval process and business decision making, the minimum involvement of government agencies implementing upstream oil and gas activities, investment certainty even though oil prices rise or fall by using a profit sharing contract scheme with the Gross Split scheme. If the oil price is less attractive, the
contractor can get an additional split up to a maximum of 7.5%. For example with the current oil price of around US $ 50 per barrel, then with a profit sharing contract scheme with the gross split model, the contractor will get an additional 5% split.

5. With a high Domestic Content (TKDN), an additional split will be given to the Gross Split scheme. Additional split is 2% if the TKDN reaches 30% to less than 50%. If a TKDN of 50% to less than 70% will get an additional split of 3%. Meanwhile, if the contractor manages to reach TKDN by 70% or above, it will be able to add an additional split of 4%. This will be a trigger for contractors to use domestic products.

6. Procurement processes carried out by contractors are simpler. There is no need for an approval process by SKK Migas, because oil and gas operating costs are fully the responsibility of the contractor. The more efficient the contractor, the greater the contractor's profits.

7. For contractors who think that the production sharing contract system with the Gross Split scheme causes the project's economy to be unattractive, this is not appropriate. Because Article 7 paragraph 1 of the Candy Split, states that in the event that the commercialization of the field does not reach a certain economy, the Minister of Energy and Mineral Resources can provide an additional split of at most 5% to the contractor. This is a concrete manifestation of the Government protecting investment so that fairness is maintained.

8. In this production sharing contract scheme with the Gross Split model, state control is not lost. Conversely, what is missing is the inefficiency of the procurement process from oil and gas operations. Determination of the working area, production capacity, and the oil and gas commercial aspects remain determined by the country. Distribution of profit sharing is also determined by the state, state revenue becomes more certain and production is divided at the delivery point.

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