Fiscal Fitness

How Taxes at Home Help Determine Competitiveness Abroad

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FISCAL FITNESS: HOW TAXES AT HOME HELP DETERMINE COMPETITIVENESS ABROAD

KEY IMPLICATIONS

Dramatic changes in the structure and geography of the global upstream oil and gas industry have radically altered the competitive environment. But what does competition mean in the oil and gas business? In the upstream it is focused primarily at one point—on securing mineral rights and acreage. The difference between "winning" and "losing" in this competition will have a profound effect on the future position and even viability of companies.

This report explores the ways in which the competitive environment has changed with the widespread emergence of national oil companies (NOCs) in their home countries in the 1970s and the acceleration of competition from INOCs (NOCs operating outside their home territories) in the mid-1990s. Greater accessibility of technology and operating capabilities, access to capital, drivers that go beyond financial returns, and degrees of political support have all contributed to increased competition. The report focuses on an additional key variable that has heretofore received little attention—the ways in which the costs of repatriating profits from international ventures may determine the ability of investor-owned companies (IOCs) to make successful bids for resources. We collaborated in this part of the analysis with Deloitte, the leading professional services firm providing audit, tax, and other advisory services, and recognized experts in oil and gas industry taxation, to unravel the complexities of the interactions between resource-holding host country tax regimes and a representative set of home country regimes.

While the growth of NOCS and INOCs has been at the expense of IOCs as a class, the US-based IOCs have been affected to a greater extent than those from Europe, Canada, Eurasia, and Asia.

- Two factors appear to be most responsible for this difference in competitive performance: the interaction between the fiscal arrangements in the home countries of IOCs and the host countries in which they operate, and home country policy objectives.

- The fiscal factors may account for variances, sometimes by as much as 100 percent, in the amount that a company can afford to bid for mineral rights.

- Draft proposals to change the rules for taxing their repatriated foreign profits will place US companies at an economic disadvantage to all but India among the analyzed peer group, making their assets potentially more valuable to non–US-based companies.

This report provides a framework for understanding the fiscal dimension of the new competitive equation in the world oil and gas industry.

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FISCAL FITNESS: HOW TAXES AT HOME HELP DETERMINE COMPETITIVENESS ABROAD

by David Hobbs and Daniel Yergin

COMPETITION FOR MINERAL RIGHTS

Over the past few decades, dramatic changes in the structure and geography of the upstream global oil and gas industry have had a radical impact on the competitive environment. But what does competition mean in the oil and gas business? In the upstream, it is focused primarily at one point—on the competition for mineral rights and acreage.

This competition arises when governments offer mineral rights to investors or when companies that have already secured those rights sell them or are themselves sold. The outcome of this race defines who will be producing what in the years ahead, who will prosper and grow, and who will stagnate and contract. It is at this point of acquisition of mineral rights that the consequences of the overall changes in structure, geography, and competitiveness become most critical.

A number of driving forces shape the outcome, including geopolitics, access to capital, and capabilities. Yet an important aspect of upstream competition that has received little attention to date and may have far greater significance than previously recognized is the fiscal regime in the *home* country and its interaction with that of the *host* country.* The data-driven analysis of this IHS CERA Private Report focuses on the fiscal factor in upstream competition. This factor includes the impact of home tax regimes in the United States, Canada, Europe, and Asia on the competitive position of companies domiciled in those jurisdictions. We worked with Deloitte, the leading professional services firm providing audit, tax, and other advisory services, and recognized experts in oil and gas industry taxation to perform the analysis.

Our conclusion is that in the global competition for access to new resources, the fiscal system of the home country (and its interaction with the host country) should also be considered a significant factor in the comparative outcome. In determining competitive position and outcomes, *home* counts as well as *host*.

THE CHANGING COMPETITIVE LANDSCAPE

One of the fundamental changes is the shift in the balance between countries and companies, which is evident in three forms. The first was characterized by host governments' taking greater control of their resources—culminating in the wholesale nationalization of resources by some governments in the 1970s. The second is in the distribution of rents. In the 1950s the principle of a 50/50 split was enshrined in the agreements between governments and companies. Over the years, the balance has shifted further in favor of governments, whereby in some cases more than 85 percent accrues to the host government where the prospectivity

*Traditionally the term *host* refers to the country in which oil and gas operations are conducted and *home* refers to the country of origin of the companies (i.e., where they are legally incorporated) as they operate in host countries.

and cost structure are able to support that amount. The third is in the emergence of a large number of new participants in the industry in the form of state-owned or national oil companies (NOCs) in the producing countries, many of which have acquired access to the skills and capabilities associated in the past with the traditional majors.

The shifts in the competitive framework are also increasingly evident in the greater number and variety of participants in the upstream industry outside their home territories. Consolidation has occurred among the traditional investor-owned companies (IOCs), particularly among the majors whose former role was memorialized in the term "Seven Sisters," although that number was never correct. Their role outside their home countries has shrunk both in absolute terms and as a relative share of global production. However, the shrinkage among the traditional majors has been more than offset by the emergence of new participants. In the past two decades, the number of companies (excluding NOCs that do not operate outside their home territories) with production of more than 1 million barrels of oil equivalent per day has doubled from 8 to 16. The proliferation of new participants adds further force in changing the competitive playing field.

In this report, we distinguish between the US-based IOCs and the non–US-based IOCs—companies from Canada, Europe, Eurasia, and Asia. Several of the latter group (most notably Total, Eni, BP, and Repsol) began life as NOCs. This group operated outside their home countries and would have been described as INOCs (international NOCs). They became IOCs when they were privatized by their government owners.

Some of the state-owned participants that are internationalizing their operations, such as Petronas from Malaysia and the Chinese majors, are also described as INOCs. Petrobras from Brazil and Statoil from Norway (the respective state owns a majority of the voting shares in each) also fall under the INOC rubric despite implementing strategies that are hard to distinguish from the IOCs that they seem to more closely resemble and with which they compete. The INOCs may be wholly or partly owned by their home governments, but they are actively acquiring mineral rights and establishing production around the world. Some are driven by commercial factors; some are also driven by various mixtures of factors and broader national objectives, including security of supply and the development and deployment of skills and capabilities that are transferable to and from their home countries.

Appendix A describes how three different peer groups of companies (US-based IOCs, non–US-based IOCs, and INOCs) have performed over nearly four decades. The analysis shows the rapid growth of INOCs accelerating significantly in the 1990s. This outperformance may be driven by a combination of factors, of which two stand out particularly in relation to the performance of the INOCs relative to both groups of IOCs.

- In some cases, whether because they are latecomers or because they are not bound by the same financial constraints as IOCs, INOCs have been willing to bid aggressively for opportunities and win against traditional companies. They may also have different commercial metrics in valuing their investments—based either on the cost and availability of capital or the returns that they feel obliged to earn.

- In some cases their state ownership can be an advantage, particularly when government-to-government agreements are involved. INOCs may have economic advantages derived from their home countries, which may include the ability of the country to bundle development projects (e.g., railways, ports) with investments in oil and gas in a given host country.

THE FISCAL REGIME AT HOME

While these latter aspects have been commented upon, until now most analyses have failed to address the fiscal regime in the *home* country and its interaction with the fiscal regime of the *host* country. Nor has the difference in the relative performance of US-based and non–US-based IOCs been satisfactorily examined.

To date, there does not appear to be a widely recognized, systematic approach for comparing the aggregate fiscal loads imposed

- on the "export" of dividends from host countries—withholding taxes, which vary depending on the arrangements between the host country and the home country to which these dividends are being remitted

- on the "import" of dividends to the home country—governed by a variety of regimes generally depending on the tax laws of the home country and whether the home government recognizes the validity of taxes already paid in the host country

This report assesses that impact and provides a more complete picture of the drivers of global competition for access. We worked with Deloitte, one of the world's leading professional services firm providing audit, tax, financial advisory, and risk management services, and recognized experts in oil and gas taxation. Deloitte helped analyze the complexities of different tax regimes as we

- constructed an extensive data-based analysis of several host country fiscal systems and how they consolidate back to a range of home countries when the profits are repatriated

- correlated the results with the relative performance of the three different groups of companies in securing mineral rights, described in Appendix A

DETERIORATING COMPETITIVE POSITION OF THE UNITED STATES

A variety of reasons may account for differences in success at winning the access race among different types of companies. These include their project execution skills, the cost and availability of capital, differences in market outlooks and technical assumptions in valuing assets, and the degree of political support (or restraint) from home governments. Some host governments may simply have a preference for one nationality of investor over another.

We address these reasons in Appendix C. However, our main focus in this report is the way in which various home countries tilt the fiscal playing field for their companies.

Three significant conclusions emerge from our analysis:

- The first is that, under existing rules, US-based companies have been relatively less successful in securing new opportunities compared not only to INOCs but also to non–US-based IOCs (those based in Europe, Eurasia, Asia, and Canada).
- The second is that the United States currently takes a larger share of the net present value (NPV) of repatriated profits than most other countries among the analyzed peer group.
- The third is that potential new rules to restrict credits for foreign taxes already paid to a host government, currently under discussion in the United States, would make the United States the least competitive among the analyzed peer group, excepting India. This is the case whether measured by the reduction in the internal rate of return (IRR) or by the drop in the NPV of the investment.

In practice, companies in all industries (including oil and gas) seek to arrange their affairs in such a way as to pay only the amounts of tax required by the relevant legislation. Our analysis looked at individual, bilateral examples—i.e., one host country field investment consolidating back to one home country. Large companies typically hold a diverse portfolio of assets in a variety of host countries. For example, in the case of the United States and France, the result would be a blending of high-tax and low-tax jurisdictions which would reduce the amount of extra tax payable on dividends from low-tax jurisdictions.

However, new proposals for taxing non-US oil and gas activities are intended to limit this scope to mitigate additional US taxes on repatriated post-tax profits and thus are more likely expose US companies to the full extent of competitive disadvantage identified in this report.

While a competitive advantage of 1 percent in the annualized rate of return between the United States and its main competitors may not sound large, this represents a change in the economic value of an oil or gas field of between 20 and 30 percent when compounded over the typical life of an asset (15 to 20 years). In some cases, the advantage can be as much as 100 percent.

The conclusion is that in the competition for access to new resources, the fiscal system of the home country may be an important factor in the outcome. In other words, *home* counts as well as *host*.

DEFINING THE COMPETITIVE PLAYING FIELD

In the upstream oil and gas business, there is a paramount point of competition between companies. Acquisition of mineral rights, or "access to opportunity" in the vernacular of the industry, is where oil and gas companies compete against each other. These rights are acquired directly from resource-holding host governments or through acquisition from (or of) companies that have already acquired such rights from a resource-holding host government.

No other company can operate on the license acquired—the successful bidder (or consortium) has an effective monopoly on that piece of acreage during its term. The outcome of this competition is visible in the acreage controlled, the number of exploration wells drilled, the number of new discoveries, and ultimately the reserves and production that result from these endeavors.

This competition between companies is distinct from companies being "competitive" with each other (i.e., comparing favorably on objective benchmarks of performance). In the long term, a company incurring unit costs that are higher than those of its peers will often deliver lower returns and be less competitive in attracting investment capital. Similarly, a company that has lower exploration success rates than its peers will likely grow less quickly or be tempted to buy expensive reserves, to the long-term detriment of its financial returns.

After the intense competition of acquisition, the perspective changes. Companies with neighboring lease holdings or holdings in the vicinity have a shared interest in cooperating to minimize costs through sharing of logistics and services. In fact, many host governments look favorably on such synergy and encourage it because it boosts efficiency and profits, and thus the government take, returned by the investment. This stands in contrast to other links in the oil value chain where companies continuously compete, as demonstrated in downstream product markets.

FOUR DECADES OF A DECLINING INTERNATIONAL ROLE FOR US-BASED COMPANIES

Appendix A describes the relative performance of US-based and non–US-based companies. The once-dominant position of the US-based integrated oil companies may have helped them in earlier decades when they were competing with a limited group of non-US companies. The support of the US government was evident. For example, concerns about energy security were a factor in relation to concessions in the Middle East (securing and maintaining the Saudi Arabian concessions and forging a path into the Iranian concession alongside the precursor to BP—Anglo Iranian Oil) (see the box "Tax Confusion: 'Accounting Fiction' versus 'Accounting Reality'").*

But times change. The greater assertiveness of resource-holding host governments during the 1970s and 1980s resulted in a tightening of fiscal terms and partial or even complete nationalization of activities in their home countries. With the largest share of international activities, the US companies had the most to lose. Sanctions, both unilateral and multilateral, have excluded US companies from certain countries (such as Sudan, Iran, North Korea, and, until recently, Libya and Iraq). By contrast, the European and Asian IOCs have been more successful than their US peers in rebuilding their international portfolios and production levels after the effects of the emergence of the NOCs. This has been driven partly by their ability to grow their presence in North America—particularly, in recent times, the deepwater Gulf of Mexico (GOM).

What stands out is that all IOCs, whether US based or not, have been exposed to the same competitive pressure both from NOCs asserting themselves more in their home territories and from INOCs. And yet the ability of the US-based IOCs to secure access to

*See Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power,* Free Press, 2009.

Tax Confusion: "Accounting Fiction" versus "Accounting Reality"

It sometimes happens that historical events are reinterpreted to meet present-day objectives. That appears to be the situation of the recent report from the Environmental Law Institute (ELI) that purports to demonstrate that "subsidies" to fossil fuels far exceed those to renewable energy. The ELI cites the foreign tax credit as the largest of all the subsidies.*

The approach the ELI takes is to assert that the taxes paid to foreign resource-holding countries are really royalties—in its words, "royalties-disguised-as-taxes." It never explains the basis for this assertion. It does say, "The US government allowed oil companies to claim these payments as a foreign income tax credit" and declares that this "was an accounting fiction."

It cites as its source Daniel Yergin, *The Prize: the Epic Quest for Oil, Money, and Power*. The ELI's critique of the foreign tax credit seems to depend on a misreading of the relevant pages in *The Prize*—pages that were based upon archival research and that do not, in fact, support the ELI thesis. Rather, they show that the purported "accounting fiction" is actually an "accounting reality."

The original American partners in Aramco had obtained the Saudi concession in the 1930s. The agreement included a royalty. Oil was discovered in 1938, but production was minimized during World War II out of fear that Nazi Germany might conquer Saudi Arabia and obtain that oil for its war machine. (Neighboring Kuwait, where oil was also discovered in 1938, actually plugged its wells to keep them out of Nazi hands.) The buildup of commercial production in Saudi Arabia began after World War II.

As production mounted substantially, the Saudis sought a much higher share of the income being generated by the growing flow of oil. Saudi Arabia retained its own counsel, who identified US legislation dating back to 1918 that permitted an American company to deduct from its US taxes what it paid in foreign taxes. As stated in *The Prize,* "The objective was to avoid penalizing American companies doing business abroad." At the same time, Saudi Arabia began to push for the application of an income tax on profits derived from its oil.

The American companies were reluctant to change the contract, which had prohibited an income tax. They were, however, pressured very hard by relevant authorities in the US government to do so. The US government was concerned about the security of Saudi Arabia and the stability of the overall relationship. There was grave concern about Soviet ambitions in the Persian Gulf; the first Cold War crisis, in 1946, had broken out over Soviet efforts to annex northern Iran. With the outbreak of the Korean War in 1950, the Cold War had turned hot. That deepened the interest of the US government in avoiding any uncertainty about security and access to oil, and thus the pressure ratcheted up on the companies to agree to a 50/50 split with Saudi Arabia on the profits arising from oil sales.

In December 1950 a new agreement was signed that did institute an income tax. Subsequently, the US Internal Revenue Service confirmed that these were indeed legitimate taxes and thus qualified for the tax credit. *The Prize* goes on to observe: "In 1957, the staff of the Joint Congressional Committee on Internal Revenue Taxation added its approval, based upon the various tax laws, their legislative history, judicial decisions, and IRS rulings with respect to 'other similarly situated taxpayers.'" The conclusion of *The Prize*—ironically cited as the source by ELI—is that "the Aramco ruling was consistent" with overall tax policy.

Estimating U.S. Government Subsidies to Energy Sources: 2002–2008, Environmental Law Institute, September 2009.

Tax Confusion: "Accounting Fiction" versus "Accounting Reality" (continued)

In 1974 George McGhee testified to Congress. He had been the US Assistant Secretary of State for Near Eastern Affairs at the time of the institution of the income tax and had taken the lead in the US government in promoting that settlement. He reaffirmed that the use of the tax credit was appropriate and that the approach had been adopted in consultation with the Treasury Department and the Congress. The ownership of the concession, he explained, "was a valuable asset for our country" and "the threat was the loss of the concession." In other words, had the United States not adopted the customary double taxation approach, the concession might well have passed into the hands of another country, with potential serious economic and security consequences.

The ELI also argues that the difference between the tax rate on oil and gas production and lower rates applied to other sectors proves that the taxes on oil are not taxes. It is not at all clear why this is proof. To use that difference as evidence seems to show unfamiliarity with the fiscal practice and tax regimes in countries for which oil earnings constitute 60 or 80 percent of gross domestic product. Typically, such countries arrange their fiscal affairs so that oil income provides a similarly high share of the national budget, and correspondingly, they choose to reduce tax rates for other sectors.

On the fundamental point, the ELI simply asserts, without offering any explanation, that a royalty and a tax are the same thing—or that a tax is automatically really a royalty. It is unclear why this premise should be taken as a given when it runs counter to a century and half of actual fiscal history. A royalty is a rental fee; it refers to the patrimony of a sovereign state or, in the United States, the landowner. It is a payment for access to the resources. Taxation is a payment of a share of the profits arising from activity. This principle of royalty was embodied in the contract that Colonel Edwin Drake signed on December 30, 1857, almost two years before he succeeded in drilling the first oil well in Titusville, Pennsylvania, in 1859.

The former Acting Secretary General of OPEC clearly differentiates between royalty and tax when he says, "As for the distinction between royalties (a type of 'rent' paid to landowner by the investor in a particular territory, regardless of whether the investor makes any profit) and taxes (paid to the host government on profits only): in the early 1950s, when profit-sharing agreements were signed between oil-producing countries and the major oil companies, the 50 percent paid to host governments included both taxes and royalties."

Rather than "accounting fiction," it is "tax confusion" that results from misconstruing the historical context of the renegotiation of the Saudi oil concessions, misreading sources, and denying the widely accepted reality of the difference between a royalty and a tax.

opportunities outside their home country has lagged behind the international success of the non–US-based IOCs. In Appendix C, we weigh some possible reasons for this difference in performance.

Why should all of this matter for home governments, since oil (and increasingly natural gas) is a fungible commodity, and it ought not to matter who produces it? The main reasons provided during research interviews for this report were that home countries believe that it is worth winning the competition for access because the success of their oil companies brings benefits, including stable supply and greater confidence in energy security; direct (and indirect) employment by successful oil companies; promotion of home country services and equipment supply (e.g., steelwork, compressors, pumps etc.); securing research and development investment at home; the status of major oil companies as diplomatic flag bearers; and, not least, the repatriated dividends and taxes thereon that home countries expect to receive.

But these potential benefits will only be realized if companies win the access race. How do they hope to achieve this?

ACCESS TO OPPORTUNITY: HOW HOST COUNTRIES AWARD MINERAL RIGHTS

Host countries select the companies to which they grant mineral rights directly through licensing rounds, both formal and less formal, based on a combination of factors. The mechanisms and benchmarks for awarding mineral rights vary widely across countries. Host countries use some mixture of the following: signature bonuses; the amount of exploration work committed; bidding the government share of profits, service fees and production targets; as well as judgments about a bidder's technical expertise. Companies have an opportunity to bid against each other under a well defined set of rules. However, in recent years, we have seen more use of an ad hoc process that appears to be driven as much by other considerations as by the pure economics of competitive bids.

A host government benefits by maximizing a complex equation involving levels of upstream activity (and, in the long run, the revenues from production), the information it gathers about its oil and gas resources, the share of the rents it retains, and the wider impact on its economy (in terms of employment and fiscal balances). The equation may be complex, but the objective that host governments are trying to achieve is usually quite simple—to extract the most value (as perceived by the resource holder) from the award of rights.

There is no universal format for the mineral rights that governments award, but the terms under which access is granted typically fall into three categories:

- royalty and tax
- production-sharing agreements (PSAs)
- technical service agreements (TSAs)

For our purposes in this report, the key difference is that a royalty and tax regime involves the granting of mineral rights directly to an investing company from the government, whereas in PSAs and TSAs the state typically grants the mineral rights to the state's NOC or other state entity, which, in turn, contracts with the investing company (the contractor).*

In the case of royalty and tax, it is relatively clear which payment to the government is royalty and which is tax. It is not uncommon for these to be paid to different government entities (the "Department of Energy" or equivalent for royalties and the "Treasury" or equivalent for taxes). In the case of PSAs and TSAs it is common for the NOC (or a ministry of the host government as a contracting entity) to pass over to the contractor a share of the production (equal to the costs incurred plus an agreed share of the profit) and to withhold and pay the taxes due from the contractor to the government.

HOW COMPANIES SELL MINERAL RIGHTS

In contrast to the way in which governments may try to evaluate the quality of the bidders' plans and the value that they might deliver, companies buying and selling assets that have already been awarded by the host governments consider only two factors—the amount of money that they offer and the likelihood that they can afford to pay that sum on the due date. This is analogous to a licensing regime that relies only on signature bonuses with all else fixed.**

The winner in this race for access is normally the company that can offer the highest price for a given mineral concession. This may cover exploration acreage, the rights to develop a discovery that has not yet been brought to production, or even the rights to redevelop a field that has already been producing for many years.

In determining how much they are prepared to pay, oil industry participants calculate the project economics based on the fiscal terms of the host country in which they are investing. They normally also assess the costs of repatriating the anticipated profits from investment to their home country. However, there does not seem to be a recognized methodology for comparing these additional costs among jurisdictions (both host and home). Our aim is therefore to provide a more systematic approach to comparing how these "host versus home" interactions may influence the competitive playing field (see the box "A Systematic Approach to Comparing the Interactions of Home and Host Fiscal Regimes").

REPATRIATION OF PROFITS

The terms under which companies are able to repatriate their profits to their home bases, and indeed share them with their stockholders in the form of dividends and returns of capital, influence the competitive playing field.

*For a detailed description of the difference between these formats, see the IHS CERA Special Report *In Search of Reasonable Certainty: Oil and Gas Reserves Disclosure.*

**Companies sometimes trade assets or enter into partnerships instead of relying on a cash consideration alone. However, the value of the consideration is still the determining factor in deciding whether to complete a transaction.

A Systematic Approach to Comparing the Interactions of Home and Host Fiscal Regimes

IHS CERA's approach is to calculate the economics of example field developments in a number of host countries—in this report, we chose nine host countries that presented a wide range of fiscal regimes and development environments—without imposing any of the charges associated with repatriation of profits. We calculated the value (based on the discounted post-tax cash flows) and the IRR of each project.

Next, we calculated the costs of repatriating the returns through dividends equal to the profits earned. This comprised a combination of withholding taxes in the host country and additional taxes, if any, imposed by the home country. For the United States, which has one of the most complex systems for calculating additional taxes on dividends, we considered two regimes. In the first one the facts and circumstances define the amount of foreign taxes that are creditable against the taxes that would otherwise be paid on the worldwide profits of a US-based company. The second allows the "safe harbor" of crediting taxes only at the rate of corporate profits taxes that apply to companies generally in the host country (as opposed to the often higher rates imposed on oil and gas production activities). This latter case is more representative of the draft proposals being considered by US legislators.

We deducted the additional taxes and charges from the project economics and calculated the reduction in value and IRR. To compare this peer group of home countries, we calculated the value for each host country for the full set of home countries and reported the percentage variance in the value in each home country versus the average in all home countries. In other words, those countries with lower-than-average costs of repatriation have a positive variance, and those countries with a higher than average costs of repatriation have a negative variance.

We repeated the calculation for IRR but reported the difference in percentage points of return from the average rather than as a percentage of the average IRR. In other words, if the average IRR of the example fields when repatriated to the home country was 14 percent and the specific home country IRR was 15 percent, this would be reported as a positive variance of 1 percent.

These calculations do not incorporate the effects of consolidation of multiple foreign jurisdictions (where higher tax regimes may be partially or wholly offset against lower tax regimes) and therefore do not necessarily represent the actual tax positions of investors but provide a useful framework for comparing the interactions between host country and home country fiscal regimes.

Differences in the ways in which companies' home governments support and tax them can affect the competitive position of oil and gas companies in the competition for access to opportunities. When examining the competitive playing field in the past, the question has typically been framed in terms of whether a particular host country is competitive with other resource owners in its ability to attract investment. Indeed, IHS CERA's own analyses have historically focused on the competition between resource holders to attract investment regardless of the home country from which an investor might originate.

However, the analysis in this report reverses the lens and examines the competition between companies for access to investment opportunities. Under these circumstances, the fiscal treatment by the home country may become a significant component of the equation.

When an oil and gas company undertakes exploration and production (E&P) activities outside its home country, it either will incorporate a subsidiary in the host country where the asset is located or may hold the investment through a branch in the host country. Regardless of the legal structure that it employs, however, it will, sooner or later, normally seek to repatriate its profits back to the home country.

The amount to repatriate will depend on how the revenues from each barrel of oil (or cubic foot of natural gas) are shared. These are divided between recovering the company's incurred costs, its profit, the host government's taxes and royalties, and the home government's share of repatriated profits. To evaluate this last component properly, we built a matrix of the financial results of field developments in a variety of host countries and examined the costs of repatriating the profits to a number of different home countries. The repatriation of profits creates a complex set of interactions, and this part of the analysis was performed in collaboration with Deloitte, the leading professional services firm, providing audit, tax, and other advisory services, and recognized experts in oil and gas industry taxation. The methodology of the analysis is described in Appendix B.

RESULTS OF JOINT DELOITTE AND IHS CERA ANALYSIS

The IHS QUE$TOR and AS$ET models were used to evaluate field economics in the host country and combined with the expertise of Deloitte to calculate the costs of repatriating profits to the home country. This allowed comparisons of the "costs" of originating from different countries, presented below.

In the increasingly competitive pursuit of new investment opportunities, the ability to offer the best terms to the host government or current owners of assets may be a key differentiator. There are only so many dollars of rent in each barrel of oil (or cubic foot of natural gas). Each dollar that a home government seeks to secure in taxation of repatriated profits is a dollar less that the company can offer to the resource holder. The more that the home governments subtract from the equation, the less competitive companies from that country will be when bidding for mineral rights.

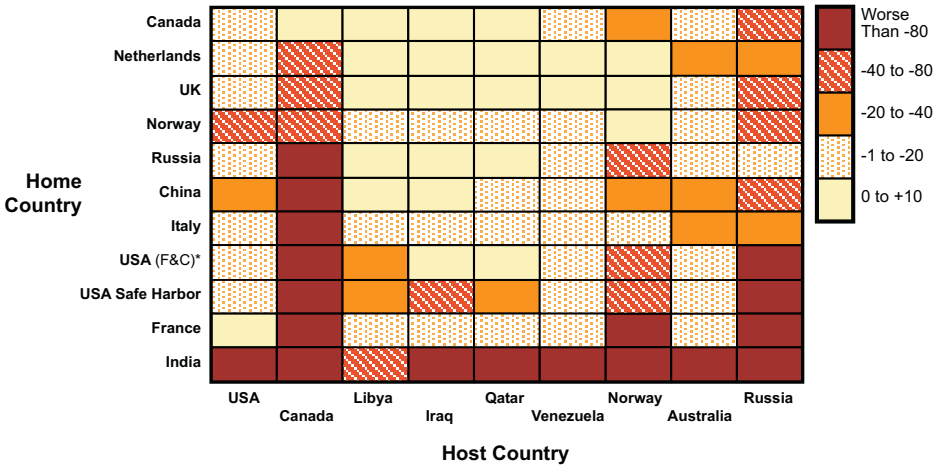
The "heat map" in Figure 1 presents an analysis of how home country taxation of repatriated profits may tilt the playing field toward players from some countries and away from others under certain circumstances.

The results show that new-entrant US-based companies or those without diverse portfolios on average suffer a competitive disadvantage compared to companies from several of the countries in the analyzed peer group. This is the result of a combination of the taxes imposed on the "export" of profits by host governments and income taxes on the "import" of profits by home governments.

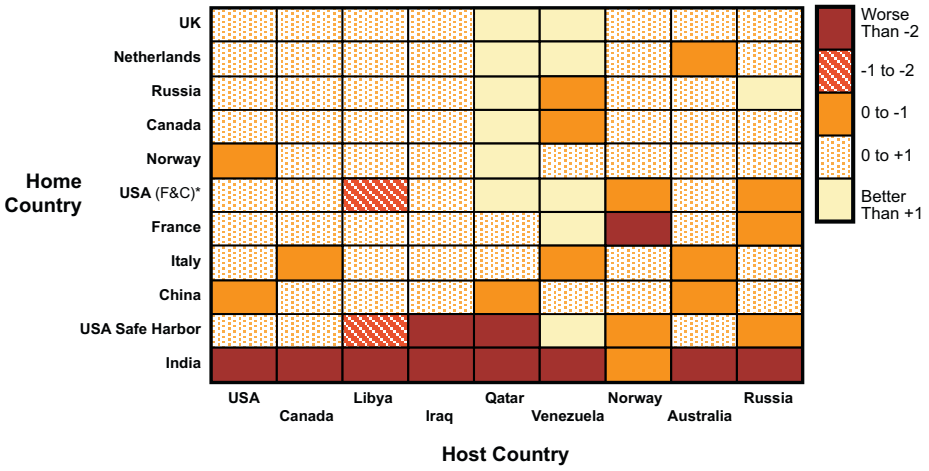
The analysis did not factor in the likelihood that companies (in all industries including oil and gas) might seek to arrange their affairs in such a way as to pay only the amounts of tax required by the relevant legislation. We looked at individual, bilateral examples without the benefits of being able to consolidate multiple geographies—blending high-tax and low-tax jurisdictions. The two cases for the United States as a home country indicate how new

Figure 1

Change in NPV10 from Mean Level
(percentage change)



Change in IRR from Mean Level
(percentage points of return)



Source: IHS CERA.
*Based on Facts and Circumstances.
00711-7

legislative proposals for taxing the non-US oil and gas activities of US-based companies might alter the competitive playing field. These are intended to limit the scope to mitigate additional US taxes on repatriated post-tax profits: the "safe harbor" example demonstrates the effect of limiting tax credits to the rate of general corporate profits taxes rather than the actual tax rates supported by "facts and circumstances."

The United States currently takes a larger share of the NPV of repatriated profits than most other countries among the analyzed peer group—only France and India fared worse. Under the "safe harbor" treatment, US-based companies become the least competitive among the analyzed peer group, excepting India.

While a competitive disadvantage of 1 percent in the annualized rate of return between the United States and its nearest competitors may not sound like much, compounded over a typical asset life of 15 to 20 years, this represents a change in the NPV of an oil or gas field of between 20 and 30 percent—enough to make the difference between winning and losing a bid for a new investment opportunity.

CONCLUSIONS

In the upstream oil and gas business, technical and operational capabilities are becoming increasingly accessible; successful strategies are more notable for their similarities than their differences; and access to capital is driven by the returns on investments, over and above other considerations. However, two differentiating factors stand out and may help explain the relative performance of US-based and non–US-based IOCs:

- the policy objectives of their home countries
- the way in which the repatriation of their profits is taxed

The geopolitical landscape is continuously shifting, and today's competitive disadvantage may be turned into tomorrow's advantage as the political needs of host countries change. But as long as different home governments apply different approaches to the repatriation of the profits of their oil companies, the competitive playing field will be skewed toward companies that are able to offer the highest price to resource-holding host governments or the current owners of upstream assets.

The acquisition of mineral rights is the paramount point of competition between oil and gas companies irrespective of their origin. Win it, and a company will have the "fuel" in its portfolio to deliver superior growth and returns. Lose it, and performance (and in the long term, survival) become an uphill struggle. Therefore, when viewing and navigating the competitive playing field, it matters not only where you go, but also where you come from.

APPENDIX A: COMPARING PERFORMANCE—THREE LENSES ON ACTIVITY

IOCs are primarily owned by institutional investors and seek to achieve the maximum possible financial returns for their owners through a combination of growth and return on investment. These investors rely upon such returns to meet the insurance, savings, pension, and retirement obligations for which they are responsible. IOCs carry no broader mission on behalf of any other stakeholder but are often guided by meeting the needs of a broader group of stakeholders as part of their "license to operate" in the host countries where they invest, as well as in their home countries.

For the purposes of our analysis, we divide the IOCs between US-based and non–US-based companies, as it is between these groups that we see the greatest differences in performance.

INOCs cover a range of companies with a spectrum of different missions. Their diversity is illustrated by such companies as Gazprom, Petrobras, Petronas, Kuwait Petroleum, Statoil, ONGC, and PetroChina. They have become a growing and indeed significant force in international oil and gas operations as they expand beyond their home territories. They may not be wholly owned by the state (see the box "Data Sources and Assumptions").

Data Sources and Assumptions

The data sources that were used to quantify the changes seen over the past four decades were

- new-field wildcat participation data—IHS IRIS21 E&P database
- 2008 rightholding and production information—IHS PEPS Company Statistics
- 1972 to 1998 rightholding and production information—Company Acreage and Activity Statistics (CAAS) reports published by Petroconsultants (now an IHS company)
- merger and acquisition data sourced from IHS Herold

We examined the performance of three peer groups, as listed in Table A-1.

It is a measure of the dynamic nature of the oil and gas industry that some of these companies did not exist in 1972—the earliest date for which comprehensive, reliable data became accessible. Similarly there are many companies that existed during the analyzed time span but were acquired or were merged into one of the 22 peer group members selected. The activities of those companies acquired or merged are included from the date of the transaction.

Table A-2 lists the most significant acquired companies, and their activity has therefore been included in the appropriate time slices throughout the duration of their existence. In grouping companies during historical periods, companies have been assigned to the group in which they would have belonged at the time. Thus YPF, the state company of Argentina that was subsequently privatized and then later acquired by Repsol, an Eastern Hemisphere IOC, is treated as a state-controlled company throughout the time of its independent existence.

Although a number of today's non–US-based IOCs were wholly or majority state owned in 1972, we have not switched companies between peer groups during the study period and so they have been treated as IOCs throughout.

Other simplifying assumptions have been made to provide a representative data set.

Table A-1

Three Peer Groups

IOC—US Based	IOC—Non-US Based	INOCs
Exxon Mobil	Royal Dutch Shell	Petrobras (Brazil)
Chevron	BP	Petronas (Malaysia)
ConocoPhillips	Total	CNPC (China)
Occidental Petroleum	Eni	Statoil (Norway)
Marathon Oil	OAO LUKOIL	KPC (Kuwait)
Hess	Repsol	JOGMEC (Japan)
	BHP Billiton	ONGC (India)
	Idemitsu Kosan	
	Mitsui	

Source: IHS CERA.

Table A-2

Significant Acquired Companies

Acquired Entity	Surviving Entity	Year of Transaction
Amoco Corp.	BP	1999
Ampol	Mobil Corp.	1996
Atlantic Richfield Co.	BP	2000
BHP Petroleum	BHP Billiton	2001
Britoil	BP	1988
British-Borneo Oil & Gas	Eni (Agip)	2000
Burlington Resources	ConocoPhillips	2006
Canadian Hunter	Burlington Resources	2001
Clyde Petroleum	Gulf Canada Resources	1997
Conoco	ConocoPhillips	2002
Elf Aquitaine	TotalFinaElf	2000
Enterprise Oil	Royal Dutch Shell	2002
Getty Oil	Texaco	1984
Globex Energy	Marathon	2002
Gulf Canada Resources	Conoco	2001
Gulf Oil	Chevron	1984
Hardy Oil & Gas	British-Borneo Oil & Gas	1998
LASMO	Eni (Agip)	2001
Maxus	YPF	1995
Mobil	ExxonMobil	1999
Norsk Hydro	Statoil	2007
Petrofina	TotalFina	1999
Santa Fe International	Kuwait Petroleum	1981
Sohio	BP	1987
Texaco Inc	Chevron	2001
Triton Energy	Amerada Hess	2001
Unocal	Chevron	2005
Vintage Petroleum	Occidental	2006
YPF	Repsol	1999

Source: IHS CERA, IHS Herold.

When comparing performance among these three different classes of companies (or among individual companies), most analyses examine a range of operational and financial benchmarks, including reserves replacement ratios and returns on capital employed or on shareholder equity. Perhaps the most relevant of these is the total shareholder return (a combination of share price appreciation, returns of capital, and payment of dividends).

However, in understanding the outcome of the competition that we have described so far in this report, these measures are not particularly relevant; it does not matter whether the winner has overbid. Companies that never win the race for access to opportunity will find it hard to avoid shrinking.

For this reason, we have chosen to examine three measures of the success that companies have achieved in winning the competition for access to opportunities—production, licensed acreage, and exploration wells operated. Production levels are an objective measure of performance, although a lagging indicator because of the long lead times—sometimes a decade or more—between acquisition of mineral rights and first production. The licensed acreage holdings and the number of exploration wells drilled provide a more immediate indication of recent competitive success.

As we demonstrate below, the US-based IOCs, predominantly the US majors, were by far the largest international players in production volume, acreage, and exploration activity terms at the start of the 1970s, but they seem to have fared less well than the non–US-based IOCs in the wake of the emergence of the NOCs taking control of their home territories.

Production Volumes

In 1972 the selected peer groups of companies produced 26.8 million barrels per day (mbd) outside North America (some two thirds of global liquids production) (see Figure A-1). The three comparator groups are therefore likely representative of the traditional companies active in the global upstream business. By 2008 this group had suffered a slight decrease in production to 23.7 mbd, while global production had nearly doubled (with NOCs making up the majority of this increase). However, the overall result is the combination of a two-thirds decline in the oil production of the US-based IOCs and the matching increase in the total production of the INOCs.*

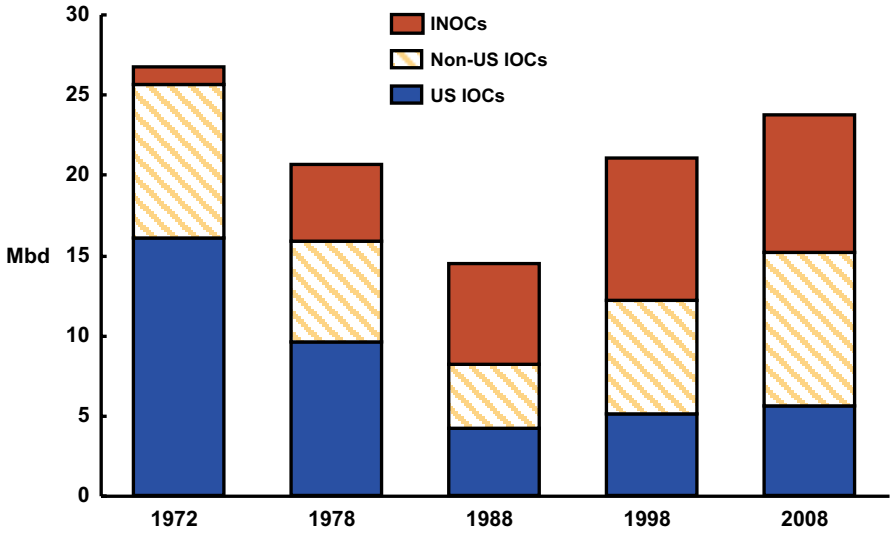
What are the chief factors that would account for this relative performance? The early 1970s saw the start of the production boom in the North Sea, building from a negligible base for all European production. This particularly favored European-based companies in the analyzed peer groups (BP, Shell, Eni, and Statoil among them). US-based IOCs also participated in this opportunity, but not to the same extent.

To get a clearer picture of what was going on competitively, we eliminated the "home" advantage that companies may have enjoyed during the period studied (for example, the Eni reserved area of the Po Valley in Italy, Britoil [subsequently part of BP] and Statoil's roles as holders of the state interest, etc.). This further refinement of the data allowed us to

*Natural gas production had not become a significant driver of the performance of IOCs at the start of the study period (with one or two significant exceptions, including Gazprom's predecessor entity and the Shell/Esso partnership in northwest Europe). We therefore chose to examine production performance through the lens of oil production.

Figure A-1

Production Outside North America
(including home country)



Source: IHS CERA.
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consider the performance of companies on a level playing field, without the distortion of production from their home countries, as shown in Figure A-2.

From a position of owning more production outside North America than their peers, the US-based IOCs' share of international production had declined in 2008 to approximately one third of its 1972 level. US-based companies were more exposed to concessions in OPEC member countries. This, coupled with the BP acquisitions of Amoco and Atlantic Richfield, exacerbated the trend: from a position of dominance, US-based IOCs appear to have been losing the race for access during the past three decades.

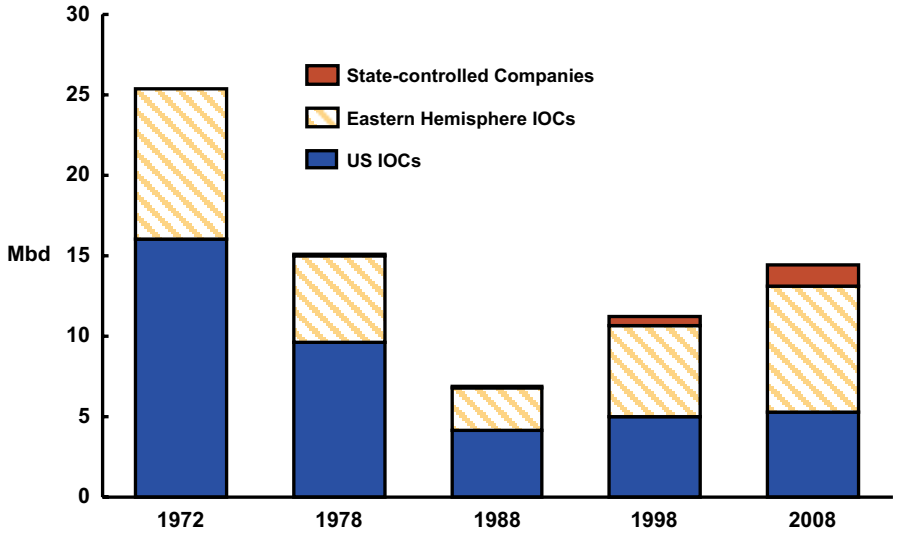
In 1972 some of the INOCs in the peer group did not yet exist (Statoil, Petronas, and Kuwait Petroleum's international subsidiary, KUFPEC). Meanwhile Brazil and India were very minor producers, and the move to deep water had not yet begun. In percentage terms, INOCs' growth has been the highest of the three groups. But even in 2008, their share of production outside their home countries remained small in global terms.

Rightholding: Acreage

What makes the trends particularly clear is the net acreage holding of the comparator groups. The US decline began early in the period, but the INOCs did not really appear on the scene until the mid-1990s. Net acreage (including home country holdings) is not a precise parameter because some countries provide very large license blocks and others

Figure A-2

Production Outside North America
(excluding home country)



Source: IHS CERA.
00604-7

small blocks with a requirement to relinquish undrilled acreage after only a short period. However, Figure A-3 is relatively unambiguous.*

We can see clear evidence of the expanding role of the INOCs beyond the limits of their home territories. This commenced in the mid-1990s but has really taken off in the past decade.

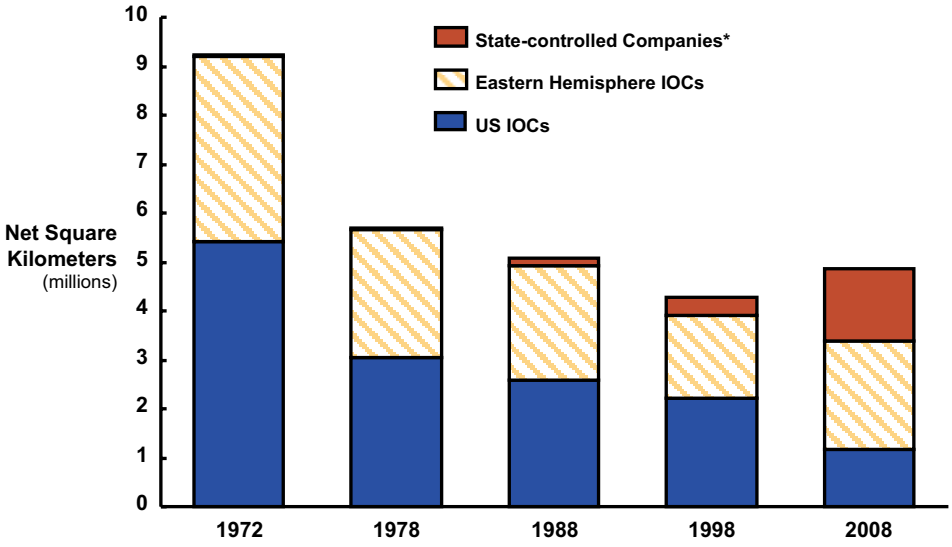
The difference in performance between the US-based and non–US-based IOCs may be partly explained by the acquisitions of Amoco and Atlantic Richfield by BP and by aggressive high grading of acreage, but other forces appear to be in play. The mergers between the US majors and between the European majors appear to have followed different paths. For example, the aggregate of the individual holdings of Chevron, Texaco, and Unocal were twice as large as the holdings of the merged entity. Similarly the combination of Exxon and Mobil led to a one-third decline in the holdings of the merged entity compared to the sum of the two individually. This was also the case with the merger of Phillips and Conoco. The only member of the US-based IOCs to increase its aggregate international holdings over the period 1998 to 2008 was Occidental (which bid aggressively in the Libyan licensing rounds).

By contrast, Total maintained the aggregate holdings of itself, Elf Aquitaine, and Fina. Another European IOC, Eni, similarly maintained the aggregate holdings of the companies it acquired. The Canadian and US independents expanded into a number of international

*We exclude North American activity from this analysis of acreage holdings because it is qualitatively different from the non–North American industry. The growth of the deepwater Gulf of Mexico and Alaska may alter the specific figures, but the overall picture remains the same.

Figure A-3

Acreage Held Outside North America



Source: IHS CERA.
*Excludes domestic territory.
00604-9

settings, but several have retrenched back to their home countries (in part because of the attractive investment opportunities in unconventional natural gas and oil).

Exploration Drilling

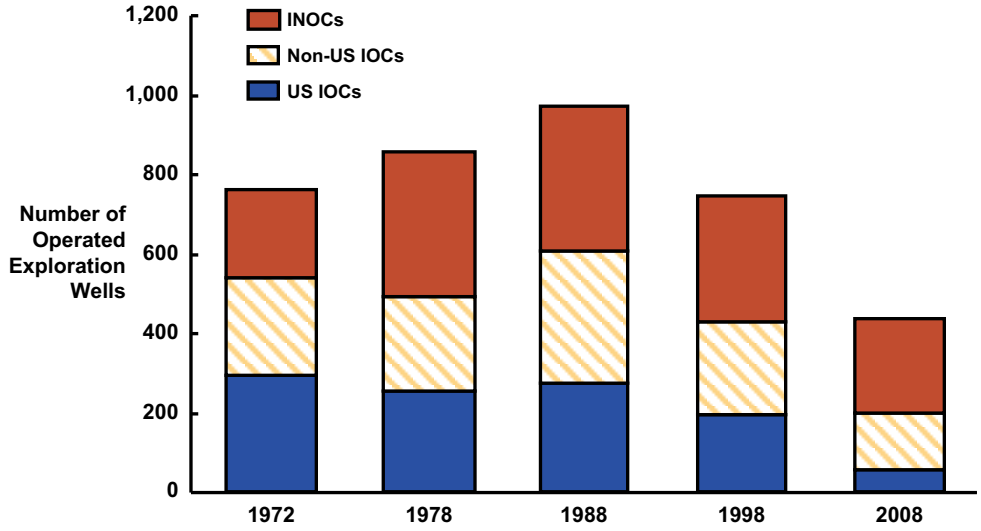
Drilling of exploration wells is a good indication of the prospectivity of the acreage that companies have acquired in competing for access. Many licenses are held by consortia of companies, which complicates analysis. So we have simplified this by identifying the operators of exploration wells (see Figure A-4). We have again excluded North American activity from this analysis to avoid swamping the underlying trends with the much higher activity levels (albeit smaller prospect sizes) that characterize the North American industry.

Exploration drilling has declined substantially since 1988 among all three peer groups. The US-based IOCs never regained the peak of activity seen in 1972. Nevertheless, the decline in drilling activity has not been universal. By the end of 2008 the INOCs (listed in Table A1 previously) were drilling a similar number of exploration wells as in their 1972 total (though their activities now span a vastly increased geographic range). The non–US-based IOCs drilled 40 percent fewer exploration wells in 2008 than in 1972, and US-based IOC activity decreased almost 80 percent (from 295 wells to 64) over the same period.

The accelerating decline to 2008 suggests a more systemic shift resulting from greater investment discipline and technology advances. The mergers at the turn of the century resulted in exploration budgets that were less than the combination of the premerger entities as companies high graded their combined portfolios. Evidence for this high grading is provided by the 50 percent improvement in exploration success rates when comparing the

Figure A-4

Exploration Wells Drilled Outside North America



Source: IHS CERA.
*Excludes domestic territory.
00604-12

latter half of the 1980s with recent results to 2008. In other words, only two-thirds as many wells had to be drilled to make the same number of discoveries. This in turn suggests that innovation and technology reduced exploration risk in some locations substantially over these two decades.

APPENDIX B—TAX MODELING METHODOLOGY AND ASSUMPTIONS

As we have already described, when examining the competitive playing field analysts normally focus on the host country fiscal regime. The question is typically framed as to whether a particular host country is competitive with other resource owners in its ability to attract investment. However, our analysis in this report reverses the lens and examines the competition between companies for access to investment opportunities.

Creating an Integrated Model of Host and Home Country Fiscal Interaction

First, a set of example large-scale oil and gas field development models were created using the proprietary IHS QUE$TOR cost estimation and concept selection model. These were distributed among host countries, as shown in Table B1.

The cash flows were evaluated using the IHS AS$ET model, which provided post-tax field development cash flows. Deloitte then calculated the flow of profits that could be distributed as dividends. These post-tax profits were "repatriated" in the year in which they were earned to the consolidated position of a notional oil company. We have named this notional company "For Example Oil and Gas" (FEOG). To explore the effects of consolidation with home country activities (where these are relevant), FEOG is assumed already to own a portfolio of producing assets in its home country that contribute fully taxed net cash flow.

In the reference case, FEOG was assumed to be a US-based company (under both the current understanding of US tax legislation and assuming that only "Safe Harbor" rates of foreign taxation could be credited against foreign earnings). We then modeled FEOG to originate in each of the following:

- Canada
- China
- France*
- Italy
- India
- Netherlands
- Norway
- Russian Federation
- United Kingdom

We were then able to build up a matrix of the ways in which individual fields would be taxed in their host countries, and then, to consolidate them back to their home countries.

*Based on the assumption of agreement with the French government to tax worldwide operations as a single entity.

Table B-1

Project Cost Summary

Country	Field/Project	Field Area (square kilometers)	Water Depth (meters)	Cost Summary: Size	Cost Summary: Capital Expenditures ($MM)	Cost Summary: Unit OPEX ($/BOE)	Cost Summary: Lifecycle Cost ($/BOE)
United States	Deepwater GOM Oil		2,900	450 million barrels	6,140	10.8	24.8
Canada	Oil Sands (In-Situ/Onsite Upgrader)			1.9 billion barrels	10,180	13.1	18.4
Australia	Deepwater Gas	1,980	1,320	20 Tcf	9,290	3.8	7.3
Libya	Onshore Oil	180		550 million barrels	1,940	3.0	6.4
Qatar	Offshore Gas and Liquids	83	35	1.8 billion barrels/5.4 Tcf	5,420	2.2	4.7
Iraq	Onshore Oil Field Redevelopment	560		28 billion barrels	27,160	1.6	2.4
Venezuela	Onshore Oil	46		300 million barrels	840	2.4	5.6
Russia	East Siberian Oil			3.2 billion barrels	14,910	8.0	12.9
Norway	Offshore Gas		1,270	3.6 Tcf	6,520	11.0	29

Notes: GOM = Gulf of Mexico; Tcf = trillion cubic feet.
Source: IHS CERA.

This analysis permitted the creation of a "heat map" which shows the combinations of countries that are most advantaged or disadvantaged. The actual tax position of a company will depend on the facts and circumstances of the company's particular structure, tax status, and a number of other factors.

In most cases the interaction between the host country and the home country tax systems arises when profits are repatriated to the home country by way of a dividend. This dividend is a distribution of profits that have already been taxed in the host country. If they were simply taxed again as profits in the home country, then they would have been taxed twice. In essence, the penalty for repatriation of profits would provide a barrier to the provision of equity risk capital to any host country from elsewhere. The availability of risk capital would thus depend on the depth and liquidity of the host country's own equity markets. International capital would compete only by allowing for the cost of this extra layer of taxation in the economic calculations, and the host country would lose out to that extent. Double taxation provides a powerful barrier to international trade and investment, and it is for this reason that double taxation agreements (DTA) are so common between major trading partners.

Double Taxation Treaties

There is a general recognition that the country in which an activity is conducted has the primary right to tax the income from that activity. The country of the investor has a choice of systems available to prevent double taxation of such income. Most countries today use some form of a territorial system, which exempts all or most of the foreign income from home country taxation. Others, like the United States, subject the worldwide income of their resident companies to US taxation but allow an offset against the US tax due of the foreign income taxes already paid on that income. Both methods help to mitigate or eliminate double taxation. In some cases a combination of these methods is used.

The breadth of options ranges from an exemption from tax on repatriated dividends (subject to antiavoidance provisions) to a credit system (sometimes further defined in a DTA). Where a credit is available the gross dividend is typically taxed at the standard corporate income tax rate in the home country, with a credit given for tax on the profits applied by the host country (underlying tax) and withholding tax on the dividend from the host country.

The home country tax system may place restrictions on the level of credit available and how that credit can be used. These restrictions can often be complex and lead to additional taxation on overseas profits in the home country. These include

- restricting the level of credit to a maximum of the tax applied to the dividend in the home country; i.e., so that any excess credits can't be used for other purposes
- measures to prevent the "mixing" of dividends so that tax credits from high-tax subsidiaries are not blended with those from low-tax subsidiaries
- measures to control how excess credits can be pooled and used in future periods

Even where profits are not repatriated to the home country, there are examples where they may be deemed to have been repatriated and taxed as if a dividend had in fact been paid. Additional complexity arises where a company operates through a branch rather than a subsidiary (a legally resident personality of a company in a foreign host country rather than a separately incorporated company resident in the host country but owned by the home company). The outcome may be designed to be economically equivalent, but the technical specifics may be very different.

A company will normally be subject to the tax laws of its country of residence (its home country), but it will also be necessary to consider the double taxation treaty that may be in place between the home country and the host country. It is common for a home country to have signed a bilateral DTA with a host country that may govern their respective taxation rights, since a DTA may override the local laws on particular transactions.

Different Taxation of Upstream and Downstream Activities

Upstream E&P activities are usually subject to specific rules that may apply either additional taxes, specific rules on the deductions of expenses, and/or increased rates of corporate income tax. Upstream activities are sometimes ring-fenced for tax purposes so that profits and losses of E&P activities cannot be mixed with the profits and losses of other activities.

Typically, downstream oil and gas activities are subject to the same corporate income tax rules and rates that apply to other businesses. But additional complexity arises in relation to taxation of downstream activities. Taxable profits need to be allocated between countries in which products are refined, traded, and sold to customers. In addition to being subject to corporate income taxes in the numerous countries where such downstream profits may arise, a number of other indirect taxes such as excise/fuel duty can arise (typically levied on the end customer).

The focus of this report is upstream oil and gas activities and their taxation, since this sector suffers higher rates of taxation than the others.

Withholding Taxes

In addition to the taxes on the profits of upstream activity, many host countries impose further withholding tax on dividends and/or interest payments back to parent companies in their home countries. Where parent companies distribute profits to their shareholders and financiers, the home jurisdiction may also impose withholding taxes on those payments.

However, it is common for withholding tax rates on dividends and interest to be reduced (sometimes to zero percent) under DTAs. For example, in Europe dividends and interest are also typically reduced to zero between countries in the European Economic Area (EEA) under the EC Parent-Subsidiary Directive.

APPENDIX C—SOME POSSIBLE REASONS FOR DIFFERENTIATED PERFORMANCE

Why have IOCs generally been losing out in the race to secure investment opportunities? It is partly the result of host governments' becoming more assertive in retaining a greater share of production for themselves through the recasting of mineral rights (or taking all of the production in the case of outright nationalization.)

An additional factor arises when both **resource-rich governments,** in their capacity as *home* governments rather than *hosts,* and **importing country governments** appear to provide greater levels of support (politically and financially) for their state-owned companies when they venture overseas. This is in part to overcome the "advantages of incumbency" that they perceive the traditional IOCs to enjoy.

Such support arises in a number of ways but has the effect of increasing the share of the economic rents that the host governments can retain. In the case of importing countries, this support may allow the investor to leave a larger share of the rent to the resource-holding host government (and thus reduce its upstream returns). But the overall return for the investor is kept whole by its home government through other considerations, including guaranteed profitability of its home country downstream operations or through the availability of finance on terms that boost the equity return of the investor.

In the past decade, collateral investments by INOCs (and occasionally IOCs) appear increasingly to accompany proposals to acquire and exploit mineral rights in third-party host countries. This may take the form of accompanying investments in host country refineries, railroads, power stations, and the like in jurisdictions including Venezuela, Nigeria, Angola, and Libya. But when it suits host governments to make these types of investments a criterion for access, they normally distort the competitive playing field in favor of the INOCs.

A barrel of oil or a cubic foot of natural gas may seem to have a different value to an investor depending on which company owns the rights to develop it because of differences in

- motivations and strategic objectives of companies
- capabilities to execute projects
- levels of political support (or restraint)
- access to capital—both in the amount of capital and the terms on which it is available
- oil and gas price expectations and the technical evaluation of the asset
- costs of repatriating profits to a company's home country—both the withholdings on "export" and taxes on "import" of dividends

Each of these dimensions contributes to differences in the competitive outcome, as we discuss below.

Different Drivers for Different Companies

IOCs are driven by the need to deliver long-term growth and above all to achieve financial returns that do not fall below the threshold levels that their shareholders are prepared to accept (measured by whichever metric is most appropriate for the commercial business environment of the day.) IOCs can be competitive, on the one hand, through their greater focus on returns and therefore on the efficiency of operations. On the other hand, new competitors find it easier to compete for access if they are driven not only by the returns that they earn but also by such factors as achieving critical mass, security of supply, geopolitical relationships, and development of new capabilities, among other considerations.

It is possible to argue that IOCs (both US- and non–US-based) and the INOCs respond to different drivers; however, it is hard to divine any significant difference between the objectives and drivers of Canadian, European, Eurasian, and Asian IOCs on the one hand and US IOCs on the other. There may be some differences in the strategies that they deploy to meet those objectives, but these differences are neither significant nor proprietary; even if a company temporarily achieves greater success with a differentiated strategy, it is soon followed by others.

Diversity of Projects and Capabilities

There is no typical upstream oil and gas project. They come in all shapes and sizes. The skills companies need for success are almost equally wide ranging—including geotechnical, engineering, project management, operational, financial, trading, environmental, health and safety, and others. It is therefore small surprise that oil and gas companies display a corresponding variety in their size, scope, and ownership. Some are better—or perhaps just more experienced—at certain disciplines and types of project and some at others.

There are many projects even today where technology, know-how, and the ability to manage large, expensive, and complex activities provide the basis for competitive advantage. The Canadian oil sands and liquefied natural gas are obvious examples, especially when an integrated full-cycle development is the chosen approach. Deepwater production is another example—and recent events in the GOM have underscored the stakes involved in all such efforts.

Even so, there is not much that is proprietary to individual oil companies. Technology and capabilities have become increasingly accessible through the growing role in innovation that oilfield service companies have assumed in the past two decades. For the most part, the industry's restructuring since the early 1980s has included the transfer of people and their skills from oil companies to the service sector. A range of tasks that the former used to do in-house on a proprietary basis are now provided on contract to all parties by the latter.

Therefore, most oil companies can, or believe they can, find a way to carry out most projects more or less effectively. Even if they do possess a differentiating capability, to demonstrate it they must secure investment opportunities on which to deploy them. The evidence suggests that there is no significant difference between the capabilities of US-based and non–US-based IOCs, and that furthermore some INOCs have developed world-class capabilities in the theatres in which they are active (e.g., Petrobras and Statoil, among others.)

Politicization of Access

The host government controls whether and to what degree competition for access is determined by noneconomic criteria. If a producer country is constrained in its access to international aid or investment capital, technology transfer, or direct inward investment (e.g., for infrastructure development), it may use access to its hydrocarbon resources as a lever to relax such constraints. In such cases, INOCs are the advantaged competitors because they are more likely to be able to marshal the resources of their home governments to support their bid on this dimension. These constraints may arise from policy actions by other governments (multilateral or unilateral international sanctions) or from reservations by the international private sector (and/or some of its stakeholders) about the general business environment in the country.

There may be some differentiation between the foreign policies of the United States and other governments. For example, US companies were barred from investment by statute from Libya and Iran during a period in which European, Canadian, and Asian companies continued to operate. More recently, the tightening of UN sanctions on Iran and the lifting of sanctions on Libya have leveled the playing field between the two groups of IOCs. Regardless of how such restrictions are justified and implemented, it is clear that the greater rigor with which US companies have been restricted from operating in certain countries has contributed to these companies' relative performance there in securing mineral rights compared to their non-US peers.

Concessionary Terms for Provision of Investment Capital

The terms under which oil and gas companies can access capital may be a significant differentiator of their ability to compete. In previous eras, German and Japanese companies were explicitly granted concessionary terms of finance (in the form of low-cost, nonrecourse loans that were repayable only if the venture had a successful outcome).

More recently, low-cost finance is available to some INOCS from local banks and investment funds as these institutions align themselves with their home governments' aims. It may prove to be a cyclical phenomenon—just as support of German and Japanese investors in the 1960s and 1970s could not be sustained indefinitely—that INOCs are able to enjoy easier access to finance in terms of both quantity and terms. However, the sustainability of this source of funding will likely depend on how their current vintage of investments performs.

Oil and Gas Price Expectations and Asset Evaluations

Some home countries are more exposed to the consequences of interruption to their energy supplies. Consumers in those countries will be prepared to pay a premium to ensure adequate supplies. This effect contributes to the premium that attaches to a barrel of oil that heads east from the Gulf rather than west. But this premium does not seem sufficiently large to skew the playing field by significantly altering the value of acreage and reserves.

It may be that oil companies simply hold a different view of the market for a period of time. At various times during the past four decades, IOCs as well as INOCs have espoused oil price expectations that were significantly different from the market consensus at that time.

This can be a short-term driver of success (measured only in terms of winning bids for acreage, assets, or corporate targets rather than the returns earned therefrom), but eventually reality bites.

The same is true of the evaluation of the reserves potential or prospectivity of an asset. Greater optimism in technical analyses will certainly help companies make winning bids in competitive situations. These evaluations are based on forward-looking estimates—before there is any benefit of hindsight. It is based on each participant's best estimates for all the many petro-technical, engineering, economic, and fiscal parameters involved. When acquiring an asset from a company, this is the end of the story. But when acquiring from a host government, there may be a second act.

All one can know for certain is that things will work out differently than anticipated. In some cases the various upside and downside surprises offset each other, so the overall outcome is much as anticipated, and the winning company's offer to its host proves to be more or less right (albeit for the wrong reasons). However, from time to time the outcome becomes significantly skewed one way or the other.

If with the benefit of hindsight a company has overbid for a concession, it has little option but to live with the consequences. No doubt, it will try to negotiate whatever easements or relief that it can but will be wary of the damage that may cause to its reputation with host governments (not just the host in question, but others that may well be watching) for living up to its commitments. On the other hand, if the government—either host or home, or even both—decide the company has ended up with too good a deal, history suggests that the government may attempt to rewrite the result (even where compensation may be won, it rarely covers the full economic loss borne by the company.) A host government is likely to couch this process as an invitation to the company to renegotiate, and such offers can be difficult to refuse.

The degree of support that home governments are prepared (or are able) to provide to their companies may alter the risk premium that such bidders feel obliged to include in their bids for assets—both in the award of new licenses and in corporate transactions.

Repatriation of Profits

As described in the main body of the report, the charges imposed on

- the "export" of dividends from host countries—withholding taxes, which vary depending on the arrangements between the host country and the home country to which these dividends are being remitted

- the "import" of dividends to the home country—a variety of regimes generally depending on the tax laws of the home country and whether it recognizes the validity of taxes already paid in the host country

reduce the cash flows that a company receives from its investments in a foreign host country. Different arrangements, sometimes embedded in tax treaties and sometimes in national legislation, alter the amount that companies can bid for mineral rights.

This difference in treatment appears to be an important differentiator in performance between companies from different home countries in the competition for access to resources. It seems likely that, if enacted, current proposed amendments to US tax legislation will reduce the competitiveness of US companies abroad. ■