The implementation of Indonesian PSC gross split scheme in Russian offshore

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ABSTRACT: Russia should implement Product Sharing Contract (PSC) “Gross Split (GS) Scheme” as an alternative contract to optimally extract hydrocarbon in its offshore. Existing contracts don’t have necessary functionality for efficient, certain and transparent interaction with International Oil Companies (IOCs), while the collaboration is significant due to the absence of technologies, facilities and investments. Goals: Analyzing the implementation of Indonesian PSC GS; creating an adaptive model on Russian offshore. Methodology: Theoretical survey (analysis and synthesis, comparison, mental modeling). Results: Based on technical and economic characters of Russia, authors found adjustments in determining base split, incentive components and their splits as well as in taxation. This paper describes GS Scheme and discusses opportunities, problems and challenges of its application. Regarding that, Indonesian PSC GS is believed to have precise ingredients to bring about healthy, fair and sustainable business corporations in Russian offshore.

Keywords: Production Sharing Contract (PSC), Cost-recovery (CR), Gross Split (GS), Host-Government (HG), International Oil Companies (IOCs), Joint Venture (JV)

1 INTRODUCTION

In the last ten years, there have been various problems in the oil and gas business faced by HGs around the World. A familiar matter is the long though discussion about Plan of Development (POD) between IOC and HG which leads to the delay of production period. In some cases, HG’s income is lower than operation expenditure (OPEX). These issues are closely related to old contracts that are no longer applicable in the current situation. Therefore, HG should be more careful in selecting the future contracts. For instance, in Indonesia. After considering low-level income by applying PSC Cost Recovery since 1970 and the incompatibility of existing contract types, Indonesia recently designed a new concept “PSC Gross split scheme”, which is until now considered attractive to Investors and has been signed for 39 working areas since the date it came into force in January 2017. The main differences of this hybrid of PSC and concession from others are as follows: split starts from gross revenue; IOC takes 100% responsibility of E&P cost; and HG can increase/decrease IOC’s share by assessing variable (every POD) and progressive components (monthly), design of which is based on existing oil and gas fields calibration. Overall, this scheme is believed to offer best approaches in ensuring certainty, efficiency and simplicity in the world oil and gas business.

In Russia, having traumatic problems with Cost Recovery (CR) Scheme last two decades and continuous changes in Russian tax mechanism lead to the main challenge in accepting new offer of Product Sharing Contract's (PSC) scheme, though GS may be able to increase Russian fiscal attractiveness. In case GS becomes acceptable, the next challenge is the adaptation process in both HG and IOCs.

The purpose of this study is to comprehensively show to what extent PSC Gross Split Scheme (GSS) can fairly meet business interests of HG and IOC. This paper seeks to present a mapping of problems, opportunities and challenges in the GSS implementation. This paper, most of all, focuses on adjusting-split components and tax mechanism. This paper is based on both qualitative and quantitative comparative analysis methods of gov. documents (Indonesian Minister's regulation on PSC GS and on taxation; Russian tax code), companies' outlooks (BP Statistical Review; Gazprom in numbers), statistics (Russian Minister of Energy; Indonesian Central Bureau of Statistics; Indonesian Energy Outlook) and academic literatures (Books and papers from Johnston D. (USA), Harimurti D. (Indonesia), Konoplyanik A.A. (Russia)).

2 LITERATURE REVIEW

2.1 *Highlight of oil and gas contracts*

Petroleum fiscal system consists of concessionary and contractual. Concessionary allows IOC to have the ownership of mineral resources and HG to accept payment of taxes and royalties. Under contractual, HG retains ownership of minerals and IOC receives a share of revenues from the sale of oil and gas or production in accordance with a service contract (SC) or a Production Sharing Contract. SC is divided based on whether the fee is based upon a flat fee (pure) or profit (risk). PSC is generally characterized by Cost Recovery, FTP (Royalties), domestic market obligation (DMO) and income tax. It's then called PSC CR. PSC Gross Split means PSC based on the principle of gross production sharing without cost recovery mechanism (Johnston D, 1994).

In Russia, there are such types of contracts as licenses (concessions), service contracts, and PSC CR. The difference lies in multiple tax regulation, which are applied to all types of contract. Mostly, license (tax/royalty) type combined with Joint Venture (JV) is used in this country. Besides there are only three PSC CR contracts left, namely, Kharyagenskoe, Sakhalin 1 and Sakhalin 2 petroleum fields. All of them work with JV with HG participation (Konoplyanik A.A, 1989).

2.2 *The origin of product sharing contract gross split scheme*

As was the case with PSC CR, PSC GR also appeared for the first time in Indonesia in 2017. There are number of phenomena underlying its emergence: 1) Prolonged dispute frequently happened due to slow approval process on budgeting by HG bureaucracy and cost inefficiency (practice of mark-up) by IOCs; 2) HG's revenue from 1997-2014 were higher than cost recovery, but 2015 and 2016 it was vice versa. Revenue and cost relations in two years are respectively 12,0/13,7 and 9,9/11,5 billion US\$; 3) HG's Reserve Replacement Ratio (RRR) wasn't higher than 50% or lower than India, Malaysia and Vietnam, which are respectively more than 70%, 120%, 170%; 4) HG's oil production (bopd) was sharply decreasing because of declining upstream oil and gas investment, shrinking of oil and gas reserves and low exploration activities (Harimurti, D., 2017). Besides, those problems are completed by the HG's inability to self-invest and its rigid fiscal system against oil price fluctuations. Thus, in effort to build again the business stability, Indonesia according to Ministry of Energy and Natural Resources regulation no. 8/2017 introduced new scheme of PSC which brings along 3 basic principles: 1) Certainty – providing transparent and measurable incentive parameters in consonance with the level of complexity of field development; 2) Simplicity – boosting simplification and accountability business process by minimizing bureaucratic procurement system and frequent debates; and 3) Efficiency – advocating IOCs and their supporting systems to be more efficient with the intention of being able to better adapt to oil price fluctuations ("Indonesia Energy Roundtable," UK-ASEAN Business Council, last modified April 25, 2019, <https://www.ukabc.org.uk/news/ukabc-indonesia-energy-roundtable/>).

During half year after its publication date, GS is not working well almost in all fields compared to CR based on the economic analysis results (IRR and NPV). It seems like, in that critical era, IOCs significantly reduce capital expenditure and act very selectively in investing. IOCs basically require a business climate that has high legal certainty and competitive fiscal provisions. Taking the facts as consideration, HG issued ministry regulation no.52/2017 as a revision on the previous GS regulation, and new government regulation 53/2017 on GS taxation. HG added new progressive component “gas price”, edited incremental splits for cumulative production and committed to compensate additional certain split “Ministry share”, if IOC share, after split adjustment, is still uneconomic. Regarding fiscal incentive, from exploration to first production, HG exempts IOC for import duty, VAT and LBT tax. IOC is also simplified with accelerated depreciation and 10-years tax loss carryforward. Other elements in oil and gas policy reform are simplification of permit process (deregulation), transfer of firm commitment, asset transfer to other contractor, land acquisition by HG through Special Task Force for Upstream Oil and Gas Business “SKK Migas”, land acquisition through lease, and free and open access for oil and gas data. Nevertheless, GS doesn’t eliminate state control. The reasons are working places and lifting capacity are determined by State; the title to equipment belongs to state; and share split is happened at the transfer point (White M., et al, “Energy: Oil and Gas 2019-Indonesia,” Chambers and partners, last modified August 9, 2019, <https://practiceguides.chambers.com/practice-guides/energy-oil-and-gas-2019/indonesia>).

Hence, economic indicators of revised GS are considered more competitive than CR. Consequently, from the date of issue on 29th August 2017 till January 2019, GS has been started to implement in 39 blocks consisting of 14 auction results, 21 terminations and 4 contract amendments with approximate investment commitment 2,2 milliard US\$. And there are 5 contracts, one of them is unconventional field – Tanjung Enim Blok, will follow soon (Deha D., “Indonesia Wins Two-Working Areas Auction US\$116.7M,” The insider stories, last modified May 7, 2019, <https://theinsiderstories.com/indonesias-two-working-areas-auction-reached-us116-7m/>).

Evolution summary of Indonesian Product Sharing Contract is depicted in Figure 1 in the form of scheme and the details in Table 1.

Figure 2 shows the parameters and their split adjustments of every component applied in Indonesia. The whole calculation was created by special group of Minister of Energy based on data calibration of 10 main petroleum fields in Indonesia. The parameters were adopted from terms and conditions of rate of return contracts by Daniel Johnston (Johnston, D., 1994).

*Designed by authors

Figure 1. Scheme evolution summary of Indonesian PSC (Harimurti, D. “Milestone in Production-Sharing Contract in Perspective of Government Take, Contractor Take, Cost Recovery and Production Target”, 10).

Table 1. Details of evolution summary of Indonesian product sharing contract (Harimurti, D.).

Element	Past Law no 22/2001 (1976-1987)	New Contracts (2008-2016)	PSC GS (2017-Present)
FTP	None	20 to HG	None
Cost Recovery Limit	100%	POD basis (ring fencing)	None
Income Tax	56%	40%	40%
Equity Split (HG/IOC)	85/15 (Oil) 70/30 (Gas)	80/20 (Oil) 70/30 (Gas)	Base Split: 57/43 (Oil) & 52/48 (Gas) Progress. & var. comp. N/A
Investment Credit	20%	N/A	N/A
DMO	25% of IOC's share At 0,02 USD/bbl	25% of IOC's share At 25% export price	25% of IOC's share At 100% export price
Depreciation	7 years for capex (DDB) 10 years amortization for OPEX (SLD)	5 years	10 years
Abandonment Liability	None	Yes	Yes
Others	No CR limit	ASR is stated in CR 79/2010. Additional indirect tax.	No CR. Additional indirect tax.
Alignment	IOC's benefit	HG's benefit	Compromise

* Abandonment site recovery (ASR), double declining balance (DDB), and straight line depreciation (SLD)

** Designed by authors

PROGRESSIVE COMPONENTS (MONTHLY ADJUSTED)		VARIABLE COMPONENTS (ADJUSTED BASED ON NEW POD)					
Parameter	Split (%) adjustment	Parameter	Split (%) adjustment	Parameter	Split (%) adjustment	Parameter	Split (%) adjustment
Oil Price (US\$/bbl)		Infrastructure		Reservoir Depth (m)		Domestic Content	
$(85 - \text{ICP}) * 0.25$		Well developed	0.0	$x \leq 2500$	0.0	$30 \leq x < 50$	2.0
Gas Price (US\$/MMBTU)		New Frontier Offshore	2.0	$x > 2500$	1.0	$50 \leq x < 70$	3.0
$x < 7$	$(7 - x) * 2.5$	New Frontier Onshore	4.0	CO2 Content		$70 \leq x < 100$	4.0
$7 \leq x \leq 10$	0	Field Location (sea depth, m)		$x < 5$	0.0	API Gravity (Density)	
$x > 10$	$(10 - x) * 2.5$	Onshore	0.0	$5 \leq x < 10$	0.5	$x < 25$	1.0
Cumulative Production (MMBOE)		Offshore ($0 < h \leq 20$)	8.0	$10 \leq x < 20$	1.0	$x \geq 25$	0.0
$x < 30$	10.0	Offshore ($20 < h \leq 50$)	10.0	$20 \leq x < 40$	1.5	Production Stage	
$30 \leq x < 60$	9.0	Offshore ($50 < h \leq 150$)	12.0	$40 \leq x < 60$	2.0	Primary	0.0
$60 \leq x < 90$	8.0	Offshore ($150 < h \leq 1000$)	14.0	$x \geq 60$	4.0	Secondary	6.0
$90 \leq x < 125$	6.0	Offshore ($h > 1000$)	16.0	H2S Content		Tertiary	10.0
$125 \leq x < 175$	4.0	Reservoir Type		$x < 100$	0.0	Field Status	
$x \geq 175$	0.0	Conventional	0.0	$100 \leq x < 1000$	1.0	POD I	5.0
BASE SPLIT		Non-conventional	16.0	$1000 \leq x < 2000$	2.0	POD II	3.0
HG (IOC) Share				$2000 \leq x < 3000$	3.0	NO POD	0.0
Crude Oil	57% (43%)			$3000 \leq x < 4000$	4.0		
Natural Gas	52% (48%)			$x \geq 4000$	5.0		

*Designed by authors

Figure 2. Base, progressive and variable components of Indonesian PSC GS (Roach B. & Dunstan A., 2018).

3 RESEARCH

3.1 PSC “gross split scheme” (study case: Russian offshore fields)

To confirm the hypothesis about the possibility of using PSC GS in the Russian Federation, the authors made a set of components by analogy with the Indonesian scheme, based on own analysis of publicly available information of main petroleum fields in Russian offshore (Figure 3).

3.1.1 Base components

Based on the petroleum business culture in Russia, e.g. in Sakhalin II, the base percentage of crude oil for HG must be more than 50%. But gas percentage is 80%, considering that Russia is the largest country of gas proven reserve and doesn't crucially in need of cooperation.

3.1.2 Variable components

The components show how much split HG can give to or take from IOC for its CAPEX and OPEX, which is regulated in every POD based on level of difficulty of each circumstance.

- 1) Supporting Infrastructure (SI) shows how far from the nearest island with port field is situated – Transport cost is essential in offshore production. People, basic needs, fabrication materials and equipment are multiply transported from/to the nearest well-developed city by helicopter, plane, ice breaker, tanker, etc.
- 2) Field location - Either located in offshore or onshore (remoted islands), due to extremely high cost and risk, only large fields are beneficial to exploit. Moving ice, extreme climate, high waves are the main threats. In offshore, applied technics and technologies depend on vertical sea depth.
- 3) Reservoir type – Russia has the largest hard-to-recover reserve in the world. It refers to heavy oil and bitumens, gas hydrates, shale oil, and light oil of dense rocks with low-permeable reservoir. Based on the fact, it's necessary to provide 16% incentive to the IOC, that's ready to bear the risk and start producing the unconventional reservoir.

PROGRESSIVE COMPONENTS (MONTHLY ADJUSTED)		VARIABLE COMPONENTS (ADJUSTED BASED ON NEW POD)					
Parameter	Split (%) adjustment	Parameter	Split (%) adjustment	Parameter	Split (%) adjustment	Parameter	Split (%) adjustment
Oil Price (US\$/bbl)		Infrastructure		Reservoir Depth (m)		Domestic Content	
$(60 - RCP) * 0.25$		Well Developed ($0 \text{ km} \leq x < 5 \text{ km}$)	0.0	$x \leq 3000$	0.0	$30 \leq x < 50$	2.0
Gas Price (US\$/MMBTU)		New Frontier Offshore ($5 \text{ km} \leq x < 60 \text{ km}$)	2.0	$x > 3000$	1.0	$50 \leq x < 70$	3.0
$x < 7$	$(7 - x) * 2.5$	New Frontier Offshore ($60 \text{ km} \leq x < 300 \text{ km}$)	3.0	CO2 Content		$70 \leq x < 100$	4.0
$7 \leq x \leq 10$		New Frontier Offshore ($x \geq 300 \text{ km}$)	4.0	$x < 5$	0.0	API Gravity (Density)	
$x > 10$	$(10 - x) * 2.5$	Field Location (sea depth, m)		$5 \leq x < 10$	0.5	$x < 25$	1.0
Cumulative Production (MMBOE)		Onshore	0.0	$10 \leq x < 20$	1.0	$x \geq 25$	0.0
$x < 30$	10.0	Offshore ($0 < h \leq 20$)	6.0	$20 \leq x < 40$	1.5	Production Stage	
$30 \leq x < 60$	9.0	Offshore ($20 < h \leq 50$)	8.0	$40 \leq x < 60$	2.0	Primary	0.0
$60 \leq x < 90$	8.0	Offshore ($50 < h \leq 150$)	10.0	$x \geq 60$	4.0	Secondary	4.0
$90 \leq x < 125$	6.0	Offshore ($150 < h \leq 1000$)	12.0	H2S Content		Tertiary	8.0
$125 \leq x < 175$	4.0	Offshore ($h > 1000$)	14.0	$x < 100$	0.0	Field Status	
$175 \leq x < 225$	0.0	Reservoir Type		$100 \leq x < 1000$	1.0	POD I	6.0
$225 \leq x < 325$	-3.0	Conventional	0.0	$1000 \leq x < 2000$	2.0	POD II	4.0
$325 \leq x < 525$	-5.0	Non-conventional	16.0	$2000 \leq x < 3000$	3.0	NO POD	0.0
$x \geq 525$	-7.0			$3000 \leq x < 4000$	4.0	BASE SPLIT	
Academic Involvement				$x \geq 4000$	5.0	HG (IOC) Share	
$68 \leq x$	0.5					Crude Oil	51% (49%)
$34 \leq x < 68$	0.25					Natural Gas	80% (20%)
$0 \leq x < 34$	0.0						

*Designed by authors

** Based on public accessible data

Figure 3. Base, progressive and variable components of Russian PSC GS.

- 4) Reservoir depth shows depth of the strata from sea bottom– Low temperature gradient and preserved formation in Russia lead to high average depth of HC deposit. It's about 3 km, although there are deposits at a depth of 7 km (Osadchi. A., "Oil and gas of Russian shelf: estimates and forecasts," *Science and life* №7, last modified August, 2006, <https://www.nkj.ru/archive/articles/6334/>). For depth more than average value, HG contributes 1% additional split. Because extraction process takes more time and cost.
- 5) CO₂ content – Produced CO₂ must be separated from oil/natural gas to be disposed, burned or injected into reservoir. This case decreases HC production percentage.
- 6) H₂S content shows % of H₂S in crude oil – Produced H₂S must be separated from oil/ natural gas for disposal due to its toxic effect or for utilization to produce Sulphur.
- 7) Domestic content – it includes people (engineers, skilled/unskilled workers), material and equipment, technologies, daily goods and every available thing in Russia ("Comments towards Article 346.38 features of determining the tax base, the calculation and payment of corporate income tax in the implementation of agreements," *Tax Code*, Chapter 26.4 (December 29, 2017), <http://nkodeksrf.ru/ch-2/rzd-8-1/gl-26-4/st-346-38-nk-rf>). Domestic content must be fulfilled with the 30% minimum rate. Job provision and demand on national commodities will cause a significant domino effect to Russian economy. As the parameter is critical, HG should provide great incentive.
- 8) Oil density – quality of oil is measured based on API gravity. The higher API gravity, the lighter the oil, the higher percentage of gasoline and diesel fuel it produces, and accordingly the higher price on market, and that happens otherwise. Heavy oil is hard to extract, threat and sell. Hence, HG should give 1% percent incentive for it.
- 9) Production stage – The more recovery stages are executed, the more complex technologies are implemented, the bigger financial burden, and the more production percentage of initial oil in places, respectively, primary – 10%, secondary – 15% -40%, tertiary – 50% - 75%. In this case, HG should add significant incentive to motivate IOC to reach recovery percentage as much as possible.
- 10) Field status - First POD changes exploration to production process. IOC independently purchases equipment and builds facilities for petroleum operations. Next POD continues developing working area. IOC purchases an additional equipment and builds facilities, in case the new IOC operator, they need either to adapt with available applied technologies, or propose POD category I. For the continued production without POD mechanism, HG doesn't provide incentive. POD can be revised in case of force majeure conditions, e.g. accidents (disasters), which are not caused by IOC's faults.

3.1.3 Progressive components

The components show how much split HG can give to or take from IOC for its OPEX, which is monthly regulated based on level of fluctuation of each circumstance (Figure 4).

- 1) RCP (Russian Crude Price) & gas price are set by Minister based on the law, regulation & global market price tendency. In this case, Urals or new marker can serve as RCP.
- 2) Cumulative production calculation is started since first oil. For the prolonged contract, cumulative production is calculated by continuing previous cumulative production. While for the new POD, the calculation is started from 0.
- 3) In terms of dealing with optimization issues, limited qualified human resources, increasingly complex technical challenges, and environmental problems, it's necessary to encourage IOC, HG and Universities to collaborate and coordinate with each other. Besides, this parameter also potentially facilitates transfer of knowledge and technology. Level of academic involvement (LAI) is based on the formula below:

$$LAI (\%) = II^* \bar{x}_1^{**} y_1^* z_1 + PI^* \bar{x}_2^* y_2^* z_2 + IPP^* \bar{x}_3^* y_3^* z_3 \quad (1) \leftarrow$$

where II - Introductory Internship; PI – Paid Internship; IPP – International Published Papers; x - IOC coefficient; y - HG coefficient; z - university coefficient; $x_1=0.3$, $x_2=0.5$, $x_3=0.2$, $y_1=0.3$, $y_2=0.6$, $y_3=0.1$, $z_1=0.2$, $z_2=0.2$, $z_3=0.6$ (Authors' expert analysis).

*Created by authors

Figure 4. Russian PSC GS illustration: a) calculation; and b) scheme.

3.2 Comparisons

Figure 5 shows a comparison of PSC GS and PSC CR in terms of the distribution of takes between IOC and HG at different reserves and fixed cost. The distribution of takes displayed in percentage and cumulative number of revenue (Figure 5a). And the distribution/variation of IOC's take in percentage at different oil prices and cost of production in PSC CR.

Based on the graph (a), IOC's, HG's take & the cost at GS scheme are quietly balancing. This considers to be fair and attractive for investors. Decreasing trend of percentage indicates production limit set by sliding scale of GS progressive component. Nevertheless, the amount of IOC's take is increasing. While CR method shows us big gap between HG's and IOC's take. This rigid scheme doesn't fit with IOC's condition, where IOC bears full risk burden e.g. in crisis era, 2014-2016, increase in cost percentage results in uneconomic production. This situation pushes IOC to find ways to increase their revenue as in the graph (b). Even mark-up strategy is used to be the option. It means that IOC intentionally increases the cost, which is beneficial for them and decreases HG split. This is the source of long debate between IOC and HG. Therefore, GS came up with more transparent sliding scale mechanism to minimize the dispute potential. Including it confirms weaknesses of PSC CR in comparison with PSC GS.

The graphs (Figure 6) show how IOC's and HG's take are changing related to 12-years production period and fluctuating market crude price. This oil price sensitivity graphic doesn't display change in annual cost. There are some fixed elements: annual production – 15 MMBOE/year, cost - 20\$/bbl, STOIIP - 1000 MMBOE (large oil field), first oil – 4th year, 2nd-recovery – 7th year, depletion-at-peak – 3,75%, declining rate - 7,7% and recovery rate – 40%. Oil price sensitivity assumptions: 1) Max percentages in the 15th year at oil price 60USD/

*Created by authors

Figure 5. a) Oil reserves sensitivity graph; b) Oil cost sensitivity PSC CR.

*Created by authors

Figure 6. Oil price sensitivity graph.

bbl are respectively 24,1% for IOC and 42,6% for HG. The cost is accordingly 16%. In principle, the more efficient IOC, the more revenue it can earn; 2) IOC share percentage of 100 USD/bbl oil price equals to 80 USD/bbl and is higher than 120USD/bbl. But it doesn't mean that the amount of revenue follows the same trend; 3) The trend of IOC's take is decreasing, that indicates that production is controlled by HG through PSC GS; 4) The minimum IOC's take occurs when oil price is 30 USD/bbl. Sometimes it doesn't fairly benefit IOC considering high risk burden IOC bears. In case, the oil price keeps low for a month that impacts on uneconomic IOC take, HG through Minister of Natural Resources will provide bonus up to 5% split; 5) Secondary recovery starts in 7th years, since when HG will add 4% split to IOC. In the low oil price, that all 4% take will be spent as technological cost. But when the price raises, remaining percentage belongs to IOC.

4 DISCUSSIONS

4.1 Problems

Besides, investment, sci-tech transfer, collaboration, maximal oil and gas production are important indicators for all HG in boosting their national economy. Based on the 2019 BP statistical review, Russian is the world largest country of potential recoverable oil and gas resource, 6th and 1st largest of proven oil and gas reserve. To maximally explore and extract that resource and reserve, huge financial indicator is needed. And it depends on HG's fiscal attractiveness, level of which is still slowly increasing in Russia, based on "Wood Mackenzie" ("Russian Federation upstream: 5 things to look for in 2019," Wood Mackenzie, last modified 19 December, 2018, <https://www.woodmac.com/news/editorial/russia-federation-upstream-5-things-to-look-for-in-2019/>). Secondly, why it's necessary to maximize the production. Based on BP statistical review, in 2050 oil share in world energy demand will significantly decrease. This phenomenon will lower the crude price and threat countries, whose economy is built on oil sector. Thirdly, collaboration and sci-tech transfer between Gov., IOC and universities can potentially contribute idea to help IOC in dealing with tech problems effectively, prepare high-qualified engineers, provide national job fields and build high IOC image.

For IOC, the basic needs to invest is a certain, simple and efficient fiscal system. Based on the dispute records and dynamic change in tax system, political risk is considered a big attention in Russia. Some "specialists" insistently continue to argue that attracting IOCs and retaining national capital are possible only by providing a special exemption regime. But in the current situation in Russia, the interests of IOCs are precisely not to have exemption regime compared with Russian companies. Because history shows that exemptions are easy to give and take away. While for the investor, the main thing is stability (Subbotin M.A., 1995). Moreover, bureaucratic process in Russia is complex and layered (Konoplyanik A.A., 1998). This takes much time and money, that might productively be used in upstream process. Lastly, as long as capital, technology and E&P risks are burdened to IOC, its take of JV in royalty/tax or PSC should be

added and system chain should be leaner. Unless HG is willing to share risks with IOC, which is hard to apply in many contracts due to HG's financial and technical limits. However, the Russian PSC JV points to HG's share as just another layer of taxation, and a large one at that.

4.2 Opportunities

The presence of Gross split impulses the compromise to cover both sides' interests, considering its adjustment machine, namely variable & progressive components. What makes this 7th evolution of Indonesian PSC different from the previous or general schemes is that: 1) It excludes HG cost recovery burden, Investment credits and Royalty. The split directly starts from gross revenue and the cost is recovered by IOC share. As a result, IOC tends to make efficiency. Notwithstanding, balanced base split, permanent variable components (based on POD), and monthly changed progressive component are the tools to create an efficient fiscal system. They guarantee certainty, transparency, high commitment and flexibility towards oil price fluctuation. Regarding that, GS will absolutely pumps up fiscal attractiveness of Russia; 2) In order to avoid wasting-time debate in bureaucratic systems, especially in procurement approval process, HG allows IOC to independently determine their budgeting and only asks annual report for monitoring. The implication is earlier project on stream, approximately less 2-3 years; 3) Russian version GS contains academic involvement as a spark to boost research, technology and HR development. This component is intended to prepare young generation to their more challengeable future. Another effect of universities involvement is that it might help IOC to provide alternative solution on technical problems as well as support technology transfer among all parties.

For IOC, 1) PSC GS and its taxation mechanism must have its own permanent law and regulation, appearance and change of which don't affect previous signed contracts. Regulation making process should account the aspiration not only from HG bodies, but also IOCs through survey or discussion. It's also necessary that adoption of PSC GS would not only give HG a reliable tool for the effective management of its ownership, but also create a clear, stable and transparent budgetary fundraising regime for the investor (Subbotin M.A., 1995). With this effort, it's believed that political (legal) risks will decrease; 2) To simplify interaction in a layered and complex bureaucratic process, PSC GS provides special department, e.g., federal agency for upstream oil and gas business (Federal Agency for Exploration and Production of Oil and Gas) (FAEPOG). FAEPOG is under the direction of the Ministry of Natural Resources. The department performs the functions of collecting information on the management of the GS contract, and also transmits information to such bodies as: Ministry of Finance of the Russian Federation, Federal Tax Service, VnesheEconBank, NPO Agency for Strategic Initiatives, Accounts Chamber of the Russian Federation; supervises compliance and its verification with real data. FAEPOG is a link between IOC and HG bodies; 3) As it's mentioned earlier that if the production is still uneconomic, Minister could give 5% from his/her privilege bonus. This is called another mechanism of risk sharing.

4.3 Challenges

However, Gross Split is a new scheme of petroleum business contract. Although investment in Indonesia sharply arises due to its attractiveness, the sustainability of corporation doesn't give yet any result. Then again, it's not the same scheme to offer to implement in different countries, but the analogy of it by maintaining the basic ideas. For that reason, every stage of PSC GS penetration, from introduction, legal process, marketing and implementation, has its challenges.

- 1) Comprehensive, quick and deep research – before introducing this fiscal system, Universities or Government should create focus group discussion to do research about to what extent this scheme can meet national interests by not harming investment level;
- 2) Massive socialization – published papers, newspaper, conferences or other academic activities can be best media to introduce the research and build animo in academic society. Next, best strategy's needed to assure and make executive (related ministries) and legislative to know detail about how it works. This is not only because of traumatic experiences

of previous PSC, but also tax culture that has been set in all Russian model oil and gas business;

- 3) Legal process – as what happened in Indonesia, the law and regulation were reviewed 2 times before, even the fields with this scheme has been offered and introduced to the market. This is necessary to make sure that the scheme is optimal for HG and IOC conditions generally;
- 4) FAEPOG establishment – this department requires high credible and professional members. Besides, HG's to make sure that the terms & conditions are not overlapped with other its related bodies and make sure the bodies understand detail functions of this department;
- 5) National application – before offering this scheme to world market, it's somehow necessary to implement this contract with state-owned and national companies.

5 CONCLUSION

This new adaptive model can be used to extend existing and sign new contracts between HG and IOCs on offshore. Fair percentage distribution of revenue and risks allows to increase Russian fiscal attractiveness which further creates efficient, certain and transparent cooperation between HG and IOC. Addition of “level of academic involvement” as new variable component stimulates appearance of new technologies, talented specialists (engineers), new job fields, and mutually beneficial relation with universities. Next, establishment of FAEPOG helps bridge IOC and HG's related bodies in terms of collecting and transmitting information on the management of the GS contract, and supervising compliance and its verification with real data.

To sum up, considering huge potentials, PSC GS can be alternative solution for developing a healthy international oil and gas business in Russian Federation. For GS case, benefits will be optimal for all parties if all legal requirements and business interests are met. This model should be taken as an excellent consideration to be studied further and implemented as soon as possible.

REFERENCES

- Behavior.” *Natural Resources Research*, (2009): 13–14.
- Harimurti, D. “Indonesian Milestone in Production-Sharing Contract in Perspective of Government Take, Contractor Take, Cost Recovery and Production Target.” *Society of Petroleum Engineers*, (2017): 6–16.
- Höök, M., Söderbergh, B., Jakobsson, K., Aleklett, K. “The evolution of giant oil field production.
- Johnston, D. *International petroleum fiscal systems and production sharing contracts*, 25–93. Tulsa, Oklahoma: PennWell, 1994.
- Klubnichkin, M. “Concession agreement or production sharing agreement.” *Mineral resources of Russia*, (1994): № 6. 22–24
- Konoplyanik A.A. “The main types and conditions of agreements in force in the oil industry of the capitalist states between IOCs and host governments.” *Bulletin of Foreign Commercial Information*, 1989, Appendix 10. 3–23
- Konoplyanik A.A. “Russian law about PSC.” In *Overview of the economic situation of Europe*, 156–161. New York and Geneva: United Nation, 1998.
- Ministry of Energy and Mineral Resources of Indonesia. *Amendment of Regulation no 8/2017 on Gross Split Production Sharing Contract*. 2017, Regulation no 52, Jakarta: Government Printing Office.
- Republic of Indonesia. *Taxation Treatment on Upstream Oil and Gas Activities with Product Sharing Contract Gross Split*. 2017, Government Regulation no 53, Jakarta: Government Printing Office.
- Roach B., Dunstan A. “The Indonesian PSC: the end of an era.” *Journal of World Energy Law and Business*, (2018): 116–135.
- Subbotin M.A. “Supporters and opponents of production sharing fight for benefits for foreigners.” *Sevodnya*. July 18, 1995, 172.
- The State Duma of Russian Federation. *Taxation system in the implementation of production sharing agreements*. 2019, Tax Code of the Russian Federation Chapter 26.4., Moscow: Gov. Printing Office.