**How to Cite**
Sari, I., Adam, M., Isnurhadi, I., Wahyudi, T., & Widiyanti, M. (2021). Comparative analysis of upstream oil and gas contracts cost recovery scheme against gross split scheme: (Case study: PT. Pertamina Hulu Energi Jambi Merang). *International Journal of Business, Economics & Management*, *4*(2), 378-388. https://doi.org/10.31295/ijbem.v4n2.1710

# Comparative analysis of upstream oil and gas contracts cost recovery scheme against gross split scheme (Case study: PT. Pertamina Hulu Energi Jambi Merang)

**Ika Sari**
*Master of Management, Sriwijaya University, Palembang, Indonesia*
*Corresponding author email: Ika.saridjufri@gmail.com*

**Mohamad Adam**
*Lecturer of Magister Management, Economic Faculty, Sriwijaya University, Palembang, Indonesia*
*Email: mr_adam2406@yahoo.com*

**Isnurhadi**
*Lecturer of Magister Management, Economic Faculty, Sriwijaya University, Palembang, Indonesia*
*Email: isnurhadi2020@gmail.com*

**Tertiarto Wahyudi**
*Lecturer of Magister Management, Economic Faculty, Sriwijaya University, Palembang*
*Email: tertiwahyudi@gmail.com*

**Marlina Widiyanti**
*Lecturer of Magister Management, Economic Faculty, Sriwijaya University, Palembang, Indonesia*
*Email: marlinawidiyanti68@yahoo.co.id*

***Abstract*---*In carrying out upstream oil and gas activities, PHE Jambi Merang uses a fiscal concept called Production Sharing Contract (PSC) through a cost recovery scheme. The lack of supervision over the implementation of cost recovery payments is considered one of the causes of the increase in cost recovery from year to year. To anticipate the above, the government in 2017 issued a Regulation of the Minister of Energy and Mineral Resources concerning Production Sharing Contracts with a Gross Split Scheme. The basic principle is gross profit sharing without a mechanism for returning operating costs to oil and gas contractors. The purpose of this study is to find out how the two schemes are compared. This study shows that the Gross Split Scheme has a more realizable economic value than the Cost Recovery scheme. The calculation parameter of the fiscal regime that produces the largest GOI take value is the Gross Split scheme, and for the most significant contractors, the Gross Split Scheme is the same. The implication is that it is expected to increase knowledge regarding PSC Cost Recovery and PSC Gross Split for further studies in the future.*
***Keywords*---*comparative analysis, cost recovery, gross split, PSC.***

## Introduction

Oil and gas energy is still the mainstay of the Indonesian economy, both as a foreign exchange earner and domestic energy needs. The oil and gas industry generates more than 25% of the government's total revenue, which is around US$35 billion in the form of tax and royalty payments in 2011. Indonesia has been said to be a developing country, where most companies that play an active role in global growth must compete with each other. One of the sectors used to support Indonesia's economic welfare is mining, which is either on a large scale where companies carry it out

ISSN 2632-9476
Submitted: 09 May 2021 |Revised: 18 June 2021 | Accepted: 27 July 2021

and on a small scale where it is carried out by the community, better known as community mining. This sector is considered to have several economic values to increase people's prosperity and become an addition to the country's economy, whose value is tremendous. Therefore, Indonesia is still the mainstay of economic suppliers because it is a foreign exchange earner, and as a source of energy in the country is the oil and gas industry.

The 1945 constitution has outlined that those natural resources are controlled by the state and used as much as possible for the prosperity of the people. The regulation of the regulation, operation, use, supply, and maintenance of old resources and the regulation of their legal relations rests with the state. As a state of the law in statutory regulation, Indonesia is a product of state functions in regulation and shapes values and norms that apply and live in society and the law. Therefore, in the upstream oil and gas business activities, an agency is formed to exercise control called the Implementing Body and based on the Decision of the Constitutional Court of the Republic of Indonesia (CCRI) number 36/PUU-X/2021, dated April 10, 2012, the role of the Implementing Body regulated in Government Regulation no. 35 of 2004 concerning Upstream Oil and Gas Business Activities called the Oil and Gas Implementing Body (IB Migas) which was later replaced by the Special Task Force for Upstream Oil and Gas Business Activities (CBA Migas) through Presidential Regulation no. 09 of 2013 concerning the Implementation of the Management of Upstream Oil and Gas Business Activities.

The oil and gas industry requires high technology and high costs, categorized as a technology-intensive and capital-intensive industry. Oil and gas activities generally include five stages of activity: Exploration, Exploitation, Processing, Transportation, and Marketing. KSKs often change schemes to find the most profitable scheme for the state and achieve the greatest prosperity of the people. The role of the oil and gas industry is essential in development, making Indonesia require significant investments with sophisticated technology also due to the high risk. This is done because oil and gas exploitation in Indonesia is in the sea's most profound and most remote areas. Article 33 paragraph (4) of the 1945 Constitution implies that economic development should be built on the principle of independence, including the cost of development. In-Law No. 25 of 2004, which discusses the National Development Planning system, illustrates that development funds, where investment funds are financed by domestic savings originating from the government and the community.

Indonesia's Oil and Gas Law of 1960 and the Oil and Gas Law of 2001 are based on the 1945 Constitution, particularly Article 33 paragraphs (2) and (3), which regulate the state's natural resources rights. The long-term Sharing Contract system is required to produce something positive for the people of the Republic of Indonesia, namely so that this country can manage its oil and gas resources by itself.

In addition to fixing the government and KKKS quotas that are valid as long as the contract is valid without any mechanism for reimbursement of exploration to production costs under the previous cost recovery scheme, the government also intends to increase the share of subcontractors depending on the oil price level and total production (Ward & Pulido-Velazquez, 2009; Schoengold & Zilberman, 2014; Reynaud, 2016). The gross split scheme will be more effective because it offers better risk and cost management for KKKS and the government. Through this scheme, all risk management and costs for exploration and production will be delegated to the KKKS. Meanwhile, KKKS themselves can ask for a more significant profit-sharing portion, while at the same time, they can choose the technology used during the production process, resulting in ineffectiveness in their work.

The Cooperation Contract system in the form of PSC Cost Recovery has been used in Indonesia since 1966. This contract applies the principle of cost recovery, in which the government will replace the operational costs incurred by the Contractor. The existence of several debates regarding the procedure for returning operating costs to contractors in this cost recovery scheme has raised suspicions as a means of misuse of oil and gas operation funds so that it has the potential to harm the state (Zhang et al., 2012; Ghosh & Shah, 2015; Feng et al., 2014). This gross split scheme was established to solve the problem of ineffective cost recovery fund allocation. So the government proposes that the cost recovery system be abolished and replaced with a gross split system.

The company's profitability has become the main criterion in determining the company's financial performance. Measurement of company performance can be seen from the company's financial statements using analytical tools, namely financial ratios. The Indonesian government continues to innovate to improve the investment climate and accelerate exploration and exploitation activities in a work area. This can be seen in government policies that continue to modify regulations according to national development needs, including the refinement of the MEMR Regulation number 8 of 2017 itself, which has been revised in several articles in the regulation of the Minister of Energy and Mineral Resources number 08 of 2017 concerning Gross Split Production Sharing Contracts (from now on referred to as "EMR Ministerial Regulation number 52 of 2017). In essence, the purpose behind the Minister of Energy and Mineral Resources Regulation number 52 of 2017 is the government's desire to stimulate investors through the provision of incentives during the development of the Plan of Development (POD) II oil and gas field, which has not been accommodated in the previous regulation.

The world oil price is a monetary value of money set to get 1 barrel of oil in United States dollars. Fluctuations in world oil prices affect the economies of both oil-exporting and oil-importing countries. The increase in oil prices will make the domestic production sector reduce the output produced. This happens because high oil prices will make production costs increase, so that company productivity decreases. As a result, it will make the income of a region or country decrease (Septiawan et al., 2016; Ramadhan, 2017; Nawindra & Wijayanto, 2020; Arifah et al., 2020).

The Indonesian government continues to innovate to improve the investment climate and accelerate exploration and exploitation activities in a work area. Indonesia's oil production has been decreasing for a long time, followed by increased domestic consumption. However, when it is no longer suitable to be used, namely the cost recovery scheme, the scheme can no longer be used but is a gross split scheme. To support this concept, Regulation No. 08 of 2017. This regulation focuses more on matters relating to sharing contracts by proposing the condition that the government owns natural resources so that they are always in the hands of the government when the time comes to hand over the capital and risks will be fully taken over by the Contractor, and was taken over by SKK Migas in its operations management.

The Indonesian government always believes that foreign companies can drill oil in Indonesia because the oil-producing areas and the oil produced will remain the state's property. The government must approve all of these expenditures because the government will return the capital to the Contractor. If there is no reimbursement of costs after exploration, it turns out that there are no oil reserves suitable for exploitation. Following the Regulation of the Minister of Energy and Mineral Resources No. 08 of 2017 (as amended by Minister of Energy and Mineral Resources Regulation No. 52 of 2017) regarding Gross Split Production Sharing Contracts, SKK Migas does not evaluate or verify the budget submitted by KKKS in the 2019 WP&B. Submission of the budget plan is only as supporting data for evaluation of work plan.

Abandonment & Site Restoration in the 2019 Original WP&B is US$1,762,967 for the period February 10, 2019-December 31 December 31, 2019. Following the Minister of Energy and Mineral Resources Regulation No. 08 of 2017 (as amended by Minister of Energy and Mineral Resources Regulation No. 52 of 2017) regarding Gross Split Production Sharing Contracts, SKK Migas does not evaluate or verify the budget submitted by KKKS in WP&B 2019. Submission of budget plans is only as supporting data for evaluation of the work plan.

The cost allocation of the SSO function is determined based on the cost driver stipulated in SKK Miga's letter no. 2346/SKKMG2000/2017/S4. PHE conveys that the 2019 budget assumptions are made based on the actual percentage of SSO cost drivers in 2018 for the Q2-2018 Period; the realization in 2019 will be based on the actual percentage of the 2019 cost driver. Following the Regulation of the Minister of Energy and Mineral Resources No. 08 of 2017 (as amended by Minister of Energy and Mineral Resources Regulation No. 52 of 2017) regarding Gross Split Production Sharing Contracts, SKK Migas does not evaluate or verify the budget submitted by KKKS in the 2020 RK. Submission of the budget plan is only as supporting data for evaluation of the work plan.

In general, the Gross Split scheme has a debate goal related to the Cost Recovery scheme; the method for sharing oil and gas revenues is to eliminate the cost recovery scheme system. Schemes are always the initial doubts of problems and are a means of misuse of oil and gas operation funds. Cost Recovery removed the concept that it can make the government and SKK Migas release their functions and responsibilities for operating costs where the cost recovery scheme will be borne proportionally. So that the elimination of Cost Recovery also loses control and supervision and the obligations of SKK Migas towards cost recovery.

The Gross Split system will be able to eliminate the confusion about cost recovery that always exists between the government and oil and gas entrepreneurs and cooperation contract contractors (ECCC), one of which is the government auditor, namely the Supreme Audit Agency (SAA). The existence of this Gross Split scheme eliminates the public's assessment of Cost Recovery, which is often "tilted." So, with the implementation of the Gross Split, the government and ECCC are no longer preoccupied with providing explanations if there is an increase in Cost Recovery or a deviation.

The Gross Split system will eliminate confusion over cost recovery between the government and oil and gas entrepreneurs and cooperation contract contractors (ECCC), one of which is the government auditor, namely the Supreme Audit Agency (SAA). This Gross Split scheme eliminates the public's assessment of Cost Recovery, which is often "tilted." So, with the implementation of the Gross Split, the government and ECCC are no longer preoccupied with providing explanations if there is an increase in Cost Recovery or a deviation.

The assessment of the gross split scheme eliminates the attractiveness of oil and gas investment in Indonesia; besides that, there is also an opinion that with the gross split scheme, investors are more interested in saving the country's economy (Bohm & Russell, 1985; Kusuma & Yasa, 2019). Several studies on the Gross Split scheme have been carried out by several researchers, one of which is responding to doubtful responses to the Gross Split "Potential Problems in Gross Split." The study results stated that the Gross Split concept did not appear suddenly like

Simsalabim's magic, and even this was not born by people who were only involved in the Oil and Gas sector yesterday afternoon. However, it was born from several research results, which are seen from the state of oil in Indonesia and the world, which is filled with challenges that lie ahead for this industry.

Several empirical studies or event studies that have been conducted to analyze the budget, cost recovery, and gross split have succeeded in proving that these events have information content for investors so that the market reacts. The research, among others, has been carried out by Shobah (2015), with the title Cost Recovery research in oil and gas cooperation contracts in Indonesia in terms of international contract law. It found that the discussion on what components should be included in the cost recovery of oil and gas cooperation contracts in Indonesia review of international law.

A similar study was also conducted by Zhafarina (2018), using the research title Analysis of the position of the parties to the Gross Split profit-sharing contract in Upstream Oil and Gas Business activities in the amendment of the Minister of Energy and Mineral Resources No. 52 of 2017 concerning amendments to the MEMR Regulation no. 08 of 2017 concerning Gross Split Profit Sharing Contacts by finding the results that the application of the principle of balance in the position of the parties to the Gross Split profit-sharing contract in the MEMR Regulation No. 52 of 2017 concerning Amendments to the MEMR Regulation No. 08 of 2017 concerning Gross Split Production Sharing Contracts.

Hernandoko (2018), also researched cost recovery and gross splicing; by finding results, the difference between cost recovery and gross split, and the consequences in the investment sector for changes in profit-sharing contracts. Missenard et al. (2007), researched the role of the Operational Cost Budget in Supporting the Effectiveness of Operational Cost Control. With the object of research, PT. the train is engaged in inland transportation services and is under the auspices of the transportation department. By finding positive results wherefrom the range of the production budget, a flexible budget can be made, which is then compared between the actual costs incurred with a flexible budget at the same production capacity (Goldberg & Deb, 1991; D'Amato et al., 2017). Based on the above background, it encourages researchers to research with the title "Comparative Analysis of Upstream Oil and Gas Contracts Cost Recovery Scheme against Gross Split Scheme (Case Study: PT. Pertamina Hulu Energi Jambi Merang)."

## Research Methods

### *Analysis techniques*

Various facts used in this analysis are qualitative analysis, which examines by interpreting and constructing statements contained in statutory documents. The qualitative analysis method was built on secondary data, in theory, meaning, and substance from various literature, laws, regulations, and primary data obtained from observations and field studies, then analyzed with normative laws, theories, and related expert opinions (Boddy, 2016; Grbich, 2012; Sgier, 2012; Reay, 2014). Contract comparison is made through *cost recovery*, and *gross split* approach with the economic parameters used are POT, NPV, IRR, and PIR.

### *Community and pilot*

The community in the analysis here is PT. Pertamina Hulu Energi Jambi Merang from 2016-February 2019. The total population in the study is 191 people. According to Sugiyono (2010), the sample is part of the number and characteristics possessed by the population. Sampling in this study was carried out by the saturated sample method.

### *Types and sources of data*

These research types are qualitative data in field production data, operational cost data, field investment cost data, and oil/gas price data. The data source used in this study is premier data for the Period 2016-2020. The primary data source used is in the form of legal materials such as legislation. At the same time, the secondary data sources that will be used are literature reports, books, and supporting documents.

### *Population and research sample*

#### *Research population*

The population in this study were employees of PT. Pertamina Hulu Energi Jambi Merang is located in Bayung Lencir District, Musi Banyu Asin Regency, South Sumatra in the Period 2021.

*Research Sample*

The sample is "part of the population (sample) to be used as a study material in the hope that the sample taken from the population can be representative of the population" therefore, the sample used in this study is a total sample or saturated sampling where the sample determination is refundable if all members of the population are used as samples. The sample in this study were employees of PT PHE Jambi Merang in the Finance and Cost Control Budget division.

**Results and Discussion**

This chapter will discuss the calculation results of two schemes, namely PSC Cost Recovery and PSC Gross Split. The results obtained will be compared to which one is the better cash flow between the two schemes. The data used is synthetic data from the Jambi Merang PHE field, which is considered valid.

*Parameters used in calculation*
In calculating these two schemes, basic calculation parameters are needed to compare the two schemes. As a basis for calculating the economics of a field or work area, we must first know some important things; the important things are the amount of natural gas production, the estimated price of natural gas, the amount of investment as well as the terms and conditions that have been agreed in advance. The description of the parameters will be mentioned below.

*Field production data*
PT. PHE Jambi Merang field production data is one of the essential basic parameters to compare the scheme.

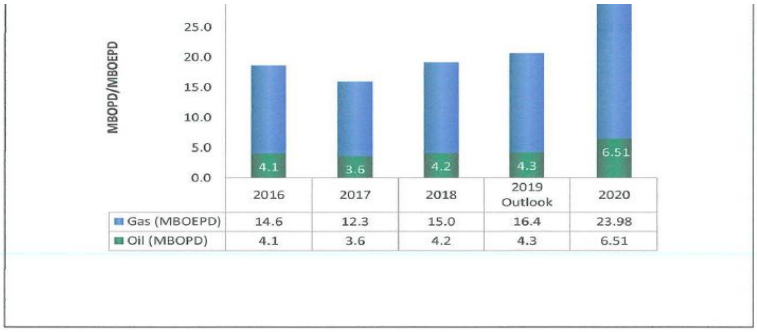


Figure 1. Oil / Gas Production Profile Chart 2016-2020
Source: MOM WP&B Year 2016 – 2020

*Operational cost*
Costs will be incurred every day for the duration of the contract. These costs include the number of lifting costs per barrel which are as follows:

Table 1
Operational Costs 2018 – 2020

| Year | Gas Price |
|---|---|
| 2018 | US$ 4,189.10/ MMBTU |
| 2019 | US$ 4,378.22/ MMBTU |
| 2020 | US$ 4,531.36/ MMBTU |

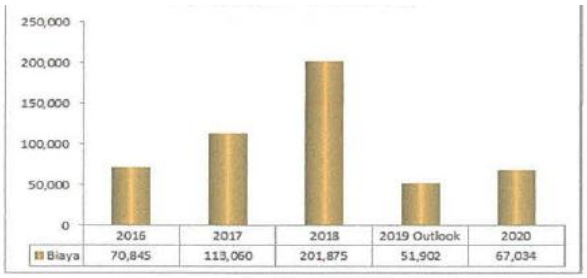


Figure 2. Graph of Production Operation Cost Profile 2016-2020
Source: MOM WP&B Year 2016 – 2020

*Field Investment Cost*

Table 2
Field investment cost of PT PHE Jambi Merang

| No | Investment | Cost (MUS$) |
|---|---|---|
| | *Tangible* | |
| | *Drill Well* | 8,400 |
| 1 | *Production Facilities* | 6,300 |
| | *Gathering Station* | 3,000 |
| | *Total* | 17,700 |
| | *Intangible* | |
| 2 | *Drill Well* | 18,900 |
| | Total | 18,900 |
| 3 | Total *CAPEX* | 36,600 |

*Oil Price*

In this study, the oil price is set at US$ 4.72/MMBTU. The oil price assumption does not change in the 20-year contract period. If the oil price is known, the amount of Gross Revenue earned for 20 years can be calculated.
Then the revenue can be as follows:
Revenue Cost Recovery = Production x Gas Price
= 55.38 MBOEPD x US$4.72/MMBTU
= US$ 261.39 M
Revenue Gross Split = Production x Gas Price
= 15.01 MBOEPD x US $4.72/ MMBTU
= US$ 70.8471 M
The amount can be seen in table 3 below.

Table 3
Gross revenue

| | |
|---|---|
| *Total Lifting* | 55.38 MOPED |
| *Total per barrel* | 15.01 MOPED |
| *Gross Revenue* | US$ 261.39 M |

*Calculation using PSC cost recovery scheme*

Table 4
Fiscal Terms Cost Recovery

| *Fiscal Terms Cost Recovery* | |
|---|---|
| GOI (Government Investment Split (B/T) | 71.15% |
| KKKS Split (B/T) | 28.85% |
| Tax Rate | 48% |
| Investment Credit | 17% |
| DMO holiday | Five years |
| DMO Fee | 15% |
| Depreciation | Declining Balance |
| Depreciation Rate | 25% |
| Total FTP | 20% |
| DMO | 25% |

Source: Developed for this research, 2021

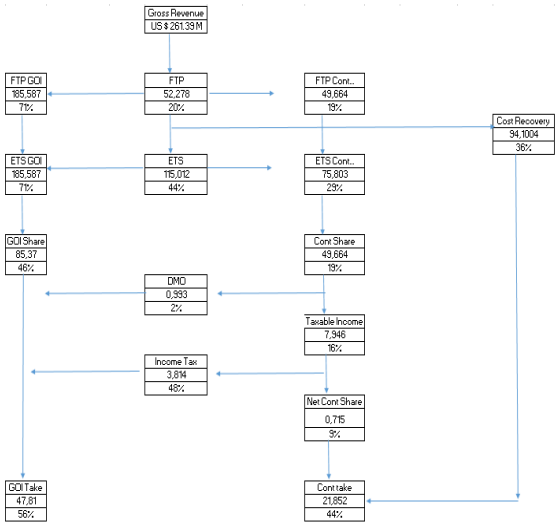


Figure 3. PSC Cost Recovery Scheme Earnings

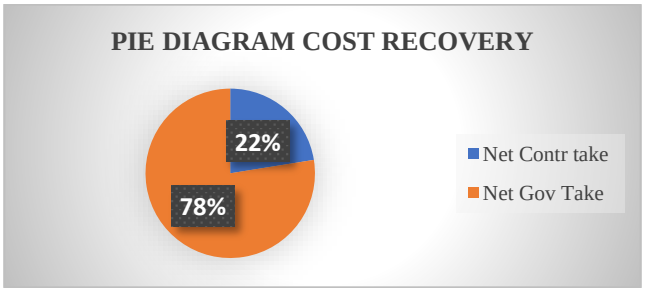


Figure 4. Pie Diagram of *Cost Recovery* Schematic
Source: Developed for this research, 2021

Table 4
*Cost Recovery* Economic Indicators

| Economic Indicator | | |
|---|---|---|
| 10% NPV | 108,742.78 | M US$ |

*Calculations Using the Gross Split PSC Scheme*

Table 5
Base split

| | Contractor | Government |
|---|---|---|
| Oil | 43% | 57% |

Table 6
Parameter split variable

| Parameter | Condition | Split Adjust |
|---|---|---|
| Block Status | No POD | 0.00% |
| Field Location | On Shore | 0.00% |
| Reservoir Depth | < 2500 m | 0.0 0% |
| Infrastructure | Well Develop | 0.00% |
| Reservoir condition | Conventional | 0.00% |
| CO2 | 5% <X≤10% | 0.50% |
| H2S | 100≤X<1000 | 1.00% |
| Oil Specific Gravity (API) | >25 | 0.00% |
| Local Content | 50%≤X<70% | 3.00% |
| Production Phase | Secondary | 6.00% |
| Split Adjust | | 10.50% |
| Discretion | | 10.00% |

Table 7
Progressive split

| Parameter | Information | Split Adjust |
|---|---|---|
| Oil Price | (85-ICP) x 2.5% | 3.75% |
| Oil Cumulative | < 30 MMBOE | 10% |

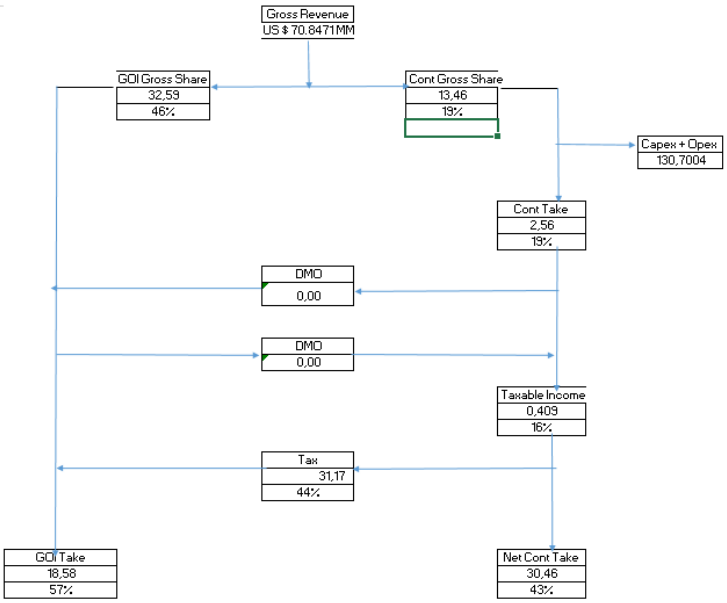


Figure 5. Gross Split Scheme Results
Source: Developed for this research, 2021

Table 8
Gross Split PSC Economic Indicators

| Economic Indicator | Mark |
|---|---|
| 10% NPV | 208.36 MMU$ |

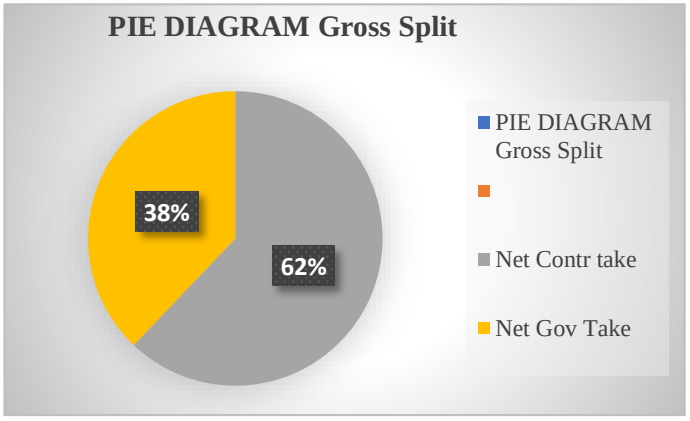


Figure 6. Pie Diagram *Gross Split*
Source: Developed for this research, 2021

Table 9
Economy

| Indicator | PSC Cost Recovery | PSC Gross Split |
|---|---|---|
| Total Contractor Take ($MM) | 21.85 | 30.46 |
| Total Government Take ($MM) | 75.41 | 18.58 |
| Contractor NPV ($MM) | 108,742.78 | 208.3604 |

## Conclusion

Based on the results of the analysis, calculations, and discussion in the previous chapter, this research can be concluded as follows;

a) The evaluation results show that the Gross Split Scheme has a more realizable economic value than the Cost Recovery scheme in terms of the existing economic parameters.
b) The results of the returns obtained are the calculation parameters of the payback regime that produce the largest GOI take value. Namely, the Gross Split scheme and the largest Contractor take the same is the Gross Split Scheme.
c) The results of the re-calculation of the economic value of the oil and gas field using economic parameters state that the NPV in PSC Cost Recovery is the smallest among the gross split schemes because of the DMO fee, which reduces the cash flow value of the Contractor. The NPV from concessional returns also has the most outstanding value because there are no reduction fees other than royalties and taxes, making the cash flow of the gross split scheme quite large.

*Acknowledgments*

The authors are happy to thank all contributors and sponsors who have supported our project from initiation until completion. Without those supports above, we will not be able to present this useful academic work. May this is a useful contribution to knowledge development.

## References

Arifah, L. F., Basorudin, M., Majid, M. A., & Choirunnisa, M. (2020). Studi Empiris Pengaruh Harga Minyak Mentah Dunia Dan Variabel Moneter Terhadap Perekonomian Indonesia Periode 1996-2018. *Jurnal Ekonomi-Qu*, *10*(1), 23-44.

Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal*.

Bohm, P., & Russell, C. S. (1985). Comparative analysis of alternative policy instruments. In *Handbook of natural resource and energy economics* (Vol. 1, pp. 395-460). Elsevier. https://doi.org/10.1016/S1573-4439(85)80013-0

D'Amato, D., Droste, N., Allen, B., Kettunen, M., Lähtinen, K., Korhonen, J., ... & Toppinen, A. (2017). Green, circular, bio economy: A comparative analysis of sustainability avenues. *Journal of Cleaner Production*, *168*, 716-734. https://doi.org/10.1016/j.jclepro.2017.09.053

Feng, Z., Zhang, S. B., & Gao, Y. (2014). On oil investment and production: A comparison of production sharing contracts and buyback contracts. *Energy Economics*, *42*, 395-402. https://doi.org/10.1016/j.eneco.2014.01.010

Ghosh, D., & Shah, J. (2015). Supply chain analysis under green sensitive consumer demand and cost sharing contract. *International Journal of Production Economics*, *164*, 319-329. https://doi.org/10.1016/j.ijpe.2014.11.005

Goldberg, D. E., & Deb, K. (1991). A comparative analysis of selection schemes used in genetic algorithms. In *Foundations of genetic algorithms* (Vol. 1, pp. 69-93). Elsevier. https://doi.org/10.1016/B978-0-08-050684-5.50008-2

Grbich, C. (2012). *Qualitative data analysis: An introduction*. Sage.

Hernandoko, A. (2018). Implikasi Berubahnya Kontrak Bagi Hasil (Product Sharing Contract) Ke Kontrak Bagi Hasil Gross Split Terhadap Investasi Minyak Dan Gas Bumi Di Indonesia.

Kusuma, P. S. A. J., & Yasa, G. W. (2019). Comparative analysis of company market reactions on right issue for pay debt and investment. *International Research Journal of Management, IT and Social Sciences*, *6*(3), 29-36.

Missenard, Y., Taki, Z., de Lamotte, D. F., Benammi, M., Hafid, M., Leturmy, P., & Sébrier, M. (2007). Tectonic styles in the Marrakesh High Atlas (Morocco): The role of heritage and mechanical stratigraphy. *Journal of African Earth Sciences*, *48*(4), 247-266. https://doi.org/10.1016/j.jafrearsci.2007.03.007

Nawindra, I., & Wijayanto, A. (2020). The Influence of Macroeconomic Variables on The Indonesian Sharia Stock Index (ISSI) for The 2013-2019 Period. *Management Analysis Journal*, *9*(4), 402-412.

Ramadhan, P. (2017). Determinan Pembiayaan Bermasalah Sektor Pertambangan Pada Perbankan Syariah. *Akuntabilitas*, *10*(2), 369-390.

Reay, T. (2014). Publishing qualitative research.

Reynaud, A. (2016). Assessing the impact of full cost recovery of water services on European households. *Water Resources and Economics*, *14*, 65-78. https://doi.org/10.1016/j.wre.2016.04.001

Schoengold, K., & Zilberman, D. (2014). The economics of tiered pricing and cost functions: Are equity, cost recovery, and economic efficiency compatible goals?. *Water Resources and Economics*, *7*, 1-18. https://doi.org/10.1016/j.wre.2014.07.002

Septiawan, D. A., Hidayat, R. R., & Sulasmiyati, S. (2016). Pengaruh Harga Minyak Dunia, Inflasi, dan Nilai Tukar Terhadap Pertumbuhan Ekonomi Indonesia (Studi Pada Tahun 2007-2014). *Jurnal Administrasi Bisnis*, *40*(2), 130-138.

Sgier, L. (2012). Qualitative data analysis. *An Initiat. Gebert Ruf Stift*, *19*, 19-21.

Shobah, S. (2015). Cost Recovery Dalam Kontrak Kerjasama Minyak dan Gas Bumi di Indonesia Ditinjau Dari Hukum Kontrak Internasional. *Kumpulan Jurnal Mahasiswa Fakultas Hukum*, *4*(2).

Sugiyono, D. (2010). Metode penelitian kuantitatif dan R&D. *Bandung: Alfabeta*.

Ward, F. A., & Pulido-Velazquez, M. (2009). Incentive pricing and cost recovery at the basin scale. *Journal of Environmental Management*, *90*(1), 293-313. https://doi.org/10.1016/j.jenvman.2007.09.009

Zhafarina, A. R. N. (2018). *Analisis Kedudukan Para Pihak Dalam Kontrak Bagi Hasil Gross Split Pada Kegiatan Usaha Hulu Migas Dalam Permen Esdm No. 52 Tahun 2017 Tentang Perubahan Atas Permen Esdm No. 8 Tahun 2017 Tentang Kontrak Bagi Hasil Gross Split* (Doctoral dissertation, Universitas Brawijaya).

Zhang, W. G., Fu, J., Li, H., & Xu, W. (2012). Coordination of supply chain with a revenue-sharing contract under demand disruptions when retailers compete. *International Journal of Production Economics*, *138*(1), 68-75. https://doi.org/10.1016/j.ijpe.2012.03.001