



## INDONESIA'S NEW OIL & GAS REGIME: ANALYSIS OF COST RECOVERY PSC GROSS SPLIT PSC ECONOMIC ANALYSIS ON FIELD X

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### Abstract

The oil and gas industry are a high-risk, competitive and highly-restricted industry. Innovation and certainty in terms of regulation and economic split, are two crucial factors for all parties. Despite having increasing production year-to-year, Indonesia struggles to meet both domestic and international demands. One effort to fulfil the demands is the government establishment of the new production-sharing in 2017, The PSC Gross-Split Model; abolishing the previous Indonesian PSC Cost-Recovery.

This paper aims to study the salient features of both PSC models and its economic evaluation towards both takes of the government's and contractor. Criteria exercised in this study are the revenue-raising potential, sensitivity analysis, contract risks, and administration evaluation of contracts.

Study assessed the economic valuation of both contracts in which contract's doesn't have a condensing amount of differences between one another. Though gross-split is more effective and efficient towards project execution, it increases the contracts risk measures in project execution. This results in slow down of oil and gas exploration. Contractors prefer having certainty and sustained long-term economic valuation towards their investments. A method to overcome this case would be continuous and increasing incentives with contractors that enable them to have increasing investors towards the new PSC gross Split regime.

**Keywords:** Oil and Gas, Production Sharing Contract, PSC Gross Split, PSC Cost Recovery.

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### 1. Introduction

This study will focus towards a national scope of Indonesia, covering the actors and the government policies on the oil and gas split with its contractors. The aspects looked into the study and these are the criteria's in the fiscal policy of the PSC cost recover model and PSC gross split model, real life implications of the contracts, the limitations fabricated by the both policies and the effectiveness of the proposed systems. Moreover, the study will be characterizing the different effects of how contributing variables of considering the long-term investing decision towards the extraction of a certain oil field's life cycle. Observation and analysis that is appealed within this research is the primary data extracted from one of Indonesia's contracting companies and to seek its economic reaction of implicating the new version of the government's contract with both expiring contractors and new contractors seeking opportunity in exploring and extracting the Indonesia's oil and gas industry. The researcher will also document the consequence and benefits for the new PSC scheme in its differences by analysing the differences of the scheme and how it differs in the amount results given by the cost-recovery PSC scheme.

## **2. Literature Review**

In this study, the research is conducted by the quantitative approach. The methods adopted in accessing data for study is by applying the document review method and observation method. Documentation review is to fully understand the company's strategy of operating without interrupting its strategy; from review of applications, finances, memos, minutes and other company activities. The qualitative data is one which is immeasurable in numeric.

## **3. Methodology**

This study is conducted in order to identify the direction of Indonesia's oil and gas industry and how it constructs and the effects of Indonesia's new PSC contracts approach and how it impacts the oil and gas industry. It is important that we are to understand the relationship between the preceding PSC model and towards the cotemporary gross-split model, how does the direction of changing the current model effect the economy, investors and how it changes the oil and gas game as a whole for both contractors and government.

This study covers the Indonesian oil and gas industry, which analyses the former and newly established product sharing contract established by the government. It is aimed to identify whether the standard PSC and gross split PSC gives a more superior fiscal regime towards government or contractor. In order to achieve the research objectives, this research has been broken down into three phases: Characterizing the differences of both cost recovery PSC and gross-split PSC. The Second phase is to analyse the product sharing contracts mentioned previously by using the petroleum economic analysis which is configured by the long-term investing decision model. It is divided into three parts which are the straight-line depreciation method of tangible assets, Net Present Value (NPV), and Depreciated Profitability Index (DPI) of the selected oil field-X. Straight-line depreciation method is used as method that allocates an equal amount of depreciation expense to each period of the field-X asset's useful life. NPV is conducted to calculate the sum of the yearly net cash flows after they have been discounted. And Discounted Profitability index used as the implication to whether or not the project should be excepted, considering it various calculated elements. This process is used to assess the economic valuation of the government and contractor's take in process of conducting the comparison of the quantitative result of both product sharing contracts.

In order to improve the data quality, the researcher will be collecting primary data in one of Indonesia's contracting oil and gas companies that was awarded a ring-fenced area for exploration and extraction in the Sumatra area of Indonesia. The Researcher is to apply a permission of access to the company's data in importance for the reach of the study alongside with an opportunity to be able to observe and study the company's operations without interrupting its progression in everyday operations. The methods adopted in accessing data for this study is by applying the document review method and observation method. Documentation review is to fully understand the company's strategy of operating without interrupting company's operation; from review of applications, finances, memos, minutes and other company activities. As for observation is to gather accurate information about how the company's strategy actually operates, particularly in undertaking the company's plans. All recording of data will be transcribed and agreed and gone through the process of the company's privacy terms and conditions to ensure, the security and privacy of company.

After categorization, similarities, differences and new insights may emerge and these will be analysed in relation to the literature review conducted and the pertinent factors affecting the oil and gas industry of Indonesia. These inferences and insights will allow the researcher to assess whether the organization is experiencing any of the factors highlighted in the literature review. Insights into possible solutions will also be discussed and recorded. The data obtained from the latter discussion will improve the quality of the research results.

#### 4. Findings and Arguments

In this analysis, the researcher was to take a field example from the data provided from field X and analysis it's economic count. The numerical data was obtained from a field in a contractor' XYZ oil and gas block with forecasted data added to the research.

From the data calculated, it was observed that treatment of production forecast towards both the standard PSC and the gross split PSC are the same, the only difference observed is the field's life span which can be referred to figure 1 With the standard PSC, the average life span of Field X is longer than the gross split PSC scheme. It was analysed that by applying gross split PSC that the contractor would have to spend much more on the field due to its filed maintenance. Though it needs to be noted that with different fields means different treatment, in this case Field X is an older field, which conveys a stronger maintenance compared to newer fields.

In calculating the economics for Field X, the capital data was split into two components which were the tangible capital and the intangible capital. The tangible capital is assumed to take 30% of the yearly capital, while intangible will take a daily of 70% of the yearly capital. The capital given in the yearly production is that every year there would be an increase of 3% in capital to keep the oil production on a stable rate. In this case, there is an increase of 3% every year (tangible assets) starting from year 2021. As the tangible asset are given a 5-year depreciation time.

Analysis on other parameters has shown that the difference between the two cases. In standard PSC, field X could be expecting to run for another 20 years, while on gross split PSC field X will be assumed to be shut down in 13 years due to high operating cost. With gross split PSC scenario, net revenue from field X potentially loss about \$683MM compare to standard PSC. It's favourable if the government would give some incentive or higher contractor's split so that field's life could be extended. The higher contractor's split also expected in lower oil price environment.

The second finding was conducted through a sensitivity analysis for the significance of the study (refer to figure 2). The sensitivity analysis performed is seen to have a direct correlation with one another in terms of increasing the companies gaining profitability as both goes up. The spread range that is shown by the oil price scatter indicates that if the contractor is able to produce a significant amount of production, the higher the share split is given towards the contractors, the much more revenues will be earned by the party which executes a much more risk adverse behaviour towards contractors exploration and development projects. Which also applies as well towards the oil price variable, of course as the increase of oil price is made, the more profitable all projects are to be.

Parameter	Standard	Gross Split
Oil Price	68	68
Contractor Split after tax	15%	43%
Field life, years	20	13
CumOil, MMBO	68	48
Total Capital, MM\$	86	86
Total Operating Cost, MM\$	1,830	1,135
Gross Revenue, MM\$	4,599	3,281
Net Revenue, MM\$	2,683	2,061
Total Contractor Cash flow, MM\$	273	190
Contractor's NPV, MM\$	138	139
Contractor's NPV/\$ spent	0.07	0.11

Figure 1. Economic Valuation of Field X using PSC Gross Split and Cost Recovery

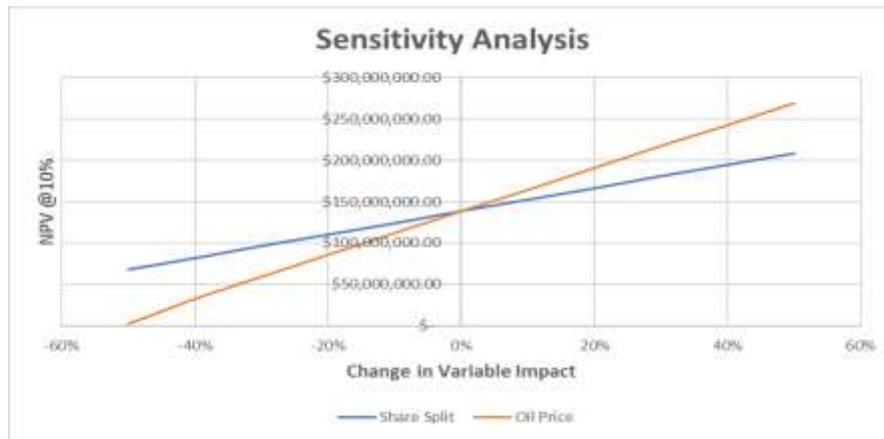


Table 2. Sensitivity Analysis of Field-X  
Reference: Economic Sensitivity Analysis of Field-X of Company XYZ - 2017

### Conclusion

With PSC gross split being applied for the first time in Indonesia and in the world, there's still plenty of room where the PSC gross split model needs to be more assessed before actually being executed as the investors and contractors have not yet have an expected outcome of the situation. It is crucial to take a closer look to how PSC are impacting the potential stakeholders of the contractor (ex. government, contractor, etc.)

After identifying the fiscal perspective of both contracts, it can be taken into mind that both contracts contain fluctuations, although its difference can be seen towards its determining factors that influence its fluctuations. In the PSC Cost Recovery mechanism, its determining factors are the operating expenses, cost recovery costs, and the oil price. While PSC Gross Split's determining variables are the conditions of the oil field on which the level of difficulty of extracting the oil and gas will become.

As most contractors in Indonesia are considered to be the company's most at risk, it should be suggested that the contractors should not jump straight in to the PSC gross split model transition that is currently happening, without evaluating the life-span of the awarded field given by the government. As the PSC Gross Split model has a strong influence towards the conditions of the field's, a smart approach by the contractors are to peruse fields with a vast amount of exploration project to expose more potential wells. It would be ill advised for contractors who with expiring contracts to transition to the new PSC Gross Split model on a fenced field that has been explored thoroughly for an approximate 80 years of agreement with the government. In order to profit as highly and fast in terms of costs as for the government itself should evaluate the share percentage of the projects of the contractor. For example, it would be that the share should be evaluated by the monthly oil price so that both the contractor nor the government have a good and fair share in terms of the oil production being made (a suggestion of a no fix share price).

The ways which can be done by contractors are cost efficiency and boost production. Risks will affect both of governments and contractors. But, boosting the production over limit gives the negative impact for the Indonesian government because the reservoir condition will be not optimum in the next plan of development contract. Also, changing back to standard net PSC is not a good choice because the investor dislikes the instability of the regulation. The best way to

attract the investors in the term of gross split PSC is adding the incentive for contractors which is block basis ringfence policy. This policy will encourage contractors to drill more wells. Therefore, probability of discovering new oil reserves will be higher and it benefits the IOC and governments without changing the oil split in the government regulation.

One way, if the government were to apply the PSC gross split model for where the government to build incentives towards contractors in order to attract more investors such as building ring fencing for contracting fields and awarding new lands to be explored to the well proposed contractors. With this incentive, the contractor has a better probability where the cost of one well being drilled can be recovered with the next well being drilled.

One size truly doesn't fit all, and the government would be best to not make a transition of the PSC model as a mandatory contract for both existing and new coming contractors. In order for the transition to be made, the government must see first on how these contracts would impact the contractors, and also how the PSC gross split scheme it impacts the government in a period of time.



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