

**The World Bank
Oil, Gas, and Mining Policy Division**

**Study on NOCs and Value Creation.
ESW Concept Note**

1. Introduction

National Oil Companies (NOCs) control approximately 90 percent of the world's oil reserves and 75 percent of production (similar numbers apply to gas)¹. Petroleum Intelligence Weekly ranks 17 NOCs among the top 25 oil and gas reserves holders and a similar proportion applies in respect of the top producers. In addition, approximately 60 percent of the yet to discover reserves are estimated to lie in countries where NOCs have privileged access to reserves. Thus, future production is likely to come mainly from NOCs. On the other hand, few NOCs have integrated upstream and downstream (refining and distribution) operations, and very few of them hold downstream assets or are present in key premium consuming markets.

The high level of energy prices in the past few years, and renewed fears of supply disruptions, have discouraged many governments from reforming their NOCs and opening the hydrocarbon sector to private investors. Moreover, new NOCs have been created (e.g. Chad and Mauritania) or are being considered (e.g. Uganda).

NOCs (especially in developing countries) are often the instrument for achieving a broad range of national, social and political objectives that go well beyond their original purpose of maximizing revenues for their governments. Some industry observers have suggested that the pursuit of these non-core non-commercial objectives imposes additional costs on NOCs, reduces their incentive to maximize profits, and hinders the NOCs' ability to raise capital on the financial market, leaving their State treasuries to bear the burden of inefficient capital allocation. As the experience of some leading NOCs would seem to indicate, this conclusion cannot be generalized. However, given the often high risk and capital intensive nature of the hydrocarbon sector, there is a need to better understand the political, social, and developmental consequences of the growing importance of NOCs.

2. Objectives of the Study, Audience, Rationale, and Expected Results

2.1 The *objectives* of the proposed study are:

- (i) To inform governments' policies with respect to the creation and the effective and efficient management and oversight of an NOC. There is a long history of

¹ The NOCs of OPEC Member Countries hold about two thirds of world oil reserves and produce nearly 40 percent of the world's oil and gas.

governments' attempts to organize their NOCs in pursuit of efficiency, improved governance, greater control, and other political or economic objectives, with sometimes mixed results. The study will analyze the outcomes from these different efforts, incorporate recent developments in SOE governance, and suggest which approaches have the best prospects for success. The study will enable governments that are considering the restructuring of their hydrocarbon sector to learn from international experience, thus avoiding costly experiments.

- (ii) To provide the foundations for the World Bank's policy advice on the management and oversight of the petroleum sector. The study will aim to develop a reference framework for the World Bank's technical assistance and advisory work on the role of NOCs, their effective management and oversight, and their interaction with their countries' sector and macro-fiscal policies, drawing from the experience of well established NOCs with different histories and functions, and taking into account recent developments concerning the governance of SOEs.

2.2 *Expected Results* would include:

- (i) Improved understanding of the petroleum sector value chain and of the policy options that are best suited to maximize the benefits to the state at each link of the chain.
- (ii) Improved policy makers' awareness of the relative effectiveness and suitability of alternative policies for the management and oversight of the petroleum sector, with particular reference to role and functioning of NOCs.
- (iii) Consistency in the Bank's advice on petroleum sector governance and NOCs.

3. Preliminary description

3.1 *Context and Analytical Framework*

(i) *Rationale for NOCs*

Decisions regarding the creation and management of an NOC can be appreciated within the general context of government intervention in the economy. The degree of government intervention in the economy (and in the petroleum sector in particular) tends to change over time in response to exogenous (geopolitics and international economy) and endogenous factors (government's priorities), affecting the very existence and behavior of the NOC. Drawing from the ample literature that exists on this subject, the study will provide an overview of the political and economic arguments in favor of and against the establishment of an NOC, and their historical context.

(ii) *Analytical Framework:*

The decision to create an NOC must be seen within the wider context of the country's hydrocarbon policy. On a purely economic basis, the creation of an NOC would be

justified if, by virtue of its existence, the government is able to maximize the rent for its country over time. Governments compete for capital and technology to develop their hydrocarbon sector. All other things being equal, a key challenge for a government is to design attractive yet efficient fiscal systems.

In principle, if the fiscal system is efficient in allocating risks and sharing benefits between the state and the private investors, there would be no economic justification for the participation of an NOC if its economic efficiency is lower than the private investors'. However, it is fairly difficult to design a fiscal system that is capable of optimizing the government take under all possible circumstances. Therefore, if the fiscal system were inefficient with respect to certain projects, the participation of an NOC in these projects could create more value for the government. In practice, it is not entirely obvious that a strategy of selective intervention could yield a greater value compared to a strategy of blanket participation because the variables that allow the determination of the efficiency of a fiscal system are known only a posteriori. Moreover, often NOCs are given non-commercial objectives which are not easily quantifiable in terms of economic value or opportunity cost.

Benchmarking with privately-owned oil companies (POCs) is not an easy task, given the differences between POCs and NOCs. We anticipate that the performance comparison between POCs and NOCs may be more relevant for NOCs that have a sufficient share of private ownership or have mainly commercial objectives, while NOC-to-NOC comparison may be more appropriate in other cases. In addition, specific measures of performance will need to be devised to assess the ability of an NOC to achieve its non-commercial objectives as this is unlikely to be captured by performance indices normally used for POCs. Measuring the impact of non-commercial activities on NOCs performance may provide useful information to policy makers (and NOCs) for assessing the opportunity and sustainability of alternative policies (and strategies).

The study will analyze the factors that explain the creation of value, and test their relative importance on the basis of the experience of a selected group of NOCs. It is not clear which factors are more relevant than others, although an NOC's corporate governance structure and arrangements would likely be a key factor. The study will therefore attempt to explain the experiences of the NOCs in the sample along two dimensions: *corporate governance structure* and *value creation*. In other words, the study will attempt to determine whether different corporate governance structures favor or hamper the creation of value.

Value creation means the economic efficiency by which NOCs find, develop, produce, process, and deliver hydrocarbon resources. The study will report (or estimate) indicators of operating and financial performance normally used in the petroleum sector. Because not all NOCs publish sufficient data to enable the assessment of their performance, assessments obtained from a range of expert observers and industry publications will also be used.

Corporate governance structure means certain aspects of the governance and management of an NOC, such as the ownership structure, the organization of the ownership function of the state as a shareholder, the selection process of board members, the composition of the board of directors, the role of the board of directors, in particular the recruitment, oversight and replacement of key executives, the decision making-process, the sources of capital, the degree of budgetary autonomy, the disclosure and transparency standards, the skill base and the human resources policies. The corporate governance structure is important because it affects the strategic options available to an NOC, hence its capacity to create value. For example, the dynamic of the oil industry involves changing conditions with respect to prices, technology, competition and management techniques, successful companies are those that can anticipate or rapidly change their strategy. This requires nimble decision making processes that might not be compatible with the reality of all state owned enterprises.

A wide range of factors affect the corporate structure and value creation. In the oil sector, the price of the resource (oil, gas and products) is determined on the international market, and has only a weak relationship with the cost of production. With the exception of very large producers, NOCs are not able to influence the market. These characteristics of the oil sector are likely to make access to the resource, access to the final market, and operating efficiency, very important factors of value creation. Other factors may also be relevant, for example the level of efficiency and good governance of the public sector, the existence of investment opportunities in other sectors, the country's fiscal sustainability, the geological settings, the operating conditions, the strategy of the NOC², etc. These will be identified, and examined for each NOC in our sample. Because the interaction between a government and its NOC can have important political, economical and social effects, the study will also look at policies that governments have used to influence the behavior of their NOCs, and investigate their outcomes, and their relative success.

The analysis will be used to produce a reference framework for the creation, efficient management, and effective oversight of an NOC, which could be used by countries that are considering the restructuring of their hydrocarbon sector. Depending on the results of the study and on the availability of additional funding, the reference framework could be made more comprehensive by testing their validity on a wider sample of NOCs.

3.2 *Methodology*

(i) *Definition of NOC:*

² NOCs differ from each other in many respects: some rely on a monopolistic position in their home country while others face competition; some participate in joint ventures while others operate on a sole risk basis; some operate internationally while others remain in their home country, some concentrate on particular segments of the value chain while others are fully integrated, etc. Each of these strategies has a different impact on value creation. Although the study will focus on upstream oil and gas, we hope to be able to investigate the effect of integration NOCs performance, and organization, and on sector policy

For the purpose of this study, a NOC is defined as a state-owned enterprise engaged in the upstream and/or downstream oil and gas sector. By state-owned we mean a company that is owned or controlled by a government, whether by means of voting rights or otherwise³.

(ii) *Definition of the sample:*

To inform the selection of the sample, a survey of NOCs will be undertaken with the objective to identify NOCs that span the range of experience in the dimensions chosen for our analysis. In addition, the following elements will also be taken into consideration:

- (a) *The availability of information.* Very detailed operational and financial information are available for NOCs that are quoted on Stock Exchanges. This would allow the testing of the policy and operational advantages of partial privatization;
- (b) *The longevity of the NOC.* By observing the evolution over time of NOCs, we hope to learn how NOCs are able to adapt or react to changes in political, economic and social environment; and
- (c) *Whether the NOC belongs to a consumer or to a producer country.* This might be useful to test the importance of access to the resource and access to the final market on NOCs' strategies, and ultimately on value creation.

Table 1 below provides a summary of the dimensions of analysis as envisaged at concept stage.

Table 1.

<i>Corporate Governance Structure</i>
<ul style="list-style-type: none"> • Ownership structure and its organization • Composition, appointment/replacement of the Board of Directors • Role of the Board of Directors • Recruitment and replacement of key executives • Decision making processes • Mission and Objectives • Level of budgetary autonomy • Sources of capital • Disclosure and transparency policy • Skill base • Incentives and career management
<i>Value Creation</i>
<ul style="list-style-type: none"> • Operating performance • Financial performance
<i>Other Factors</i>
<ul style="list-style-type: none"> • Public sector governance

³ For the purpose of this study, "owned" refers to the right to exercise directly or indirectly the vote of more than fifty percent (or such lesser percentage which results in actual, de facto control) of the voting shares in an entity which issues voting securities or, in case of partnership or other entity, at least fifty percent (or such lesser percentage which results in actual, de facto control) of the interest in the profits of such entity. "Controlled" refers to the ability to control or determine the management of an entity, whether by the election of members of the board of directors or other governing body of such entity or by other means.

- Oil dependency
- Fiscal sustainability
- Resource endowment
- Operating conditions
- Access to reserves
- Operating strategy
- International presence
- Business integration

All NOCs in the sample will be analyzed. However, benchmarking and in-depth analysis will be initially limited to a smaller sub-set of NOCs. Depending on the results and on funding availability, more detailed analysis may be carried out at a later stage.

A detailed methodological framework will be developed before the launch of the case studies.

(iii) *Sources of information:*

Publicly available data and information will be complemented through industry sources, industry press, and interviews. Whenever possible, specialist studies will be purchased.

(iv) *Quality assurance:*

An Internal Advisory Board will be set up to review the progress of the study at critical stages, and provide advice to the Project Team.

3.2 *Outline of the Study*

The study will comprise the following sections:

- (i) ***The petroleum sector's value chain.*** This section will aim to highlight the key features of upstream, midstream and downstream petroleum operations, and how these may impact value creation and policy options.
- (ii) ***Overview of the political and economic arguments in favor of and against the establishment of an NOC.*** This section will also discuss how changes in geopolitical and economic environment and in the host governments' political and economic priorities have affected the rationale for, and behavior of NOCs. Although this section will not provide an in-depth analysis of the philosophical reasons for creating an NOC, it will help to understand the special nature of NOCs, and how this may affect their existence, objectives, regulation, and behavior.
- (iii) ***Overview of advances in SOEs governance around the world.*** This section will provide an overview of the recent advances in the corporate governance of SOEs, and discuss whether some of these measures are applicable to NOCs.
- (iv) ***Case studies on a sample of NOCs.*** This section will include a survey of NOCs, and detailed analysis of a selected group of NOCs.

- (v) ***Lessons learnt: policy options for the management and oversight of the petroleum sector.*** Building on the findings of the study, this section will aim to demonstrate the relative effectiveness of regulation and direct participation. We anticipate that it will be difficult to objectively measure the relative effectiveness of direct participation and regulation, and that a targeted follow up study may be needed in this area.
- (vi) ***Reference framework for the creation and the effective and efficient management and oversight of an NOC.*** This section will contain a reference framework for the creation, efficient management, and effective oversight of an NOC.

3.3 ***Estimated time table:***

A draft of the first three sections will be prepared by the end of April 2009. Preliminary conclusions drawn from the analysis of pilot case studies are expected to be ready by June 2009. The pilot case studies will allow the testing of the framework and the adjustment of the approach as necessary. The study is expected to be completed by the end of March 2010. Depending on the results of the study and on the availability of additional funding, a follow up study could be envisaged to strengthen the empirical approach through a wider sample of NOCs

3.4 ***Link with existing research and outreach***

The study will build on the results of existing research on NOCs. Cooperation with other research teams/institutions that have active programs in the area covered by the study, as well as the active participation of governments, NOCs, and POCs, will be sought.

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