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Taking a Chance
On Oil (Part II)
*Thinking Beyond the
Oil Market Downturn*



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EXECUTIVE SUMMARY

The current worldwide recession, combined with the myopic behavior of cash-starved financial markets, provides a very attractive investment environment for energy companies with the willingness, and the access to cash, to take a long-term view.

Oil prices are indeed severely depressed as a result of the downturn. Yet, brutal as they are, recessions do not last long when compared with the average length of energy investments: No global recession in the past 75 years has lasted longer than 16 months. Therefore, any forecast of the profitability of capital investment—either upstream or for feedstock conversion—whose output will go onstream perhaps seven to nine years from now must look beyond the short-term impact of the recession to long-term fundamentals. And these fundamentals suggest that, over time, the price of oil will revert to its long-term equilibrium, which long-term supply and demand forecasts suggest will be between US\$60 and \$80 a barrel by around 2020.

What does this mean for energy companies? Thanks to years of high oil prices, many international oil companies (IOCs) and national oil companies (NOCs) are sitting on huge piles of cash, so they are in an excellent position to take the long-term view. NOCs that control large reserves of cheap oil but lack the technology and capabilities to further their investment efforts should consider acquiring independents and oil service providers that possess these capabilities and whose valuations have been driven down by the current recession. Meanwhile, the independents in weak financial positions might decide to partner with cash-rich IOCs or NOCs.

Key Findings

- The global recession has depressed oil prices severely, but over time prices will respond to fundamental long-term supply and demand pressures.
- Every oil company now runs the risk of underinvesting and thus losing out when prices revert to the mean.
- Cash-rich IOCs have the resources to make aggressive investment decisions now.
- Oil-rich NOCs should act now to fill in their internal capability gaps by acquiring undervalued independents with strong technology.
- Independents in weak financial positions should actively seek out richer partners.
- If they have the cash, downstream NOCs should also look to acquire promising independents.

THE OIL PRICE ROLLER COASTER

In the end, the price of oil collapsed at lightning speed—as it always does when market bubbles burst. Less than a year ago, in July 2008, oil prices reached an all-time high (in both nominal and real terms) of more than \$147 a barrel. At the time, many analysts went so far as to forecast prices in excess of \$200 a barrel by December 2008, fueled by a combination of reserve exhaustion and fast-growing demand from emerging economies. Only a few voices challenged this view.¹

Then came the meltdown. By December, the price of oil had dropped by almost 80 percent, to less than \$34 a barrel, due to a combination of falling demand

and sheer uncertainty. Energy prices have always been difficult to forecast, but in the past few months they seem to have reached a completely new level of unpredictability.

Yet every energy company must make investment decisions whose economics depend on future oil prices. The good news is that they do not need to forecast the near-term oil price to do so. Indeed, the price of oil tomorrow is entirely irrelevant when making investment decisions that may not reach maturity for seven to nine years. Over the long term, the average price of oil is a lot more stable and a lot more predictable than its daily spot price, and this long-term average is what really determines the profitability of energy investments. The global liquidity shortage is leading financial markets to greatly underprice long-term value, and that presents a golden opportunity for companies with cash in hand to make these investments now.

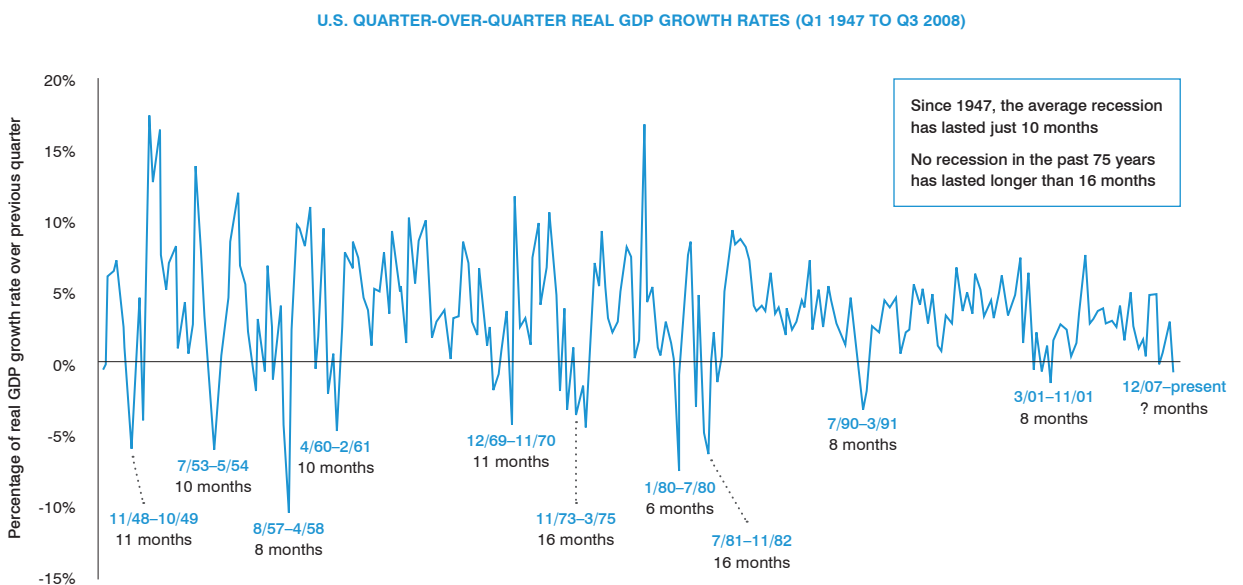
THE LONG VIEW

Due to the current global recession, today's oil prices are, beyond any reasonable doubt, seriously depressed. As in all recessions, the pain this downturn is causing—in the form of lost jobs and vanished savings—is real, and will last longer than the recession itself. Yet, painful as it is, every economic downturn must end at some point. Indeed, the duration of the typical economic recession is quite short when compared with upstream oil investment standards: The mean duration of all the U.S. recessions since 1854 is only 17 months from peak to trough, and the average is just 10 months for the 10 recessions since the end of World War II (see Exhibit 1).

It takes at least seven to nine years for energy exploration efforts to bear fruit in the form of oil or gas coming onstream. Therefore, what really matters for these investments is not today's price but the price at which that future oil or gas will be sold. Energy prices, despite their sometimes wild swings, tend to revert over time to some long-term mean—and, as history shows, this average is a lot more stable and predictable than the day-to-day spot price.

To get a realistic picture of long-term petroleum prices, therefore, we need to factor out the many drivers of short-term energy prices and rely

Exhibit 1
The Typical Recession Is Shorter than It Seems



Note: Seasonally adjusted at annual rates.
Source: U.S. Bureau of Economic Analysis; National Bureau of Economic Research; Booz & Company analysis

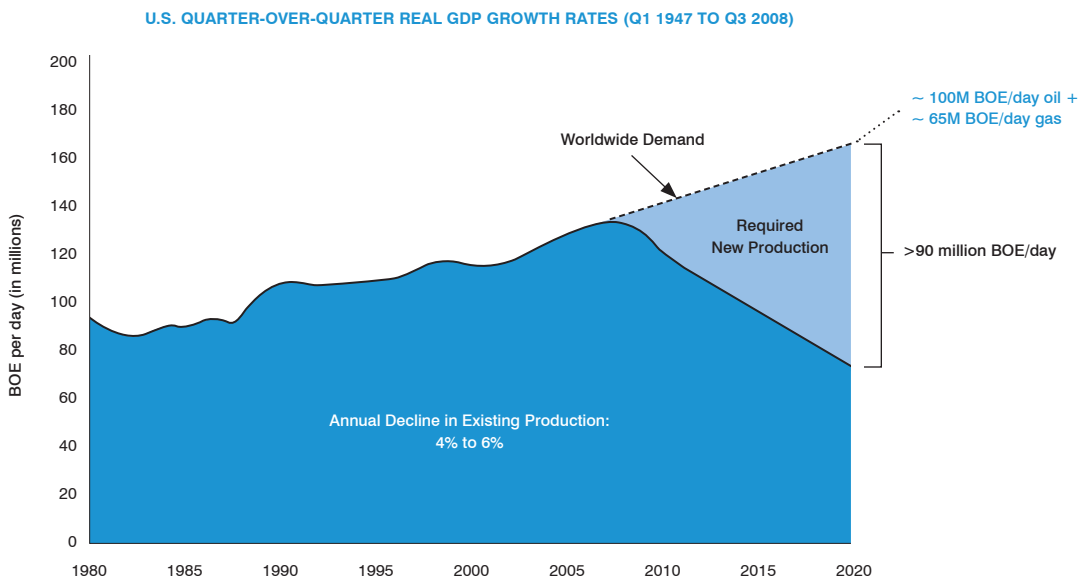
instead on long-term projections of supply and demand. When we do so, we find that long-term demand is almost as predictable as short-term prices are erratic. The growth rate of global oil and gas consumption has displayed a remarkably constant upward trend for the past 30 years or more, and nearly all major forecasting agencies expect the trend to continue at roughly the same pace in the future. This simple extrapolation leads to an oil demand forecast of about 100 million barrels per day

by 2020, up from today's 85 million or so, plus 65 million barrels of oil equivalent (BOE) per day of natural gas, up from close to 55 million today.² To meet this demand (taking into account the natural decline in production from existing wells), more than half of the total production by 2020 will need to come from new investments (*see Exhibit 2*).

At what price can this demand be met? An analysis of the crude oil supply curve provides some answers. Today

there are more than 1.2 trillion barrels of proven conventional oil reserves in the world (including about 800 billion in cheap reserves in the Middle East and North Africa). Yet the long-term supply curve is a lot tighter than these figures might suggest, because only so much oil (or gas) per day can be pumped out of those cheap conventional reserves. This means that newer, more expensive hydrocarbon sources will have an increasingly large role to play. Given the forecast demand and the available

Exhibit 2
Current Supplies Will Fall Far Short of Future Demand



Source: International Energy Agency; Booz & Company analysis

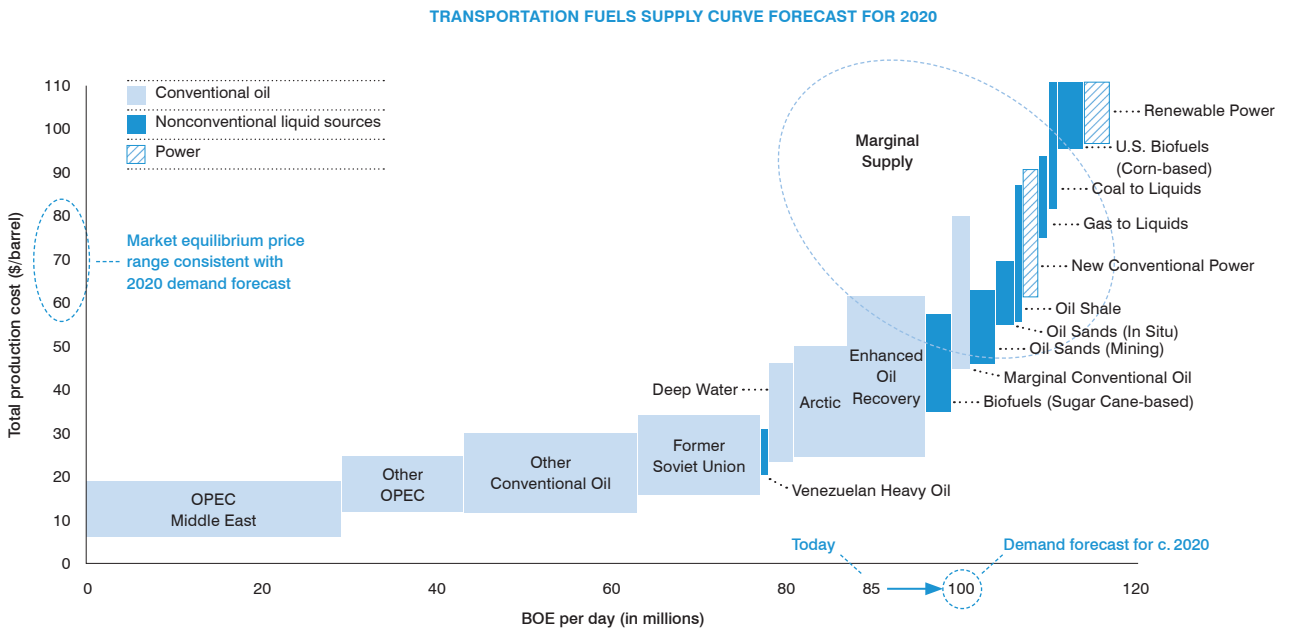
sources, the long-term central equilibrium price for the next 10 to 15 years will probably be around \$60 to \$80 a barrel (see Exhibit 3).

Furthermore, there is a very high probability of yet another big price spike within the next decade or so. The seeds of the long climb of oil prices in the 2000s were planted in

the 1980s and 1990s, when low oil prices discouraged investments in additional upstream capacity. Today, in addition to a return to low oil prices, companies are facing a global liquidity shortage—and credit-starved financial markets are notoriously myopic in their behavior. So it is quite likely that many companies will respond by reducing their exploration

and production investments once again, even though a lot more investment is required to meet future demand. By doing so, they will be setting the scene for another massive price increase sometime in the next decade—an increase that will carry a big reward for those who can keep their heads cool enough to take a long-term view.

Exhibit 3
Long-Term Oil Supply Curve



Note: Further U.S. dollar devaluation and carbon taxes may shift costs up.
Source: Booz & Company analysis

THE POST-BUBBLE OPPORTUNITY

The collapse in the price of oil is already having a cooling effect on many companies' investment plans. During the past few years, most international oil companies, national oil companies, and upstream oil independents gradually increased the base forecast price on which they estimated the profitability of their investments. Thus, inevitably, a number of the projects that were initiated under these assumptions are now being questioned and, in some cases, abandoned.

Some of the cuts announced to date are quite sizable indeed: Gazprom Neft and Lukoil in Russia, MOL in Hungary, and OMV in Austria have all announced plans to reduce capital spending in 2009 by about a third. Less dramatically, a number of global players are holding off on specific investments: BG Group has postponed the decision on its planned gas project in Kazakhstan, ConocoPhillips is rethinking its sour-gas investment in Abu Dhabi as well as its new refinery joint venture with Saudi Aramco, and a number of major players (Shell, Chevron, Suncor, Statoil, Nexen, Petro-Canada)

have delayed various investments related to oil sands.

The picture is particularly gloomy for many upstream oil independents: Caught between the rapidly falling market value of their assets and the (often very high) levels of financial leverage they took on during the recent boom years, which in today's illiquid market they will find very difficult to refinance, many may be forced to downsize drastically, be acquired, or simply go out of business altogether.

A few top players, however, are taking a longer view, particularly in their upstream investments. Several leading IOCs and NOCs, including Chevron, Shell, Total, and Saudi Aramco, have made public their intention to maintain their current levels of upstream investment, and some have already started to take the offensive. In late January, for example, Petrobras announced plans to step up its planned 2009–13 exploration and production investments by more than 55 percent, while Total launched a public offer to acquire UTS Energy, a

Canadian upstream independent with substantial oil-sands assets. Indeed, some companies are planning to boost their total 2009 capital expenditures significantly over 2008—ExxonMobil, for example, by 12 percent, and CNOOC by a full 19 percent.

The good news for companies willing to invest is that, as long as they have cash in hand to finance their plans, they will encounter a much more favorable environment, from a cost perspective, than in recent years. There are a few reasons for this. First, because liquidity-starved markets are so shortsighted, they tend to grossly underprice long-term value. This effect is particularly strong in the case

of highly leveraged independents: Their debt is very difficult to refinance in the current market conditions, and this is pulling their market valuations down substantially. Indeed, the sharp drop in the share prices of a number of upstream independents means that they can now be acquired for a fraction of what they would have cost only a few months ago.

Second, because so many companies are stepping down their investments, whether by choice or under financial duress, scores of experienced engineers working for IOCs and oil independents may be let go (both Schlumberger and Baker Hughes have already announced layoffs that will

affect 5 percent of their workforces), while providers of oil-field services (OFS) and engineering, procurement, and construction (EPC) services will likely be forced to cut their prices drastically. Taking advantage of these circumstances, some companies have already stated their intention to renegotiate the cost of their capital projects with suppliers, “driving deflation into the supply chain,” as BP’s chief executive, Tony Hayward, phrased it.

Third, the cost of the raw materials required for most large upstream projects, such as steel and aluminum, has already fallen dramatically, as have prices for most other commodities subject to industrial demand. In

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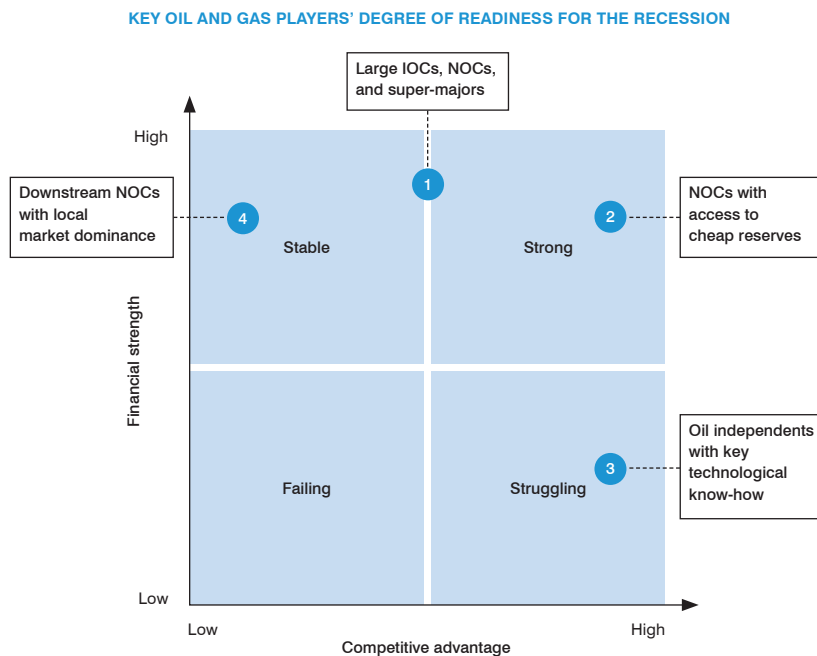
short, if there ever was a good time to invest in building oil upstream capabilities and infrastructure, this would be it.

Which companies are best positioned to take advantage of these opportunities, and what strategy should they

follow to do so? Certain aspects of a successful strategy for the times ahead will be common to all players: Given the current credit-starved environment, they all should focus on carefully managing their working capital, controlling their costs, and fine-tuning their business processes to maximize

and accelerate their cash flows. Yet in many crucial aspects the answer is completely different from one player to the next. A good way to visualize the answer is to sort the various players into four categories, depending on their competitive and financial advantages (*see Exhibit 4*)³.

Exhibit 4
Picking the Winners



Source: Shumeet Banerji, Paul Branstad, and Bill Jackson, "Rethink Your Strategy: An Urgent Memo to the CEO," 2008; Booz & Company analysis

Given this analysis of the relative strength of the four main energy company groups, what is the appropriate strategic action for each group?

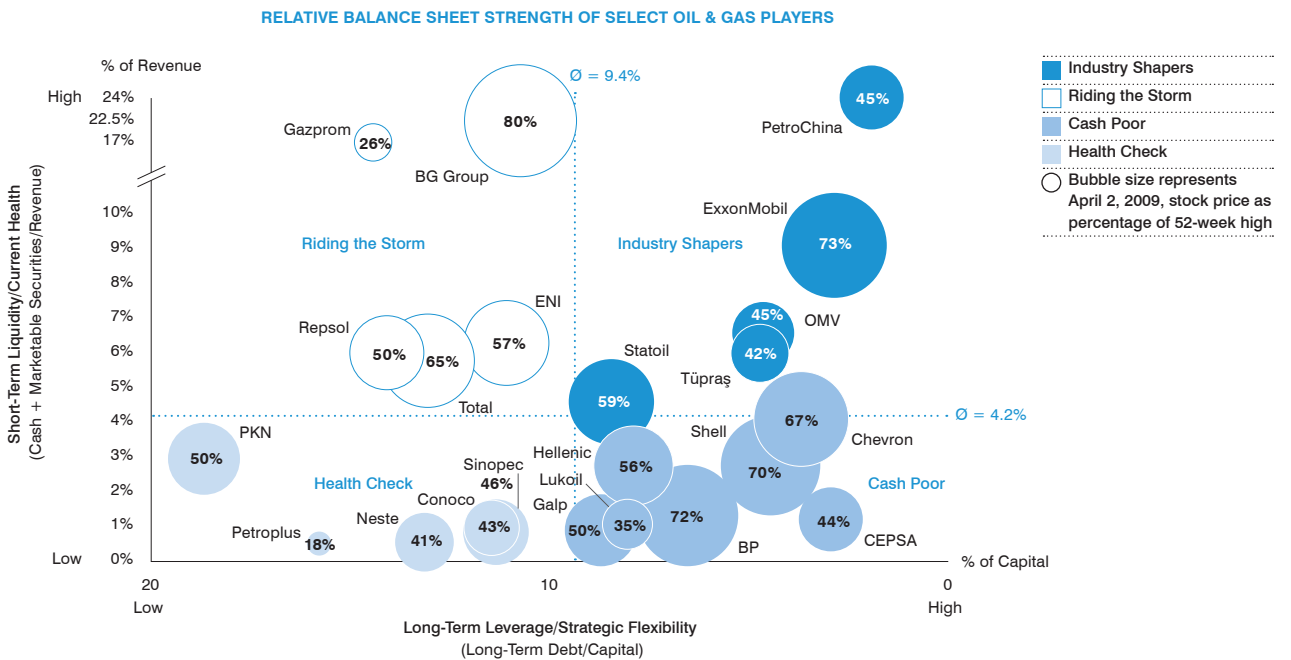
1. Large IOCs, NOCs, and Super-Majors with Access to Cash

Thanks to several years of excep-

tionally high oil and gas prices, a number of IOCs and NOCs are now sitting atop enormous piles of cash. The five largest super-majors—Exxon, Chevron, Shell, BP, and Total—increased their year-end cash and cash equivalents by an average of nearly 24 percent between 2006 and

2007, and then by another 15 percent between the end of 2007 and the last quarter of 2008, to nearly \$80 billion in total. The cash these and other companies hold should, of course, be weighted against their degree of financial leverage. Still, as Exhibit 5 shows, in nearly every case their volume of

Exhibit 5
How Strong Are the Major Players?



Source: Bloomberg; Booz & Company analysis

long-term debt over equity is below 15 percent, a figure that should be regarded as relatively low.

Since their financial positions are so secure, these companies have a unique opportunity to (wisely) leverage the prevalent market myopia for their own benefit, especially given that their competitive advantage is based on scale. This advantage explains why past periods of low oil prices have seen significant market consolidation—and why the most successful companies in subsequent upturns have been precisely those

that went shopping most aggressively when prices were down. The very low oil prices of the late 1990s and early 2000s brought about BP's mega-acquisitions of Amoco in 1998, Arco in 2000, and Veba-Aral in 2001; Exxon's purchase of Mobil in 1999 (just as petroleum prices hovered around their historical low point of \$10 a barrel); Chevron's absorption of Texaco in 2001; and the 2002 ConocoPhillips merger. Further back in time, the landmark acquisition of Gulf Oil by Socal (now Chevron) took place in 1984, right after an earlier oil price collapse. Every one of

these large, long-term-oriented bets is remembered today not only as a hugely complex merger but also, and above all, as a bold move that turned out to be a highly profitable source of long-term competitive advantage.

2. NOCs with Access to Cheap Reserves

Even as many nonconventional sources of oil may become uneconomic at the current price levels, NOCs (particularly in North Africa and the Middle East) continue to enjoy privileged access to untapped, conventional reserves of oil and natural gas, giving them the

NOCs continue to enjoy privileged access to untapped, conventional reserves of oil and natural gas, giving them the ultimate competitive market advantage.

ultimate competitive market advantage: exclusive access to cheap oil. During the recent boom years, these companies often found themselves unable to expand their operations as fast as they wanted to, as skyrocketing oil prices led to a general scarcity of the resources (such as oil-field and engineering services and raw materials) they needed to expand. Furthermore, they suffered acutely from their lack of technological capabilities in certain key areas (such as enhanced oil recovery, heavy oil, and gas), which forced them to rely heavily on OFS providers. Yet, as a result of the high prices of the past few years, these NOCs enjoy very strong cash positions.

Now is the time, therefore, for these companies to invest not only in exploration and production but also in developing or acquiring the key missing technological capabilities that will

further their investment efforts. Thus, they should consider hiring experienced engineers, now that so many are being let go by their current employers, or buying controlling stakes in oil independents or OFS or EPC providers with the right know-how at today's fire-sale prices. The synergies are clear: On the one hand, the added technological know-how lets the NOC increase its output and proven reserves and, on the other, the purchased company increases its value through its privileged access to a steady flow of business with the NOC.

3. Oil Independents with Key Technological Know-How

Heavily impacted by the fall in the market value of their assets and often saddled with high levels of debt they are now struggling to refinance, many oil independents are not in a great situation right now. As discussed

above, a strong business case can be made for many upstream investments in the long term, yet these firms are simply not in a financial position to pursue these opportunities in the way large IOCs and many NOCs can. Under these conditions, a number of firms may become classic M&A targets for companies in the “strong” or “stable” quadrants—those currently holding cash positions well above their operational needs.

Thus, instead of allowing themselves to become victims of circumstance, independents at risk may want to be proactive and try to strike a deal on their own terms. As noted above, there are strong potential synergies for independents that associate themselves with cash-rich NOCs that have access to cheap reserves and an interest in some of the independents. Creating such a partnership, perhaps

CONCLUSION

Discouraged by the gloomy market outlook, some energy companies may be tempted to reduce their investment activity, sit back, and minimize their exposure to the storm roaring out there. For many, this strategy may make sense, and a cold look at operations and a degree of portfolio rationalization will certainly be called for. Yet oil companies with cash in hand beyond their operational needs, as well as NOCs with privileged access to cheap sources of oil and gas, should pursue a more active strategy. For those willing to take the long view, the current market conditions constitute a rich source of investment opportunities that are, in all likelihood, a lot more solid and profitable than those into which so much money went during the boom years.

through the NOC taking an equity stake in the independent, may, in many cases, prove to be a particularly appealing course of action.

4. Downstream NOCs with Local Market Dominance

Downstream NOCs often occupy an intermediate position across the other three clusters. Unlike their counterparts in oil-producing countries, these firms do not enjoy privileged access to cheap oil reserves. Thus, their power resides primarily in their control of the local downstream market, as a result of either a legal monopoly or (as in many E.U. countries) a heritage of a former monopoly that has left them with some degree of local market dominance. During the boom years, many of these companies also ventured into the upstream world, a strategy that generally served them well as oil and gas prices climbed, putting pressure on downstream margins. So, despite the punishing conditions under which their downstream businesses have had to operate for the past few years, many downstream NOCs find themselves in decent financial positions. Furthermore,

local governments regulate the prices at which many of these companies can sell their oil and gas. While those prices are often artificially low, governments usually have a political interest in keeping their countries' flagship energy firms afloat, so prices can be fine-tuned or combined with government subsidies to make sure the NOC survives.

Given the present circumstances, IOCs with large cash holdings may view downstream NOCs as potential takeover targets, although the links between these companies and their local governments—whether due to direct government ownership, a government “golden share” arrangement, or some other legal constraint—may make these deals particularly difficult. Alternatively, depending on the strength of their cash positions, downstream NOCs may themselves consider playing on the buyer side of the takeover game. Ultimately, many of these companies will be able to afford a more focused, long-term strategy than many independents. From this perspective, their outlook for the future appears to be reasonably healthy.

Endnotes

¹ See Georges Chehade and Eduard Gracia, "Taking a Chance on Oil: The Role of Uncertainty vs. Supply and Demand in the Oil Market," 2008. http://www.booz.com/media/uploads/Taking_a_Chance_On_Oil.pdf

² International Energy Agency

³ Booz & Company has used the methodology represented by this diagram for many companies across multiple industries. See Shumeet Banerji, Paul Branstad, and Bill Jackson, "Rethink Your Strategy: An Urgent Memo to the CEO," 2008. http://www.booz.com/media/uploads/Rethink_Your_Strategy.pdf

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