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Indonesia's Oil and Gas Legislation: Critical Issues

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INTRODUCTION

Indonesia faces several critical decisions as it finalizes long-gestating revisions to the country's oil and gas legislation. There remain several outstanding questions, answers to which depend on the policy priorities of the government and the parliament. Based on consultations with Indonesian stakeholders, we have identified four issues of particular significance:

A. Institutional structure and the role of state-owned enterprises
B. Fiscal regime for oil and gas
C. Subnational transfers of oil and gas revenues
D. Transparency mechanisms

The analysis is based on our global experience researching oil, gas and mining sector governance, and working with officials and citizens as they weigh difficult policy questions. In each case, we try to provide context on the potential implications of each option.

Three major themes run through the analysis. First, in trying to simultaneously attract investment and make sure the country derives maximum benefits from oil and gas activity, Indonesia needs a clear-eyed and objective analysis of what kinds of policies are *really* likely to deliver long-term returns to the people of Indonesia. Other countries have run into problems by prioritizing populist political reforms that dissuade investment without delivering tangible economic benefits to the people.

Second, the performance of the sector cannot be meaningfully improved without a significant commitment to increasing accountability mechanisms and good governance. Global experience has repeatedly shown that economic policy on its own is insufficient if the sector is to be a stronger contributor to development. A careful focus on transparency and checks and balances is critical, and the current legislative process is a moment to enact reform.

Third, there are no quick fixes. A few simple provisions will not reinvigorate investment or restore public trust on their own. Rather, governments need to commit to building institutions over time and communicating with citizens and businesses. Revisions to the legislation can be a meaningful starting point to long-term institutional reform by establishing dynamic and open systems and tackling deep-seated problems. And follow-through in the years to come will be critical.

We hope that this analysis will be a useful element of the public debate on the legislation and look forward to the opportunity to speak further with Indonesian officials and civil society groups as the process moves forward.

Contents

A. INSTITUTIONAL STRUCTURE AND THE ROLE OF STATE-OWNED ENTERPRISES

One of the most critical questions facing the country is how to structure the institutions responsible for managing the exploration, production and sale of Indonesia's oil. In the wake of the invalidation by the Constitutional Court of the post-2001 institutional structure, the country is seeking a system that promotes vigorous investment, strengthens state-owned enterprise Pertamina as a national champion and flagship company, promotes strong oversight and reduces the risk of corruption. In recent months, government agencies have announced their intention to create powerful holding companies to control state assets in key sectors, including via Pertamina in the oil and gas sector. As the country debates the legislation, decisions about what privileges and powers to grant to Pertamina will be front and center.

Based on our experience and research across the world on the roles of state-owned enterprises and the design of oil- and gas-sector institutions, we suggest that the Indonesian government and legislature ask four key questions regarding design of the new system:

1. What kind of commercial privilege should Pertamina receive in relation to exploration and production activities?
2. Which institution(s) should be responsible for regulation and oversight?
3. How should Pertamina (and any new state-owned enterprise, if one is created) be financed?
4. What accountability mechanisms should be created or reinforced?

The sections below treat each of these questions in turn, discussing the pros and cons of different approaches in light of global experience.

1. What kind of commercial privilege should Pertamina receive in relation to exploration and production activities?

Based on our discussions with government officials, members of the legislature and other stakeholders in Indonesia, there appears to be a consensus that the new legislation should aim to help Pertamina improve its performance and expand its reach. One important influence on Pertamina's performance will be whether the new system accords to Pertamina (or to its wholly or jointly owned subsidiaries, in the event that the government opts for a "holding-company route") a privileged commercial role in the development of Indonesia's oil and gas resources. We begin with this question because the decision about what kind of commercial company Pertamina is to be will have a major impact on the questions that follow.

Global studies of national oil company performance have found that strong, market-based incentives (whereby managers must demonstrate success in order to gain or maintain access to oil projects) strongly correlate with commercial success.

The basic tradeoff inherent in the question of giving Pertamina surer access to Indonesia's exploration and production is as follows. Increasing the privileges accorded to the company in licensing processes could help Pertamina increase revenues, develop new technologies and enhance its "learning-by-doing." On the other hand, the downsides of assigning too much of a competitive advantage to Pertamina are that it could limit the private investment that Indonesia receives in the sector and could damage Pertamina's incentives to be an optimally-efficient, competitive company. Global studies of national oil company performance have found that strong, market-based incentives (whereby managers must demonstrate success in order to gain or maintain access to oil projects) strongly correlate with commercial success.[1]

There are several ways in which a government can accord a national oil company advantages over private companies in licensing processes, including some already implemented in Indonesia. Even under the post-2001 system, Pertamina enjoys some (limited) built-in advantages *vis-à-vis* private companies interested in gaining access to Indonesian exploration and production areas. Pertamina has an option to obtain guaranteed stakes in any oil and gas project. Existing regulations allow for an equity interest of up to 10 percent in any production sharing contract (PSC) operating group to be set aside for "Indonesian participation," whereby first privilege is given to any regionally owned company (BUMD, in Bahasa Indonesia), but which in the absence of such a company passes to Pertamina (Persero). Pertamina also has the option to acquire up to a 15 percent stake in any new PSC or upon extension of an existing PSC.

Table 1. Access rules for NOC control

System	Example
1. Monopoly	Saudi Arabia
2. Guaranteed role/option	Angola, Malaysia
3. Application with favor	Mexico, Kazakhstan
4. Full competition	Norway, Colombia

Looking at the systems other countries have used to award projects to their national oil companies, we identify four basic archetypes, each with pros and cons. We describe these archetypes below. As they show, under the current system Pertamina is far from the most privileged type of SOE, but it does have greater privileges than companies in the "full competition" system. In our discussions in Indonesia, some stakeholders have argued that Pertamina's upstream privileges should be increased, in order to strengthen the company and give it a better chance of success. Others argue that Pertamina has not performed effectively to take advantage of the limited privileges it has already been given and that further privileging the company would limit its commercial incentives and constrain investment in the upstream. We hope that the following description of international experiences will help the government and legislature analyze these arguments and make a decision on how to strengthen the company.

System 1: Monopoly

Description: The state-owned enterprise (SOE) is in charge of all projects, with no participation by private oil and gas companies except as sub-contractors to the SOE.

Examples: Saudi Arabia, Mexico (pre-2013)

Pros: This system gives total control to the state-owned enterprise, which guarantees that it will have a leadership role in every project executed within the country or its territorial waters. As such, the system maximizes the power and reach of the SOE. It also eliminates the need for complex negotiations between the state/SOE and private oil and gas companies.

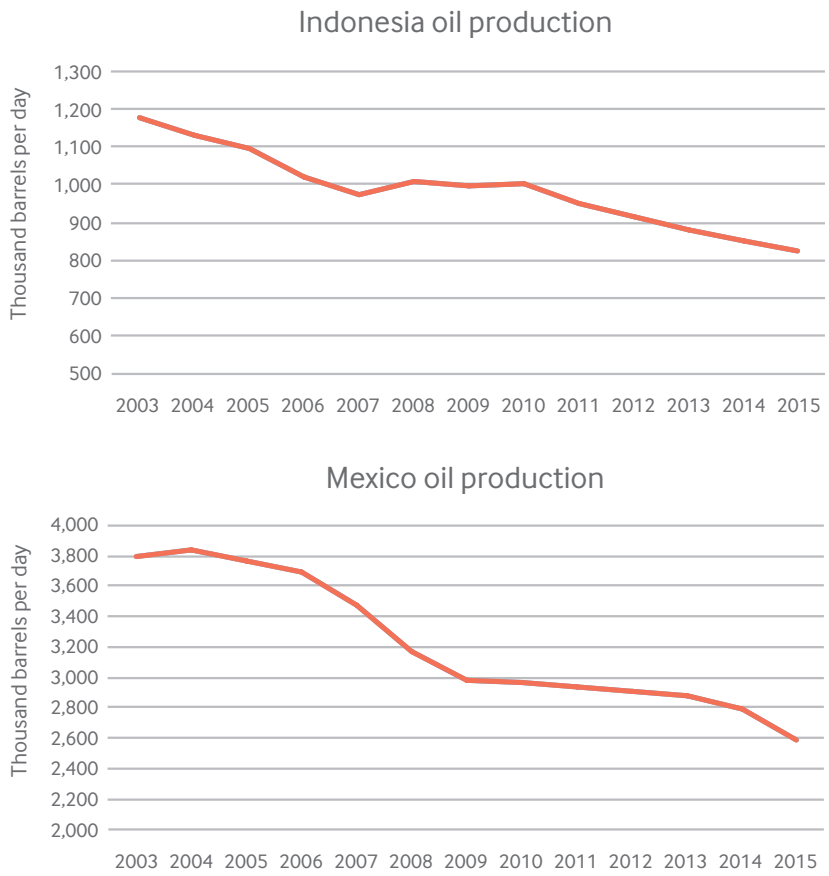


Figure 1. Production declines in Indonesia and Mexico

Cons: This system dramatically reduces the possibility that the country will benefit from the capital or innovations brought by private investors to the sector. Effectively, it forbids foreign investment in the upstream except as a sub-contractor to the SOE. This can be damaging for a country seeking to reinvigorate investment, because it automatically removes many companies which might invest in exploration and development from consideration. This system has been most effective in Persian Gulf countries with huge oil reserves that can be exploited relatively cheaply.[2] In countries where reserves are declining and where exploring for new discoveries is costly and risky, a monopoly approach is not conducive to generating necessary investment. A desire to move away from this system was one of the reasons that in 2013 Mexico amended its constitution to eliminate the monopoly held by its SOE, Pemex. With a 25 percent decline in both reserves and production between 2004 and 2013, the Mexican government recognized that the country needed an infusion of private investment to reinvigorate a declining reserve base.

System 2: Guaranteed role/option

Description: This system guarantees some kind of participating right or option to the SOE in every project or a category of projects. There are several versions of this system. Indonesia already practices one, giving Pertamina an option to purchase equity in any project that it wishes. Other countries have provided stronger guarantees of SOE participation, in various forms. Some give the SOE a guarantee or option for a higher equity share—up to 51 percent in in some cases (such as Algeria).[3]

Other systems grant the SOE an automatic right to be the "operator" of every project, meaning that the SOE will be the lead company responsible for technical and commercial decisions as part of an operating consortium. This is what Brazil

has done with its deepwater "pre-salt" fields, guaranteeing an operating right to its SOE Petrobras in every project. Other countries give the SOE a right of first refusal or the power to determine which areas it wants to operate itself, what private partners to involve and what terms to grant them, as is the case in countries such as Malaysia or Angola.

Pros: This kind of system can guarantee a strong role for the SOE in the development of upstream projects, while allowing for a significantly greater share of private investment than is possible under the monopoly system. It can give the SOE significant opportunities to develop its skills and shape the development of the sector, in partnership with private partners.

Cons: Compared to the two systems described below, this one creates weaker incentives for the SOE to improve its performance. Given that SOE officials know the company will be able to access a certain level of participation regardless of how efficient it is, they will face less pressure to be maximally competitive. Private investors generally prefer the two systems described below, which contain weaker guarantees for the SOE and therefore allow greater private sector access. In systems that guarantee operatorship, as in the new Brazilian system for the pre-salt fields, the assignment of such huge responsibility to the SOE can spread the company too thin and make it harder to pursue a streamlined commercial strategy.

System 3: Application with favor

Description: In this system, the SOE is given systematic advantages over private applicants, but its aspirations to operatorship or majority equity ownership are subject to some sort of review or confirmation by other government bodies. Under one approach, licensing is open for competition, but the SOE is automatically given a certain number of "points" or other built-in benefits in auction processes that give it an advantage over private competitors. In other countries, the SOE is able to make a first application for exploration/production acreage, but its application is reviewed by another government body, and if that body is not convinced that the SOE's application is justified, the project is then opened up to competition.

Under an "application with favor" system, the SOE is given systematic advantages over private applicants, but its aspirations are subject to review or confirmation by other government bodies.

Examples: Kazakhstan, Mexico (after 2013 reforms). When Mexico opened its oil and gas markets to private competition for the first time in 2014, the country put in place a version of this system for its SOE, with the so-called "Round 0." Before private companies were allowed to compete for exploration and production acreage, the Mexican SOE Pemex submitted its own application for blocks that it wanted to control. This application was not treated as an unfettered right of first refusal. Rather, Pemex's proposals were subject to review and approval by the Energy Secretariat, which received technical assistance from the country's regulatory body. The system was designed to allow Pemex to ensure adequate production and reserve-replacement levels while generating strong investment from private companies.[4]

In Kazakhstan, the exploration and production subsidiary of the national oil company has the right to request contractual rights for unlicensed acreage without a tender process, but such rights are subject to review/analysis.[5] Decisions about whether to grant the company this kind of "priority right" in a particular case are made with the participation of "a special consultative and advisory body such as the Interdepartmental Commission on the Implementation of the Priority Right of the State."[6]

Pros: This system aspires to strike a balance by creating advantages to increase the likelihood of SOE participation in projects, but without guaranteeing it. The idea is to maintain incentives for the SOE to be competitive and develop projects

efficiently, while giving it "a leg up" as it continues to develop its commercial competence. It recognizes that the SOE's goals and the government's goals may not be totally aligned—in some cases, the SOE may wish to tackle a project with limited chances of success, even where another player would be better placed to develop the resource in the national interest. This system allows the government to analyze the SOE's proposals so that it can give the SOE strong chances to expand its portfolio. At the same time, however, the system enables the government to retain the choice to award projects to others where the SOE's plans are unrealistic or overly risky.

Cons: If not properly balanced, this system "though to a lesser degree than the systems discussed above", limits the SOE's performance incentives and discourages private investment. Countries that employ such a system should consider limiting the time period during which the privilege applies in order to strengthen the SOE's motivation to invest in improving its competitiveness.

System 4: Full competition

Description: Exploration and production projects are awarded by competitive licensing rounds, with no privileges for the state-owned enterprise. If the SOE wants to be the operator or a partner in a project, it must compete on a level playing field against private companies.

Examples: Norway, Colombia

Pros: This system awards the right to participate in a project based purely on the merits that each bidder brings to the table. It thereby provides the strongest assurances that in the short term, projects will be managed by the most technically and financially capable companies. This system can also create strong incentives for the SOE to become a world-class, highly efficient company; its management knows that it needs to be competitive in order to have access to projects.

Cons: If the state-owned enterprise is not already at a certain level of capability, this system can impede its ability to gain the practice and experience its personnel need to increase their skills. Thus it can lead to a situation in which the SOE is "stuck on the outside looking in," with limited opportunities to develop. Over the long term, this can hinder national development by leaving the country continually dependent on private contractors in order to exploit its oil and gas. This system may be most appropriate for countries where the SOE has already reached a strong level of development, or for countries where the long-term prospects for oil and gas development are weak, and which therefore want to maximize sector benefits in the short or medium term.

A system of "full competition" can create strong incentives for the SOE to perform, but can lead to a situation in which the SOE is "stuck on the outside looking in."

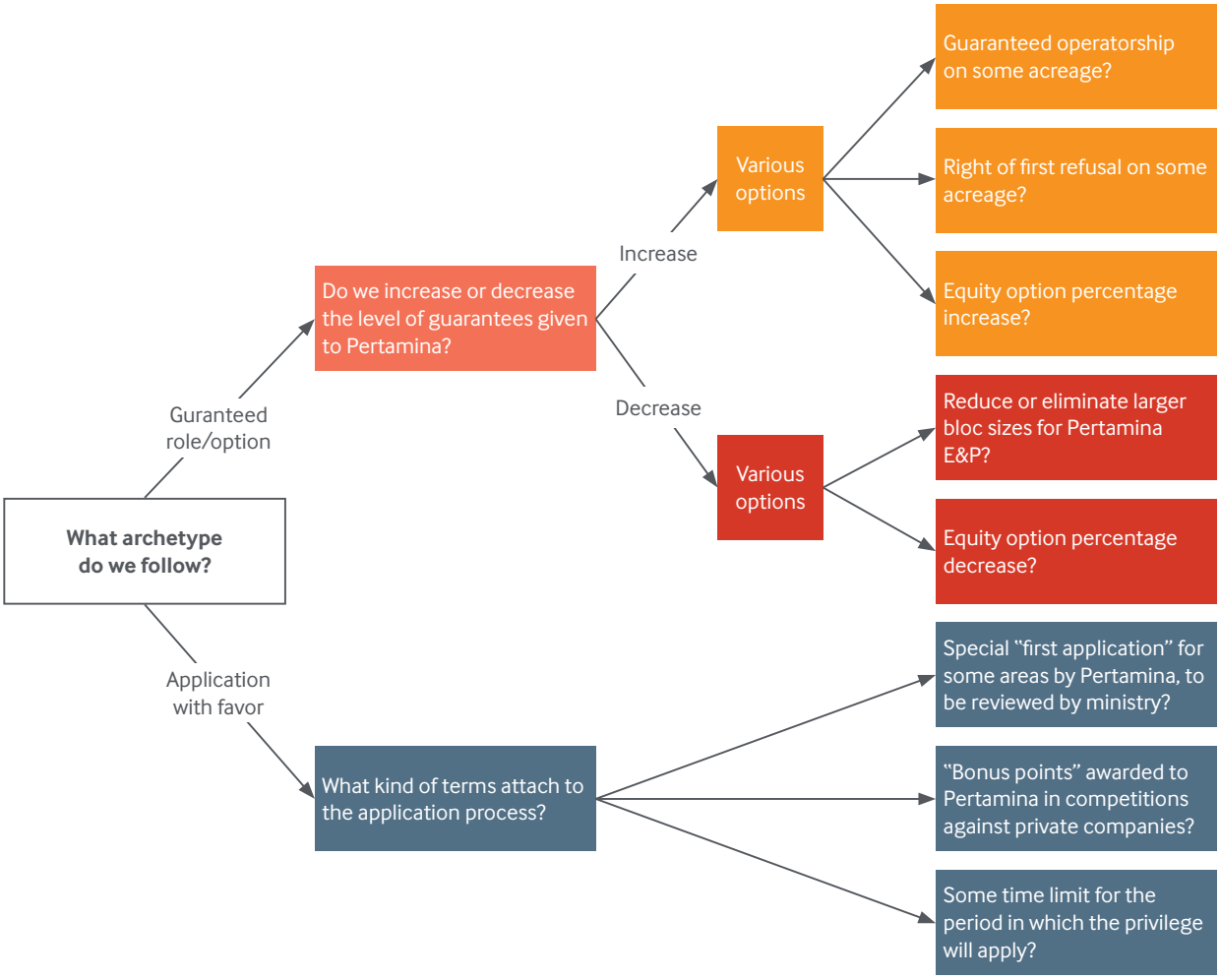
In choosing between these systems, Indonesian leaders will need to assess the impact of various types of privilege on the incentives of SOEs and of private investors. On the one hand, a system that subjects an SOE to full competition may damage that SOE's chances to gain real experience when competing with multi-national companies. On the other hand, a strong guarantee that an SOE will be able to access projects *without respect to its performance* provides a weaker incentive to improve performance. And a system that allows the SOE to carve out all of the areas it wants may limit interest and investment by private companies, which may find all of the most interesting geological prospects to be inaccessible.

Based on our discussions, it does not appear that there are substantial constituencies in Indonesia advocating for the monopoly or full competition models. This means that policymakers' choices will likely center around the guaranteed role/option

and the "application with favor." Figure 2 illustrates the decision tree that decision-makers face. Three elements appear to be of particular importance to the sector.

- Maintaining incentives for private investment, in order to stem declines in oil and gas production (which fell 22 percent between 2004 and 2013) and reserves (which fell 13 percent)
- Increasing the opportunities for Pertamina to participate in the development of the country's resources
- Reinforcing incentives for Pertamina to improve its commercial and technical performance

Figure 2. Pertamina commercial privilege decision tree



In determining which kind of privilege to accord, Indonesian decisionmakers should recognize an inherent tradeoff. At least in the short-term, strong guarantees that Pertamina *will* be involved in every project in some manner would likely reduce the options available to the country for private investment in exploration.

It would also likely weaken cost control in the sector, at least in the short term, which would negatively impact fiscal returns to the state. The spiraling cost

increases experienced when Pertamina's upstream subsidiary took over operations on the West Madura Offshore and Onshore West Java projects provides a useful example of the company's inefficiency relative to the private sector. According to government data, during the first three years of Pertamina control over West Maduro Offshore (2012–2014), average costs per barrel increased by 103 percent, to USD21 per barrel from USD11 per barrel during the preceding three years of control by Kodeco. Over the equivalent time period, global operating costs in the oil industry rose by only 12 percent, suggesting that a decrease in project efficiency under Pertamina was a major cause of the increased costs. During the first five years of Pertamina control over the Onshore West Java project, average cost per barrel increased by 148 percent compared with the previous five years of control by BP.

These increases in costs are likely to result, among other things, in a greater share of petroleum revenues being directed to pay for cost oil. They are therefore likely to result in lower revenue collection by the state. This does not necessarily mean that Pertamina should not be granted any additional privileges in access to projects. But it does suggest that the government and parliament should consider tying the privilege closely to mechanisms that increase Pertamina's incentives to perform efficiently.

2. Which institution should be responsible for regulation and oversight?

Once lawmakers have decided what kind of commercial company Pertamina will be and what kinds of commercial privileges it will receive, they must then decide which institution will be responsible for regulation and oversight of the upstream. Based on our discussions with Indonesian stakeholders, it appears that the two principal options on the table are to assign most regulatory responsibilities to Pertamina (the so-called "two-pillar approach," wherein Pertamina plays the day-to-day implementation and oversight role, under the broader supervision of the Ministry of Energy and Mineral Resources) or to assign them to a new state-owned enterprise which would assume many of the functions previously exercised by BP Migas (the "three-pillar approach"), but would add a limited commercial mandate. A decision about this distribution of powers is necessary in light of the Constitutional Court's invalidation of the 2001 institutional model and the need to reinvigorate management of the sector.

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Regardless of whether Indonesia ultimately opts for a two-pillar or three-pillar approach, it is important that the new system promote greater clarity, spelling out directly who is responsible for what and the lines of authority between different levels of the public administration.

Two-pillar system

As it has been described in Indonesia, a "two-pillar" system would represent an Indonesian adaptation of a system implemented in many countries, in which the national oil company responsible for upstream and midstream commercial activities also bears principal responsibility for regulation and oversight. In many countries that use such a system, the commercial SOE is responsible for ensuring that other commercial companies (and the SOE itself) are complying with legal rules, executing work plans efficiently and according to agreed procedures, and adhering to the overarching national strategy for project implementation.

The precise breakdown of responsibilities between Pertamina and the Ministry of Energy and Mineral Resources (ESDM) under a two-pillar system could take a variety of precise forms, but Figure 3 provides a general illustration:

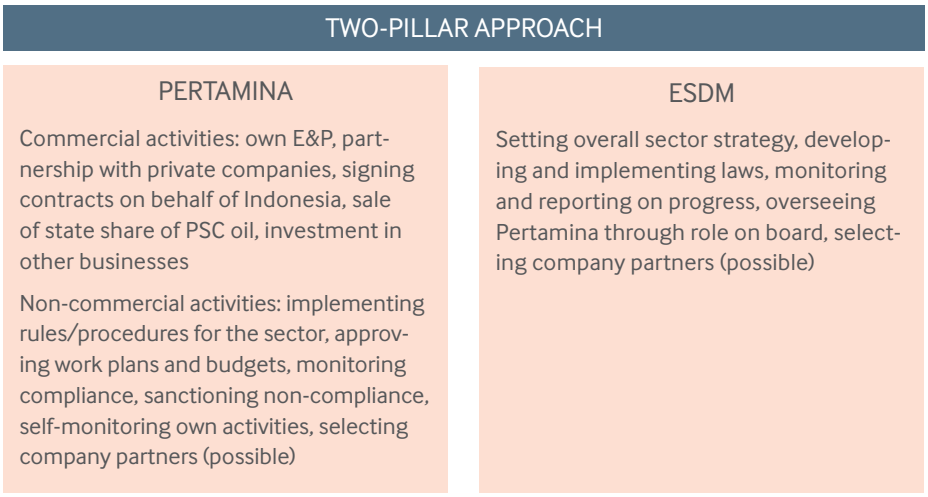

Figure 3. Two-pillar model

(**Note:** Many countries implement a different version of a "two-pillar" system, in which the sector Ministry exercises exclusive regulatory authority and the SOE plays a purely commercial role.)

Examples: Malaysia, Angola, Mexico (before 2013 reforms)

Pros: This two-pillar system enables the country to concentrate its human and administrative resources heavily into the operating SOE (in this case, Pertamina), which can help accelerate the development of skills and expertise and create a "center of excellence" concentrating all of the nation's most skilled people and best resources in the sector. In some countries that have employed this system, company staff have enhanced their regulatory and oversight skills through direct exposure to the business side of oil and gas, and vice versa.

In countries such as Malaysia, developing an extremely powerful SOE that is a regulator and a commercial player has facilitated the development and implementation of a unified national vision on how the oil and gas sector should be managed. There is very close coordination at the highest levels between the Malaysian government and the leadership of the company, which has facilitated a focused coordination. This kind of coordination has been most successful in countries such as Malaysia, where there is a very tight level of control over government by figures from a dominant ruling party. (See "contextual analysis" section below.)

The two-pillar approach, if well-executed, can also promote administrative efficiency by reducing the number of government entities to be funded and staffed. These benefits can be particularly important in countries new to the oil and gas sector, given that it can be costly to build up several new institutions when a country has little history in the industry and few qualified experts to lead public agencies. These benefits may be less relevant in a country like Indonesia, which has a large cadre of skilled experts with deep experience in the sector.

Finally, a two-pillar system reduces the number of players with whom private partners must interact, which can reduce bureaucratic procedures. Countries such as Malaysia and Angola have been able to build strong relationships with private partners and advance projects quickly.

Cons: The biggest risk associated with the two-pillar approach is conflict of interest between the SOE's commercial interests and its responsibilities for managing the sector in the nation's interests. There are several areas in which the SOE's commercial interests may not be in line with the broader national interest and

where the absence of a strong body responsible for monitoring the SOE's strategies and activities may impede the effective pursuit of the country's goals:

- *Taxation.* As a commercial entity, an SOE is responsible for maximizing its own profitability. A commercial company's principal interest is in limiting the taxes it has to pay to the state in order to reinvest a large share of revenues in its own programs. Without strong oversight from a sector ministry or regulator, the SOE is more likely to spend heavily on its projects and internal needs, and to account for its annual activities in such a way so as to limit its tax obligations to the state, just like a private company would. This can hinder the state's ability to maximize revenues to the government. In Angola, for example, the Ministry of Finance often complains that it has significant difficulty in controlling the costs of the state-owned oil company, Sonangol, which operates with significant autonomy in a *de facto* two-pillar system. This impedes the state's ability to tax the SOE effectively.[7]
- *Development of the sector and relationships with investors.* In Venezuela, over a long period of time beginning with the company's formation in the 1970s, the SOE PDVSA became a more dominant decisionmaker in the sector, and the ministry of energy became increasingly weaker. By the late 1990s, the company had overwhelming power. "Oil sector development priorities, overseas investments, and [international oil company] contract terms were all mainly PDVSA decisions," with little control by the ministry or other government entities.[8] This weakening of oversight bodies facilitated the use by President Hugo Chávez of PDVSA as a tool for a radical political agenda and the eradication of many of the rights of the country's private investors.
- *Allocation of rights to private partners.* Where the SOE's regulatory role includes the power to select what companies will gain access to upstream projects, it can result in decisions to favor companies that best help advance the SOE's (technology, learning or financial) agenda, rather than the interests of the state (e.g., highest likelihood for effective development of the resource).

The interests of the SOE and those of the country will align in many cases. But in the instances in which they do not, a two-pillar system reduces the inherent protections in place to ensure that the state's agenda is pursued most vigorously. Where the SOE is responsible for playing both commercial and regulatory roles simultaneously, the distinctions can become blurred, impeding the government's ability to execute its will and treat all investors equally.

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A combination of commercial and regulatory roles in one SOE can also overburden the SOE and distract executives from the company's principal commercial agenda, reducing incentives for strong performance. The burden of allocating significant human and financial resources to the regulatory function can distract from the company's core commercial business. And the lack of an independent check on its activities reduces the healthy pressure on the SOE to demonstrate results. This is one of the principle reasons that countries such as Mexico and Brazil—which for decades vested all regulatory power in the SOEs—ultimately moved away from such an approach.

In Mexico, throughout the country's history, all oversight power in the country was held by Pemex. But like Indonesia, Mexico suffers from aging of oil and gas fields and the aforementioned declines in production (25 percent between 2004 and 2013). The performance of Pemex was disappointing to most Mexicans, and the country's leaders wanted to generate large new private investment to reinvigorate

production. In attempting to do so, the government opted in 2013 to strip Pemex of its oversight responsibilities and to place them with an independent National Hydrocarbons Commission. Incentives for commercial performance are particularly weak in countries in which the SOE *both* exercises regulatory functions *and* has built-in advantages in the licensing processes described above (e.g., monopoly, guaranteed role/option, or application with favor).

Finally, the combination of roles into one body can increase the risk of corruption. Where the SOE sits at the intersection of commercial and regulatory interests, the temptation among its staff and leadership toward self-dealing or using regulatory powers to strengthen business connections can arise.

Three-pillar system

Some countries have created three-pillar systems composed of a ministry that sets overall policies and strategies; an SOE purely responsible for commercial activities in oil and gas; and a regulatory body responsible for day-to-day oversight. Based on our understanding from stakeholders in Indonesia, such a traditional three-pillar system is not an option in light of the Constitutional Court's decision that oversight powers must be exercised by a business entity.

Thus the version of the three-pillar system that has been suggested for Indonesia by some public officials is one in which a new "limited state-owned enterprise" would be created that would bear principal responsibility for overseeing compliance with rules, regulations and strategies—both by Pertamina and by private contractors. This new SOE would also represent the government in contractor groups, and would take over SKK Migas' role in marketing the state's share of oil and gas[9] Figure 4 illustrates a commonly-discussed iteration of the three-pillar approach:

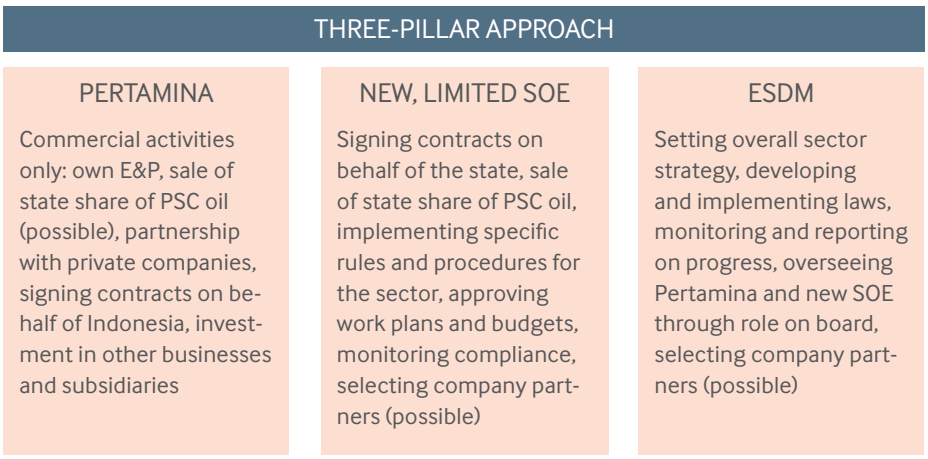


Figure 4. Three-pillar model

Examples: Though the proposed Indonesian version of the three-pillar system would be a country-specific innovation, the country can look to the examples of Norway and Brazil, which have created models with some important similarities. Brazil has utilized a three-pillar system since 1997, with the Ministry of Mines and Energy setting overall strategy, Petrobras playing the commercial role and the National Petroleum Agency handling monitoring and regulation.

In 2010, the country created a new, specialized SOE called PPSA (Pré-Sal Petróleo, S.A.) to participate in projects in the massive, newly discovered deepwater fields known as the "pre-salt discoveries." Petrobras was guaranteed an operating role and a minimum 30 percent equity stake in all of these new fields, which were to

be managed via PSCs. This arrangement was the result of the government's desire to have a commercial player (PPSA) involved whose interests were fully aligned with those of the Brazilian state, and which could monitor the actions of Petrobras and its private partners. PPSA was created not as an operating oil company, but as a limited-mandate commercial entity charged with:[10]

- Representing the government as the chair of all PSC operating committees in the pre-salt fields
- Selling the state's share of oil and gas from the PSCs
- Evaluating exploration and production plans proposed by Petrobras as the operator, and ensuring contract compliance by Petrobras and private oil and gas companies
- Monitoring and auditing the costs incurred by Petrobras and private oil and gas companies

In Norway, besides the operating upstream national oil company Statoil, the government also created a limited SOE called Petoro, which is responsible for maximizing the value of the state's direct financial interests in oil and gas projects. The Norwegian state established Petoro in order to have direct representation within commercial projects, to supervise the activities of Statoil and other operating companies, and ensure that they are maximizing the benefits to the state. In particular, Petoro exercises power to supervise the price at which the Norwegian government's share of oil is sold.

The Norwegian state established Petoro in order to have direct representation within commercial projects, to supervise the activities of Statoil and other operating companies, and ensure that they are maximizing benefits to the state.

Pros: There are two principal advantages of a model that allocates the responsibility to develop and oversee the rules governing day-to-day management of projects to a body other than the operational state-owned enterprise. First, it reduces the risk of conflicts of interest. In a system in which a commercial company like Pertamina has the responsibility to enforce the rules against itself while at the same time pursuing a commercial agenda, there is a significant chance that enforcement will be uneven and incomplete. As noted above, while Pertamina's success is critical for Indonesia, the company's interest will not always align precisely with the country's interest, especially when it comes to management of individual projects.

Assigning oversight responsibilities to a body exclusively devoted to promoting the *nation's* interests can help enforce the country's rules fairly and vigorously with all commercial players.

Second, this kind of system makes it easier for the operational SOE to focus exclusively on its commercial mandate than in a case where the SOE is given the responsibility not just to pursue its own commercial success but to oversee all companies active in the upstream. Global research has shown that assigning large-scale non-commercial responsibilities to a state-owned enterprise can distract substantially from the pursuit of commercial goals, as has happened in Venezuela, where the SOE PDVSA has been saddled with regulatory and quasi-fiscal responsibilities that are so large that its commercial performance has suffered dramatically.[11]

The three-pillar model is also often favored by investors. When making decisions about multimillion dollar investments, international oil and gas companies are leery of the risk of unequal treatment. Thus they tend to prefer that oversight and regulation be executed by a different body than the operating national oil company, against which they may compete in some cases, or with which they will partner in others.

Cons: The disadvantages of this system are in many ways the obverse of the advantages described for the two-pillar system above. By having three separate public institutions with responsibilities for participating in and managing the sector, a country can risk spreading its human and financial resources too thin, and can prevent the state from "speaking with one voice" in oil and gas.

A three-pillar system can also create confusion and inefficiencies where there are overlaps in the responsibilities allocated to the three bodies. Where there is confusion about what kind of action constitutes a "regulatory" duty to be played by the new regulator as opposed to a policy-making activity (to be played by the ministry) or a commercial duty (to be performed by the upstream SOE), the sector can be beset by uncertainty which can discourage investors.

Given the creativity of the iteration of the three-pillar approach that has been proposed in Indonesia, there are not a large number of comparable examples to study. Brazil's PPSA model has some promising features, but it is still early in its history, so whether it will succeed is an open question. The need for the kind of oversight that PPSA is supposed to provide has been further demonstrated by the large-scale corruption scandals that have recently damaged Petrobras' reputation.

Contextual analysis: NRGI has engaged in global research on the application of two-pillar vs. three-pillar systems in a range of countries across the world.[12] We have found that, in general, two-pillar systems have worked best in countries with strongly concentrated power structures, in which there are powerful assurances of alignment of decisionmaking between the leaders of the company and the country. In the case of countries such as Malaysia or Angola, there has been consistent, often informal coordination about petroleum-sector management between technocratic leaders of the SOE and the highest leadership of the country itself, unencumbered by pluralistic political processes or meaningful political competition. The lack of independent oversight in this kind of system is risky, but these countries have overcome the risk through strong elite coordination.

By contrast, in states where democracy or other political competition is more entrenched and institutional capacity is also well-developed, three-pillar systems have had more success. These countries have deeper experience with oversight and checks and balances across different institutions, and often lack the elite trust and close political coordination that has allowed Malaysia to thrive in a Petronas-regulated system. Figure 5, taken from a 2011 study of petroleum-sector institutional structure worldwide, illustrates the point.

In states where democracy or other political competition is more entrenched and institutional capacity is well-developed, three-pillar systems have had more success.

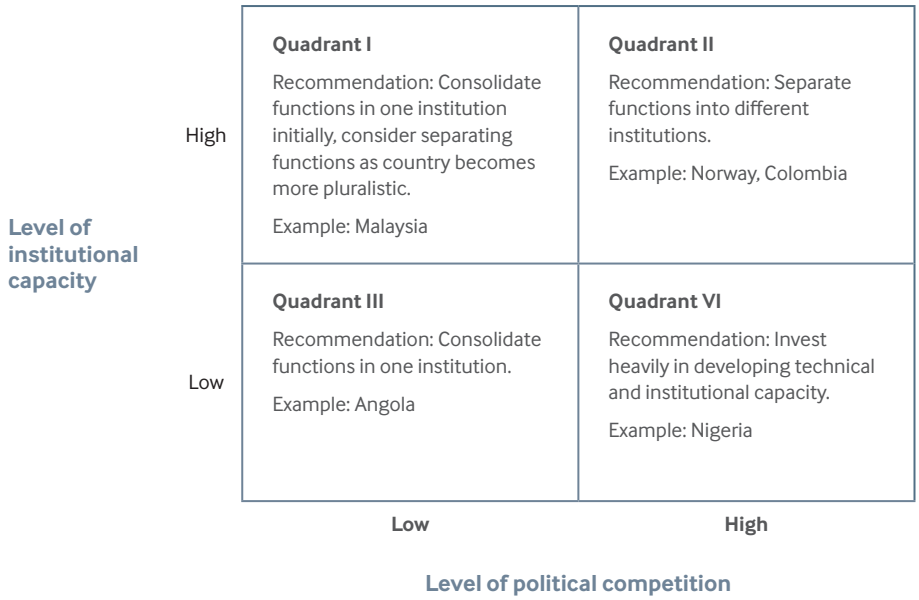


Figure 5. Considerations in institutional design

We can look at the Indonesian state using each of the axes of figure 5. Beginning with the horizontal axis, the most significant distinction between Indonesia and Malaysia seems to be that the Indonesian state is much more pluralistic and competitive than the Malaysian state. Indonesia is characterized by intense electoral competition for power, a vocal legislature and a range of public and private institutions with the mandate of assessing compliance and performance. Decisions on key economic questions facing the country are routinely subject to influence from the presidency, ministries, legislature, administrative and oversight bodies, subnational governments, and private (both national and local) interest groups. This system, of course, is imperfect, and various governance challenges remain. But this multifaceted practice of decisionmaking would make a system of effective autocratic control less likely to succeed in managing the oil and gas sector effectively than is the case in a more centralized country like Malaysia. Indonesia's system also makes difficult the kind of long-term, closed-door type of coordination that some autocratic systems have used to battle conflicts of interest. And the fact that checks and balances are well-established make it more likely that Indonesia could build effective accountability mechanisms across multiple institutions than would be the case in an autocratic system.

With respect to international measures of political competition, Indonesia is more similar to relevant Latin American countries than to Malaysia. (Table 2 illustrates this.) The "polity index" is used by political scientists to assess how pluralistic political regimes are. The index classified Malaysia in 2014 as an "anocracy," meaning somewhere between an autocracy and a democracy. Indonesia, Brazil and Mexico were all assessed as democratic. Indonesia is also closer to Brazil and Mexico than it is to Malaysia in the World Bank's measurements of political stability and voice and accountability.

	Brazil	Indonesia	Malaysia	Mexico
"Polity" rating of regime type[13]	8 (democracy)	9 (democracy)	5 (anocracy)	8 (democracy)
Political stability and absence of violence (percentile)[14]	45%	31%	59%	21%
Voice and accountability (percentile)[15]	61%	53%	37%	47%

Table 2. Institution/ governance measures, 2014

Turning to the vertical axis, there is no perfect proxy for measuring institutional capacity. At NRGI, we typically assess it by combining the World Bank's global measure of overall government effectiveness with a more subjective assessment of public capacity within the oil and gas sector.[16] On the government effectiveness measure, Indonesia has hovered for several years around the middle of all countries globally, ranking in the 55th percentile in the most recent (2014) data.[17] Table 3 shows how Indonesia compares to several peer countries in the Asia-Pacific region and among global oil producers on this measure.

Country	Percentile, government effectiveness	Country	Percentile, government effectiveness
Angola	13	Malaysia	84
Brazil	46	Mexico	61
Colombia	50	Myanmar	9
Indonesia	55	Nigeria	12
Japan	97	Norway	97
Korea, Rep. of	87	Philippines	62
Kuwait	48	Vietnam	52

Table 3. Government effectiveness, 2014

In addition to this middle-of-the-pack ranking on general government effectiveness, we take into account the significant capacity that Indonesia and Indonesian public officials have developed within the oil sector itself. This distinguishes Indonesia from countries such as Myanmar and Angola, which have turned to two-pillar system in order to simplify administration for a very small cadre of people who understand the sector; these countries opted to concentrate scarce resources rather than spreading them thin.

Taking these factors together, we place Indonesia in Quadrant II of Figure 5, with relatively high levels of institutional and petroleum-sector capacity and political competition. Such a categorization suggests that the three-pillar system, with its built-in checks and balances, would be the most likely to succeed in Indonesia.

Regardless of whether Indonesia ultimately opts for a three- or two-pillar approach, it is important to clarify responsibilities among different public bodies. Many sources throughout the public sector and the business community have reported that under the existing system there is confusing and inefficient overlap between the responsibilities of bodies including Pertamina, SKK Migas, the Ministry Energy and Mineral Resources and the Ministry of Finance. This impedes the effective execution of project decisions and also opens the door to governance problems. One of the most consistent findings of global research on petroleum-sector SOEs is that when roles and responsibilities are unclear, management suffers.

3. How should Pertamina (and any new SOE) be financed?

Once it decides on the roles and responsibilities of Pertamina and any new SOE, the government will have to establish a system that gives the companies access to the financial resources they need in order to carry out their mandates effectively. Fine tuning the financing of SOEs is a balancing act. Giving the SOE too much control over a large share of public revenues can damage that SOE's incentives toward efficient performance and starve the budget of revenue deriving from the people's resource endowment. On the other hand, if the SOE does not have predictable access to a sufficient flow of revenues to execute activities, then it is unlikely to carry out its commercial strategy effectively.

Globally, countries set rules for SOE financing according to a variety of systems that can be placed along a spectrum, as shown in Figure 6.

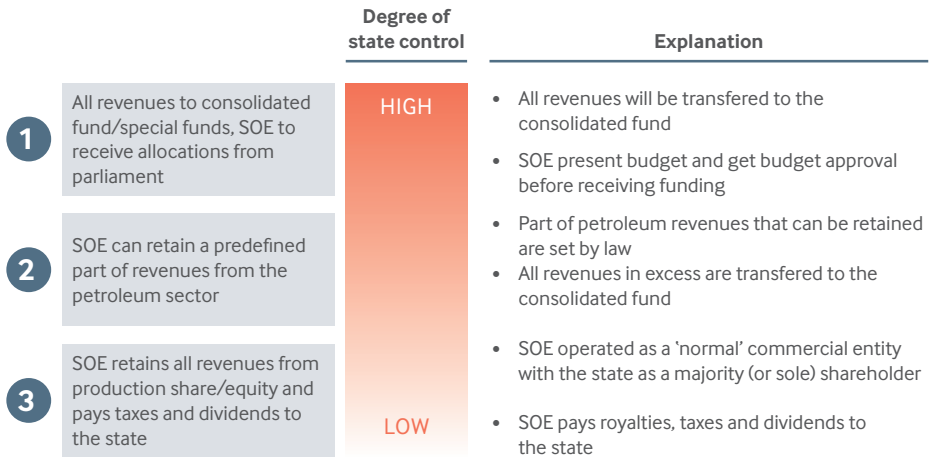


Figure 6. State control over SOE finances

Countries at the top of the spectrum treat their SOEs as budgetary entities, requiring them to send revenues collected directly to the treasury. These SOEs depend upon annual budgetary allocations to operate. This approach gives the state high levels of financial control over the SOE. This can enable strong oversight of the company's activities and decrease the risk that the SOE becomes a sort of parallel treasury. But this approach makes it more difficult for a company to make or execute ambitious plans, because the funds that will be available for commercial activities are often unknown. Global research has shown that SOE financing driven by the national budget process is most appropriate for a state-owned enterprise with limited commercial activities (i.e., one that plays a quasi-regulatory role). For a company for which the state has extensive commercial ambitions, especially in exploration and production, an overly budget-based system can be too restrictive.

At the other end of the spectrum are state-owned enterprises that pay taxes and dividends to the state just like any private company. This is the practice in countries such as Norway and Colombia, which have partially privatized, highly commercialized national oil companies. This system gives the SOE significant latitude to hold onto revenue flows and build sizable and more predictable accounts in order to carry out a commercial investment program over multiple years.

After the Indonesian government and legislature make decisions about what sorts of privileges to assign to Pertamina in licensing processes and what if any regulatory responsibilities to give it, the next step is to decide how much revenue Pertamina can hold back from the treasury. Similarly, if the government opts for a three-pillar approach and creates a new, limited SOE, it should also establish a financing mechanism commensurate with the level of responsibility and commercial activity

of that new SOE. Given the limited mandate of such a "regulatory" SOE (e.g., Norway's Petoro), the most logical arrangement would be for it to operate primarily as a national budget-funded entity.

Financing models for Pertamina and any new SOE must also comply with restrictions on state-owned enterprises prescribed by Indonesia's SOE legislation.

4. What kinds of accountability mechanisms for state-owned enterprises should be created or reinforced?

The ongoing legislative process provides an important opportunity to strengthen the accountability mechanisms that apply to Pertamina, the ESDM, and any new SOE that assumes some of the roles currently played by SKK Migas. Though no system is foolproof, strong rules can enhance the positive incentives for these entities to perform effectively and can reduce the risk of resource-related corruption.

The ongoing legislative process provides an important opportunity to strengthen the accountability mechanisms that apply to Pertamina, the Ministry of Energy and Mineral Resources, and any new SOE that assumes some of the roles currently played by SKK Migas.

Section D, below, lists transparency mechanisms that can confer a broad range of benefits on Indonesia's oil and gas economy. But some mechanisms that other countries have instituted with particular influence on the performance of state-owned enterprises and state regulatory bodies include:

- Clear rules in law spelling out rigorous criteria for the qualifications of individuals to serve on SOE boards (e.g., Norway)
- Strong internal codes of conduct (including prohibitions of self-dealing) (e.g., Malaysia)
- Establishing whistleblower protections to encourage company employees and other officials to report concerns about corruption or other governance problems[18]
- Regular schedules of reporting to parliamentary bodies responsible for SOE oversight, with details on revenues, expenditures and business plans (e.g., Kuwait)
- Detailed disclosure to the public of information on revenue flows and activities (See Section D for more detail) (e.g., Mexico)
- Timely disclosure of information on the implementation of oil and gas projects (e.g., Norway)
- Required, regular audits by private, world-class auditors, selected by competitive tender and with responsibility for reviewing the consolidated accounts and activities of the different entities (e.g., most world-class SOEs, including Malaysia's)

As Indonesia develops its oil and gas legislation, policymakers should examine these accountability mechanisms required by law in other countries.

B. FISCAL REGIME FOR OIL AND GAS

Indonesia's reserves and production are declining, and the government aims to reinvigorate investment in the sector. In recent months government officials have announced possible fiscal reforms to attract private investors, including possible revisions to the contractor-state split in production-sharing contracts, and reductions on fiscal payments due during the exploration period.[19] Some of these changes could be implemented without changes to the legislation, but they provide important context for the fiscal choices the government and legislature face.

Two overarching themes are important when considering this issue. First, the discussion of the fiscal regime cannot be divorced from the foregoing discussion on Pertamina, as the role and privileges of the state-owned enterprises rank among the most important considerations impacting investment attractiveness. Second, while individual fiscal incentives like the proposals noted in the preceding paragraph are unquestionably important, so too are other fundamental institutional considerations that impact investor confidence.

1. Petroleum fiscal regimes and investment in the commodity cycle

Oil and gas have been strategic commodities for Indonesia. As an OPEC member, Indonesia's exports in the 1980s were more than 60 percent oil and gas.[20] However, few new discoveries leading to proven reserves were made after the 1980s. Meanwhile, the country's rising economic welfare was accompanied by rising energy consumption, driven largely by the high growth of private vehicle ownership. Thus, Indonesia has been a net oil importer since 2005.

Data from the Central Bureau of Statistics show that oil and gas made up 8.8 percent of Indonesia's imports in 2015. In that year, oil and gas imports increased 7.6 percent above their 2014 level, higher than the rate of economic growth. And because Indonesia's currency, the rupiah, is weakening, increasing oil imports have large consequences for the economy.

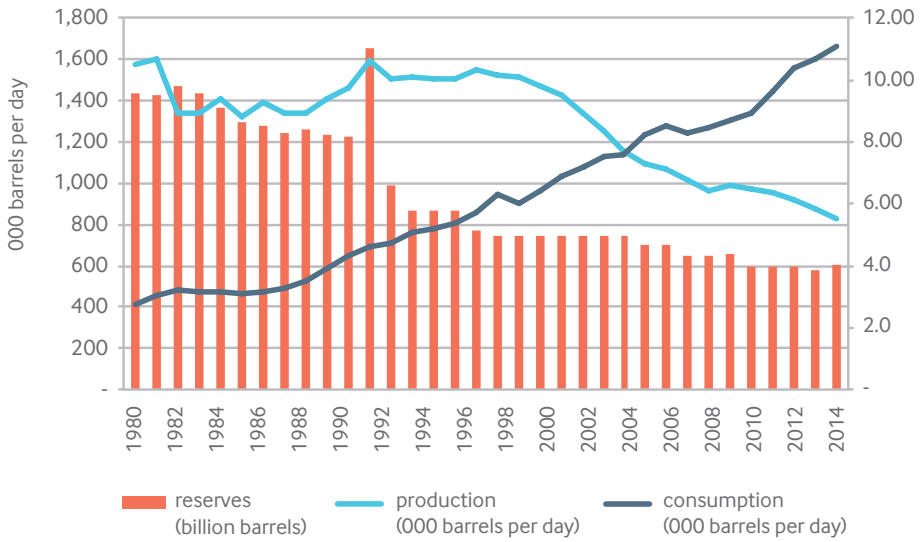


Figure 7. Crude oil reserves, production and consumption, 1980–2013

The rising oil imports have not been matched by rising exports in other sectors, creating a trade imbalance that has contributed to a 62.5 percent decline of the rupiah-U.S. dollar exchange rate since January 2011. In a strongly export-oriented economy, a declining currency should decrease the international price of the

country's goods and increase its exports. However, Indonesia's manufacturing sector still relies heavily on imported intermediate goods,[21] so a declining rupiah has paradoxically led to higher prices of manufacturing exports, decreasing their competitiveness and starting a process of de-industrialization.

Reversing the trend of rising oil imports requires policy reforms from both the supply side and the demand side. From the demand side, better public transportation and energy efficiency would reduce the rate of growth in energy consumption. Supply could also could also be boosted. Five factors present challenges in increasing Indonesia's oil production:

i. Risk and cost in exploration
ii. Low oil prices
iii. Significant regional competition
iv. The country's uncertain business climate
v. Indonesia's high average effective tax rate in the oil sector[22]

Most of Indonesia's explored and proven oil reserves are in the western part of the country, where oil has been easily accessible and general infrastructure is relatively good. However, most of the "low-hanging fruit" has already been plucked. Now, most of the potential oil fields are in remote areas or deep seas, mostly on the eastern side of the country. These fields are more risky and costly to explore.

As shown in Figure 8, not many companies can afford the higher production costs in this period of low oil prices. The market consensus on prices seems to be "lower for longer." Worldwide, more than USD 400 billion in oil and gas exploration and development investments have been shelved.[23] Several international oil companies active in Indonesia have announced cutbacks in operations and layoffs.[24]

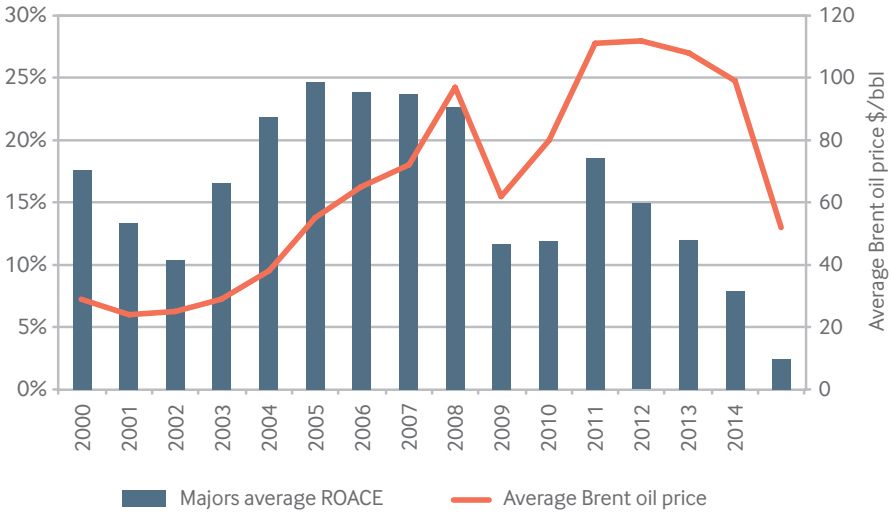


Figure 8. Major oil companies' average return on capital and oil price, 2002–2015

Source: Keith Myers, presentation at NRGI Advanced Course on Oil and Gas Governance, Budapest, Hungary, April 2016

In times of low prices and declining investments, oil-rich countries must compete to attract capital. Besides old players like the Gulf countries, Venezuela, Russia, Canada and Malaysia, declining oil producers like Iran and Mexico have ambitious plans for growth, and there are also new players like Argentina (with shale oil) and countries in East Africa (with offshore natural gas). Indonesia is now in competition with these countries.

Factors iv and v in the list above are strongly connected. The business climate is shaped by red tape, the time and resources needed to get permits and other administrative authorizations, the quality of institutions,[25] the availability of domestic capital and the dynamism of labor and service providers. If the business climate is weak, these factors represent added costs to international oil companies' operations and reduce the net revenue that investors receive. The average effective tax rate is the percentage of pre-tax cash flows that the government collects from an oil project. Governments of oil-producing countries are generally able to impose high effective tax rates on companies if the country's geology is very promising and its business environment is accommodating. Otherwise, prospective investors would be deterred.

Some oil-producing countries (recently, the U.K. and Argentina) have used different forms of fiscal or investment incentives to encourage investment during economic downturns. But the actual impact on investment levels generated by these incentives has been mixed. Some common examples are accelerated depreciation, investment credits, tax breaks or exemptions, government subsidies and high cost-recovery limits. But tax incentives increase competition between producers, leading potentially to a "race to the bottom" where competing governments all lose out on future revenues from oil resources. The full extent of the lost opportunity might only become evident during a subsequent commodity price boom. For this reason, any fiscal incentives should be avoided or limited in time and scope. In addition, governments tend to grant fiscal incentives during commodity price downturns, and tend to increase taxes during price booms. Ideally, a good fiscal regime should be stable and able to withstand different price scenarios.

Ideally a good fiscal regime should be able to withstand different price scenarios.

Ultimately, governments can only do so much to attract investment in the current low-price environment. Even with the most attractive fiscal terms, IOCs would be reluctant to invest when their boards are shelving projects and cutting costs across global operations. So any pro-investment reform should be assessed considered in light of medium- or longer-term considerations. Over the long term, reducing taxes is not necessarily the ideal way to increase competitiveness. Reforming the business climate and increasing the efficiency and professionalism of institutions regulating the oil and gas sectors will have more lasting impact on incoming foreign investment. So would investment in research, training of the workforce and infrastructure that will be required to develop resource into commercial reserves.

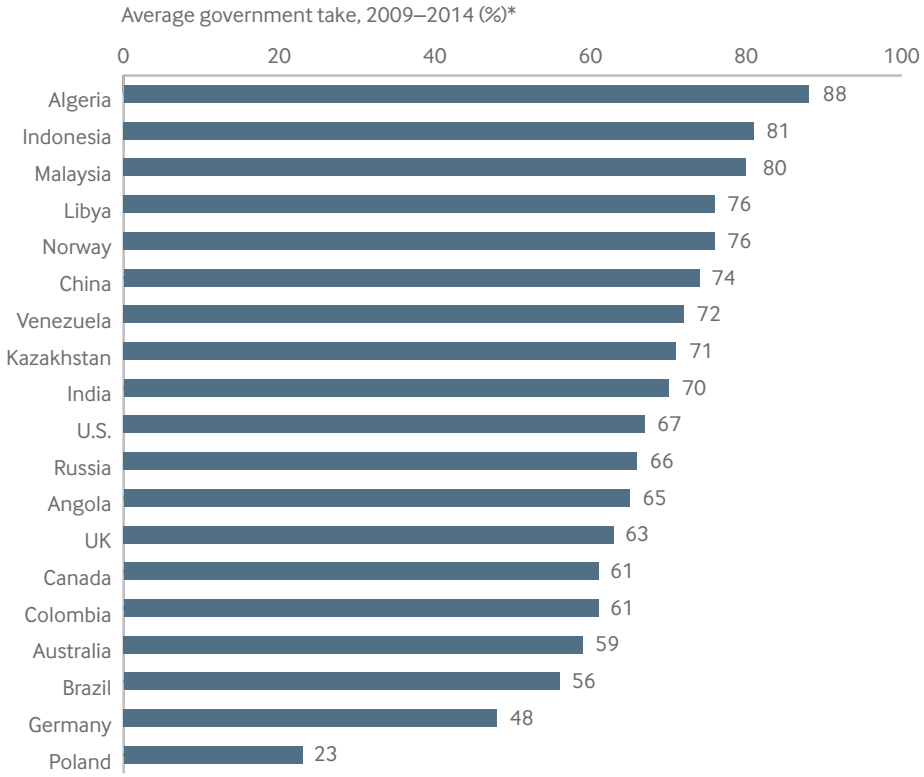
Policy implications for Indonesia

- Indonesia is seeking the right balance between maintaining a high average effective tax rate (or "government take") and attracting investment. In times of low oil prices, seeking a high government take from investors faced with high geological risks and a complicated regulatory environment might in fact deter investment. Less investment in the present means that production will decline and there will be less government revenue from oil in the future. In order to attract investment now, Indonesia must improve the regulatory environment and reduce administrative delays; reduce risks by investing in research and exploration; and/or reduce its average effective tax rate (government take).
- Offering huge fiscal incentives when the oil and gas industry is in turmoil and IOCs are cash-constrained may not achieve dramatic results and could have unintended long-term consequences. Therefore, any fiscal incentives should be limited in time and scope, and efforts should be made toward improving the

overall competitiveness of the Indonesian oil sector. Streamlining procedures, and investing in research, education and infrastructure will greatly improve Indonesia's business climate, often considered negative by players in the industry.

2. Contractual arrangements and revenue implications

Modeling the full impacts of a fiscal regime, including computing a government's take, requires knowledge of all the legal or contractual payments (including corporate taxes) between the parties, as well as some key assumptions relative to project costs and long-term commodity prices. Measurements of these factors are by nature imprecise, which is why the estimates of government's take in Figure 9 should be viewed with caution; they vary depending on when they are produced and which contract the analysts chose as a reference.



Sources: Rystad Energy; BCG analysis
*The average government take for each country is the net present value (NPV) of the government take divided by the sum of the NPV of free cash flow and the NPV of government take.

Figure 9. Average government take in selected oil and gas producing countries

Some Indonesian stakeholders have suggested that the country should shift its standard regime from production-sharing contracts (PSCs) to concession contracts in order to make the system more appealing to investors and reduce the country's reliance on often-difficult cost auditing. There is a perception that concession-based contracts provide lower government takes than PSCs, and that PSCs provide lower government takes than service contracts. This perception largely overstates the impact of contract design as a determinant of government take. In reality, within each general contract type the terms can be modified according to specific policy goals. PSCs and concessions can yield the same revenue profile, using an adequate mix of "fiscal instruments."[26] For example, a resource-rent tax in a concession contract can replicate the income generated by a profit-oil split in a PSC.

The same is true for exposure to project risks. In general, concession-based contracts and many PSCs protect the state from the risk of failed exploration. But some incentives can shift this risk to the government, as is the case in Norway, where up to 78 percent of exploration costs are paid back to international oil companies as tax refunds. For these reasons, we do not believe that a shift from a PSC system to a concession system would be likely to have a dramatic impact on the fundamental attractiveness of the fiscal regime in Indonesia or the state's ability to capture value from its oil and gas projects. More important are specific fiscal policy choices within the overall contractual framework.

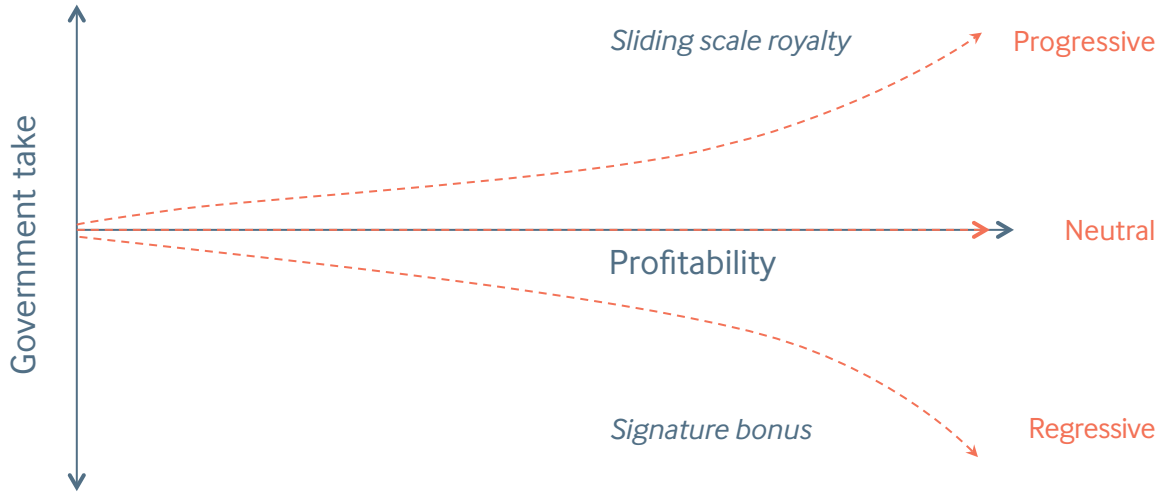
Regardless of contract form, a key concept in fiscal regime design is progressivity, which is another way of referring to the government's exposure to risks in the project and the commodity cycle. (See Figure 10.) Many contracts in other countries have embedded some degree of "flexibility" in the payment obligations of contractors, meaning that the amount that contractors are required to pay to the state varies based on economic outcomes. Some of the most striking examples can be found in Azerbaijan and Malaysia. When oil prices increase, a progressive fiscal regime will increase the government's take, but when prices decrease, or for high risk areas with smaller profitability, the investor's share increases.

Element	Effect
Bonuses	Extremely regressive
Royalties	Very regressive
Taxes	Neutral
Government participation	Neutral
"R" factors	Progressive
ROR systems	Progressive
Depletion allowances	Very progressive
Uplifts and investment credits	Slightly progressive

Table 4. The progressiveness of different provisions of an oil contract

Source: Daniel Johnston and David Johnston, *Fundamental Petroleum Fiscal Considerations*

Figure 10. Illustration of progressive, neutral and regressive fiscal regimes



Policy implications for Indonesia

- The current Indonesian fiscal regimes for oil fall on the higher end of the range of government take for oil-producing countries. This can be a problem when trying to attract investors to commit exploration and development capital for less known, more complex, higher cost areas in eastern Indonesia.
- Changing contract forms is not required to make a fiscal regime more attractive: any type of contract can offer similar risks and returns, depending on design. What matters is the combination of fiscal tools and incentives that apply to investors and determine how profits and risks are shared with the government.
- A key feature of contracts signed at this stage in the commodity cycle is progressivity: it is easier to attract investors if they are subject to a fiscal regime that accounts for high exploration risk and low global commodity prices. While a progressive fiscal regime will generate less revenue under low prices, it will stimulate investment and generate higher government revenues when prices rise. Such progressive fiscal regimes have been adopted by Malaysia and Azerbaijan, for instance. The potential reforms to the production split in major PSCs announced by the Indonesian government in September may make the Indonesian system more progressive, reducing the burden on companies when profits are low but maintaining strong returns to the state if profits rise again.
- Competitive processes in which IOCs bid on fiscal terms (e.g., profit-oil split, variable rate royalties) can yield the best outcome for the government under any market circumstances.

A key feature of contracts signed at this stage in the commodity cycle is progressivity: it is easier to attract investors if they are subject to a fiscal regime that accounts for high exploration risk and low global commodity prices.

3. Laws, contracts and stabilization

Detailed project-specific contracts are not a panacea: they are complex to negotiate and monitor. Countries that are relatively new to oil and gas, such as many producers in Africa over the last 10 years, lack adequate general laws and regulations to govern complex hydrocarbon investments and operations. To fill the regulatory gaps in such contexts, IOCs and governments often agree in a contract to detailed terms that will regulate a project throughout its lifetime. As countries' regulatory frameworks improve, the need for detailed contracts decreases, and governments may choose to adopt leaner model petroleum contracts, with little margin for negotiation. Many mature oil producers in Europe, North and Latin America, and Australia have limited the scope of contracts in favor of a wider application of the general law. This system has the advantage of creating an even playing field for investors and facilitating the role of regulators, who only have to monitor the application of one set of terms throughout the sector, rather than different terms applying to different investors.

Contracts have often been used to freeze fiscal terms agreed at the time of the investment decision,[27] through the use of so-called "stabilization clauses." Such clauses stipulate that no fiscal term in the contract can be changed during a certain period, such as the lifetime of the contract, or some shorter period. When contracts are ratified by parliaments, such clauses in practice tie the hands of a government against any subsequent legal change to the fiscal terms. Therefore, if the initial terms of a frozen contract were very generous to the investor, and an oil price increase generated enormous profits, the government would not be able to amend the contract to earn a larger share of profits, under threat of international arbitration. This is why many countries, from Norway to Brazil or Saudi Arabia, have abandoned the use of stabilization clauses altogether.

In practice, stabilization clauses have evolved and such freezing clauses are now seen as inadequate. Recognizing that what matters to private investors is the stability of economic returns, and adapting to changing market circumstances, oil and gas lawyers have developed new types of stabilization clauses: "economic equilibrium clauses." These provisions acknowledge that the parties to a contract have certain expectations in terms of benefits, and they agree to review the fiscal terms of the project whenever economic conditions change, for example when oil prices increase or decrease dramatically, or if project costs are much higher than expected. Of course, as noted in the subsection above, the more progressive the oil fiscal regime applying to a project, the less likely it is that parties will require a review of the terms, as it will mechanically lower the tax burden on the company under adverse economic conditions.

Policy implications for Indonesia

- Frozen fiscal terms are generally associated with petroleum contracts signed under a *lex specialis* regime, such as joint operation contracts or cooperation contracts in Indonesia. The reliance on stabilized contracts under *lex specialis* in Indonesia has created a stable legal environment for some investors, but it creates disparity between investors, and recently these *lex specialis* agreements have prevented the government from applying new regulations and taxes equally on the industry.
- Indonesian policymakers could consider moving even further to a system with fewer contract-specific terms and a broader application of the general law and regulations to the industry's fiscal regime.
- Generally applicable fiscal terms could be developed to account for different geologies and be designed to be progressive, to avoid regular calls for renegotiation.

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C. SUBNATIONAL TRANSFERS OF OIL AND GAS REVENUES

As part of the legislative process, policymakers might consider whether to use the new oil and gas legislation as an opportunity to clarify confusion around the relationship between the oil and gas industry and Indonesia's decentralization process. In particular, there may be an opportunity to enhance mechanisms that help subnational governments manage some of the trickiest elements of oil and gas revenue transfers.

1. Transfers of natural resource revenues to subnational governments

The unique characteristics of oil, gas and minerals pose a number of challenges for governments. Non-renewable resources are finite and the revenues generated from them are notoriously volatile, responding sharply to fluctuations in commodity prices. These characteristics imply that any large transfer linked to these revenues could exacerbate the boom-bust cycle in a producing region.

We can group countries that distribute natural resource revenues to subnational authorities into various groups, depending on the systems established in their laws. In one group are countries where all resource revenues are pooled centrally with revenue from other sources and form part of regular transfers to subnational governments that do not treat producing regions any differently from non-producing regions. These include Algeria, Chile, Norway and Vietnam. In a second group are

countries that have created a unique intergovernmental transfer system for natural resource revenues, but do not allocate a significantly larger portion to producing regions. This group includes Mexico, Bolivia and Peru. In each of these three countries, significant "clawback" provisions generally leave producing regions with similar transfers per capita than non-producing regions, all else being equal. In a third group are countries that separate out natural resource revenues and make disproportionately large allocations from this pool to producing regions or communities using a legislated derivation-based formula. The list includes Brazil, Colombia, the Democratic Republic of the Congo (DRC), Ecuador, Ghana, Indonesia, Iraq, Mongolia, Nigeria, Papua New Guinea, the Philippines, South Sudan, Uganda, and Venezuela. Table 5 provides several examples of simple derivation-based formulas.

In most countries, intergovernmental transfers constitute the majority of extractive revenue collection for local governments. Furthermore, many local governments in producing regions are fairly dependent on these resource revenue transfers. In 2014, oil, gas and mining revenue transfers constituted 27 percent of fiscal revenues in the oil-rich Indonesian regency of Bojonegoro. Revenue projections indicate that once oil production hits its peak in 2017, more than 50 percent of fiscal revenues in the regency will come from extractive-related transfers. In Nigeria and Peru, more than 80 percent of some regional governments' budgets depend on resource revenue transfers from central governments.

Table 5. *De jure* derivation-based intergovernmental transfer formulas in selected countries[28]

Country	Resource	Revenue stream	Central government	Producing regional/ provincial/ state governments	Municipal/district governments		Private (e.g., landowners, traditional institutions)
					Producing	Non-producing	
Brazil	On-shore oil	Royalties	12.6%	52.5%	26.2%	8.7%	0.5-1.0%
	On-shore oil	Special participation (some fields)	50%	40%	10%	0%	0.5-1.0%
Ghana	Minerals	Royalties	91%	-	4.95%	0%	4.05%
Indonesia	Oil	All	84.5%	3.1%	6.2%	6.2%	0%
	Gas	All	69.5%	6.1%	12.2%	12.2%	0%
	Minerals	Royalties	20%	16%	32%	32%	0%
Philippines	Minerals	All	60%	8%	18% municipality; 14% barangay	0%	0%

2. Stabilizing resource revenue transfers

Derivation-based transfers are usually "pro-cyclical." Under these systems, when resource revenues increase, resource-rich regions receive more revenues. Since economic activity is strongly correlated with resource revenues in resource-rich regions, government spending increases just as the local economy booms. The problem is that when spending increases too quickly, a bureaucracy will likely find it difficult to adjust, which can lead to poorly conceived, designed and executed projects. In these situations, there is a tendency for the government to spend on conspicuous infrastructure projects like monuments or expensive government buildings. When revenues decline unexpectedly, the usual consequence is an increase in public debt or expenditure cuts, leaving roads half-finished or buildings unmaintained.

There are at least four possible ways to address this challenge. First, subnational governments can be allowed to save resource revenue windfalls for when revenues decline unexpectedly, for example in a natural resource fund. This way they can smooth spending rather than succumb to boom-bust spending pressures. One challenge with this approach is that some subnational governments lack capacity to manage such funds effectively, and if there are not strong governance rules in place, the funds can become nodes of corruption. Several North American states, provinces and territories (e.g., Alberta, Wyoming) have created such funds, and in Indonesia, Bojonegoro is currently working to establish one.[29]

Second, subnational governments can borrow when revenues decline, and pay down that debt when there is a large resource revenue windfall. While this option circumvents the governance challenges associated with natural resource funds, it poses its own challenges. Most important is a tendency to over-borrow and eventually default, particularly where the national government provides an implicit guarantee on subnational debt. The national governments of Chile, Colombia, Indonesia, Mexico and Russia all bailed out local governments between 1982 and 2000. However, other national governments, like those in Bolivia, Nigeria and Peru, have either made policy decisions or have legal frameworks in place that have allowed subnational government defaults to happen. Subnational debt crises in these countries have often led to a severe contraction of local services, cuts in wages and social conflict. For these reasons, many countries prevent subnational governments from borrowing.[30]

Given the size of oil and gas revenue transfers to subnational levels, and their impact on expenditure volatility, the national legislation should authorize and encourage revenue-smoothing mechanisms.

Third, the government can smooth transfers on behalf of subnational governments. For example, the government could establish a subnational transfer fund and make allocation not on an annual basis but based on a seven- to 11-year moving average of resource revenues. The U.S. state of Alaska employs such a fund (the Alaska Permanent Fund) to smooth resource revenue transfers to households. While this model may be attractive in theory, it may be politically unfeasible. Subnational governments often seek control over their own resource revenue management and could be opposed to complex management by the central government, even if it is in the public interest.

Policy implications for Indonesia

- Given the size of oil and gas revenue transfers to subnational levels, and their impact on expenditure volatility, the national legislation should authorize and encourage revenue-smoothing mechanisms. These might include the creation of stabilization funds at the provincial level, or other macro-fiscal tools to prevent boom-bust cycles at the subnational level.

D. TRANSPARENCY MECHANISMS

One of the most important opportunities presented by the revisions to Indonesia's oil and gas legislation is the chance to analyze some of the evolving global norms on natural resource transparency and to consider whether some of the steps taken in other countries present useful models for Indonesia.

1. Revenue transparency

Extractive sector revenue transparency has emerged as global best practice as governments have sought to send clear signals that they will responsibly manage natural resources. Revenue transparency can help governments inspire public confidence that they will manage resources for the public benefit, seek to reduce risks of corruption and ensure that the country gets the best deals possible for the exploitation of its resources. A transparent approach to resource revenues plays an essential role in improving resource revenue management, which in turn can yield significant benefits such as an improved tax collection process, improved confidence in the budget and public support for tough fiscal policies.[31]

Revenue transparency can help governments inspire public confidence that they will manage resources for the public benefit, seek to reduce risks of corruption, and ensure that the country gets the best deals possible for the exploitation of its resources.

Some key decisions that governments face when considering revenue transparency are determining:

- Which revenue streams to disclose
- What level of detail will be published
- How to evaluate accuracy of revenue figures
- The format, interoperability and timeliness of revenue data that will be made available

At a basic level, governments can opt to publish only primary revenue streams, including in-kind revenues from the government's (including SOEs) production entitlement, profit taxes, royalties, dividends, bonuses, license fees, rental fees and any other significant payments and material benefits to government.[32] Some countries publish such information in detail only at a company level and reconcile company payments and government receipts as a mechanism to evaluate accuracy. The format of such basic disclosures is often a PDF report containing revenue figures, and the data can be several years old.

In Timor-Leste, Article 35.2 of the 2005 Petroleum Law gives the auditor of the Petroleum Fund the power to request information from oil and gas companies, which has been used to request and disclose revenue data in the country. Sierra Leone has taken this basic approach in its Mining and Minerals Act, which provides the legal framework to collect and disseminate extractive industry revenue payment information.[33] This type of basic revenue disclosure is straightforward to implement, but is much less likely to facilitate real benefits such as informed public debate and support for reforms. Limited approaches to revenue transparency are also not in line with global standards of best practice, such as those set out by the Extractive Industries Transparency Initiative (EITI).

At a more advanced level, governments can opt to publish the primary revenue streams noted above alongside contextual information that can help increase public understanding of revenue figures, such as the contribution of the extractive sector to the broader economy and the distribution of those revenues within the budget and to subnational government. The global standard for the level of detail for revenue disclosures is project-level reporting. To evaluate accuracy, some countries go

beyond payment/receipt reconciliation by monitoring whether disclosed revenue figures align with what ought to have been paid in accordance with the applicable legal and fiscal regime.

In 2013, the European Parliament and Council of the European Union signed into law new payment disclosure requirements for the extractive and forestry industries. These new rules require oil, gas, mining and logging companies to annually disclose the payments they make to governments on project-by-project basis, and the directive has been transposed into EU member states' laws. Project disclosures enable citizens and host communities to monitor whether the government is collecting a fair return and to track spending, which in turn helps to manage expectations. Governments can use the information to begin to determine if a company is underpaying, as well as in audits and compliance checks. Mongolia has launched an e-reporting system that streamlines disclosures by government and companies. The online tool makes information available in an open data format and displays that data in a more user-friendly way through interactive visualizations. The government has also made that information timelier. The system is now being updated to pull data, such as tax figures, automatically from government departments including the tax authority and the Mineral Resources Authority.[34] Timely, open data enables stakeholders to conduct meaningful analysis, which increases the likelihood of data informing public debate and governance reform.

2. Contract and license transparency

Disclosing contracts and licenses is an important step to promote more effective management of extractive resources. Contract and license transparency promotes constructive relationships between citizens, companies and governments, which can reduce conflict and promote stability in the sector. It helps set realistic expectations about the terms of and timelines for extraction, which facilitates accurate government revenue collection and forecasting. The disclosure of contracts also provides enhanced opportunities for stakeholders to monitor adherence to obligations, which encourages all parties to act responsibly in project implementation. Contract/license disclosure also enhances the utility of other disclosures by providing context that facilitates the analysis and understanding of revenue flows and other data.

Contract and license transparency promotes constructive relationships between citizens, companies and governments, which can reduce conflict and promote stability in the sector.

Certain countries require the disclosure of contracts/licenses via their constitutions or legislation:

Disclosure of contracts via legislation	Disclosure of contracts via constitution
• Colombia • Guinea • Liberia • São Tomé and Principe • Sierra Leone	• Mexico • Niger

The key decisions that governments face when considering contract and license transparency are determining:

- How to approach defining the scope of disclosure
- Mechanisms for establishing public access to this information
- Options for maximizing public education and outreach

With respect to the scope of disclosure, governments have the options to include redacted text or full-text documents, and to publish only new contracts/licenses or also existing ones.

The EITI Standard encourages implementing countries to publish the documents in their "full-text" form. The reason for this is that including the full text and the relevant signatures represents the best path for countries to realize the benefits of disclosure: increased trust among citizens, companies and government; ability to monitor enforcement; strong connections to EITI revenue data; and enhanced incentives to sign contracts in the long-term public interest. The EITI Standard is in this way in line with emerging global best practice. More than 25 countries have begun to publish oil and mineral contracts and/or licenses in full, and industry groups such as the International Council on Mining and Metals have voiced their support for full-text disclosure.

More than 25 countries have begun to publish oil and mineral contracts and/or licenses in full, and industry groups such as the International Council on Mining and Metals have voiced their support for full-text disclosure.

Some EITI participants have expressed concerns about the kind of full-text publication encouraged by the EITI Standard and expressed a view in support of a middle-ground approach whereby the country publishes contracts with key information redacted, or publishes summaries of key terms but not the texts themselves. Some EITI multi-stakeholder groups (MSGs) in countries where opposition to full disclosure remains strong may be well-served to consider such an approach, which certainly provides more transparency than a *de facto* standard of total contract opacity.

Where a country is debating this sort of limited approach to contract transparency, we recommend that stakeholders analyze whether there is a legitimate and significant case for business harm arising from the kind of full-text disclosure encouraged by the EITI Standard. Global research has shown that trade secrets and proprietary processes are virtually never contained in the sorts of contracts that are subject to the standard.[35] This is why many countries have decided to publish contracts in their entirety.

This is not to suggest that plain-language summaries of key terms cannot be useful as a tool for public understanding of contracts and licenses.

The EITI Standard encourages publication of all contracts and licenses ("any [contract/license] which provides the terms attached" to exploitation). Such an approach—which is put into practice by countries including Liberia, Peru and the United States—promotes consistency, equal treatment and maximum public information on extractive industry management.

Some countries may determine that immediate disclosure of all contracts is not feasible and that some sort of staged approach to disclosure may be necessary. In this case, there are several possible principles on which Indonesia could base decisions about what to disclose first:

- Prioritizing licenses and contracts attached to projects meeting EITI reporting thresholds can facilitate good linkages between the various components of EITI, as well as deep public understanding of the most important revenue-generating projects.
- Prioritizing "new" contracts or licenses at the time that they enter into force can serve as an important commitment by a government to be held accountable to its people for its contracting decisions. The trade-off is that existing, rather than new, contracts in many cases represent the bulk of the revenues and impact on the extractive sector.
- Prioritizing existing contracts would counteract the problem mentioned above by emphasizing the known universe of deals. The trade-off is that it would deemphasize new oil or mining projects, which are sometimes important sources of public concern.

- Prioritizing either petroleum or mining, depending on which is the most important sector, or the one with the fewest immediate obstacles to disclosure, could generate significant impacts on accountability while building toward full disclosure.

Best practice in most countries will involve publishing copies of the contracts online, on a website that is accessible free of charge and without a registration requirement or other technological barriers. Where possible, posting the contracts on the country's EITI website itself can facilitate strong linkages between contract disclosure and other required disclosures.

In some countries with low internet penetration, and where there is a high demand for access to the contract/license documents, the country may consider also making a limited number of copies available in hard-copy format at the office of the national EITI secretariat or another official entity, ideally free of charge or for a limited printing fee.

Developing strategies around public communication can be incorporated into plans for contract/license disclosure from the earliest stages. Among the tools that implementing countries can consider are:

Technological/information tools:

- **Plain-language explanations to facilitate broader understanding.** EITI MSGs have an opportunity to promote wider understanding of contract terms by linking the contracts and licenses to plain-language summaries of key terms, which gives visitors to the site an opportunity to more easily sort through large documents and zero in on and analyze the aspects of the contract that they are particularly interested in. The government of Guinea pioneered this approach via www.contratsminiersguinee.org, which builds on technology developed by the global www.resourcecontracts.org project. The World Bank Institute, Columbia Center on Sustainable Investment (CCSI) and NRGI are available to work with interested MSGs to help develop similar sites tailored to their specifications.
- **Linkages between contract terms and other EITI reporting data.** As noted previously, contract disclosure enhances the utility of other EITI information by providing context that facilitates the analysis and understanding of revenue flows and other data. MSGs should consider how the information in contracts can be displayed alongside other EITI data in order to increase usefulness and comprehensibility. Plain-language summaries can facilitate such linkages.
- **Linkages to registry of licenses.** Section 3.9 of the EITI Standard requires that implementing countries maintain a publicly available register or cadaster system that contains timely and comprehensive information on each license holder, the coordinates of the license area, the date of application, award and termination of the license, as well as on the type of commodity being produced. Disclosing the full text of licenses (and associated contracts) as part of such a register or cadaster system could streamline the disclosure process.

Contract disclosure enhances the utility of other EITI information by providing context that facilitates the analysis and understanding of revenue flows and other data.

Training and outreach:

- **Public forums to discuss contract terms and their implementation.** Disclosure of contracts provides an opportunity to organize public meetings where key constituencies, including community groups, have an opportunity to raise questions to better understand the implications of contract language and how projects are progressing. Such forums provide particular opportunities for company and government officials to share key facts with citizens and build public trust.

- **Training.** MSGs and their partners can also organize training sessions to help local government officials, journalists, civil society groups or other constituencies better understand the nuances of extractive industry contracts and their impact on extractive industry governance. These events can help dispel common myths about petroleum and mineral contracts and can facilitate more constructive public-private dialogue. Several international firms and organizations are available to help interested MSGs develop such trainings.

3. Company beneficial ownership transparency

Secret ownership structures can enable some companies to evade tax payments or hide improper relationships with government officials. In Indonesia, officials have demanded that nearly 80 individuals correct their tax reporting as a result of information on shell companies that was leaked in the Panama Papers. And confusion surrounding the 3,000-plus "non-clean and clear" mining permits has plagued the Indonesian government. Publishing information about companies' "beneficial owners"—that is, the individuals that ultimately control or profit from a company—can help to deter such practices and enable detection. It is particularly important that such disclosures are made in the oil and gas sector, given the risks associated with the sector's highly concentrated and highly profitable nature. Furthermore, as the ultimate owners of the country's natural resources, the people of Indonesia have a right to know who is benefiting from their extraction.

Publishing information about companies' "beneficial owners"—that is, the individuals that ultimately control or profit from a company—can help to deter tax avoidance and improper relationships.

The government of Indonesia has begun considering options for beneficial ownership disclosure through a number of different platforms, such as the G20, EITI and the Open Government Partnership. At the 2016 Anti-Corruption Summit in London, Indonesia committed to exploring the establishment of a public, central register of companies' beneficial ownership information. Currently, the government is working on a national action plan on beneficial ownership disclosure, expanding on initial G20 plans. The extractive sector will be a key aspect of this roadmap.

By January 2017, Indonesia will need to develop plans for meeting the EITI requirement that the beneficial owners of companies that bid for, operate or invest in extractive assets must be publicly disclosed no later than January 2020. It will be important for reforms to the oil and gas law to be aligned with national beneficial ownership disclosure plans, which could ultimately mean including provisions on company beneficial ownership disclosure in the law itself.

CONCLUSION

As Indonesia continues its efforts to develop new oil and gas legislation that advances the country's ambitious goals, the factors addressed above present complex choices that will require extensive analysis. The structure of the country's oil-sector institutions, definition of terms governing relationships with companies and mechanisms for transparency and accountability will have a major impact on whether Indonesia is able to reverse the decline in sector performance and increase the benefits that accrue to citizens.

We hope that the foregoing examination of international experiences and approaches will be useful to government, legislators and the Indonesian public. As Indonesians investigate the trade-offs that the country faces, these stakeholders should attempt to differentiate measures that are genuinely likely to enhance the economy from those that simply score political points in the short-term. We look forward to the opportunity to further discuss any of these issues in public forums and with key stakeholders as the process moves forward.

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3 Ernst and Young, *2015 Global Oil and Gas Tax Guide*, http://www.ey.com/Publication/vwLUAssets/EY-2015-Global-oil-and-gas-tax-guide/$FILE/EY-2015-Global-oil-and-gas-tax-guide.pdf, p. 2. Algerian law requires that any tender for the award of rights to explore and exploit hydrocarbons must provide for at least a 51% in the contract for the national oil company Sonatrach.

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