

Foreign Direct Investment and Regulation: A Case Study of Thailand's Upstream Oil and Gas Industry

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Abstract

The oil and gas industry is divided into two sectors: the upstream sector in which exploration and production of crude oil and natural gas take place, and the downstream sector in which the crude oil and natural gas are processed in refineries and petrochemical plants. Oil and gas development projects are characterised by large capital investments which include a clear determination of the risks and rewards of each investment opportunity. It is necessary for developing countries to provide an investor-friendly environment towards provisions of numerous incentives to foreign investors, especially international oil companies (IOCs), to increase direct investment flows. The establishment of a stable and secure environment is a fundamental way that host governments can play a vital role in reducing risk and promoting opportunity through the implementation of suitable regulatory terms and conditions for exploration and production (E&P) work, as well as sufficient economic incentives to attract foreign investment capital.

In general, IOCs will diversify risks and prioritise their portfolios to invest in the potential markets that can provide them the highest commercial return. Evidence from Thailand indicates that IOCs require a favourable investment climate to maintain active development of upstream oil and gas resources. Due to the high-risk nature of Thailand's geological setting, IOCs need to have managerial and operational flexibilities when investing in and executing work programmes without mandatory government intervention. The Thai Government needs to consider whether regulation and incentives are written in ways that help facilitate new foreign investments. Apart from legal certainty, Thailand's upstream investment climate can also be strengthened by enhancing the working relationship between the government and the IOCs.

Key words: *Foreign direct investment, Regulation, Upstream oil and gas industry, Thailand*

¹ The views expressed herein are those of the author and do not necessarily reflect the views of the CRC.

1. Introduction

Foreign direct investment (FDI) is an important source of capital for growth in developing countries. It provides a package of new technologies, management techniques, finance and market access for the production of goods and services; and thus contributes significantly to raising total factor productivity in host countries in attaining their overall economic growth. (Abdel-Rahman, 2002). The influx of foreign capital to developing countries has made foreign investors become an important financier and long-term operator of infrastructure activities, especially in the water, transport, telecommunications and energy sectors.

The rapid pace of economic growth and the transformation from an agricultural and resource-based economy to a more dynamic export-led economy has contributed to higher energy consumption in many developing countries. Although most of the world's proven oil and gas reserves are located in those countries, very few had sufficient financial resources for their upstream investments, especially for development of oil & gas exploration and production. Most developing countries grant development rights to foreign companies which have adequate capital, technology and expertise, including capabilities to manage risks towards their diversified portfolios (Pongsiri, 2004).

The history of upstream foreign direct investment during the past decades has been one of constant interaction between the development of the natural resources of host countries with large or potentially large petroleum deposits and the work of international oil companies (IOCs) with their huge technology, capital, and management resources (Khadduri, 2002). Owing to difficulties in gaining access to risk capital and lack of expertise needed for resource exploration and development, most upstream oil and gas development projects in developing countries were financed by the IOCs. This situation changed during the 1970s, when an issue of sovereignty was highlighted, causing governments to become heavily involved in the petroleum sector to ensure better control of their reserves. Consequently, funds for oil and gas projects came from government budgets and official borrowing, as well as from IOCs. In the early 1990s, emphasis shifted again toward private sector financing, as most governments began limiting their involvement in, and budgetary contributions to, the oil and gas sector. However, IOCs have become less willing to finance these projects on their own and have begun to include a wide range of partners in projects for a variety of reasons, including a political need for local participation and a desire to share project risks. As a result, funding of upstream oil and gas projects has become quite complex, involving public as well as private investors and financiers (Razavi, 1996).

The upstream oil and gas development projects are characterised by large capital investments. Investment is determined by the balance (or perceived balance) between opportunity and risk, which are relative concepts, especially with respect to exploration activities. Opportunity involved in finding commercial quantities of oil and gas and the intensive capital required for undertaking exploration and production result in significant business risks. Governments can promote investment opportunities by adopting a proactive approach to selecting foreign partners towards improving entry procedures and reducing red tape in oil and gas sector operations. In order to achieve this, they need to be competitive, understand their geological potential, and understand the key drivers of the IOCs with whom they plan to partner (Zanoyan, 2002).

Exploration and production in the upstream oil and gas industry encompass various activities, ranging from undertaking geological surveys, identifying hydrocarbon resources, and

commercially exploiting them. Ventures in this sector are of a high risk nature in the physical, commercial, and political sense as it is difficult to determine in advance the existence, extent and quality of hydrocarbon resources, as well as production costs and the future price in the world market (Bindemann, 1999: 5). In many developing countries, there is another dimension of political risk that is more difficult to handle. The lack of well-established legal, institutional, and regulatory systems and policies makes it possible for governments to take unpredictable actions that could substantially affect costs and revenue streams, particularly towards prices, taxes, and royalties. This risk is the biggest deterrent to foreign investor participation in the upstream sector in developing countries. Even in countries where governments have taken steps to establish a stable framework and clarify policies, project sponsors and financiers may not have full confidence that the new business environment will remain unchanged and that the government will fulfil its obligations fairly and consistently. The issue of political risk should be addressed at the outset of project preparation. Most investors and financiers are convinced that commercial risks can be effectively addressed when the time comes, but they feel that political risks cannot be controlled by anyone. Thus, they do not take a proposal seriously until they receive some assurance that political risks are manageable. Nevertheless, Razavi (1996) argued that political risks can be mitigated through a variety of measures, including different forms of guarantees and the involvement of certain types of partners. Formal guarantees can be provided by host governments and by multilateral and bilateral agencies.

Apart from effectively managing the balance between perceived opportunity and risk, another challenge for the host countries is how they settle their relations with the IOCs (Khadduri, 2002). The relationship between host governments and IOCs is critical in facilitating or obstructing investment. Their relationship can be either friendly if both have mutual benefits in expanding the industry, or tense if both have different objectives, agendas and timetables. Conflicts are compounded in times of political uncertainty and lack of clear economic objectives. As a result, these conflicts prolong negotiations, create significant misunderstanding and tension, and lead to delays in decisions that could be beneficial to all parties concerned.

The purpose of this paper is to discuss and identify conditions that would facilitate foreign direct investment (FDI) in the upstream oil and gas industry. This paper begins with a review of the factors that determine FDI inflows, including the general setting of the upstream business environment. This is followed by a case study of Thailand to foster understanding of foreign investment in the upstream industry. This will include a discussion of certain key issues, such as the economic context and the regulatory concerns. Further discussion includes the relationship between the governments and IOCs from the perspective of their differing roles in determining investment in the global upstream industry.

2. Determinants of FDI Inflows to the Upstream Oil and Gas Industry

Foreign direct investment (FDI) refers to the investment undertaking of a firm in an overseas enterprise in which the foreign investor has a long-term interest as well as substantial control (Brenton, 1999). FDI is viewed as a major stimulus to economic growth in developing countries. UNCTAD's report (2003) revealed that in 2002 China, Hong Kong, Singapore, Malaysia, Indonesia, Korea, Taiwan, Thailand, India, and Vietnam were the top 10 recipients of FDI inflow amongst the countries in Asia, accounting for over 97% of total FDI in the region. The important advantages which might have made them very attractive to foreign

investors include the market size and increased openness in the case of China, and improved policy and strong economic fundamentals in the case of such countries as Malaysia and Thailand. In addition to these socioeconomic and political variables, another factor is the presence of natural resources such as mineral ores, petroleum and natural gas, coal, and other raw materials, the availability of which may also act as location specific advantage in attracting FDI to host countries (Akinkugbe, 2003). Dunning (1998) also noted that FDI inflows to the oil and gas industry is of the resource seeking kind, which means that one of the key reasons for the international oil companies (IOCs) investing in such country is because of its natural resources. For example, Azerbaijan, which is not even in the top 10 developing Asian FDI recipients, had the highest ratio of FDI to gross domestic product (GDP), reflecting the importance of FDI in its hydrocarbons development (ADB, 2004). The resource seeking FDI mostly requires substantial capital expenditure and is relatively location-bound. Another distinctive characteristic is that while large capital investment is required, it takes a long time to explore and develop oil and gas deposits, thus requiring more time for accruing benefits of such development.

The upstream oil and gas industry has been identified by many developing governments as a priority development sector with considerable potential. Historically, the sector has been strictly controlled by the state, leading to lack of investments and poor operational efficiencies. Removing restrictions and providing good business operating conditions are generally believed to have a positive effect on FDI (ODI, 1997). Many governments are now working hard to improve the legal and fiscal framework to provide the long-term clarity, stability and consistency needed to sustain the significant level of foreign investment required. The most important of the regulatory changes in the upstream oil and gas industry has been the adoption of production-sharing legislation. This form of legislation, which is an effective and speedy method of jump-starting the upstream oil and gas sector, has been adopted in many governments as a proven means of reducing the perceived risks of investment by the host countries (Pongsiri, 2004). The objective is to enact a workable and enabling law to accelerate exploration and production of oil and gas activities. This is seen as contributing to the increased FDI flows into countries with large or potentially large petroleum deposits. However, the lack of transparency in investment approval procedures and an extensive bureaucratic system in some countries are still deterring FDI (ODI, 1997).

In response to the need to provide an investor-friendly environment, many developing governments have become more willing to offer numerous financial and non-financial incentives to foreign investors in order to encourage them to increase FDI flows (UNCTAD, 2003). These include fiscal incentives, financial incentives and market preferences. Fiscal incentives include tax reductions, accelerated depreciation, investment and reinvestment allowances, and exemptions from import and export duties. Financial incentives include subsidies, grants and loan guarantees. Market preferences include monopoly rights, protection from import competition and preferential government contracts. Governments also offer low-cost infrastructure (electricity for example). For the upstream industry, one incentive designed under the production-sharing legislation to encourage exploration and development of certain types of oil and gas is to allow investors to "expense" some of their exploration and development costs (deduct them from their taxable income when they are incurred) rather than capitalize them (deduct them over time as the resulting income is generated). However, the foreign company usually assumes the entire exploration cost risk, and receives a specified share of production as a reward for its initial investment, operating expenses, and the work performed (Pongsiri, 2004).

3. Perspective on the Upstream Oil and Gas Business Environment

Global competition for upstream oil and gas investment is driven by the balance of inherent risk with the opportunity for achieving a commensurate reward. However, those risk and opportunities cannot always be measured with any degree of accuracy or meaningfully defined in absolute terms. The key to understanding the upstream investment decision is the recognition that the search for and development of new hydrocarbons involves many types of opportunities and risks, ranging from geological, operational, political, financial, legal, regulatory, and the market. Generally, they are categorised into below-ground and above-ground metrics. The below-ground metrics include recoverable reserves, reservoir characteristics, geological potential, and development costs. The above-ground metrics are even more difficult to measure and sometimes to define. These include degrees of economic and political openness of host countries; ease of entry into and operations in a particular country; commercial opportunities and risks facing potential foreign investors; risk appetite and culture of the management of IOCs; and the role of the national oil companies (NOCs) in the development of a given country's hydrocarbon resources. With this concept in mind, investigation of opportunities and risks can help policy-makers achieve success in facilitating upstream investments by providing an understanding of the needs of the upstream industry and the drivers for upstream decision-making. Governments that recognize and understand those needs and drivers can shape the investment environment to encourage upstream activity to benefit producers, consumers, and the industry as a whole (Smith, 2002).

Below-ground Opportunities and Risks

Upstream investment, especially offshore, can be extremely expensive and high risk depending on the below-ground metrics such as depth of water, the geological structure of the reservoir, and the size of the potential reserves. Most IOCs have invested vast human and financial resources to build a capability to understand and manage these metrics. The need for IOCs to pursue areas of geological potential is by necessity balanced with the company's strengths and ability to manage various below-ground risks at every stage. The top line of business performance is revenues, so the IOCs are first and foremost driven by the need to discover physical volumes of petroleum deposits. In order to make investment decisions, companies place opportunities within strategic and economic frameworks in which the risks and rewards of each can be evaluated, measured, and compared. Once significant capital is committed to a development project, time becomes of critical importance. Any delays in bringing new production on stream reduce revenues and cut into overall project profitability. If an IOC manages the risks and executes its operations in a responsible and effective manner, the company can create value for its investors. In return for a risky capital investment, a company shall require that opportunities have the potential to deliver commensurate financial returns (Smith, *ibid.*).

Above-ground Opportunities and Risks

Facilitating investment in upstream oil and gas development requires the creation of the conditions for success and winning solutions for IOCs, host countries, and consumers. However, very few IOCs have devoted the necessary resources to understand and manage the above-ground metrics (Zanoyan, 2002). Therefore, a potential host country needs to provide a supportive above-ground business environment for gaining the attention of quality foreign

investors. It is not possible to change the geology of the country, but governments of host countries can change the above-ground metrics to render their natural endowment more attractive to IOCs. The government's efforts to improve the investment climate in the sector includes setting up regulatory environments and license terms that support the exploration process and reduce risks, which would help boost IOCs' confidence. Generating policies which allow IOCs the freedom to operate and manage projects and which foster the reduction of project cycle time from discovery to first production would maximise the potential for early revenues. The role of governments is therefore to design and carefully maintain attractive terms and conditions for investors based on the incentives provided and the risks to be taken. This involves some creative and innovative approaches to the types of contracts offered, the specific fiscal terms, and creative ways of presenting the geological potential through flexible approaches to organising exploration acreage and flexible approaches to production opportunities. Some of these measures enhance the attractiveness of a host country to foreign investment without taking anything away from the country itself (Zanoyan, *ibid.*). In the case of Indonesia, it is argued that the country has still remained attractive for oil and gas exploration and development, but some IOCs have left and exploration activities have declined as have the oil reserves. These declines are due to the uncertainties brought about by the change in the country's above ground metrics, particularly the change in the political system in general, and by the changes in oil and gas laws in particular (Karamoy, 2003; Pongsiri, 2004). The downturn in exploration activity was because of the unfavourable fiscal policy and uncertainty over the implementation of regional autonomy laws and revenue sharing. One of the key complaints is the new imposed of value added tax (VAT) on equipment imported for exploration activity. Some IOCs that had recently been awarded acreage were deferring exploration activity until a clearer picture of the investment climate emerged (Battersby, 2004).

Upstream Investment Criteria

IOCs are different in terms of their size and competitive advantage. They would bring in different considerations in targeting "quality" assets. These include growth potential, materiality, commerciality, corporate goals, quality and diversity of asset portfolios, and contribution to economies of scale and other synergies. These considerations imply that the same asset may represent different value to different companies, which, in turn, leads to considerable variation in how various IOCs bid for the same opportunity. This also contributes to shaping the relative competitive positioning of IOCs in a given country, and thus gives the host government an opportunity to assess and evaluate the overall merit of each foreign investor (Zanoyan, 2002). In general, IOCs will diversify and prioritise their portfolios to invest in the potential markets that can provide them the highest commercial return. Therefore, investment capital and human resources must be effectively utilised to maximise the return.

In order to structure win-win deals and promote upstream activity, potential host countries need to have a clear sense of their own relative attractiveness for oil and gas investment, and understand how their offerings might fit into a potential investor's portfolio. Countries wishing to attract and foster upstream investment need to understand that they compete for those investments in the global arena on the basis of sophisticated risk-reward profiles, and that their policies, institutions, and regulations affect their desirability as an investment location. Some of the criteria that IOCs consider of critical importance for meeting upstream investment performance goals include:

1. A stable and secure business and operating environment
2. Degree of competition and expeditiousness of contracts
3. Fair terms that allow acceptable potential for return on investment
4. The ability of the contractor to manage exploration and production projects for maximum value
5. The right to export hydrocarbons and retain proceeds abroad, or alternatively, some mechanism to obtain hard currency proceeds
6. Exemption from customs duties, which can be an important contractual element when large quantities of equipment must be imported into a country
7. Incentives for taxes, tariffs, and other burdens on exploration & production (E&P) program execution

In addition to host governments' ability to assure a stable fiscal, contractual and regulatory environment, security has re-emerged after September 2001 as a vital element in upstream investment decisions. IOCs closely scrutinise the ability of host governments to ensure the security of their operations and the safety of all employees and contract personnel. Industry perception of increased security risks significantly alters the risk-reward balance, reducing a country's attractiveness relative to other global opportunities (Smith, 2002).

4. FDI in Thailand's Upstream Oil and Gas Industry

In the early 1980s, most of Thailand's commercial energy requirements were met by imports. Of the total demand, imported energy accounted for over 90%, mainly in the form of petroleum. Eighty percent of the country's electricity was produced by burning imported fuel oil. Due to the heavy reliance on imported energy, the country was seriously affected by the 1973 and 1979 oil price shocks, partly because of a delay in passing on the increased prices to domestic users. As a consequence, the Thai Government took steps toward lessening energy dependence through the use of Thailand's energy policy, in conjunction with the National Economic and Social Development Plans (NESDP), to promote and encourage private sector involvement in the exploration and development of indigenous petroleum resources which consist of natural gas, condensate, and crude oil. A concerted effort on large-scale development of Thailand's indigenous sources of energy during the past 20 years by both private and public sectors has reduced energy dependence significantly. The share of energy imported for commercial energy requirements decreased from 90% in 1980 to about 61% in 2001 (NEPO, 2000).

In the past, the primary objective of Thailand's energy policy was to ensure energy security, defined solely in terms of oil. As the oil crisis was perceived as an external threat, improving energy security has been largely seen in terms of reducing future oil imports through energy conservation, expansion of indigenous resources, and oil substitution, while having measures ready to respond to any sudden disruption in external supply (NEPO, 1997). However, under the current economic conditions, one of the most important aims of energy policy is to promote privatisation and liberalisation programmes. One of the outcomes of those programmes is to ensure that enough competition will be achieved and sustained (Pongsiri, 2003).

In September 1992, the Thai Government amended a regulation for private participation in the state-owned enterprises (ADB, 1999). In energy-related industries, private participation

can be measured by total investment (private and public contributions) in energy projects. Most developing countries have promoted private participation in energy as part of broader sectoral reforms aimed at creating efficient and competitive energy markets (Pongsiri, 2002). This approach has been reflected in an emphasis toward privatisation and market liberalisation, which are targeted at improving the productivity of investment in the economy and are likely to improve substantially the quality of domestic investment and its positive impact on economic recovery and sustained growth. These significant changes could impact on energy sector development in the economic setting (Iwayemi, 1998).

The underlying rationale and objectives of today's energy policy thus include programs to reduce the country's dependence on energy imports towards enhancement of private investment in exploration for and production of domestic oil and gas resources through attractive fiscal measures. With consistent economic growth, the energy demand growth rate, which typically exceeds the economic growth rate, is projected to grow significantly over the next decade. Thailand's upstream sector continues to evolve to meet this growing demand.

4.1 The Economic Context of Thailand's Upstream Investment

The reason for explaining the relevant markets and marketing of oil and gas is to draw attention to an aspect which has a critical impact on field development and hence understanding of the industry. If economically attractive reserves of oil are found, the market is not a constraint on its development. However, if a commercial gas field is discovered, gas cannot easily be stored or transported by tankers like oil. Its production therefore is completely dependent on having an established market, otherwise there will be no development. Gas producers usually seek long-term contracts, generally fifteen or twenty years and often with take-or-pay terms, to guarantee the volume of the off-take. Before governments sign a long-term contract, they will want to be sure of their own requirements, of the gas reserves backing, of the producer's financial strength and technical ability, and many other commercial aspects.

For the purpose of promoting petroleum exploration and production and to attract more investors, Thailand enacted the Petroleum Act and Petroleum Income Tax Act in 1971. Following the establishment of the regulatory framework, the first offshore exploration wells were drilled in the search for oil. However, gas rather than oil was the principal hydrocarbon found in offshore concessions in the Gulf of Thailand. Subsequent exploration determined that large quantities were recoverable, sufficient to favourably alter Thailand's energy position. Union Oil Company of California, later to be known as Unocal, put the supply, transportation and market components together for the first successful project from the Gulf of Thailand that started production in 1981. Once Unocal had demonstrated that the gas could be an economically viable source for power, and later a resource for a petrochemical industry, other IOCs were encouraged to apply for new concessions. Since 1990 more than 500 exploration and appraisal wells have been drilled, with the vast majority in the offshore Gulf of Thailand (Smith, 2003). At present, natural gas developed is for domestic use only due to a ready market and sufficient infrastructure.

Although successful upstream development has been observed, Thailand's below-ground resources are still less attractive than others in the region. The Gulf of Thailand is underlain by a series of elongated North-South extensional basins that were formed in the middle Tertiary period about 30 million years ago (Smith, *ibid.*). The occurrence of the discontinuous sands and intense faulting results in relatively small reservoirs. In addition, the

faults are leaky, requiring active recharging to sustain gas accumulations. The rate of depletion from a single reservoir or single well is very high and continued investment in drilling and the installation of wellhead platforms is required to maintain the contracted production levels, typically about 120 wells per year.

Petroleum exploration and production grants to foreign investors are in the form of concessionary contracts in which the concessionaire pays the government royalties, Special Remuneratory Benefits (SRB), and taxes in consideration for the concession granted. Due to constraints on the magnitude of underground resources, producing wells are depleted very fast, thus requiring continuous investments to sustain production growth. In order to maintain economic viability of the projects, the Thai Government needs to offer fiscal incentives to encourage long-term investment for marginal and declining field developments and to increase the upstream investment quality. The government also needs to consider whether regulations and incentives are written in ways that help facilitate new investments. The incentives extended to IOCs under the Petroleum Act and the Petroleum Income Tax Act must be competitive. These include exemption from tariffs on imported machinery, spare parts, and materials required for upstream business, or for the use of drilling and oil service contractors.

Due to the high-risk nature of Thailand's geological setting, IOCs need to have managerial and operational flexibilities in investing in and executing work programs without mandatory government intervention/participation. Government intervention is a very negative incentive for investors and leads to high risk premiums assigned to the country, which in turn inhibit innovation, and performance delivered. The current Thailand fiscal regime has encouraged innovation and the resulting improved technology has increased the known and potential reserves from the existing producing areas through the lowering of the economic threshold for commerciality.

4.2 Regulatory Concerns on the Upstream Investment

Governments can further facilitate investment in the oil and gas sector by establishing clear regulatory and fiscal regimes. Determination of the blocks, qualifications of concessionaires, operation and investment considerations, and rules and regulations are the main considerations essential for facilitating investment from upstream foreign oil companies with technical expertise. Razavi (1996) reinforced the point that often the risk-reward profile of an upstream project can be substantially improved by clarifying the rules of the game and assuring investors of the stability of relevant policies.

A search for oil and gas in Thailand was first attempted in 1921. At that time, petroleum activities were solely within the Government sector. Attempts to attract foreign investors for petroleum exploration were initiated in 1960. Subsequently, the first IOC was granted a petroleum exploration permit by virtue of the Minerals Act, then the prevailing legislation for the exploration and mining of minerals, including petroleum. The first Petroleum Act was promulgated by the Thai Government in 1971, with the aim of facilitating investments from IOCs. The Petroleum Act regulates the conduct of petroleum operations, including exploration, production, storage, transport, sale, and disposal of petroleum undertaken anywhere in Thailand, including the areas of the continental shelf over which Thailand has jurisdiction. The law requires petroleum exploration and production companies to pay as much as 50 % in petroleum income tax, while giving them 20-year exploration licences with

the option to extend for another decade. A fixed rate of 12.5 % royalty fees was applied to those concessions granted prior to 1992, with a progressive rate for concessions awarded later. To create a more investor friendly and globally competitive climate, the Thai Government needs to introduce a competitive Petroleum Act and Petroleum Income Tax to stimulate new investment activities.

The greatest deterrent to FDI inflow to the upstream industry is the regulatory environment and attitude. Foreign investors will be kept away and will seek a more hospitable place to invest if regulation is unlimited in scope, unclear in operation, and inclined toward micro-management (Savas, 2000). A road map from the point of the awarding of the license for exploration to the final production should be clear cut and understood by all concerned. The Minister of Energy who acts on behalf of the Royal Thai Government is authorised to award concessions for a number of exploration blocks or the total area as the Minister deems appropriate. Since exploration and production of petroleum fields are capital intensive if the findings are proved to be commercially feasible, concessionaires will immediately apply for the petroleum production area and later commission the production facilities. Generous terms and conditions are needed for the preparation of concession area applications. Importantly, the meaning of the determination of a “Commercial Discovery” must be clarified and practical for concessionaires to interpret and pursue further work. With a clear definition of “Commercial Discovery”, production areas can be delineated and production can start right away even during the exploration period. Historically, during the past five years, several applications remain pending, not because of administrative reasons but due to political reasons. As a result, concessionaires, mostly IOCs, could not undertake development of the highest resource potential areas and needed to change their development plans and invest only in the current holding areas, a situation that may not maximise the values of the resources available. Timely approval is required to ensure smooth operations and to guarantee the long-term stability of the energy supply.

Maintaining a stable concessionary system demonstrates long-term stability for Thailand’s upstream investment, while delivering secure and low cost indigenous energy for the Kingdom. Increased government control reduces the incentive to invest unless substantial resource potential exists or higher commodity prices are offered to offset the increased fiscal burden. Special Remuneratory Benefits (SRB) are required under Thailand’s concession contract and are designed to increase the Government’s take from windfall profits only after all capital costs (plus special reductions) are recovered and annual revenues become significantly higher as compared with the investment (i.e. an unusually high oil price). The SRB system acts like an oil or gas allowance allocated at a stipulated rate among involved parties in the production-sharing contract (PSC) mechanism (Pongsiri, 2004). This might discourage concessionaires from introducing best-practice methods in order to lower production costs. Consequently, potential resources will not be efficiently developed and economic values of the total resources will not be intentionally maximised. The SRB system is complex to understand and thus reduces the upside for investors in the risk/reward balance. Distorting the balance is a significant negative incentive when considering investing alternatives.

Thailand is the only country in this region where financial transactions of gas sales are determined in the local currency. However, capital & expense costs (CAPEX) as part of the upstream investment are mostly in US dollars. During periods of uncertainty such as the Asian financial crisis, the Thai currency earnings could not be converted to US currency at the expected rate of exchange, thus reducing the value of the earnings of investors. Liability compensation may need to be considered in the event of devaluation. The financial

transaction of crude oil sales is different. Under the previous provisions of the Petroleum Act, the price of the exported crude oil in US currency was based on the most up-to-date method of quality valuation, taking into consideration the posted price of comparable crude oil in the Persian Gulf, geographical locations, the point of export, and the point of purchase, including market outlets and transportation costs. The price is thus determined unilaterally by the concessionaire without government intervention. However, under the last amendment to the Petroleum Act, the government is empowered to revise the price of the exported crude oil as determined by the concessionaire.

The Petroleum Act and related Ministerial Regulations do not include some key operational issues, such as requirements for decommissioning work at the end of the concessions. It is necessary to clarify the areas for which concessionaires need to take responsibility and are liable after all facilities are totally phased out. The key is to maximise asset value and provide a safe, environmentally sound, and efficient decommissioning and removal procedure. This is a vital obligation for concessionaires and is required by laws and generally secured by a corporate guarantee. Financially, decommissioning costs are estimated and stated as an amount representing the costs which would be incurred should decommissioning occur as balance sheet data and are reassessed each year. From the IOCs' perspective, there is no need to have a provision for the holder of a production license to establish a decommissioning trust fund to guarantee its liability in respect to assets situated onshore/offshore. Although the payments made into the trust fund can be deductible in the computation of petroleum income tax and additional profits tax (tax loss-carry forward), advance payment of decommissioning costs is considered uneconomical, as the same amount of money can be used for maximising the value of the reserves.

5. Foreign Investors and the Host Country Relations in the Upstream Investment

Upstream investment depends on the politics and history of each host country, the size of its hydrocarbon resources, and its overall economic situation (Khadduri, 2002). For a foreign investor, especially for a new entrant into a particular country, a key determinant and differentiator between successful and unsuccessful access to below-ground resources is how well it can meet this challenge (Zanoyan, 2002). However, most developing governments still tend to view foreign investor's presence in their country with a measure of antagonism. This alone can make the entry process extremely difficult, preventing many investment opportunities from going beyond the initial conceptual phase.

In general, governments in a host country and foreign investors, which are mostly IOCs, have different views regarding upstream development. The main aim of the IOC as a private entity is profit maximisation, whereas the government is mainly interested in maximising economic values of the owned resources. Conflicting views may lead to renegotiation of contracts and less efficient running of the business. IOCs are constantly concerned with time and the expeditiousness of contracts and projects; however, time is rarely considered in commercial negotiations for most governments. While IOCs are aware that they are in competition and are forced by the market to improve their competitive positions, governments often fail to make the most of their competitive potential due to other conflicting priorities that governments often face, and in part due to a general lack of realisation that even sovereign states need to be competitive (Zanoyan, *ibid.*).

It is important to point out that all players in the global upstream business face specific market conditions and specific competitive challenges. Governments and IOCs, although technically and operationally in the same industry and in the same market, do face considerably different issues and concerns. Each side sees some of the issues facing the other side only when these become directly exposed in their bilateral relationship. IOCs compete for opportunities to access the below-ground resources, and governments compete for foreign investment and enhanced value such as management skills and transferred technology. Their relationship is critical in facilitating or hindering investment. If the relationship is tense and mistrust exists due to commercial or cultural conflicts, investments do not happen. On the other hand, if both can see how their interests are aligned and understand how each side can benefit from the other side, projects acquire a new momentum and investments happen (Zanoyan, *ibid.*).

For some countries, the government and IOCs have fully realised the virtue of establishing a partnership. Hence, governments may want to facilitate more business cooperation between the existing concessionaires and the new international investors. From the concessionaires' perspective, business collaboration is driven by economic incentives or economy of scale. Practically, it is a mutual benefit for both partners to reduce their overhead costs towards sharing of excess or common facilities. Relevant factors to be considered for formulating a collaborative regime include resource interest, incentives, partner arrangements, equity negotiations, equalisation of investment, and government regulations. This partnership concept is fully supported by business drivers which could lead to more efficient or more economical production of petroleum from a co-venture zone. In Thailand, there is no guideline or regulation available for concessionaires to enter into collaborative schemes, such as adjoining their properties or pooling their exploration and production activities. Furthermore, different equipment designs may limit the opportunity of each company jointly utilising the common facilities or lack of excess capacity for others to share.

6. Conclusions

Most developing countries are facing ongoing challenges in developing oil and gas reserves. The prospect below-ground risk, by its nature, deteriorates the expected returns from a given investment. Those countries have no option but to continue to attract foreign investment for their upstream opportunities. They can ensure a sustainable development of the upstream oil and gas industry by providing a robust legal, fiscal and regulatory framework that is attractive to foreign investors and that benefits the citizens of the country. In Thailand, the increasing FDI inflow to the upstream oil and gas industry has been driven by discoveries of important natural gas fields, the strong growth in energy demand, and also constraints in public sector budgets. Meanwhile, the government needs to ensure that the increase of competition in the energy supply industry and the promotion of a greater foreign investor role will lead to efficient utilisation, procurement and distribution of energy, as well as a reduction in the investment burden of the government. Most oil and gas deposits in Thailand are located offshore in thousands of small reservoirs with complex geology and relatively small resource potential. Upstream oil and gas development requires large and continuous investment. Past evidence reveals that international oil companies (IOCs) could play the leading role in developing or expanding indigenous sources of energy supply. However, this study traces some of the means by which the Thai Government may need to further offer long-term commitments to retain quality investors and attract new global investors who are ready to invest and employ their best human, financial and technical skills. At a more substantive

level, upstream investors will not have access to reserves in an overly competitive environment which is generally less attractive due to the simple reason that it tends to reduce profitability below their acceptable thresholds. Terms and conditions offered must be attractive enough for commercial returns, as risks (below-ground) for further development of the remaining reserves are significantly high. More importantly, the government and foreign investors should seek to understand each other's businesses and should have a common vision of how they will work together to achieve a mutually successful outcome to the project.

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