Controlling Contractor's Rate of Return (ROR) in Risk Service Contracts with R-Factor Mechanism

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Controlling Contractor's Rate of Return (ROR) in Risk Service Contracts with R-Factor Mechanism

by Dr. Seyed Nasrollah Ebrahimi, Mostapha Maddahinasab*

Abstract

In drafting petroleum contracts with an effective fiscal regime, it is paramount for negotiators to ensure that the expected benefits to clients are secured and managed. An effective fiscal regime means the fiscal regime prevailing on the cash flow of the project taking into account any and all contractual and legal elements and categories of costs and revenues of the project over a given time period. In practice, the fiscal parameters of a petroleum contract could either be regressive or progressive depending on whether the net-of-cost to income for the government grows faster than the net-of-cost to project income (progressive regime) or vice-versa (regressive regime). Two key measures of profitability are often used to estimate the income accruable in progressive regimes: (a) the R-factor designated and agreed in the contract used to determine the fee per barrel (FPB) for contractors, and (b) the percentage of rate-of-return (ROR) agreed by the parties in the contract. Such income may be generated in the project out of the royalty fee, taxes and other revenue streams to the government. In this article, the fiscal issues arising from the R-factor agreed in the risk-taking service contracts, particularly as it affects the control exerted over contractor’s ROR will be closely investigated. This article examines theoretical and practical insights in order to demonstrate that the R-factor approach on its own may be insufficient in securing a fair division of benefits (the revenues generated from the contract and/or the rate of return achieved by the Parties under the Contract) between the parties to a petroleum contract. This article assumes that in order to arrive at a fair division of benefits, contractor’s ROR should be controlled by some other contractual tool rather than a simple R-Factor in the contract. Since the sliding scale of ROR is due to the various X-Factors defined by the Parties under the Contract it is assumed that a sliding scale of ROR is an effective approach to achieve equitable division of benefits in a risk-taking service contract.

Introduction

In addition to oil and gas operations and management responsibilities, ministries of petroleum and/or National Oil Companies (NOCs) play a crucial role as resource gatekeepers with a variety of output-based and performance-based contractual arrangements such as Concession Agreements, Production Sharing Agreements (PSA), and Risk Service Contracts (RSCs).1 In the third millennium commencing 2000 onward, RSCs are going to be rather prevalent in the petroleum exporting countries especially in the Middle East because they allow host governments to leverage on the expertise and capital of private sector international oil companies (IOCs) and foreign investors while maintaining their national sovereignty and

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1 Abdolhossein Shiravi and Seyed Nasrollah Ebrahimi, 'Exploration and Development of Iran's Oilfields Through Buyback' (2006) 30 Natural Resources Forum 199
rights to fields and oil production facilities.

In RSCs, the contractor accepts to share the risks associated to attaining the expected economic benefits of a project by linking its compensation to the success of the project. According to Stevens: "in effect, the service contract has all the advantages of the old-style concession, but without the problems of diminution of sovereignty which were associated with the concession."\(^2\) Although Steven's argument is debatable on some aspects considering the latest updates on these contracts and their actual application in different countries, this abstract comparison between old type concession and RSC is to highlight the reason why those oil producing countries such as Iran, Iraq, Kuwait, Venezuela and etc. applied RSCs.

The fiscal regime of oil producing countries is an important consideration for the parties to risk bearing service contracts, as it covers numerous legislative, tax, and contractual issues. Due to the differences in negotiating terms among other factors, there are currently many fiscal regimes for RSCs in the extractive industry regarding to the number of RSC contracts signed by the Parties in the upstream oil and gas contract. This is partly because although the general objective is to optimise the value accruable to all the parties to the contract, the central objectives of parties may vary. For instance, while the key objectives of IOCs include maximising the net present value of petroleum resources, building technical competence and increasing equity, NOCs objectives are much broader, such as providing fair returns to both state and industry, reducing undue speculation in the market, improving project administration and flexibility and enabling the competitive environment required for long-term market efficiency. Therefore, it is crucial for management, legal and technical experts representing both government and industry parties to petroleum contracts, to account duly for the potential impact of fiscal regimes on the equitable distribution of project benefits, in line with the contracting terms.

Numerous and diverse risk elements affect the economic viability of petroleum projects from pre-licensing, to the exploration, development, production, and abandonment phases. Accordingly, negotiators and legal advisers of the parties to such contracts must be vigilant in ensuring that their client’s interests and expectations are adequately managed. Generally, RSCs are often categorized using various parameters, but in terms of fiscal regimes the two broad forms of risk bearing service contracts in the petroleum industry include: (a) those with fixed fees and (b) those with variable fees. For risk bearing service contracts with variable fees, a type of “sliding scale mechanisms” is usually applied in determining how the contractor’s fees would vary in line with the project’s economic viability. R-factor is a notable sliding scale mechanism, which has been applied to contemporary RSCs, including Iraq’s risk service contract.

This article investigates the extent to which the R-factor mechanism is able to secure a fair division of benefits among the parties to risk bearing service petroleum contracts. The following specific questions are examined:

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\(^2\) Paul Stevens (ed), *oil and gas dictionary* (the Macmillan press Ltd 1988) 188
(1) Is the R-factor mechanism on its own able to determine a fair revenue for contractors to risk bearing service contracts or should the ROR also be determined and controlled?

(2) If it is necessary to control the contractor’s ROR alongside the R-factor mechanism, what is the best contractual approach for that aim which fits OK the context of a risk service with R-factor mechanism?

By controlling ROR, we mean that the rate or rates are specified in the contract or its appendices. Thus, it can be one fixed ROR negotiated and determined by parties to the contract or specified different rates based on a sliding scale adjusted to the project cash flows. Therefore, in this article, a controlled ROR means that the rate or rates are defined and specified. An uncontrolled ROR means that the rate is not subject to a ceiling or a sliding scale.

In the next section, the different types of RSCs are explained and the distinguishing characteristics of them highlighted. Section 3 provides proof and discussions to underpin the theory proposed in this article. In Section 4, the methods for controlling contractor’s ROR are discussed with suggestions as to how best R-factor-based RSCs can be executed and managed. Finally, the conclusion will be made on that understanding that in spite of the fact that there are various to fiscal regime prevailing on the RSC types of the upstream petroleum contracts, but still the concept of ROR plays an important controlling role between the Parties to the contract.

**Risk Service Contracts**

It is imperative for host governments to scheme out flexible fiscal systems that serve both the interests of investing companies and the government by enabling equitable arrangements for both profitable and less profitable discoveries. This implies that reasonable assumptions must be made concerning the size and profile of projects to enable governments to systematically account for potential variability in key project parameters in the long-term. This guarantees a representative distribution of risks and benefits as well as the establishment of appropriate floors and ceilings for all the set thresholds and triggers.

Service contracts used in petroleum projects are divided into two major categories, namely, pure service contracts and RSCs. This article focuses on RSCs, which are predominantly used in upstream petroleum projects in some Middle East countries.3

Under RSCs, the contractor is hired by the oil field owner to perform exploration, development and production in tandem or independently and is expected to bear the risks or yield his/her compensation if the expected field commerciality targets (i.e. include the expectation of the level of oil production, the specifications of the products, the development and operation costs, the time and schedules of petroleum operations etc.) are not met. In other words, the contractor bears the risks of failed commerciality.

There are different types of RSCs and other petroleum agreements, such as profit sharing contracts, revenue sharing contracts, technical assistance contracts and buy back contracts. Generally, the fiscal regime of petroleum contracts can be categorized into concessionary

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3 Pure service contracts are more common in midstream and downstream petroleum projects.
systems and contractual systems. Service contracts and production sharing contracts (PSC) are branches of the contractual system. According to Johnston, ‘the distinction between PSCs and service contracts is minute’, consequently, they are both categorized under the contractual branch of petroleum contracts. Although there is a difference in the nature of payment, the fiscal regime of both service contracts and PSCs are compatible and ‘the arithmetic and terminology are quite similar.’ That means while taking into account of different risks embedded in those contracts, the calculation of the risks and rewards of the NOCs and IOCs are entirely dependent on the costs and expenditures versus the revenues generated from the field for the costs recovery purposes.

Under a risk service contract, the contractor receives a fixed or variable fee beside cost recovery, as compensation for his services. The contractor does not get any ownership rights to the petroleum produced, except when the parties of contract has agreed on paying the fee in kind and not in cash, or the contractor has been granted a preferential right to purchase part of the production from government. Fiscal regime of RSCs is based on cost recovery and payment of a fixed or variable fee for the risks borne by contractor. Usually, limitations are imposed on the cost recovery in periods of amortization, for instance, in Iranian buy back contracts, 50 to 60 per cent of total production is allocated for cost recovery and fee. Regarding the fixed or variable fees in RSCs, there are two distinct fiscal regimes, which will be explained in the next subsection.

**Risk Service Contracts with Fixed Fee**

In RSCs, a contractor’s remuneration fee can be a fixed amount, which is often based on a fixed ROR, such as the case of Iran's buyback contracts where the remuneration fee is determined as a proportion of capital cost so as to secure a fixed ROR for the contractor. The duration of the Iranian type of risk service contract, also known as 'buy back', is relatively short – usually ranging about five to six years. It applies a capital cost ceiling, which can be exceeded only when new or additional work is approved by the National Iranian Oil Company (NIOC).

Thus, the contractor receives his costs repayment plus a fee within the stipulated amortization periods as defined by the terms of the contract, and this fee is usually pegged as a percentage of capital costs. For example, Total's fee for projects carried out on fields “A” and “E” of Sirri was about 39 per cent and 60 per cent respectively, and about 70 per cent for fields two and three of the South Pars. The percentage of capital costs depends largely on the allowed ROR as stipulated in the contract. The amortization periods in fixed fee agreements are

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7 Shiravi and Ebrahimi (n 1) 202
8 Ibid 205
adjusted according to the agreed ROR, petroleum price and production rate and the contractor's cash flow in the amortization periods are made consistent with the agreed ROR to enable the reimbursement of costs and the payment of a fixed fee to contractors. It is noteworthy that the propensity to anticipate the commerciality of petroleum assets is a daunting exercise even with the benefit of historical data, therefore, negotiators need to exercise due diligence in defining the thresholds and triggers for such fixed fee deals.

Risk Service Contracts with Variable Fee

Variable remuneration fees are often based on some form of sliding scale such as R-factor and non-fixed ROR. It is estimated on the basis of accrued net earnings per accrued total expenditures where the contractor potential upside in the event of price increases is diminished while concurrently mitigating any potential downsides.

In general terms, production based sliding scales are comparatively regressive (less sensitive to investment decisions) than R-factor or ROR-based sliding scales, because the split of returns stays constant even in the event of substantial changes in the project economics. Some however argue that production-based sliding scales are much easier to manage and may be quite efficient for rent sharing between contractors and the host government where the uncertainty regarding the project commerciality is low, particularly when combined with other price indices.

Furthermore, if there are unrecovered expenses, such expenses tend to affect the estimation of R-Factor and ROR and in turn, may diminish government revenue when these sliding scales are used to estimate profit oil split and taxes. Nonetheless, with respect to the fiscal policy requirements of a producing country, host governments often apply different levels of front-loading to maintain foreign investments by trading off some regressive features (royalties, and limits of cost recovery) for these more progressive features (ROR, R-Factor-based production sharing or taxes). While these progressive regimes are quite useful for optimizing a host government’s take in unstable economic conditions (e.g. following the 2008 market crash), progressive measures like R-factor and ROR may also potentially increase the revenue volatility of the fiscal system. Consequently, host governments require advanced risk mapping and management strategies in order to smoothen or level out any potential revenue volatility by carefully accounting for the costs and benefits of their chosen fiscal system.

Overall, sliding scales like R-Factor and ROR-based fiscal systems have the advantage of lowering project specific risk through the flexibility they offer in terms of the fees paid to contractors in line with the profitability and commerciality of each project. Consequently, such variable fee schemes tend to be used in the development of marginal fields, or in the execution of complex long-term upstream projects with a long implementation lead times. Likewise, R-factor and ROR-based systems tend to reduce the break-even price of projects, which makes them quite attractive to contractors and less risky for project financing prospects.

The Iraq risk service contract is an instance of a risk bearing service contract which offers a remuneration fee based on the R-factor sliding scale. R-factor in such contracts is used as the criterion for determining contractor’s fee to be applied on a fee per barrel basis. In this case, a
higher R-factor results in less fee per barrel.\textsuperscript{11} Although the elements used in the determination of the R-factor could vary substantially from one country to the other, the basic computation of R-factor involves estimating the ratio of cumulative receipts of contractor to his cumulative expenditures. Thus, it incorporates estimates of both revenue and elements of the cost factor into the equation.\textsuperscript{12}

\[ R - \text{factor} = \frac{\text{cumulative receipts}}{\text{cumulative expenditures}} \]

This means that the higher the R-factor, the less the fee per barrel paid and parties to the contract have to design a-priori thresholds for the determination of the accruable fee per barrel. As an example, in service contract between Iraq and consortium of British Petroleum (BP) and China National Petroleum Corporation (CNPC) for Rumaila oilfield, thresholds were as follows:

<table>
<thead>
<tr>
<th>R-factor</th>
<th>Fee per barrel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1</td>
<td>2 $</td>
</tr>
<tr>
<td>1 – 1.25</td>
<td>1.6 $</td>
</tr>
<tr>
<td>1.25 – 1.5</td>
<td>1.2 $</td>
</tr>
<tr>
<td>1.5 - 2</td>
<td>1 $</td>
</tr>
<tr>
<td>More than 2</td>
<td>0.6 $</td>
</tr>
</tbody>
</table>

\textit{Table 1: R-factor of service contract between Iraq and consortium of BP and CNPC for Rumaila field China and CNPC are consolidating further their positions in Iraq petroleum sector Ahmed Mousa Jiyad, Iraq/ Development Consultancy and Research, Norway; http://www.iraq-businessnews.com/wp-content/uploads/2013/12/Ahmed-Mousa-Jiyad-CNPC-Article-for-IBN-b.pdf}

Venezuela's operational service agreement (OSA) provides a suitable case of a service contract with non-fixed ROR. This type of OSAs falls under the category of hybrid production sharing agreement and risk service contract. Under this arrangement, the contractor is entitled to a portion of the produced petroleum through a sliding scale estimation based on the ROR of the project per year and an incremental value of the produced petroleum in the same year less (minus) the capital cost, royalties and administration fees.\textsuperscript{13} Although the fiscal regime of this type of service contract does not include a fixed ROR, the ROR is nonetheless controlled using a criterion for ROR determination on an annual basis.

\textsuperscript{11} R-factor can be a sliding scale criterion for determination different aspects of a fiscal system such as tax, royalty (in concessions) and contractor's take in profit oil (in PSCs) beside determination of fee in service contracts.

\textsuperscript{12} Philip Daniel, Michael Keenan and Charles McPherson (eds), \textit{The Taxation of Petroleum and Minerals: Principles, Problems and Practice} (Routledge 2010) 100

\textsuperscript{13} Abbas Ghandi and C. Y. Cynthia Lin, 'Oil and gas service contracts around the world: A review' (2014) 3 Energy Strategy Reviews 63, 66
Controlling ROR in R-Factor-Based Risk Service Contracts

Even when a risk service contract is based on R-factor sliding scale, it still includes an intrinsic internal rate of return (IRR). Like every capital investment, the IRR results from the cash flows as captured within each amortization period and cash flows and IRR impact and determine each other. The IRR of projects is used by investors to compare, evaluate and rank capital projects. Also known as the discount rate, the IRR is the value used to transform a series of cash flows – whether positive and negative- into a net present value (NPV) of zero or to evaluate the current value of capital investments. For a project to be viewed as valuable, the resulting IRR must be higher than the cost of capital for the investment, while taking all other factors such as the diverse attendant risk categories into consideration. As a benchmark for assessing the capital structure of a project, IRR enables the comparison of projects in line with the expected/realised returns on invested capital. As such, when there is a positive cash flow the IRR increases, which in turn, shortens the amortization period of capital investments and vice versa.

While R-factor is derived by computing the cumulative receipts of a project per the projects cumulative expenditures, it bears a very close relation to the IRR of the project, however, the implications of both values in terms of their objectives are characteristically different. While the R-factor is a ratio that is used to estimate the criterion for contractor’s fee determination, the IRR is used to estimate the Net Present Value (NPV of the project. Nonetheless, when the ROR of a contractor is high, it invariably implies a higher R-factor value and by extension, a lower fee per barrel for such a contractor. Consequently, one may infer that in RSCs for which the contractor’s fees are determined using the R-factor mechanism, raising the contractor's ROR may diminish the resulting fee per barrel accrued to him, but this diminished fee per barrel does not necessarily imply less benefits to such a contractor.

If the contractor gains less fees per barrel in the case of high ROR in R-factor-based service contracts, he may likewise gain a desirable total benefit in the long-run, which may far outweigh the risks borne since a high ROR implies higher NPV for the contractor.

The cash flow of projects depends on a number of variables including petroleum price, production rate, risks, costs and the fiscal terms! Thus, although a contractor’s fee per barrel decreases with higher or uncontrolled ROR, if the production rate of the project is high, the contractor's total take would be considerably higher than deserved because the attendant risk of non-commerciality borne by such a contractor would be comparatively low.

Consider a newly developed oil field with low risk of non-commerciality due to a high production rate. If the contractor for projects on such a field were allowed an uncontrolled ROR, the said contractor would receive significant benefits, which under the R-Factor arrangement, would appear inconsistent with the risks he has borne and would amount to an uneven benefit from the natural advantages of the oilfield belonging to the host government. For instance, in the Iranian Buy-Back upstream contracts, resembling a type of RSCs, the contractor's ROR (e.g. IOCs' ROR is limited to a maximum ceiling where if exceeded due to the high price of oil and/or high level of production, such ROR shall be adjusted downward. However, in some of the Iranian Buy-Back contracts, such ROR shall be increased upward where additional production of the field is made due to the contractor's efforts in increasing the objective production of the field). Therefore, some additional mechanisms are required for controlling the ROR of contractors in R-factor-based risk service contract, in order to secure the interests of the parties to the contract in a reasonable and fair manner, since the R-
factor mechanism in isolation, is incapable of ensuring the fair sharing of benefits in line with project expectations and risks. In the next subsection, a plausible legal and contractual solution is proposed to manage this inherent challenge in risk-bearing service contracts using the R-Factor sliding scale mechanism for contractor fee determination.

**Legal and Contractual Tools for Controlling ROR**

As a general option, allowing contractor’s a fixed ROR is one plausible option for controlling the impact of ROR in risk-bearing service contracts. However, there are other flexible options for controlling contractor's ROR without necessarily having to fix it. In other words, the ROR of contractors can be non-fixed but still kept under control in R-factor based service contracts by adjusting the sliding scale using other defining criteria.

The following subsection explores and concisely discusses the different possible ways of controlling ROR, in the context of R-Factor based risk bearing service contracts.

*Allowing a Fixed ROR*

Allowing a fixed ROR in this sense implies placing a ceiling on a risk service contractor's ROR. In this mechanism, parties to the contract must agree a priori, on a ROR ceiling, which means that the contractor's fixed returns on his investment is determined within the amortization periods.

In order to maintain this fixed ROR, during each amortization period, the cash flows of the contractor are adjusted by limiting cost recovery and the contractor's access to gross revenue. By limiting the contractor’s cost recovery and gross revenue, the ROR is likewise reduced to a proportionate value based on a stipulated limitation percentage. Beside cost recovery limitation, taxes and non-tax forms of rent can be useful tools to maintain such risk service contractor's ROR under the agreed ceiling.

Although this ceiling approach is a sure way of controlling contractor's ROR, it also has some disadvantages, which may render this mechanism unfit, especially for long-term R-factor-based service contracts. First, as explained in Section 2, a fixed ROR means that the contractor's fees would likewise remain fixed. Therefore, having a fixed ROR would seem at odds with the general principles of the R-factor-based service contracts, which are designed to provide variability in the contractors fees as determined by the projects commerciality. It should be noted that under no circumstances the fixed ROR shall mean the same as the fixed fee, due to the fact that ROR is an element of a cash flow calculation that will take into account cash-in and cash-out elements.

Secondly, one of the reasons for using the R-factor mechanism is to motivate contractors to raise production of the oilfield by undertaking and investing in more risky ventures, thus, a fixed ROR would have an opposing effect by increasing risk averseness. In fact, a fixed ROR mechanism would establish an inflexible fiscal regime, which in turn, would serve to slow

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14 Muhammed Mazeel, *Petroleum fiscal systems and contracts* (diplomica verlag 2010) 75
15 Such as bonuses, royalties and surface fees
down direct investments from oil companies, whereas the objective is to create a flexible, neutral and stable fiscal regime that works for both parties to the contract.\textsuperscript{17}

A fixed ROR approach may however be suitable for those RSCs in which the contractor is not involved in the production phase, such as Iran's petroleum buy back contracts. According to the terms of Iran’s buy back contract, the contractor is mandated to explore and develop the oilfield, but upon commencement of production, he is expected to hand over the subsequent phases to the NIOC.\textsuperscript{18} This mechanism apportions some of the risks of non-commerciality to the contractor, and some have argued that it could in fact be viewed as one of the key disadvantages of Iran's buy back contract.\textsuperscript{19} According to Ghandi and Lin (year?), the role of buy back contracts to attract more foreign investment into Iran's petroleum industry is fading partly as a result of this mechanism. Their empirical data on the annual average daily production provides some evidence to this effect, and highlights the failure of the buyback contract in terms of facilitating optimal production in the cases of the Soroosh and Nowrooz oilfields.\textsuperscript{20}

\textit{Designing a Suitable ROR System}

In some cases, a tough and tight fiscal regime like those with fixed capital costs (CAPEX) ceiling or lump sum prices plus the fixed ROR, can be acceptable to oil companies if the field is justified as having sufficient geological potential.\textsuperscript{21} But a flexible fiscal regime like those with an open capital costs plus a variable ROR based on the various x-factors that may affect such ROR, is more efficient and more profitable for both sides of contract since accurate projections on the profitability of a field cannot easily be made considering all the attendant elements of risks that could potentially impact the commerciality of a project based on the nine elements of the TEFCEL model risks (Technical, Technological, Economic, Financial, Fiscal, Commercial, Contractual, Environmental and Legal risks).\textsuperscript{22} The point of a flexible fiscal regime is to create a framework which can serve the interests of both host governments and contractors.\textsuperscript{23} As mentioned the flexible fiscal regime means that RSCs does not fix the petroleum costs including CAPEX, Operating Costs (OPEX) and reimbursable Non-Capital costs plus the variable ROR. According to Johnston, 'the acid test for the flexibility and fairness of any fiscal system is whether or not an equitable, profitable arrangement can be achieved for both the host government and the contractor under a variety of conditions.'\textsuperscript{24}

\begin{itemize}
  \item \textsuperscript{17} Ibid 15
  \item \textsuperscript{18} Willem J. H. van Groenendaal and Mohammad Mazraati, 'A critical review of Iran's buyback contracts' (2006) 34 Energy Policy 3709
  \item \textsuperscript{19} Zhuo Feng, Shui-Bo Zhang and Ying Gao, 'On oil investment and production: A comparison of production sharing contracts and buyback contracts' (2014) 42 Energy Economics 395
  \item \textsuperscript{20} Abbas Ghandi and C. Y. Cynthia Lin, 'Do Iran’s buy-back service contracts lead to optimal production? The case of Soroosh and Nowrooz' (2012) 42 Energy Policy 181
  \item \textsuperscript{21} Bush and Johnston (n 3) 155
  \item \textsuperscript{22} TEFCEL Model is a contract tool to comprehensively control and manage the complexities, uncertainties and multiple risks in the difficult industry particularly oil and gas industry as a tool for the Contract Management which has been created and developed by the Author S. N. Ebrahimi since 2005. See the www.TEFCEL.com
  \item \textsuperscript{23} Daniel Johnston, \textit{International exploration economics risks and contracts analysis} (Pennwell 2003)
  \item \textsuperscript{17}
  \item \textsuperscript{24} Ibid
\end{itemize}
The sliding scale mechanisms constitute an important tool for making fiscal regimes flexible. R-factor-based risk bearing service contracts could also apply sliding scale systems to determine and control the ROR of contractors. Parties to such contracts need to carefully and meticulously negotiate the terms of the sliding scale for determining the ROR based on variables that are specific to the project in question, particularly, the production rate of the field, the project risks and the costs borne by the contractor. Using this mechanism, contractor's ROR can be controlled and kept consistent with the undertaken risks. In addition, such an incremental ROR determination mechanism serves to keep contractors motivated and does not deter their risk taking propensity and therefore, maintains the efficiency and progressiveness of petroleum projects.

A suitable example of a ROR system with sliding scale mechanism is Russia's 1994 Sakhalin II contract. In this contract, the Russian government is entitled to 10 per cent of the produced petroleum (50 per cent after two years) and 70 per cent of the produced petroleum once the contractor's ROR reaches 17.5 per cent and 24 per cent respectively.

**Conclusion**

Although there are different types of petroleum contract with considerable legal differences, ranging from concession to service contracts, the fiscal regime of these contracts is very similar and differences in fiscal matters are very minute and it seems that in all types petroleum contracts there is one common benchmark. In fact, in each petroleum contract, some general evaluations are notably important, such as production rate, net present value of project and ROR. Every investor considers the ROR of a project, before embarking on it. The ROR is an important fiscal measurement of petroleum contracts and all parties to the contracts must pay close attention to the dynamics.

In this article, we examined the importance of determining and controlling ROR in a particular type of risk service contract which is based on R-factor as a sliding scale for determining a variable fee for contractor. We conclude that in this type of contract, R-factor is not enough to secure a fair fee for contractor and in the case of a non-contractual and uncontrolled ROR for contractor, he can enjoy more than a fair fee which is not consistent to the risks he has borne. In fact, in such situation contractor would enjoy from natural advantages of an oilfield with high potential of production.

There are two methods for controlling contractor's ROR, including allowing a fixed ROR and designing a sliding scale mechanism of ROR which the latter is an appropriate method for R-factor-based service contract. Because these contracts are based on sliding scale and variable fee for contractor which is fit with a sliding scale of ROR. And also, a variable controlled ROR makes a flexible fiscal regime which motivates contractor to raise production and make it efficient so it can be good for both parties of contract.

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25 Johnston (n 4) 93
26 Ghandi and Lin (n 12) 66
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