Indonesia’s New Petroleum Fiscal Regime: Fiscal Changes, Impacts and Future Trends

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Abstract. Indonesia has its special influence on the world petroleum industry not only due to its relatively abundant resources but also to its historical influence on world petroleum fiscal regimes. The newly enacted EMER regulation on Gross Split PSC in 2017 was the biggest structural change of Indonesia’s petroleum fiscal regime in a decade and will have profound influence on Indonesia’s Petroleum Industry. This research compares the detailed fiscal terms between Indonesia’s standard PSC and Gross Split PSC and further analyses the possible negative impacts based on model economic evaluation analysis as well as qualitative analysis. In conclusion, the Gross split PSC has negative impacts on contractor economics and may deter new investments in oil and gas exploration and development. Although the gross split PSC brings the simpler administration and better structure of fiscal progressivity. The change to Gross Split PSC reflects Indonesia’s long fiscal policy trend of increasing government take and strengthening government control. However, Indonesia’s government will also bring more incentives to offset the negative impacts of fiscal regime change and thrive to balance between improving government benefits and attracting foreign investments to revitalize oil and gas exploration and development.

1. Introduction
Indonesia is South-Eastern Asia’s largest oil and gas producer, and also has the highest remaining commercial reserves in this region, estimated at 3.2 billion bbl oil reserves and 2.8 tcm gas reserves. [1] Indonesia used to be the only OPEC member country from Asia. However, Indonesia has its special influence on world petroleum industry not only due to its relatively abundant resources but also to its historical influence on world petroleum fiscal regimes. Indonesia was the first country who initiated the modernized Production Sharing Contract (PSC) model to the petroleum industry and signed its first PSC in 1961. Since then, modernized contracts has replaced the traditional concession agreements and PSC has become the most prevalent petroleum contract model around the world. According to IHS data, about 50% countries in the world have adopted PSC model to carry out upstream petroleum cooperation. Although Indonesia is one of the most active countries who change their petroleum fiscal terms and regulations frequently, the basic structure of PSC had not been changed for more than half a century, with the characteristics of cost recovery and production sharing. However, in January 2017, Indonesia introduced a new fiscal model for its upstream sector through decree 8/2017, which changed the basic structure of traditional PSC model. The newly introduced Gross Split Production Sharing Contract removes the cost recovery mechanism, and the government and contractors split gross revenues instead of profits. The new terms are applied to future license awards and contract extensions.
Contractors may also choose to adopt the new terms for existing PSCs. This change will influence Indonesian’s petroleum industry profoundly and even trigger possible changes to PSC models around the world. It is meaningful to understand the function and influence of the new Gross Split PSC, as well as its future trends.

2. Key Fiscal Changes of Indonesia’s New Gross Split PSC

2.1. Historical Evolution and Main Fiscal Terms of Indonesia’s Standard PSC

Pre-1960, Indonesia applied to the concession fiscal system and there were three established producers in Indonesia, Shell, Stanvac and Caltex, which were early western oil majors. The main legislation was the Dutch East Indies Mining Law 1899. In 1960s, resources nationalism became a worldwide tide and Indonesia had strong political push and economic motivations to get hold of national resource. Indonesia’s Law No. 44 1960 on Petroleum abolished the concession system and required each to enter into contracts to work with state oil company. The production sharing concept was developed during negotiations between government and foreign oil companies and the first Product Sharing Contract (IIALCO PSC) was signed between the national oil company, Pertamina, and US companies in 1966 which established the basic structure of standard PSCs. The essential difference between Concessions and PSCs is that of state ownership of the resources. The contractor receives a share of production for services performed. [2] The key fiscal terms included the profit oil split, cost recovery, domestic market obligation, contractor taxes. For IIALCO PSC, the profit oil split was then 60:40 in favour of the state and the cost recovery cap is 40% of total revenues.

Since the establishment of PSC system in 1966, Indonesia’s PSC regime has undergone several fiscal changes. In 1974, the windfall profit tax was introduced to compensate oil price increase which made government share rise to 85% when the oil price was higher than $5/bbl. In 1976, Indonesia made a full revision of the PSC fiscal terms in response to rising oil price. Cost recovery cap was removed and post-tax profit split was set to 85:15 for oil and 70:30 for gas in government’s favor. In 1988, the government revised fiscal terms again in response to oil price drop. With low oil prices and absence of cost recovery cap, the government could hardly receive any profit oil. Thus, to secure annual income for the government, Fist Tranche Petroleum (FTP) was introduced. FTP is a royalty-like item and generally a 20% portion of gross production. During 1988 to 1992, four incentive packages were introduced to stimulate exploration, including improvement of post-tax splits for the contractor, investment credit and reduction of DMO and etc. The industry responded with the largest discoveries to date which included Tanggu discovery in 1990, Vorwata in 1997 and Abadi in 2000. Indonesia released the new Oil and Gas Law in 2001 which included several significant changes to upstream contract and regulatory arrangements. Most of the active PSCs in Indonesia are based on the 2001 structure. [3]

From 2001 to 2016, Indonesia had released 3 editions of model contract (2002, 2008 and 2009 model contract) and launched 5 open bid rounds. The latest fiscal terms of standard PSCs are mainly include: bonuses and fees,10% of state participation, 20% of FTP, contractor after-tax shares of 30%-35% for oil and 35%-40% for gas; 100% cost recovery after FTP; 25% income tax; 25% DSO(Domestic Supply Obligation); 20% withholding tax. Table 1. shows the key fiscal terms of Indonesia’s latest standard PSC.

| Fiscal Terms      | Key Components                                                  |
|-------------------|-----------------------------------------------------------------|
| Bonuses           | Signature Bonus is biddable or negotiable. USD 1 million is indicative. Production Bonuses is biddable or negotiable. USD 25,000 minimum is indicative. |
| Other Fees        | Administration Fees is USD 75,000 per year during exploration period. |
| State Participation| 10% to be offered following the first declaration of commerciality. Reimbursement of 10% share of costs through government’s share during production period. |
2.2. Structure and Key Fiscal Terms of Indonesia’s New Gross Split PSC

In January 2017, Indonesia moved from a standard production sharing contract regime to gross production sharing regime. It was the most substantial changes to the upstream fiscal regime in decades. The Regulation of the Minister of Energy and Mineral Resources No. 8 of 2017 (MEMR regulation 08/2017) on Gross Split Production Sharing Contracts was enacted on January 16th 2017. The regulation required Cross Split Production Sharing Contracts to be used for all new upstream licence contracts and renewal contracts. The key difference from the former PSC is that gross production revenues are shared between the government and contractor, and the cost-recovery system is removed. The split of production also has changed to reflect the structural adjustment of canceling cost-recovery. The contractor’s (pretax) revenue share was the sum of a basic share plus variable share and plus progressive share. The Contractor’s pretax basic share is 43% for crude oil, and 48% for natural gas. The variable share and progressive share are additional revenue shares depending on field complexity. [5] Table 2. shows the key fiscal terms of the new Gross Split PSC.

Table 2. Key Fiscal Terms of Gross Split PSC [6]

| Fiscal Terms                      | Key Components                                                |
|----------------------------------|---------------------------------------------------------------|
| Bonuses                          | Signature Bonus is biddable. Subject to minimum of USD 0.5-2million Production Bonuses is biddable based on daily production rates or cumulative production. |
| Other Fees                       | None                                                          |
| State Participation              | 10% to be offered following the first declaration of commerciality. Reimbursement of 10% share of costs through government’s share during production period. |
| Fist Tranche Petroleum           | None                                                          |
| Cost Recovery                    | None                                                          |
| Production Sharing               | Contractor’s share: Base Share + Variable Share + Progressive Share Adjustment Base Share: contractor’s share of 43% for oil and 48% for gas. |
| Income Tax                       | 25%                                                           |
| Domestic Supply Obligation       | 25% of contractor’s share of oil/gas. production. Price is determined by the Government. |
| Withholding Tax                  | None                                                          |

The Ministry of Energy and Mineral Resources enacted regulation 52/2017 to amend the former MEMR regulation 08/2017 on Gross Split PSC. The new terms improved the conditions of variable share, which include improved revenue share percentages, higher thresholds for cumulative production, the introduction of sliding scale progressive splits based on oil and gas prices and additional revenue splits for the 2nd and subsequent Plan of Developments (PODs) on the same PSC. [6] After the amendment, the variable split includes 10 parameters to consider and ranging from 0 to 16 percentage points depending on specific field conditions such as project status, stage, location, reservoir characteristics. Table 3. shows the details of Variable Share Adjustment. The progressive split consists
of three sliding scales, based on crude oil price, gas price and cumulative production. Table 4, shows the details of Progressive Share Adjustment.

Table 4. Progressive Share Adjustment

| Characteristic/Parameter | Contractor's Share Adjustment (percentage points) |
|--------------------------|-----------------------------------------------|
| 1. Field Status          |                                               |
| First Development Plan   | +5.0                                          |
| Second Development Plan  | +3.0                                          |
| Production without a Development Plan | 0.0                                           |
| 2. Field Location        |                                               |
| Onshore                  | 0.0                                           |
| Offshore (water depth,meters) |                                               |
| ≤ 20                     | +8.0                                          |
| 20-50                    | +10.0                                         |
| 50-150                   | +12.0                                         |
| 50-1,000                 | +14.0                                         |
| >1,000                   | +16.0                                         |
| 3. Depth of Reservoir    |                                               |
| ≤ 2,500m                 | 0.0                                           |
| >2,500m                  | +1.0                                          |
| 4. Availability of Supporting Infrastructure |                                               |
| Well Developed           | 0.0                                           |
| New Frontier (no infrastructure) Offshore | +2.0                                          |
| New Frontier (no infrastructure) Onshore | +4.0                                          |
| 5. Type of Reservoir     |                                               |
| Conventional             | 0.0                                           |
| Unconventional           | +16.0                                         |
| 6. CO₂ Content (%)       |                                               |
| <5                       | 0.0                                           |
| 5-10                     | +0.5                                          |
| 10-20                    | +1.0                                          |
| 20-40                    | +1.5                                          |
| 40-60                    | +2.0                                          |
| ≥ 60                     | +4.0                                          |
| 7. H₂S Content (ppm)     |                                               |
| <100                     | 0.0                                           |
| 100-1,000                | +1.0                                          |
| 1,000-2,000              | +2.0                                          |
| 2,000-3,000              | +3.0                                          |
| 3,000-4,000              | +4.0                                          |
| ≥ 4,000                  | +5.0                                          |
8. Oil Gravity (API)

|        | Contractor's Share Adjustment (percentage points) |
|--------|--------------------------------------------------|
| <25    | +1.0                                            |
| ≥25    | 0.0                                             |

9. Local Content Level (%)

| Local Content Level (%) | Contractor's Share Adjustment (percentage points) |
|-------------------------|--------------------------------------------------|
| 30-50                   | +2.0                                             |
| 50-70                   | +3.0                                             |
| 70-100                  | +4.0                                             |

10. Production Stage

| Production Stage          | Contractor's Share Adjustment (percentage points) |
|---------------------------|--------------------------------------------------|
| Primary                   | 0.0                                              |
| Secondary (water and/or gas injection) | +6.0                                          |
| Tertiary (EOR)            | +6.0                                             |

Table 4. The Progressive Share Adjustment Components of Gross Split PSCs [7]

| Characteristic/Parameter             | Contractor's Share Adjustment (percentage points) |
|--------------------------------------|--------------------------------------------------|
| 
| 1.Price                              |                                                  |
| Crude Oil (USD/bbl)                  | (85-ICP)×2.5                                     |
| Natural Gas (USD/MMbtu)              | <7 (7-IGP)×2.5                                   |
|                                       | 7-10 0.0                                         |
|                                       | >10 (10-IGP)×2.5                                 |

| 2.Cumulative Production (MMboe)      | None                                             |
|                                       | <30 +10.0                                        |
|                                       | 30-60 +9.0                                       |
|                                       | 60-90 +8.0                                       |
|                                       | 90-125 +6.0                                      |
|                                       | 125-175 +4.0                                     |
|                                       | ≥175 0.0                                         |

1. ICP=Indonesia Crude Oil price stipulated by MEMR

2. IGP=Indonesia Natural Gas Price stipulated by MEMR

3. Impacts of Indonesia’s Standard PSC and Gross Split PSC

3.1 Impacts on Project Economics

Comparative economic evaluations based on standard and Gross Split PSC fiscal models show negative impacts on project economics for Indonesia’s Gross Split PSC. The basic assumptions of economic evaluation model include: $60/bbl oil price, 10% discount rate; for onshore projects, 20mmbbl reserves with capex of $8.2/bbl and opex of 3.3/bbl; for shelf projects, 20mmbble reserves with capex of $14.9/bbl and opex of $4.4/bbl; for deep-water projects 400mmbbl reserves with capex of $16.2/bbl and opex of $4/5/bbl. According to economic model analysis based on Wood Mackenzie’s GEM (Global Economic Model tool), overly the Gross Split PSC increases fiscal deterrence in Indonesia. An addition 10% of Indonesia’s model projects are made uneconomic or ‘deterred’ by new terms. Under standard PSC 22% of Indonesia’s model fields are uneconomic, while under Gross Split PSC 32% of model fields are uneconomic. Furthermore, oil exploration is obviously
worse under the new terms especially for deep-water projects which show the largest drop in project NPV. [8]

However, the gross split PSC gives a better structure of progressivity. There is an incentive scheme related to field characteristics as well as oil price and accumulative production. And the Energy Ministry holds the option to give additional 5% split to contractor when the project is uneconomic. Further more cost savings will obviously improve project economics. According to model economic evaluation analysis, cost savings of 10% will improve economics in deep-water projects compared with standard fiscal terms. Cost savings of 20% will improve economics in deep-water as well as shelf projects. While even by saving 30% cost, the economics of onshore projects is still worse than the previous fiscal terms.

Another economic effect is that contractor payback period is longer and overall revenue is lower under gross split PSC. Under the standard PSC, government receives post-royalty profits from year 6. While under Gross Split PSC, government receives post-royalty profits from year 1. Longer payback period reflects higher risks for investors. Contractors need to be more selective and efficient to make the projects economic.

### 3.2. Impacts on Regulatory System

In terms of Indonesia’s upstream legislation, the Minister of Energy and Mineral Resources (MEMR) is responsible for the overall supervision of upstream petroleum operations on behalf of the government. The MEMR includes the departments of Ming, Oil and Gas, Electric and Renewable Energy and it is also responsible for environmental management, health and safety supervision as well as local community development. Within the Ministry, the Directorate General of Oil and Gas (MIGAS) is the main directorate concerned with petroleum. MIGAS supervises and promotes the optimal utilization of the oil and gas resources of Indonesia, which including organizing bid rounds and the issuance or relinquishment of blocks. The MIGAS incorporates the BPHMIGAS and SKKMIGAS. SKKMIGAS is tasked with implementing the management of upstream oil and gas business activities, which include approving field development plans, approving budgets and monitoring and reporting to the Energy Minister the implementation of contracts. The budgets scrutiny includes cost recovery related audit, which used to be complex and time consuming.[9]

Generally speaking, Indonesia’s energy decision-making involves multiple agencies and is often slowed by conflicting agencies and the realities of coalition politics. Actually, when Indonesia’s government introduced the new Gross Split PSC regime, one of the most important intentions was to increase the efficiency and effectiveness by reducing the administrative and regulatory burden on upstream sector. The Gross split PSC is relatively simple to administer by abolishing cost recovery scheme. The Gross PSC scheme will move the burden of cost scrutiny from the regulator to the operators. Although development consent and work program approval will still be required from SKKMIGAS, the operators will have a greater degree of freedom in managing the budget, costs and asset operations.

However, the Gross Split PSC scheme also brings new bureaucratic and policy uncertainties to investors. According to article 7 of MEMR Regulation No.8 of 2017, in the event that the commercial value of a field or a number of fields does not meet a certain economic level, the Minister may stipulate an additional percentage share for the contractor.[10] Nevertheless, the regulation has not clearly defined “certain economic level”, which may lead to even more opaque scrutiny of the government.

### 3.3 Impacts on Oil and Gas Exploration and Development

According to Wood Mackenzie’s survey, fiscal term is one of the most important factors that drive exploration investment. In order to attractive foreign investments, government’s fiscal expectations need to reflect the resources prospectivity as well as the macro background of the petroleum industry. However, Indonesia’s new move to Gross Split PSCs has not properly reflected Indonesia’s shrinking resources prospectivity and the relatively low ebb of petroleum industry since the downside oil price...
shock in mid 2014. The unpleasant result of Indonesia’s first new Gross Split PSC bid round directly reflected the negative impacts on Indonesia’s future exploration and development.[11]

On 17 May 2017, Indonesia’s Ministry of Energy and Mineral Resources announced the launch of the country’s first upstream licensing round under the new Gross Split PSC regime. Indonesia announced the winners of its 2017 exploration bid round on 31 January 2018, with five conventional blocks awarded and no unconventional blocks were awarded. Five companies were awarded acreage, all of whom have existing positions in Indonesia. The lack of oil majors such as Total, Exxon Mobil, Chevron and other outstanding Asia companies such INPEX and CNPC in the list of bidders was notable but not surprising, giving the negative economic expect of the new fiscal terms as well as their recent focus on opportunities elsewhere.

Exploration investment in Indonesia has declined in recent years and oil production is set to decline from a lack of sizeable projects and new discoveries. Figure 1. shows the declining trend of crude production in Indonesia’s Petroleum Industry. If the government does not give enough fiscal incentives to upstream industry and attractive new investments, it is highly possible that the declining of Indonesia’s oil production will accelerate in the future.

![Figure 1. Historical Trends of Indonesia’s Crude Production](image)

4. Future Trends of Indonesia’s Petroleum Fiscal Policy
Looking back to history, Indonesia is one of the most frequent fiscal adjusters among resources countries, which shows strong policy elastic to adapt to internal and external Environments. Internally, Indonesia is experiencing the transaction from oil exporter to oil importer. Since 2003, Indonesia has become a net oil importer and this condition can happen for the natural gas in the future with the rapid growth of domestic gas consumption. Pertamina as the national oil company will undertake more responsibility for energy security and the long trend of strengthening government control in petroleum industry will not change. According to Wood Mackenzie, Pertamina has almost doubled its production share since 2010 from less than 20% to about 40% in 2018. [12]

However, Indonesia is still among the most open upstream market in Asia and world oil majors such as Chevron, Exxon Mobil and BP will still play important roles in Indonesia’s petroleum industry though in a trend of declining. While the role of middle or small size regional players may increase in the future, attracted by relatively low political risks and market competitions. Indonesia still needs foreign investments to promote oil and gas exploration and address structural production declines. According to Wood Mackenzie, there are 2.5 billion boe reserves that can be unlocked from fields currently constrained by PSC extension uncertainty. The government may issue more incentives under the new Gross Split PSC structure in order to attractive investments. Actually, MEMR Regulation No. 52 of 2017 was one of the government’s measures to give more incentives. Indonesia’s 2018 bid round offered the second largest acreage package among 2018 world upstream bid rounds and required relatively low minimum signature bonuses and work commitments compared to the heavyweight exploration hot spots such as Brazil. Indonesia’s government is still seeking a balance
between increasing government take and attracting foreign investments to revitalize exploration and improving production.

5. Conclusions
In conclusion, the Gross split PSC has negative impacts on contractor economics and may deter new investments in oil and gas exploration and development. Although the gross split PSC brings the simpler administration and better structure of fiscal progressivity. The change to Gross Split PSC reflects Indonesia’s long fiscal policy trend of increasing government take and strengthening government control. However, Indonesia’s government will also bring more incentives to offset the negative impacts of fiscal regime change and thrive to balance between improving government benefits and attracting foreign investments to revitalize oil and gas exploration and development.

Acknowledgments
The authors gratefully acknowledge the financial support from the National Science and Technology Major Project No. 2016ZX05029-003.

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