Saudi Arabia and its role in oil markets

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A core element of the Oxford Energy Seminar has always been discussion on the influence which OPEC in general and Saudi Arabia in particular has had on the oil price and its environment. This is due in part to the Seminar's unique mix of attendees from both national oil companies (NOCs) and international oil companies (IOCs); Robert Mabro had always been able to ensure the attendance of eminent speakers at the Seminar from throughout the industry, selected both from former attendees and through his own formidable networking capabilities. Mabro used to remind attendees in the opening session of the Seminar that the heads of almost every major energy company, including Saudi Aramco, had attended the Seminar at some point in their careers. All had thus been exposed to the discussions on oil price and supply and demand which he would quietly steer to ensure balance.

Historical perspective on factors influencing supply and pricing of oil

Younger players could thus see the historical effects of the effective nationalization of IOC operations by OPEC countries, with the resulting flow of capital and technology to the North Sea and the Alaskan North Slope in the 1970s and 1980s and the resulting growth in non-OPEC production. They could also savour the irony that OPEC-driven price rises in the 1970s and early 1980s saved the investments in new high-cost non-OPEC developments from the economic consequences of huge cost over runs resulting from the application of untried technology and industry cost inflation. These developments drove a supply growth which caused the later price collapse. Seminar attendees would also be aware of the long period in the late 1980s and throughout the 1990s when non-OPEC production was repeatedly forecast to decline about five years out from the forecast date. Technology in the form of improved seismic imaging, deep water drilling, and horizontal wells repeatedly pushed this decline further into the future, postponing for years the expected oil price rise and the return of OPEC to dominance.

This long historical perspective puts the present rise of shale oil production in context. Once again, a period of high oil prices, with a perceived floor at the cost of marginal barrels, has fuelled the development of technology. Once again there are questions as to how long the increase in production enabled in North America by this technology can be maintained and to what extent the uniquely favourable US conditions for the development of this kind of production can be replicated in other parts of the world. How fast will the drop in oil price lead to a reduction in non-OPEC capacity? As before, I suspect that the result will surprise us. History teaches us that the oil price is notoriously difficult to forecast in the medium term, being affected by a complex interplay of estimates of supply and demand infused by a large dose of sentiment. A major influence on sentiment is an estimate of OPEC intentions and in particular the intentions of Saudi Arabia.

Saudi Arabia within OPEC – provision of reserve capacity

Saudi Arabia has long played both a leading and also a moderating role in OPEC. The wish so often expressed by Saudi Minister of Petroleum Ali Naimi has been to achieve a price acceptable to both consumers and producers – a price high enough to satisfy the reasonable needs of producers with largely oil-dependent economies and yet not so high as to choke off growth and development of the global economy and incidentally reduce the demand for energy.

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The influence of Saudi Arabia within OPEC stems in part from the policy of holding a significant buffer of readily accessible production capacity. The world should be grateful to the Kingdom for this policy: a gratitude seldom expressed. During times when oil prices were peaking, the deployment of this spare capacity has had a moderating effect. Saudi Aramco has argued that the cost of holding this capacity is offset by the income gained when the capacity is used at times of very high prices. Be that as it may, and one might question whether the computation truly reflects the economic cost, it is certainly true that no purely commercial organization would sometimes hold more than 2 million barrels a day (b/d) (some 20 per cent of total capacity) in reserve without payment of a significant capacity fee, such as that seen in The Netherlands for the Groningen gas field or in several countries in the utility industry.

Saudi Aramco contrasted with other OPEC state oil companies

Saudi Arabia's unequalled combination of large production volume and spare capacity policy is by no means the only factor underpinning its leading position in OPEC. The unique position of Saudi Aramco as a truly leading global company in technology and efficiency must be a source of admiration and some envy among other OPEC (and non OPEC) nations and NOCs. Almost without exception, other OPEC state oil companies have been used by their governments as sources of funds and subsidies, starving them of the capital needed for development of production, as well as of people and technology. In the worst cases, such as PDVSA and NIOC, this leads to flattening or declining production and even to a downwards spiral from which it is difficult and time consuming to recover.

Saudi Aramco's unique position is no accident. Successive rulers and governments of the Kingdom, assisted by the leadership of Aramco, have ensured that Saudi Aramco has been largely defended from depredations and demands of other elements of the state. Aramco has thus developed world-class standards of employment and efficiency, with a remarkable corporate ethos of meritocracy, work ethic, and standards of integrity. This enables Aramco to attract and retain the very best Saudi engineers and earth scientists, and to employ global systems of finance.

'SAUDI ARAMCO'S UNIQUE POSITION IS NO ACCIDENT.'

The company's approach to production has been equally farsighted, with an emphasis on maximizing ultimate recovery from every accumulation rather than short-term DCF calculations. Aramco regularly discovers and books, using audited international definitions, more reserves than it produces. It has probably the most sophisticated reservoir models in the world, allowing it to optimize recovery and track the production of major fields. There has long been a policy of open cooperation with the major global oilfield service companies, most of whom have joint research facilities in the Kingdom.

Technology development is not limited to the conventional oil and gas fields. Saudi Aramco has a major programme looking at production of shale oil and shale gas, as well as programmes for replacing fossil fuel-generated electricity with solar photovoltaics, and for solar thermal programmes to be used in the generation of steam for power, process, and tertiary production, in order to conserve hydrocarbon resources.

Importance of Saudi conventional production

Historically, Aramco rapidly adopted and adapted the technological advances made by western international companies when stimulated by their loss of major production in the Middle East. Apart from its own considerable (and successful) research and development efforts, it would appear that Aramco is also internalizing, and adapting rapidly to Saudi conditions, technological developments in alternative energy and shale production from elsewhere in the world. However, such efforts need to be put into perspective. While development of the Bakken, Eagle Ford, and Permian shales in the USA has resulted in some 3 to 4 million b/d of oil from shale, continuous drilling by some 200 rigs and the mobilization of very large fleets of fracking trucks is required to maintain this production. For comparison, in the last six years, Saudi Aramco has developed three completely new conventional fields (Shaybah, Khurais, and Manifa) each of which will produce a million barrels a day at a fraction of the production cost of US shale. Such developments are major achievements; there have been no similar developments elsewhere,

although some are being planned in Iraq. This suggests that the power of Saudi conventional production is far from being a spent force.

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Price, security of supply, and relationships with customers

Whereas consuming countries and IOCs worry about security of energy supply, the habitual Saudi concern has been to ensure relationships with reliable customers and security of offtake. This security of offtake has been achieved by building long-term relationships with companies with access to major consumer networks as well as by building selective stakes in consuming country refineries linked to agreements covering a larger percentage of the crude intake of that refinery. These agreements and relationships are strictly at market prices; customers have come to rely on the price being adjusted, retrospectively if required, to be in line with the market. Thus, in times of low oil prices with producers competing for market share, Aramco can be assured of maintaining offtake volumes at competitive prices, whatever the market might determine that to be. This solid market access, built strategically over many years, is also part of the Saudi influence on OPEC.

Saudi Arabia has also gradually switched more of its supply to the growing markets of the east, where higher prices can also be achieved. This far-sighted strategy long predates the growing domestic production in the USA. However, in spite of recent decreases in prices in that market, Saudi Arabia has maintained a level of supply to the USA for what would appear to be strategic, rather than short-term commercial, reasons. The thinking behind this strategy (a switch to the east) is evidenced by the number of Saudi students sponsored to study engineering and other subjects in the top universities of China, Japan, and Korea. For example, there are now some 30 Saudis in Aramco who were educated in Korean universities and who speak Korean fluently. None of the majors has practised such a far-sighted strategy of relationship-building with key countries, not even within the countries of the Middle East.

Challenge of Saudi Arabia's expanding domestic market

So what could affect this overall Saudi position? The immediate threat is that of uncontrolled domestic energy consumption in the Kingdom, driven by subsidized fuel, electricity, and water prices. Saudi Aramco itself repeatedly draws attention to this threat, pointing out that if the current demand (domestic oil and gas consumption of some 4.5 million b/d oil equivalent) continues to grow at 7 or 8 per cent a year, it will double by 2024. This is manifestly unsustainable. Saudi Aramco plays a leading role in efforts to make power generation and energy usage more efficient and in the introduction of efficiency mandates for road transport.

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The real solution has to lie in the removal, or significant reduction, of subsidies. The problem with these subsidies is not just their growing cost to government – diverting funds which could be spent in a directed way to achieve social or strategic aims. The growing energy requirement necessitates the investment of very large sums, which are used to develop associated gas fields from which the gas is sold well below production cost. Saudi capital and project management resources are diverted from other projects which could contribute positively to the national economy. Some argue that the low energy and transportation costs have side benefits, but they contribute to the growth of an artificial economy built on uncompetitive use of energy and fictitious profitability.

This problem exists to a greater or lesser extent in all Gulf economies, and in many other countries with hydrocarbon production. Cross-border differences lead to smuggling and encourage the development of other forms of corruption. The solution will need, to some extent, to be collective, but bold action is required in each country. There may need to be cash transfer payments of some sort to the average family, based on reasonable usage, to cushion the effect of price rises and avoid social tensions. Each family will then face a simple choice: should they reduce usage by simple efficiency measures and spend the gradually reducing transfer payment on something else? Or do they continue to use energy which rises in cost as the subsidy is removed? It is probable that such a financial incentive would drive a rapid change of behaviour, greatly benefitting both the economy and future government revenues.

Potential consequences of failure to control demand

Without a programme to address this issue, over the next few years the reduction in government revenue caused by the uncontrolled rise of domestic energy consumption will make the subsidies unaffordable. The danger is that this would then lead to unpleasant and unintended consequences, as seen in other countries, for example:

- Unplanned rises in the price of domestic energy or a reduction in other generous social programmes could put stress on social cohesion.
- Attempts could be made to burden Aramco with executing what are essentially social programmes, in an effort to preserve social cohesion.
- The government could attempt to extract more revenue from oil and gas production, reducing the investment capacity of Saudi Aramco and gradually weakening a company which is not only a proud national example of efficiency and effectiveness but the major source of national revenue. This unfortunately has been the common fate of NOCs elsewhere is the world where economies have come under strain and governments have taken a short-sighted route to addressing underlying problems.

Such unfortunate developments would affect not only Saudi Arabia, but other countries in the region. Saudi Arabia would probably lose influence in OPEC. The world as a whole would suffer from the loss of a rational and stabilizing voice in the energy market. The result would undoubtedly be greater volatility and impacts on global economic growth.

Mabro often told a joke in the way that only he could, with appropriate gestures and convincing expressions. It involved an Egyptian farmer who was asked by his neighbour to look after 12 sheep while the neighbour travelled. On the neighbour's return, there appeared to be one sheep missing. Repeated counts of the moving flock could not resolve the difference. In the end the police were called and it was agreed that 12 policemen would each catch and hold a sheep. Sure enough, one policeman found that there was no sheep to hold. Confronted with this glaring evidence of the shortfall, the farmer declared that it was not his fault that that policeman had been so slow that he could not catch one of the sheep. This story makes the point that we are all sometimes reluctant to accept the consequences of something which we know logically to be true and to require action. This is more likely to be the case when the response required will affect millions of people and involve some disruption of the currently accepted status – while the situation is not yet too uncomfortable and so action can be deferred for a little.

Not just for the sake of Saudi Arabia and the example that Saudi Arabia and Saudi Aramco have set within OPEC, but also for the potential impact on global energy supply, let us hope that a swift solution can be found to the challenge of subsidies.