

Comparison of oil and gas fiscal policies in Southeast Asian Countries: Indonesia, Malaysia and Brunei Darussalam

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Abstract. This study's objective was to examine the comparison of petroleum management policies in accordance with the concession contract system and production sharing contract system in several countries in the Southeast Asia region. In contrast to existing research, this comparison focuses more on the countries of Indonesia, Malaysia and Brunei Darussalam, which are developing countries producing petroleum in the Southeast Asia region. Moreover, this comparative research will be used to identify the kind of oil and gas contract that will yield the highest profits for Indonesia. Since Indonesia is a developing nation that is an archipelago, it depends heavily on its oil and gas resources for foreign exchange, necessitating the creation of suitable oil and gas management laws. Comparison of oil and gas policies undertaken through interviews with oil and gas law experts and a literature review of the history of the petroleum management policies in each country. The study's findings indicate that production sharing contracts are more profitable to implement in developing maritime countries such as Indonesia, Malaysia and Brunei Darussalam compared to the concession system. This is due to the implementation of a production sharing contract system in the state has a strong position towards contractors. Apart from that, the provisions in the Production Sharing Contract also require the use of domestic labor and goods. This will definitely increase the multiplier effect and technology transfer so that Indonesia is expected to be able to compete with other countries. Keywords: Oil and gas, Policies, Southeast Asia, Cost recovery

1 Introduction

Southeast Asia is one of the most desirable regions to invest in the oil and gas sector. Almost all countries in the Southeast Asia region have natural resources in the form of oil and gas. A policy is needed to become a series of concepts and principles that form the outline and basis of plans made by the government in implementing the management of oil and gas resources. The oil and gas policy is considered important because the amount of oil and gas reserves is very limited and classified as non-renewable resources. Each country's

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oil and gas policy will be different and adapted to the laws and objectives of the country. The policies made will greatly affect the socio-economic conditions and industrial development of the country. With the policy, the activities of the oil and gas industry in a country will need a cooperation contract to support these activities.

Fiscal policies for petroleum industry are generally divided into two, namely concessions and contracts [1]. Each policy has different rules according to the goals of the country that uses it. The concession system is also known as a license, permit, or royalty and mineral tax system. What is characteristic of this system is that natural resource ownership rights are granted to contractors. The state will get part of the royalty or tax payments that have been determined in the policy [2]. Contractors are given exclusive rights to explore, develop and produce resources in their working areas. Apart from the concession system, another system in oil and gas policy is the contract system. This contract system is divided into two types namely *production sharing contract* (PSC) and *service contract*.

In the history of the development of the Indonesian oil and gas industry, the concession system, work contracts system and Production Sharing Contracts system have been used. The concession system was in effect from 1910 to 1960, the works contract was in effect from 1960 to 1963 and the Production Sharing Contract was in effect from 1964 to the present. The changes in contracts that have been implemented in Indonesia are nothing more than a matter of finding the right form to implement.

The aim of this study was to find a form of agreement or contract that supports the investment process in Indonesia, especially in petroleum business. This can be achieved, among other things, by comparing oil contracts that have previously been in force in Indonesia and comparing them with oil and gas contracts that have been in force in several neighboring oil-producing countries such as Malaysia and Brunei Darussalam.

A search of diverse literature linked to this research was conducted and used to determine the research's position and state of the art. The literature review concentrated on the findings of cross-national comparisons of oil and gas management strategies (Table 1). In contrast to existing research, this comparison focuses more on the countries of Indonesia, Malaysia and Brunei Darussalam to find a form of agreement or contract that supports the petroleum bussines in Indonesia

Table 1: A prior study examined the policies for managing gas and oil in different nations

| Authors | Theme of study |
|--|---|
| Research by Ariyon M, Dewi E. K, Novriansyah A (2023) | This research is about choosing the best oil-share contract structure to revitalise the marginal field in the central sumatra basin [3]. |
| Research by P Yun, Yi Jie, Xin, Jia Li, Chang YuWen, G Feng, Li HongWei, Zhaozhe | This paper is about impacts, future trends, and fiscal changes of indonesia's new petroleum fiscal regime [4]. |
| Research by D Kraal | This study compares the tax advantages offered by the petroleum sector to the energy policies of Australia, Malaysia, Indonesia, and Papua New Guinea [5] |
| Research by Roach B and Dunstan A | This studi is about a historical turning point for the Indonesian PSC Indonesia [6] |
| Research by N. A Babajide, D.O Aremu, C. A Ogunlade, C. A., A | Comparative Examination of the Upstream Petroleum Fiscal Systems in Indonesia, Nigeria, and Malaysia, Three Petroleum Exporting Nations [7] |
| Research by Dharmadji T and Parlindungan T | The competitiveness of the fiscal regimes in the Asia Pacific region which includes Australia, China, India, Indonesia, and Malaysia that produce oil and gas is being examined in this study [8] . |

2 Methodology

The methods applied was normative legal research methods and comparative methods. Data collection was undertaken using field research and literature study. Field research was carried out by interviewing legal consultants at SKK Migas and also other sources who have knowledge in petroleum policy. The comparative method was used for comparative research on oil and gas fiscal policies used in Indonesia, Malaysia and Brunei Darussalam. In this case, the comparative method can be used to determine the similarities and comparisons of the objects studied. The selection of Indonesia, Malaysia and Brunei Darussalam as study countries was based on the consideration that these countries are the largest oil producing countries in Southeast Asia, apart from that these countries are also maritime countries dominated by water rather than land. As developing countries, Indonesia, Malaysia and Brunei are very dependent on natural resources such as petroleum as capital to drive their economies. Therefore, appropriate oil and gas resource management policies are needed to improve the country's economy.

3 Result and Discussion

3.1 Indonesian oil and gas fiscal policy

Southeast Asian nation with the most oil and gas reserves is Indonesia. Possesses the biggest reserves, estimated to be 2.8 trillion natural gas reserves and 3.2 billion barrels of oil. Indonesia influences the world oil and gas fiscal policy. Indonesia was the first country to propose a *Production Sharing Contract* (PSC) contract model in the oil and gas industry and started using PSC in 1961 [4]. Initially, Indonesia used the concession agreement model and changed it to PSC, and PSC became the most widely used oil and gas contract model in the world. This PSC model has been in use for a very long time in Indonesia. Despite being the nation that updates petroleum industry fiscal rules and regulations the most, the fundamentals of the PSC, which include production sharing and cost recovery, have not changed in over 50 years. But a new contract model was unveiled in January 2017. Indonesia unveiled a new model that modifies the PSC model's fundamental architecture, this model is called the *Gross Split Production Sharing Contract*. In this new model, cost recovery is no longer used, the government and contractors will share gross revenue, and there is no profit. In the future, investments and contract extensions will start to employ this new contract type. This shift will have a significant impact on the Indonesian petroleum sector and may potentially lead to changes in PSC models globally.

3.1.1 *Production Sharing Contract Model Scheme (PSC)*

The national oil business Pertamina, international oil companies (American companies), and the government devised the production sharing contract contract model, which was first utilized in 1966. Indonesia utilized a concession system prior to employing PSC contacts. Utilizing a production-sharing contract (PSC) arrangement was first implemented by Indonesia [9]. The ownership of resources by the state differs significantly between concessions and PSCs; under concessions, the contractor is the owner of the resources, whereas under PSCs, the state is. In exchange for the services rendered, the contractor is paid a portion of the production. Profit oil split, contractor taxes, domestic market bonds,

and cost recovery are all covered by this method. With a cost recovery of 40% of revenue and an oil profit split of 60:40 between the government and the contractor, the first PSC model is called IIALCO PSC.

The Indonesian PSC system has undergone several changes due to policy changes. In 1974, the government's profit sharing increased from 60% to 85% [10], this was done to compensate for the increase in oil prices, which at that time were more than \$5 per barrel. Then, in 1976 Indonesia completely revised the PSC system due to growing energy costs. The elimination of cost recovery results in a post-tax profit ratio of 85 % for government and 15 % for contractor. Due to a drop in oil prices in 1988, the government once more changed the fiscal term. First Tranche Petroleum (FTP) then emerged to guarantee state revenues.. During 1988-1992 several incentives had been created to stimulate exploration activities, namely increasing the post-tax split for contractors, investment credit, and reducing DMO. Indonesia is a country that actively renews its oil and gas policy, after revising it from year to year to adjust to world oil price conditions, in 2001 Indonesia revised the PSC scheme again. This 2001 PSC schematic is the most actively used scheme in Indonesia. From 2001-2016 Indonesia released three editions of the contract model (2002, 2008, and 2009).

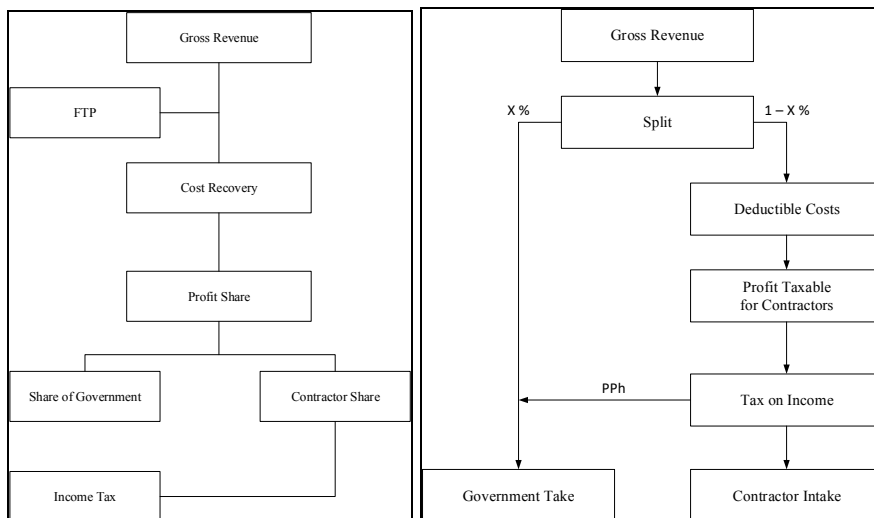


Fig. 1. The Scheme of Conventional PSC and New PSC System [6]

Table 2. PSC fiscal term guidelines used in Indonesia

| Fiscal Terms | Key Components |
|-------------------------------|--|
| Bonus | <i>Signature bonus (negotiable/ biddable with indication 1 Million USD)</i> <i>Production bonus (negotiable/ biddable with minimum indication of 25000 USD)</i> |
| Other cost | Administration Cost (USD 75000 per year during the exploration period) |
| State participation | 10% from the first sale <i>Reimbursement 10% share cost</i> from the government part during the production time |
| First Tranche Petroleum (FTP) | 20% for the conventional block (the distribution is based on respective profit share between the country and the contractor) |
| Recovering Costs | 100 percent |
| Production Sharing | Share after tax contractor for the standard block as specified in the contract: 30 until 35 percent for the oil and 35 until 40 percent for the gas |
| Tax Income | Twenty five % [5] |

| | |
|----------------------------------|---|
| Domestic Market Obligation (DMO) | 25 percent of the total output. For the first five years, the price is equal to the contract value; after that, it is 25 percent of the contract value. |
| Withholding tax | 20% |

3.1.2 Scheme of the Gross Split Contract Model PSC

The Ministry of Energy and Resources of the Republic of Indonesia released Ministerial Regulation No. 08 of 2017 concerning new fiscal policies in the upstream oil and gas business sector in order to improve the efficiency and efficacy of split production between the state and contractors. In an effort to boost both exploration activity and oil and gas production, the government is enforcing the Gross Split Production Sharing Contract as a new rule to replace the prior one (conventional PSC) [11].

The primary distinction between the gross split PSC system and the conventional PSC is that the former divides the oil split from gross production without any cost recovery, the latter retains ownership rights of natural resources until the point of delivery and gives SKK Migas control over operations management, and the former bears all capital and risk.. The initial profit sharing (base split) between the state and the contractor is 57:43 for oil and 52:48 for gas [12]. Oil splits may rise or fall in accordance with Ministerial Regulation No. 8 of 2017 based on the progressive split variables and the current split. An oil split adjustment based on a field's characteristics is called the split variable. Area of Work: Field position, Block status, depth, and type (conventional or non-conventional) of reservoir The accessibility of infrastructure for assistance Content of carbon dioxide [13].

Table 3. PSC fiscal gross split guidelines used in Indonesia

| Financial Terms | Main Elements |
|----------------------------------|---|
| Bonus | Biddable signature bonus subject to USD 0.5–2 million minimum output bonus: contingent upon daily output rate or cumulative production |
| Additional expenses | Not one |
| The government’s participation | 10 percent from the first sale Reimbursement 10% share cost from the government part during the production time |
| FirstTranche Petroleum (FTP) | Not one |
| Cost Recovery | Not one |
| Sharing of Production | Contractor: base portion plus variable portion plus escalating portion adjustment Base share: 43 percent for oil and 48 percent for gas for the contractor |
| Income tax | 25 percent |
| Domestic Market Obligation (DSO) | 25 percent of the contractor's share of the gas or oil. The price is set by the authorities. |
| Withholding tax | Not one |

3.2 Malaysia oil and gas fiscal policy

Malaysia is one of the countries in Southeast Asia that has large oil potential and natural gas potential. Possessing 2.8 billion barrels of oil and 0.9 trillion cubic meters of gas reserves [14]. There are three segments to the Malaysian oil and gas industry: upstream,

midstream, and downstream operations. Exploration, development, and production of gas and oil are examples of upstream activities. Refining and processing, product marketing, trading, and transportation (tankers and pipelines) are all considered midstream and downstream activities. Twenty percent of the nation's GDP comes from the oil and gas industrial sector. The midstream industry provided RM24, or 21.62%, to the overall contribution of RM87, whereas the upstream sector contributed 78.38% [7]. Rising oil and gas prices were the primary factor driving the upstream oil and gas sector's growth in Malaysia.

The Malaysian government was quite active in changing its country's oil and gas policies, from 1976 to 2018, there were nine policy changes used from the concession system, production sharing contract (PSC), Deepwater/Ultra-Deepwater PSC, Revenue over Cost (R/C) PSC, HP/HT terms, Risk Service Contract, Progressive Volume Based, and DW PSC Enhancement. Before 1976, the Malaysian government used a concession system in its oil and gas sector regulations. Because of the 1960s–1970s energy crisis and the requirement for extremely stringent restrictions, PETRONAS (Malaysia's national company) was established under the Petroleum Development Act 1974 (PDA) and Malaysia adopted a pre-existing production sharing contract (PSC) policy.

3.2.1 Malaysia Concession

The concession system is the oldest existing system in the petroleum fiscal regime, Malaysia also used this system at the beginning of the oil and gas industry in the country. Shell was the first company to be awarded this concession contract in the 1960s. At the end of 1960, many oil and gas companies were conducting exploration in Malaysia such as Conoco and Esso. The component of this policy is royalty or tax, which is given to the government where oil and gas fields are found [15].

3.2.2 Malaysia Production Sharing Contract (PSC)

Malaysia started using the Production Sharing Contract (PSC) system in 1976. The existing PSC system was promulgated in 1985 with minor revisions in 1991. Revisions to the system were made primarily to regulate deepwater exploration. The Malaysian PSC is slightly different from the PSC used in Indonesia, the difference lies in the FTP. PSC Malaysia does not include FTP in the production-sharing contract scheme, but the contractor must pay royalties when first receiving cost revenue. The amount of royalties for both oil and gas sectors is a maximum of 10% and is paid in kind. The royalties will immediately become government revenue and can be tax deductible [8].

Table 4. Guidelines for fiscal Production Sharing Contracts used in Malaysia

| Fiscal Terms | Key components |
|-------------------------|--|
| Bonus | There are no signature and production bonus |
| Other cost | Royalty for both sectors (oil and gas) maximum 10% |
| First Tranche Petroleum | None |
| Cost Recovery | Maximum 50% for the oil and 60% for gas. The percentage is influenced by total production to decrease royalty. |

| | |
|----------------|---|
| Profit Sharing | Contractor Income of 1985 System: Up to 10.000 = 50:50 Next 10.000 = 60:40 Above 20.000 = 70:30 1991 Deepwater System: Up to 50.000 = 60 Next 50.000 = 50 Above 100.000 = 40 |
| Income tax | 45% of contractor share (oil and gas) Export tax 25% (in the contract 1985, there is tax free 20%) |

3.2.3 Malaysia Revenue over Cost PSC (RC/PSC)

Exploration, development, and production activities in 163 oil fields and 216 natural gas fields are carried out by Malaysia through the national oil and gas company, PETRONAS, under the terms of a production sharing contract (PSC) system governed by the Malaysia Petroleum Act 1967 and the Petroleum Income Tax Amendment Act 1976. To stimulate fresh investment in Malaysia's upstream industry, a new PSC system based on the revenue over cost (RC/PSC) paradigm was implemented in 1997.

Table 5. R/C PSC Index

| Term Fiscal | | Key Elements | |
|------------------------------------|--|--|--|
| Royalty amount | | Ten Percent | |
| Tax on petroleum income | | 38 percent | |
| Export taxes on oil and condensate | | Ten Percent | |
| research credit | | 0.5% (not including the price of petrol) | |
| Participation of PETRONAS Carigali | | 20 percent | |
| time of exploration | | Five years | |
| duration of gas storage | | Five years | |
| phase of development | | Four years | |
| period of production | | twenty years | |
| Index R/C | Tranche Total Cost (%) | Tranche of Total Profit (%) | |
| In between 0.0 and 1.0 | 70 | 20 | |
| between 1.0 and 1.4 | 60 | 30 | |
| between 1.4 and 2.0 | 50 | 40 | |
| Between 2.0 and 2.5 | 30 | 60 | |
| Between 2.5 and 3.0 | 30 | 60 | |
| 3.0 or higher | 30 | 60 | |
| Threshold Volume Below (THV)* | | | |
| Index R/C | Total Cost Tranche (TCT) of the Contractor (%) | Total Profit Tranche (TPT) of the Contractor (%) | |
| In between 0.0 and 1.00 | - | 80 | |
| Between 1.0 and 1.4 | 80 | 70 | |
| Between 1.4 and 2.0 | 70 | 60 | |
| Between 2.0 and 2.5 | 60 | 50 | |
| Between 2.5 and 3.0 | 50 | 40 | |
| 3.0 or higher | 40 | 30 | |

| Above Threshold Volume (THV)* | | |
|--------------------------------------|---|---|
| Index R/C | Total Cost Tranche (TCT) of the Contractor (%) | Total Profit Tranche (TPT) of the Contractor (%) |
| In between 0.0 and 1.00 | - | 40 |
| Between 1.0 and 1.4 | 40 | 30 |
| Between 1.4 and 2.0 | 40 | 30 |
| Between 2.0 and 2.5 | 40 | 30 |
| Between 2.5 and 3.0 | 40 | 30 |
| 3.0 or higher | 20 | 10 |

This RC/PSC system allows the contractor to speed up cost recovery if the contractor reaches a certain target cost. By giving contractors a larger share of production when their profitability declines and increasing PETRONAS' share of production when profitability rises, the RC/PSC system aims to meet the ideal fiscal policy conditions, maximize government revenue, and still promote investment [16].

3.3 Brunei Darussalam oil and gas policy

Brunei Darussalam's economy is almost entirely dependent on the oil and gas industry. 1929 saw the start of exploration at Seria. Brunei Shell Petroleum (BSP) started offshore exploration in 1957 following a drop in Seria output in the 1950s. Numerous significant oil and gas fields have opened since then. Champion is the biggest offshore field. The average output in 1990 was 152,000 barrels per day, and proven reserves are estimated to be around 1.1 billion barrels of oil [17].

Brunei Darussalam, like most of the nations in Southeast Asia, operates under the Petroleum and Mining Law & Income Tax (Petroleum) Law, which governs the production sharing contract (PSC) system. Before production begins, the national oil and gas corporation, BNPC, has the option to participate to the tune of 50%. It will reimburse a portion of the expenditures with a portion of its earnings. Furthermore, Brunei's contract structure applies an 8% royalty on both oil and gas, however the rate for gas may be different from the rate for oil. Every three months, cost recovery is computed, using an 80% assumption for oil and gas. Every expense incurred in operations, development, and exploration is deducted. Costs that have not been recovered (unrecovered costs) can be postponed or deferred until fully recovered (fully recovered). A sliding scale based on cumulative field production and the average production level every three months determines the contractor's portion of the oil profit. The income tax rate is 55% for the oil and gas industry, exploration costs are charged and deferred for the next 6 years. In addition, the withholding tax rate is also used at 20% [16].

Table 6. Production Sharing Contract Oil Brunei

| Contractor's earnings oil (%) | Total production of less than 200 MMBBL | Production totaling more than 200 MMBBL |
|---------------------------------------|--|--|
| Over 25.000 BPD in production | 60 percent | 40 percent |
| Rate of production: 25.000–50.000 BPD | 40 percent | 40 percent |

| | | |
|------------------------------------|------------|------------|
| More than 50,000 BPD of production | 20 percent | 20 percent |
|------------------------------------|------------|------------|

Table 7. Production Sharing contract gas Brunei

| Total cumulative yield (TCF) | Gas profit for contractors |
|------------------------------|----------------------------|
| Over 1.5 | 60 percent |
| less than 1.5 | 40 percent |

3.4 Conceptual comparison analysis between the concession system and production sharing contracts

In general, there are two types of gas and oil contract systems in the world: contracts and concessions. A concession system was first used, and subsequently production sharing contracts were introduced as a replacement for the gas and oil contract system in Indonesia, Malaysia, and Brunei. In the pre-independence era, the oil and gas contract system used in Indonesia, Malaysia and Brunei was a concession system. However, after independence, the oil and gas contract system used was a production sharing contract system. In more detail, the concession system and production sharing contracts are compared in the following ways.:

1. Ownership Rights

The ownership of oil and natural gas is the primary distinction between the production sharing contract system and the concession system. Under the concession system, investors and oil firms have ownership rights to natural gas and oil, and in the event that the oil is produced, the company is required to pay taxes and royalties to the state. In a production sharing contract system, the state still controls the ownership rights to oil and gas and the oil company will get its share according to the contract

2. Management Rights

Oil corporations have rights to oil and gas resources when it comes to controlling their mining business activities. In the concession system, oil and gas firms possess economic, mining, and mineral rights; in production sharing arrangements, the company is only granted economic rights. In this case, the rights owned by the company in the concession system are very broad, namely the right to produce, sell and use discovered oil and gas. In production sharing contracts, contractors are only given economic rights. Things included in economic rights are cost recovery, oil and gas profit sharing and other incentives. Contractors begin to receive oil and gas production results at the point of delivery (point of export). Thus, it can be said that the rights owned by the contractor are less compared to the concession system. In this case, the government has more rights than the contractor so that the production sharing contract is more profitable for the state.

3. Operations Management

In the concession system, operations management lies with the company. The government does not have the right to participate in the implementation of gas and oil activities. A Production Sharing Contract gives the government complete operational control, in contrast to the concession contract. By maintaining control over operational management, the government can decide on policies that it feels can meet the interests of the state. Another advantage gained is that the government can directly supervise the implementation of oil and gas mining business activities in its country.

4. Funds

Oil and gas mining business activities require very large funds. Basically, between the concession system and the production sharing contract system, the state does not incur costs. However, it can be said that the production sharing contract system is more profitable because state revenue can be in the form of production sharing and taxes, whereas in the concession system you only get royalties and taxes.

5. Use of Labor and Domestic Component Level

Under the concession system, the investor or oil company is in charge of carrying out oil and gas operations, and this cannot be challenged until the permit time has passed. In production sharing contracts, the implementation of oil and gas activities is controlled and supervised by the state so that the state can require contractors to use domestic labor and components to increase the multiplier effect and transfer technology from (foreign) contractors to Indonesian workers.

6. Risk

Risk is the obligation to bear losses if an event occurs that is not the fault of the parties. In the concession system, the risk lies with the oil and gas company, the government only grants concession permits without guaranteeing that the area where the investor's business activities take place contains economical oil reserves or not. In a production sharing contract, the contractor bears a very large risk burden. This can happen if the contractor cannot find oil and gas and/or finds oil and gas but it is not commercially viable for production. In this case, all costs incurred by the contractor will not be returned by the government. Furthermore, contractors must give the state back their work areas. The danger of not receiving oil and gas production is covered by both methods. Thus, the nation does not receive oil and gas production if oil and gas firms do not. However, in production sharing contracts the government obtains data from research conducted by contractors in the area concerned.

7. Company acceptance

In the concession system, company revenues obtained from oil and natural gas mining results are oil and natural gas production. The company has the right to sell or use the oil and gas it has produced. This is because all production results belong to him. In a production sharing contract, the contractor's revenue obtained from oil and gas mining results is the result of production sharing. This means that the contractor gets the oil and gas production results after sharing with the state according to the terms of the contract.

8. State revenue

The state receives results or revenues from oil and gas mining businesses that have been carried out by contractors. In the concession system the state gets royalties and taxes, while in the production sharing contract the state gets from oil and gas production sharing and taxes. State revenue in terms of these two systems is more attractive to state revenue in the production sharing contract. This is because the nation receives items produced from oil and gas extraction. The product's output can be exported overseas to generate foreign exchange for the nation or used for the people's prosperity.

Regarding to the explanation above, the most suitable form of contract to be implemented in Indonesia is a Production Sharing Contract. This is because the Production Sharing Contract puts the country in a strong and profitable position compared to the concession system. Apart from that, the provisions in the Production Sharing Contract also require the use of Indonesian workers and prioritize the goods used from within the country. This will of course increase the multiplier effect and technology transfer so that Indonesia is expected to be able to compete with other countries.

3.5 Analysis of the Implementation of the Production Sharing Contract System

In the pre-independence era, the oil and gas contract system used in Indonesia, Malaysia and Brunei was a concession system. However, after independence, the oil and gas contract system used was a production sharing contract system. Production sharing contracts are a product from Indonesia which is currently being followed by many other countries in the world. This type of contract can accommodate the state's interests in obtaining oil and natural gas resources contained in its territory. This contract is suitable for application in developing countries that do not have sufficient capital to carry out oil and gas mining business activities. This is due to the fact that contractors were first required to fund the operations of the oil and gas industry. If the contractor does not find oil and/or natural gas or finds it but is not commercial, then the state does not need to return the costs (cost recovery) that the contractor has incurred.

Production Sharing Contracts are developing well in Indonesia. Numerous other oil-producing nations, like Brunei Darussalam and Malaysia, also use this approach. In the Production Sharing Contract there are no provisions that are felt to be burdensome for either the government or the contractor. However, based on the results of the analysis, there are several obstacles in its implementation, namely:

1. Cost Recovery Problem

When implementing the Contract for Production Sharing system, one issue that frequently arises is differences in perception on the level of cost recovery. Indonesia or other developing countries would certainly object if large amounts had to be returned. Oil and gas production serves as the cost recovery mechanism instead of money. In the oil and gas sector, longer costs will result in higher cost recovery, but output of oil would decline due to depleting and challenging-to-produce oil reserves. On the other hand, if there is a significant cost recovery, the government undoubtedly aspires for high productivity.

One way to anticipate this is that the Indonesian government issued a new PSC contract, namely PSC Gross Split, namely a PSC system that eliminates cost recovery. Malaysia encourages new investment in its upstream industry through the use of revenue over cost (RC/PSC) contracts. And Brunei Darussalam uses PSC but still adds royalties to the contract component. From income tax revenues, it can be seen that Brunei is the country that gets the highest income from income tax, namely 55%, compared to Indonesia which is only 25% and Malaysia 33% in revenue over cost (RC/PSC) contracts (Table 7)

Table 8. An analysis comparing Brunei, Malaysia, and Indonesia's oil and gas fiscal systems

| Term | Indonesia | Malaysia | Brunei Darussalam |
|---------------|-------------------------------|------------------------|-------------------|
| Cost recovery | PSC 100% Gross split: none | 50% oil 60% gas | 80% per 3 months |
| Income tax | 25% | PSC 45% R/C PSC 33% | 55% |
| Royalty | None | 10% | 8% |

2. The problem of legal uncertainty

Legislation in a country like Indonesia often changes and even new laws emerge. This new regulation can change the terms of existing contracts so that it can be detrimental to

contractors, such as tax issues or other levies issued by the local government. This can of course create legal uncertainty for contractors. New regulations issued by the government should apply only to newly signed contracts.

3. Overlapping land

Oil and gas activities are closely related to the land or land that is the working area. Oil and gas resources are often located in protected forest areas, which can lead to land use conflicts. This conflict of land use interests should be resolved with coordination from the government, namely between the forestry ministry and the mineral resources and energy ministry or institutions related to oil and gas operations.

4 Conclusion

Dealing with the analysis result, the most suitable form of contract to be implemented in Indonesia is the Production Sharing Contract. This is due to the Production Sharing Contract puts the country in a strong and profitable position compared to the concession system. Apart from that, the provisions in the Production Sharing Contract also require the use of Indonesian workers and prioritize the goods used from within the country. This will of course increase the multiplier effect and technology transfer so that Indonesia is expected to be able to compete with other countries. This contract is suitable for application in developing countries that do not have sufficient capital to carry out petroleum business activities. This is due to the fact that contractors were first required to fund the operations of the oil and gas company. If the contractor does not find oil and/or natural gas or finds it but is not commercial, then the state does not need to return the costs (cost recovery) that the contractor has incurred.

The main issue in implementing the production contract system is the difference in perception regarding the amount of cost recovery. To anticipate this, the Indonesian government issued a new PSC contract, namely PSC Gross Split, namely a PSC system that eliminates cost recovery. The revenue over cost (RC/PSC) contract type is utilized by Malaysia to stimulate fresh investment in the upstream sector of the country. Meanwhile, Brunei Darussalam uses PSC but still adds royalties to the contract component.

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CERTIFICATE

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