Shale oil boom and its impact on fiscal policies in the GCC

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Executive Summary

The Discovery of Shale oil in North America has changed the dynamics of financial and government policies all over the world, more specifically so in the GCC. At the advent of increasing Shale Oil production in the North American region, there has been a surplus in Oil supply, thereby drastically impacting oil prices all over the world.

Oil prices had been stable for over the past four years at $105 per barrel (Brent) however the second half of 2014 saw oil prices falling significantly. This proved to be a grave issue for Oil exporting countries of the GCC that rely mostly on revenues generated by oil. This sharp decline in oil prices has resulted in inducing volatility in the GCC markets, thereby impacting significantly their budget decisions. Most of the GCC countries have been indulging in expansionary infrastructure projects, which have been devoted a major portion of the country’s budget. Falling oil prices in the midst of these projects only increase pressure on the Governments to find alternate solutions to finance these projects, which determine the growth of these countries, without putting any additional pressure on the already vulnerable financial reserves.

The uncertainty associated with the falling oil prices and oil supply shock make it crucial for the GCC government to look closely at their fiscal policies in order to ensure that their economies do not suffer greatly from this situation. The aim of the research is to look further into the impact of the Shale oil and gas revolution in the GCC and determine fiscal policies that would need to be implemented by the governments. A major portion of the research will deal with the implication of the sharply declining oil revenues on aspects such as investment in the region, and Government spending. The paper will also aim to look at probable solutions to the issue by looking into sectorial reforms as well as diversification possibilities.
Introduction

Oil prices have constantly fluctuated since the financial crisis of 2008, mostly driven by the efforts of countries trying to recuperate with losses, coupled with the introduction of secular trends in oil production in the market. Oil being an integral part of the economy, has the ability to introduce new changes and transitions. Ever since the 2000s, Oil has been able to impact and bring about new changes in the World economy.

The years 2000-2007 can be regarded as the years of boom for the Oil economy, which were a result of rapid expansion in the Asian countries. This exponential boom gave rise to exceptional demands in oil, providing supply in the market very little time to cope with this scenario. The rise in additional demand resulted in increasing oil prices exceptionally. These years of high oil prices provided incentives for many countries to start exploring their own energy sources in a strive to achieve energy self-sufficiency. The years 2005-2013, then witnessed countries trying to explore offshore oil reserves, under water oil reserves, and deep-water oil reserves in a response to the lack of sufficient oil supply in the market. The end of this era was marked with a distinct downward pressure on the price of oil, mostly owing to the supply that had considerably increased in the market as a result of the excessive exploration efforts around the world. Then came the era, which we are present in- the era where unprecedented supply has flooded the market, forcing oil prices to plunge, and further questioning efforts to reduce oil production in the near future.

Prior to 2014, the year that experienced the steep fall in oil prices, many analysts anticipated the price of oil to rise as high as $150 per barrel. Yet 2014 witnessed oil prices plunging to major lows during the last few months of the year, only to be carried over to the next year and to continue dipping further. The year 2014 witnessed supply of oil overtaking the demand by almost three times, thereby exposing large imbalances in the market.

The past two years - 2014 and 2015 have witnessed plummeting oil prices. Both supply and demand side need to be analyzed in order to understand the triggering causes for this decline. The demand side has shown very slow growth, mostly due to sluggish economic growth in the Asian and European markets since the financial crisis. On the other hand, supply side has only witnessed an exponential rise in production output from various players in the market. This steep drop in prices can be attributed to the US emerging as a significant player in the oil economy by exploring and tapping into its Shale gas and oil reserves. Years following the financial crisis saw the United States significantly increasing its oil production and therefore reducing its reliance on oil exports from the OPEC producers. “Since 2008, there has been a 70% increase in United states oil production, cutting imports from the OPEC producers in half”. Supply has also increased from war and conflict prone areas such as the politically unstable Iraq and Libya. Oil production in Libya, despite the instability, accounted for over 800,000 barrels per day in 2014, which was eight times the production output of the country in 2013. Also, with the lifting of economic sanctions off Iran, the country is expected to further glut the market with an expected output of 3 million to 4 million barrels per day.

In order to make sense of the current dynamics in the energy market and of the dramatic slump in prices of oil, it is critical that we understand three complementary, but major events: the rise in oil supply within the US and outside which occurred in
the later half of 2014, the depression in the economies; as a consequence of the economic slow down, and later the inaction by the OPEC members and particularly Saudi Arabia to refrain from reducing oil production in the event of the falling oil prices. This paper will discuss these major events and will also provide insights into how this has impacted the major oil producers in the OPEC, namely Saudi Arabia, Qatar and UAE. It will also touch upon how these countries are planning to deal with the low oil prices and will also provide recommendations for the future.

**Shale Revolution**

Shale oil and gas made a break-through in the energy market and very soon proved to be game changers. They are primarily understood as the extraction of conventional oil and gas from previously inaccessible beds and reservoirs, indicating a move towards low-carbon energy sources that hold the capacity to easily offset and possibly overtake the other conventional oil and gas producers in the market. Shale oil is a component of a broader category of unconventional oil – also known as tight oil.6

This discovery of Shale oil reserves in the US has enhanced its position in the energy market, reinstating it as the third largest producer of crude oil in the market. Years following the discovery and the initial tapping of the Shale reserves, oil giants such as BP predicted shale oil or tight oil output in the US to grow significantly – six fold during 2011-2030, as it initially grew from 2% in 2000 to nearly 40% in 2012; having produced 3.5 million barrels/day in 2012.7 There continues to be constant debate regarding the future of shale oil production. The International Energy Agency in 2013 predicted that Shale oil exploration in the US has the potential to turn the country into a net natural gas exporter by 2020, and reach a peak of 4.8 million barrels per day, if it continues at the same rate.8

In order to understand the rationale behind predicting the output and lifespan of a shale gas field/play, it is necessary to understand the series of events that ensue once a play is discovered. It is also key to note that certain resources may be recoverable technically, however, not all these resources can be economically feasible. To determine economic feasibility of the reserves, various aspects such as cost of operation, the quantity and quality of oil recovered and most importantly the price of oil in the market need to be considered. Once a play is discovered, it is soon followed by a phase where leasing contracts for the play are finalized. Once an oil/gas company is finalized, the drilling ensues, which is followed by a drilling upsurge as most companies are on the lookout to maximize output within the initial 3-5 years of operation. As these companies begin to drill, they first identify the ‘Sweet Spots’. These are small areas of high productivity, which often get targeted first before other marginal spots.9 As a consequence, the average well quality and quantity is high initially and soon depreciates once these sweet spots are explored. The same reasoning can be applied to the decline in productivity the US shale plays entail over the years. For instance, as “In the Haynesville play, an average well delivered almost one-third less gas in 2012 than what it did in 2010.”10 Well productivity therefore continues to decline over the years as drilling and exploration efforts increase. The productivity of the wells often drops by about 60% after year one, moving on to less than 40% in the second year, followed by less than 30% in the third year, accounting for an overall decline of 40% every year on average.11
There are 5 plays/fields that are major producers of Shale oil in the US and contribute to 80% of Shale gas: Haynesville in Louisiana, Barnett in east Texas, Marcellus which is spread out over West Virginia, Pennsylvania and New York, Fayetteville in Arkansas and Woodford in Oklahoma.¹²

Technological advances have a vital role to play in the tapping of this reserve. Horizontal drilling, along with large scale hydraulic fracturing/fracking have made it possible to extract the reserve from previously impermeable rocks.¹³ Producers in the US were able to successfully employ this technique and increase their exploration efforts, and subsequently their output. “In 2004, less than 10% of US wells were horizontal drilled, today, the figure stands at 61%”.¹⁴ The initial years of discovery saw a sharp rise in Shale oil production, however, since 2012, production has been steady in the country. The sharp increase in output meant flooding the US domestic market with crude oil supply, which consequently drove down oil prices. However, once supply in the market stabilized, the oil prices recovered. The fracking companies in the US have boosted US oil production from 5 million barrels a day in 2008, when they initially started, to 9 million barrels per day now.¹⁵

Furthermore, another aspect of the US markets that permitted shale gas to flourish was the presence of significant legal and institutional framework, which provided the necessary grounding and the right economic environment through private ownership in the market. The Barnett Play would be a perfect example to understand how these various aspects can impact operations. In the late 1990’s, the Barnett play produced around 13 billion cubic meters of Shale gas, however in 2002, once horizontal drilling technology, along with the other favorable market conditions was introduced to the mix, the play produced 76 bcm by 2009 (accounting for 11 of total US gas production).¹⁶

Additionally, another feature that greatly benefits the oil producers in the US is the link with the US capital markets. The costs associated with drilling and maintaining production are considerably high for shale gas. Capital costs are around US$9 million per well, and drilling requires $7 billion a year to maintain production, apart from costs for leasing, and other costs incurred during operation.¹⁷ As a result, US shale gas requires large capital to maintain production. Ever since the discovery of shale oil reserves in the US, significant investments have been made on projects so as to derive high returns in the future. Much of the work in this case has already begun, and there now remains a large inventory of unfinished projects, which can soon be concluded once the oil prices start rising again. The financial markets and the capital they have to offer is the driving force behind shale oil explorations in the US and they have the ability to further impact the existing volatility in oil prices.

The United States imported around 50% of its crude oil requirements in 2010, however this soon dropped to 20% in 2015.¹⁸ This number is expected to drop even further if the Shale gas industry is able to reduce its operation costs and continue production from its plays, while the oil economy and the OPEC continues to deal with lower oil prices. The US still remains one of the largest net importers of oil.¹⁹ Even though Shale oil accounts for 55% of US production, the US still needs oil prices to be significantly high to cover the high costs of extraction. Shale Oil production in North Dakota and Texas are only viable if the oil price is maintained at $70 or $80 per barrel.²⁰ The International Energy Association predicted in 2014 that if the oil prices were to continue decreasing, then the US shale oil industry should be prepared to experience a 10% cut in investment in 2015.²¹ Additionally, as per estimates from the
IEA, Shale gas deposits are present in 0.2-3.3 billion cubic meters per km$^2$ of the territory, in contrast to 2-5 billion cubic meters per km$^2$ as in the case of convectional gas. As a consequence, the amount that can be recovered from these plays is much lower in the case of shale gas, hence in order to extract shale gas or tight oil, more wells need to be drilled. Besides, the depletion rates of the shale gas wells are a lot faster when compared to other conventional gas wells. This is can be further understood by looking at the depletion rates of the current plays in the US. “For the Barnett shale play, 15% of the wells that were drilled in 2003 had depleted within five years”.

Given the dramatic increase in US shale oil production, the US oil and gas companies are considering prospects of selling their shale oil and gas abroad. The past few years witnessed discussions about gas export facilities being built, specifically in regions of the Gulf of Mexico. Debates are still ongoing on if and how much shale oil and gas could be exported, if the government were to permit this effort. It is also imperative to note that foreign oil and gas companies have been keen to invest in the Shale gas fields in the US. This interest is driven by their quest to gain knowledge of operating and tapping resources from previously untappable reserves and later utilizing the expertise gained to other areas. “In 2009, ExxonMobil paid around $41 billion to buy XTO energy, which is the third largest gas producer in the US, likewise, Shell in 2010, paid $4.7 billion to acquire East resources, which operates in northeast United States”.

Many analysts also predict that Shale oil production in the US will not sustain in the light of the recent oil price decline, as production costs of shale oil exceed the current oil prices, and sustaining production means continued drilling and constant finance and capital to support these efforts. Furthermore, it is also critical to note that well productivity, as in the case of Shale oil significantly declines with increased exploration. However, six of 30 shale gas plays in the US account for 88% of production, whereas 2 out of 21 tight oil plays account for 81% of overall production. High prices are quintessential for Shale oil production to prevail.

**Short-term impact of the Shale Revolution**

Firstly, the dramatic increase in Shale oil production has had a considerable impact on the US economy. A predominantly major importer of oil since the 1970’s, the introduction of shale gas in the economy signaled towards reducing imports and promoting self-sufficiency in the country. The IEA in 2014 predicted the self-sufficiency ratio, which is the rate of local energy production divided by the total primary energy demand in the country, to rise from 80% in 2010 to 97% in 2035. This would imply a decline in US oil imports from abroad. 10 million barrels a day were imported from the OPEC producers in 2007, which significantly reduced to 7 million barrels in 2014. This later affected global oil supply, as oil was then diverted to markets in Asia and the rest of the world. From 2011- 2014, the surge in shale oil in the US contributed towards stabilizing the prices of Brent crude in the market. With supply disruption from OPEC members such as Iraq and Libya, due to geo-political tensions, the oil supply that was initially meant for the US was diverted to overcome the loss in production from these producers. “Brent oil remained remarkably resilient in the range of $100-$115 per barrel during the period”.
reduction in oil imports from the United States compelled the OPEC producers to shift their focus on Asian economies such as those of China and India, which have always been reliant on energy imports to develop.

Given the output capacity of the shale oil reserves in the US, had the oil prices not witnessed a dramatic drop, the US stood a chance to compete with Saudi Arabia as a swing producer in the market. The US has large endowments in the form of major oil plays in Eagle Ford and Bakken fields. Utilizing horizontal drilling techniques, the US will continue to tap into these fields and increase US oil inventory. If the US manages to secure sufficient inventory, this could bring about a major shift in the dynamics of foreign policy of the Gulf States, as well as the US, with the US now having the capability to serve as a buffer in cases of supply outage. Nevertheless, the current US government policies with respect to oil also have an important role to play in determining the performance of US in the international market. The most critical policy that governs this is the US ban on export of crude oil. If this were to be lifted and if the US crude oil supply was opened up to the market, one could expect a rise in the crude oil prices in the US.

According to Manescu and Nuno and their analysis about the impact of Shale oil on the rest of the world, major oil suppliers such as Saudi Arabia will have to reduce their production, in order to follow its profit maximizing path so as to offset the increase in Shale oil supply in the world. This reduction in oil supply from Saudi will later account for an increase in the spare capacity of the country. However, with persisting low oil prices, and a reduction in the country’s market share as a result of reduced supply, Saudi faces a scenario where it will have to cut down on investing in new production output. This would consequently cause the country to rely on its spare capacity to fulfill its needs.

**Figure 1: US Shale oil production and growth over the past few years**

<table>
<thead>
<tr>
<th>US crude production growth</th>
<th>Total US crude production</th>
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<tbody>
<tr>
<td>Thousand barrels per day</td>
<td>Thousand barrels per day</td>
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<td>1,400</td>
<td>1,200</td>
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Source: IHS 2015
One matter of concern for the US is however the uncertainty about the possible increase in shale production or even the possibility of maintaining shale supplies in the future. Given the fast depletion rates as in the case of Shale gas, the possibility of maintaining supply for long term remains questionable. Furthermore, it is also crucial that investors must be willing to constantly provide capital for increasing costs that can be associated with this resource. Yet, in most cases, the investors will only continue as long as profitability is high. For oil and gas drilling operations, like any economic activity, there are variable costs and fixed costs. Variable costs in Shale tend to be small, whereas fixed costs are large, thereby implying that companies bear losses over a long period of time. Besides, as in the case of Shale gas, the necessity to constantly increase the number of wells and drilling efforts comes across as a variable cost, rather than a fixed cost. This means constant losses for the companies, forcing them to close down a lot sooner compared to the oil and gas companies. Although, with a large number of oil and gas giants buying into small companies that has been averted.

**Collapse in Oil prices**

The collapse in oil prices in 2014 can be attributed to many factors, aside from the Shale gas revolution, as they contributed significantly towards the tumbling prices.

Firstly in 2014, the global economy witnessed an upsurge in oil supply from OPEC producers such as Libya and Iraq. Libya witnessed an unblocking of their oil terminals by the militia group, which subsequently aided in increasing their oil supply. Likewise, Iraq also increased its supply despite its ongoing political instability in the country. “The total increase in oil supply form June to December for all the producers, except the US was around 1.5 million barrels per day.”

Next, the unexpected slow down of demand also played a significant role in impacting oil prices. The global economic slowdown impacted the demand of oil in the economies of Asia, and also impacted prices of various commodities in these markets. Besides, this period also saw the appreciation of the US dollar that subsequently increased the price of oil in certain economies, further fueling lower demand needs. Furthermore, the reaction of the oil giant Saudi Arabia also played a major part in this scenario. In the light of increasing supply and falling oil prices, one would expect the country to reduce its production output, however, Saudi Arabia continued to maintain its production output, applying additional downward pressure on prices. One can associate Saudi Arabia’s resilience with its intent to drive out shale oil producers and other oil producers from the market.

**Supply and Demand in the World**

*Impact and prospects of the Consumers*

Cheap oil prices have aided countries in Asia and have boosted imports of these countries. The Euro-area witnessed a drop in its oil-import expenses, which accounted for 2% of its GDP since mid-2014. This has also assisted growth in countries such as India, which now pay lower prices for their oil imports. These countries can further seize the moment and implement various reforms to make best use of the low oil prices. They can work towards increasing public investment, and also aim to further develop private sector growth.
Falling oil prices will be an advantage for American consumers as well as oil importers. Moody’s estimate that with a one-cent decline in oil prices, there is an increase of $1.2 billion savings for the consumers in the United States. They will be able to enjoy further lower oil prices once Iran oil exports enter the market. This is however a serious concern for the oil exporters as they need to look for alternative means to gain revenues. This also poses significant challenges for the US government, as it would now have to develop alternate sources to meet its energy requirements or move towards encouraging energy conservation. Fall in oil prices would mean the United States would once again become dependent on the OPEC for major oil supplies.

For the United States, reduced cash flows have forced the country to protract its growth in terms of exploring land-rigs and further investing large sums of money into developing them. In 2015, the US had experienced a fall in expenditure by 40%, which was combined with a 50% reduction in the US land rigs being operated. The cost-intensive producers in the US oil industry were worst affected by this slump in oil prices. However, over time these producers have been restructuring their approach and outlook towards reduced oil prices in the market. Many of the oil initiatives in North America are led by companies such as Chesapake, Continental, Devon, Pioneer, who have over-time shifted to becoming cost-effective and delivering better results and return on investment. Furthermore, these oil fracking companies have been keen on utilizing advanced technologies and means to further their expertise in the country, becoming more responsive to oil prices outside North America. An instance of this would be how “average drilling days are down from 14.2 to 4.3 and high density fracking has now resulted in a 39% increase in cumulative oil production”. Primarily, as a result of these advanced technologies now being adopted to better fracking mechanisms, many of these producers were able to receive large returns even while the oil price dropped to $65 per barrel in 2014, from $95 in 2012. Furthermore, many producers have also changed their strategy with respect to drilling and recovery in the event of low oil prices. Many have adopted a strategy to freeze further drilling activities as long as oil prices remain low. This would entail a reduction in supply from these producers in the short-run, however these producers have now shifted their attention to ensuring their supply in the long run by “improving well-productivity through completion technology and finding better rock quality; lowering well costs through service cost reduction and continued efficiency gain”. These producers require the oil price to be nearly $50 per barrel, in order for their drilling operations to be viable.

Conversely, producers outside the US have always faced issues with the return on their capital not equating to the investment and not showing up as profits for their cost-intensive projects. Profits have always been on the lower end, as a result of which in 2012, many oil producers decided to cut down on their investments, so as to encourage some considerable rise in their returns on capital. However, when the slump in oil prices kicked in, many energy producers involved in such efforts soon changed their focus to cutting spending, striving for increased efficiency and larger returns for their investments.
Impact and Prospects of the producers

The Gulf countries hold considerable amounts of the world’s oil reserves. They account for 30% of the world’s proven reserves, with Saudi Arabia holding 15.7%. These GCC countries had produced around 26.6 million barrels of oil per day in 2014. The GCC countries are expected to grow at a much slower rate in 2016, owing to the low oil prices. These countries are expected to grow at 2.7% in 2016, falling from 3.2% in 2015, which is much lower than the 5.8% average they maintained between 2000 and 2011. Export revenues also fell by $275 billion in 2015 because of the reduced energy prices. Rising expenditure and development needs of these countries, coupled with low oil prices have impacted their regional policies, thereby affecting their growth patterns. Despite similarities that exist in economic structures of these countries, they vastly differ with regards to their population size, the size of their economies and most importantly in this case, their budget constraints.

Russia has enormous gas supplies, and is a great source for the LNG sector. Russia has been keen to expand its exploration of reserves in the far northeast, however lack of investment and technological know-how from the west, limit its expansion efforts. Further, apart from the high cost of exploring these reserves, recent sanctions on Russia in the wake of the Ukraine aftermath have only made the situation harder for the country. Russia has been basing its economic prediction on a much higher oil price; therefore low oil prices could only mean greater harm to the Russian economy.

Following the dramatic drop in oil prices, triggered by the upsurge in oil supply, Venezuela and Iran, wished for the OPEC members to draw up a conclusion with regards to halting supply to allow oil prices to increase. Saudi Arabia, which dominates the OPEC and acts as a swing producer was reluctant to reduce production and feared losing out on its market share by doing so. This move by Saudi Arabia was mainly to drive out competition and to undercut the significant progress being made by the US Shale gas sector. This move was also driven by the need to undermine regional rivals such as Iran, which now no longer face economic sanctions, with sanctions being lifted under the P5+1 – Iran nuclear agreement. Saudi Arabia is keen on persisting to play the role of the hegemon in the oil economy, a role it has been playing since the 1970’s, and holds significant authority towards oil production and prices in the market by setting the price for the rest of the countries in the GCC. Saudi accounts for nearly a fifth of the world’s oil reserves, and holds more than half of the OPEC’s spare capacity. This gives Saudi Arabia the authority to curb oil production in the wake of an oil glut in the market. Furthermore, it is also imperative to note that the OPEC functions more like an oligopoly rather than a cartel, where Saudi Arabia, leads and acts as a market leader, thereby setting the oil price for the rest of its members. Over the years, with limited competitors in the market, Saudi Arabia was able to set high prices by limiting its own output. This resulted in accumulating large spare capacity for the country. The remaining members of the OPEC take the market price as given, and try to maximize their own output utilizing the high prices in the market to maximize their revenues.

Members of the OPEC enjoy low costs of oil production that can be below $10 per barrel, as in the case of Saudi Arabia. These low production prices give the
members the flexibility and the leverage to fluctuate the oil prices, making the oil market vulnerable to other competitive producers. However, with continued low oil prices, these countries now face a budget constraint and as a result, face budget deficits. In the light of these circumstances, there is a need to manage spending in these countries, put in place proper fiscal consolidation, cut public sector wages, and encourage and promote private sector development. The GCC states need to take unprecedented measures to counter-balance the impact the slump in oil prices can have on the economy. With oil prices falling below $30 per barrel in the beginning of 2016, this called for governments of the GCC to further cut the benefits that their citizens enjoyed, in the midst of growing political instability in the region.

In this context, it is necessary to evaluate how relations and interests of the OPEC and the United States could converge or diverge, if countries such as Iran and Russia were brought into the same picture. The OPEC producers are of the conviction that oil production of its member states shall not be curbed and that there would be no significant change in the production output in the years to come. Furthermore, OPEC countries feel that as long as the price of oil falls below $85 per barrel, this would curb shale oil production, driving out producers who will no longer be able to meet the high costs of the production. Political interests of the United States and Saudi Arabia, the dominant player in the OPEC have always aligned with regards to their outlook towards Iran and Russia. However, with the United States now working towards lifting all sanctions off Iran and bolstering improved relations with Iran, the interests of the United States and the OPEC cartel could no longer lie on the same front. Nevertheless, there continues to be speculation about the United States being involved along with the Saudis in a collusive effort to weaken the Russian economy, and further undermine the ISIS and its growth prospects in the region.

**Response from the GCC countries**

Volatility in the oil markets has significantly affected the domestic and economic policies in the GCC. With all these countries heavily relying on oil for their government revenues, a plunge in oil prices called for reevaluating government policies so as to address the budgetary concerns in the economy to cope with the low prices. These countries are known to provide large subsidies to their citizens and continue to entail great inefficiencies in their energy consumption. Despite the fact that many of these countries possess large financial reserves that allow them to withstand such volatilities in the market for a relatively longer period of time, however, constantly borrowing from their reserves can prove to be unhealthy in the long run. These countries need to diversify their economies and income and reduce the reliance on oil revenues. After the recent drop in oil prices, Saudi Arabia, along with many other countries announced they would slash their budgets to deal with the various deficits that they have incurred. As many of these GCC countries are in the process of drawing up long term plans and strategies for the economic and social development of their countries, such as Qatar 2030 National Vision, Saudi’s strategy for 2025, Oman-Vision 2020, UAE- Vision 2021, and Bahrain –Vision 2030, one can expect diversification goals and strategies to be a major driver in these long term plans. Increase in promotion and reliance on the non-oil sector can be anticipated and reflected through these plans.

In order to further understand the underlying reasons behind the OPEC’s resilience to cut down production, it is necessary to look at the costs of production
that these members need to entail, the breakeven price for these countries, as well as
the budget constraints that can be derived by these. The oil production costs of most
of the countries in the Middle East on an average are as low as $27 per barrel for
onshore production. This is by far the lowest production cost associated with oil in the
world, where production costs for other countries could be as high as $50 and $65 per
barrel as per the figure below suggests.

Figure 2: Production costs associated with oil exploration

Likewise the budgetary constraints of these countries provide insights into the
underlying reasons that govern their acts. Below are the fiscal break-even points for
2014 and 2015 for the oil producing countries.

Figure 3: Breakeven prices of oil for the major oil producers
The estimated oil price that is necessary to balance the government budgets is at $65 per barrel for Qatar, $75 per barrel for United Arab Emirates, $54 per barrel for Kuwait and $103 for Saudi Arabia respectively. The figure depicts how most of the OPEC members enjoy low production costs when compared to the oil producers in the rest of the world.

**Saudi Arabia**

Saudi Arabia being the leading producer in crude oil produces around 10.2 million barrels per day and it continues to dominate the OPEC.

In order to understand Saudi Arabia’s rationale with respect to its resilience to cut oil production, it is necessary to understand the role it played during the crisis of 1980 and how it may be using this lesson from the past to deal with the current situation. The 1980’s were an era that was dominated by falling oil prices as a result of the debt crisis. Constant downward pressure on oil prices prompted Saudi Arabia to cut its production, in an attempt to stabilize prices. As a result, in August 1985, oil production fell from 10 million barrels per day in Saudi Arabia to 2.3 million barrels per day. However, Saudi Arabia very soon realized that lower production would result in it losing its position in the market; therefore it resorted to immediately increasing its oil production. As a result of this move, oil prices continued to plunge, until it reached a point where the oil production in United States was deemed unprofitable, thereby halting the production process. This led to an increase in the demand for oil imports to the United States so as to allow them to meet their energy needs. This increase in exports eventually resulted in not just stabilizing oil prices, but also led to significantly increasing the market share of Saudi Arabia, and the rest of the members in the OPEC. The share of Saudi Arabia increased from being at 41% in 1985 to 51%.

In contrast, unlike other oil producers who could be severely affected by this decision of Saudi Arabia, the country itself will not face much of a crisis, at least initially, owing to its enormous reserves that allow it to withstand such shocks for a prolonged period of time. Although the country derives 90% of its government revenue from oil sales, it is still in a better fiscal standing with low oil prices. As per a Brookings report, the Kingdom has financial reserves worth $735 billion, allowing it the flexibility to maneuver with prices. Nevertheless, Saudi Arabia’s rationale to remain inactive on the supply reduction front can also be linked to its regional strategy. Low oil prices are also a matter of serious concern for its rivals such as Iran and Russia, whose policies support the Assad regime in Syria. Both countries provide support to the regime militarily, with Iran spending about $1 billion per month (despite international sanctions) and Russia (despite its sanctions after the Ukraine incident) providing similar assistance. Saudi Arabia’s strategy against Iran also proves beneficial in the context of the conflict in Yemen.

Through strategic maneuvering and relationships, Saudi Arabia has managed to uphold its market share in the US despite increasing Shale gas production. Although oil exports into the US from other countries have dropped, Saudi Arabia continues to supply 1.2 mbd as it has been doing since 2009. The main reason for this being the distinction in the quality of the Shale oil and Crude oil; as a result of which the two are not in direct competition. Shale oil being much light oil cannot be compared to the heavy density crude oil.
Furthermore, Saudi Arabia’s Aramco, the oil company that handles the Saudi crude oil, has established strategic ties with various oil giants dating back to the 1930s and 1940s. Aramco is the successor of the Arab American oil company, which was formed by collaboration between Chevron, Texaco, Exxon and Mobil; after the acquisition of Texaco by Chevron and Mobil by Exxon, these two continue to remain the largest importers of Saudi Crude into the US.56

Saudi Arabia’s Aramco wishes to established similar strategic ties in China to sustain and facilitate its crude oil exporters into the country as exports from Saudi now face competition from Russia and Iraq. In addition to ensuring that its export volumes to China are maintained, Saudi Arabia might also consider buying stakes in Chinese refineries, like it did in the US, to maintain its market share in China.57

Response from the Government

Saudi Arabia declared a budget deficit of $98 billion in 2015 owing to the decline in oil revenues because of low oil prices.58 The Saudi central bank’s net foreign assets fell by $96 billion to $628 billion in the initial months of 2015; as a result of which the government resorted to issuing bonds worth $20 billion to finance a deficit that accounted for 15% of the economic output.59 The government also withdrew $88bn from its foreign reserves to add to its budget in 2015.60 The government is being coerced to undertake austerity measures to reduce the budget deficit that it has gathered since the fall in oil prices. This will entail a smaller growth rate for the government in the coming years. If low oil prices prevail, the government would have to implement greater austerity measures.

In December 2015, Saudi Arabia responded by slashing various subsidies and by raising the price of high-grade and low-grade petrol by 50% and 67% respectively—from 0.60 riyals to 0.90 riyals for the former, and from 0.45 riyals to 0.75 riyals for the latter.61 The government is also considering increasing prices of other energy sources such as diesel, kerosene and electricity in the near future. The government is also in talks to implement a value-added tax in the kingdom. This tax, once introduced, would subsequently increase non-oil revenues in the kingdom. “Assuming the rate is introduced at 5%, this could estimate an yield of SR 35 billion to the government, equivalent of about 1.2 % of the GDP in 2018”.62 This would enable the government to develop its fiscal standing, but could be a matter of concern for businesses and consumers.

With heavy reliance on oil revenues to fuel its government and state expenditure, the fall in oil prices called for diversification in the Saudi economy. Although the country has large financial reserves, the IMF anticipates that with declining oil prices, these reserves will also deplete rapidly, and that Saudi Arabia may exhaust its reserves within 5 years if it doesn’t look at other means to diversify the economy.63 Noteworthy government investments have been made to fuel the construction sector in the country that witnessed a growth rate of 6.7% in 2014.64 This sector is anticipated to growth further in the coming years as the government intends to expand construction in sectors such as energy, transport infrastructure, health care, tourism and housing. However, Saudi Arabia is forecast to experience a 20% drop in construction expenditure, and will stand at $40.7 billion65, in the light of the low global prices to deal with the diversification and new projects. Yet, projects in the
infrastructure line will continue to expand as the country prepares to support its growing population.

The government is also considering privatizing major investment projects, such as the big oil companies and national health care providers; so as to avert the reliance of these investments on the government budget. The government is considering selling off stakes in Saudi Aramco\textsuperscript{66}, apart from other unused and underused assets such as land held by the government to encourage private sector to develop and utilize them.\textsuperscript{67}

**Qatar**

Qatar is dominant player in the Liquefied Natural Gas (LNG) market, which is considered to be a cleaner energy source that can be easily transported over large distances. Qatar supplies a third of the world’s LNG.\textsuperscript{68} Qatar leads the LNG market and surpasses Saudi Arabia’s position in the crude oil market. In the last few decades, increasing demand and limited supply in the market paved the way for Qatar to exploit its reserves and gain a considerable position in the energy economy. However, with the recent decline in prices, the tenure of Qatar’s dominant position in the world can soon be expected to end.

Qatar enormous reserves of gas supply come from the North Field, which is considered to be the largest non-associated gas filed, which it also happens to share with Iran.\textsuperscript{69} The exploration of this North field only began post the oil crisis of 1980’s, although gas was never considered to be a priority for many. With growing developments in East Asia in the 1980s, demand for LNG and other energy sources increased. As a consequence, Qatar sent out its first LNG shipment to Japan in 1997.\textsuperscript{70} Very soon, the country began investing further to aid transportation of LNG to its suppliers in Asia, which further drove down costs and introduced it to its other potential suppliers in Europe and Asia.

This attracted major oil and gas giants such as Shell and BP to invest in the Qatari market. Shell made a major investment in the form of $19 billion to establish the world’s first largest gas-to-liquids (GTL) plant in Qatar; as a result of which, Qatar now leads in the GTL field.\textsuperscript{71} This GTL facility now allows the country to convert gas in other value-added products in the economy, thereby allowing it to increase its returns from LNG. LNG continues to be the largest source of revenue for the country. The Shale oil revolution in the US also directly impacts the country’s reliance on LNG output from Qatar. The US market was one of the initial importers for Qatar, with terminals being set up specifically to transport LNG to the market. However, with the recent trend that has caught up in the country, the terminal now sits idle, receiving very negligible amounts of LNG supply. With the development of Shale oil in the US, the country has now become a potential competitor for markets in Europe and Asia with Qatar, due to its proximity to these countries. This is seen as an advantage for countries in Asia, who wish to diversify their energy sources.

The Article IV report released by the IMF in 2015 indicated that only 59% of the government revenue is derived from the hydrocarbon industry (33% from oil and 26% from LNG).\textsuperscript{72} However, it must be noted that although the remaining does not directly come from the hydrocarbon industry, but majority of the other industries are indirectly reliant on the hydrocarbon industry.
Figure 4: Revenue sources for Qatar

Source: IMF Article IV Qatar Report 2015

Response from the Government

The country witnessed a fall in its budget revenue as it transitioned from 2014 to 2015, despite efforts being made in 2013 to cut back on major expenditures. Political reforms in the country were introduced in 2013, when the new Emir Sheikh Tamim Bin Al Thani, came to power, and brought significant cuts in government expenditure. Qatar has been investing significant portions of its government revenues on infrastructure and development projects, mostly aimed for the World Cup in 2022, aside from its Long –term national vision for 2030.

Qatar is a major supplier of LNG, as a result the economy of the country, unlike that of Saudi Arabia, depends largely on gas exports and not oil exports. However, it must be noted that Qatar is predominantly a gas exporter, and the price of oil is only weakly correlated with gas. Additionally, it must also be noted that Qatar has mostly sold LNG through long term contracts to various nations, which consequently shield the country from price volatility in the markets to some extent in the short-term.

Qatar, like the Saudi Arabia and UAE is at a better position, mostly due to its low production cost. However, low oil prices have resulted in the country incurring a budget deficit of QR 46.5 billion dollars for 2016. Most importantly, the country has vast fiscal reserves in its sovereign wealth fund, which according to the IMF is worth US $175bn. This deficit has compelled the country to cut back on major spending. The country has decided to spend 7.28% less than what it spent in 2015, or QR 15.9 billion. These vast reserves are capable of absorbing the pressures from the oil price crisis, thereby making the economy and the people prone to dramatic shocks. The
government expects to make about QR 156 billion in 2016 in terms of revenue, which is much lower compared to the QR 225.7 billion it made in 2015. The new government has also cut back on expensive projects such as the Qatar Foundation, which harbors foreign universities. Government budget allocations have substantially reduced, except for military budget, which in fact rose in 2015. The country is also trying to push for diversification and reduce its reliance over oil revenues. The reduction in government spending is intended to achieve efficiency in the economy.

Furthermore, the government is not too keen to tap into its reserves in order to finance the deficit, but is instead looking to borrow funds. The government is of the belief that unlike how the UAE had tapped into this reserves in past and had increased its changes of further damaging its economy, Qatar wishes to look at other sources to finance itself. Qatar is considering the likelihood of borrowing money from local and foreign lenders to overcome these shortcomings, rather than tapping into its reserves or liquidating its assets as it the case of Saudi Arabia. Fuel subsidies have been slashed by Qatar and the population witnessed a 30% rise in fuel prices in January 2016. The government is also considering reducing other subsidies in the market.

Qatar is expecting a fiscal shortfall of 4.9% of its GDP in 2016 due to the low oil prices. This has compelled the government to reevaluate its strategy and cut spending and lay off staff in areas where they felt their role was redundant. In the light of the upcoming world cup in Qatar, construction has been one of the major sectors of government expenditure. But, the allotted government budget for construction projects was decreased by $8 billion in 2016. This budget allocation has dropped from the $30 billion that was previously allotted for construction expenditure in 2015. The country is however reevaluating its infrastructure and construction strategy for the world cup.

Furthermore, sectors such as Education and heritage have witnessed significant cuts in budgets. The education sector has been allotted QR 20.4 billion through the government budget, which is low compared to the budget allocation of QR 26.3 billion in 2015. The Qatar Foundation was one entity that suffered heavily because of cuts in budget from the government and outlays in staff. However, it is essential to note that Education, and Qatar Foundation in this case is one of the major tools for the country to diversify and shift its dependence away from oil revenues. Government expenditure in the field of healthcare is expected to grow, although many of them have outlaid significant number of staff and health care personnel due to their roles becoming redundant.

United Arab Emirates

The Emirates encountered a slight rise in its GDP from 2013 to 2014; a 3% increase from Dh931.8 billion in 2013, to Dh960.1 billion in 2014. Unlike its neighbors, the UAE government seems to be less affected due to its already diversified economy. UAE has been playing a proactive role in the region, with significantly making reforms in various fields. In 2014, oil revenues accounted for 30% of the UAE economy. The UAE is however not only looking to diversify its energy sources, but is also looking to diversify the sources of income in the economy. UAE had experienced a great year in terms of economic growth in 2015, but is
expecting to experience slower growth rates in 2016. However, due to UAE’s efforts to diversify its economy, it is expecting an increase in the non-oil GDP contribution from 4.6% in 2015 to 5.3% in 2016.\(^6\)

In a response to the slow economic growth and slow growth in demand, the UAE government has significantly cut its government spending.\(^7\) The government has also remodeled its outlook towards energy supply and consumption in the country by introducing cuts in various subsidies being offered on water, electricity and petrol. As per the IMF, the UAE annually allocates 20% of its budget to subsidies in energy.\(^8\) As a result, the UAE government has decided to cut down on these subsidies to limit government spending and to allow UAE to better cope with its debt. Similar to its neighbors, UAE also has a considerably large sovereign wealth fund, which was worth $773 billion in 2013, and accounted for 130% of the country’s GDP.\(^9\)

**Response from the government**

Of all the countries in the OPEC, UAE has the most diversified economy. Dubai has long been established as the global brand for tourism, financial investment, healthcare and many more. Abu Dhabi on the other hand has large endowments in the hydrocarbon sector, with Sharjah and Ras Al Khaimah contributing towards the manufacturing and production sector.\(^0\) The country as a whole has taken a pragmatic approach towards diversifying the economy. The non-oil private sector is constantly in demand, which is further fueled by tourism in Dubai. This increase in tourist numbers subsequently impacts the retail markets in the country. The retail sales witnessed a 7% increase owing to the increase in passenger traffic in 2014, and are only expected to rise further.\(^1\)

Furthermore, the UAE has already played a great role in providing significant support to small and medium sized enterprises in the past, that they now account for nearly 60% of the non-oil GDP in the economy.\(^2\) The government is also looking at ways to further promote this sector in order to derive more outcomes from it. Apart from focus on the SME’s, the government is also paying considerable attention to progressing the knowledge economy. UAE has been an important player in the field of innovation and technology in the past, mostly because of the presence of an active knowledge based economy in Dubai. But the country is now looking to collaborate with countries known for their knowledge-based economy such as North America to further develop this field. The UAE has already invested around 300bn Dirhams for the sake of innovation and knowledge development.\(^3\)

The industrial and manufacturing sector is another important player in the economy. It holds the capability to further increase production and contribute significantly towards the GDP of the country. Currently, the industrial sector accounts for 14% of the GDP, but the government officials feel that they could see the sector grow to 20% by 2025.\(^4\) With the World Expo 2020 approaching, Dubai will be diversifying further and non-oil GDP will contribute greatly towards the growth of the economy. The real estate sector is another booming industry in the UAE. Increasing foreign investment in the industry only aids and further prospers the industry. It was forecast that infrastructure projects would account for 41% of total government spending in 2015.\(^5\)
Apart from working on diversification efforts, the country is also paying major attention to cutting back on workforce in various sectors. Amid the drop in oil prices, many companies intend to restructure and cut jobs. Etihad rail, which will link the six Persian Gulf nations when completed, recently announced a 30% reduction in its workforce. Other sectors such as banking have also cut jobs as a result of recent restructuring.

Additionally, similar to the governments of the other GCC countries, the UAE government is also in talks of implementing major economic reforms in the country, in the form of Value added tax. This comes as a major reform to the GCC states as they were all previously predominantly minimal tax systems, with absolutely no tax levied on income. This is what made the region a lot more attractive to foreign investment and migration. The UAE government would however not tax healthcare, services, education and certain food items. This VAT implementation would allow the government to increase its revenue for the non-oil sector in the long run.

Recommendations

Stagnating oil prices coupled with resilience from the major oil producers such as Saudi Arabia and Russia to implement reforms to curb oil production, certain analysts feel that a behind the scenes deal between these major oil producers could help curb further losses to the economy. These producers could draw from the lessons of 1998 when countries such as Saudi Arabia, Venezuela and Mexico brokered a deal with regards to their oil outputs. The same can be done in the current scenario where oil giants, Saudi Arabia and Russia, if manage to broker a deal to curb oil productions, can bring some much needed stability to oil prices in the economy. However, the lack of trust between these two countries, as well as their own political interests in maintaining oil supplies makes the situation a lot more complicated than it actually is.

The absence of a framework to deal with non-OPEC countries such as Russia increases concerns of OPEC countries of Russia not cooperating and diverging from the pact and increasing oil production in the near future. Although, it is imperative to note that the Saudi government has agreed to cut production levels if met with a similar response from other key OPEC and non-OPEC producers. However, Iraq and Iran within the OPEC remain major challenges to reach such an agreement, besides Russia, which is not trusted by the OPEC countries.

Certain officials of Putin’s government also feel that a joint agreement is possible to halt the falling prices. However, the aftermath of the deal with the OPEC in 2001, where Russia agreed to cut production, only to deviate later and increase its production is the reason for the sustained mistrust against Russia. Nevertheless, the dynamics of oil production and ownership have changed since then, with the ruling party now having greater authority over the oil industry. With significant revenue losses at stake for both countries, it could be expected that prolonged low oil prices could provide increased incentives for these countries to compromise a deal.

Additionally, other members of the OPEC such as Venezuela is also pushing for joint effort to prop up prices, which are close to the lowest they have been since 2003, hitting a record low of $27 pb in January 2016. If the deal between Saudi Arabia and Russia were to materialize, it would soon result in propping up oil prices and will
increase income of Saudi oil. This would eventually reduce the Saudi Deficit of $98 billion, apart from enhancing its fiscal standing.

With respect to the VAT being implemented in the GCC countries, it is imperative that the VAT be introduced as a collective effort by all the countries in the GCC at once, rather than be implemented unilaterally by the countries. This collusive effort will prevent competition within these countries and will help generate better revenues for the governments. With respect to taxing incomes, this move could have serious repercussions in the countries. It may sound good in principle, but implementing it would be a lot more complex. Furthermore, this move would mean divulging from the implicit social contract, which is prevalent in these previously tax-free societies. This contract stipulates that the citizens hand over the reigns of control in the country to the ruling elite, in exchange for tax-free systems and better standards of living. Taxing citizens would then introduce the notion of equal representation for all citizens in decision-making, as taxation is better understood this way in the western countries. However, this notion would not materialize in the GCC countries, and could possibility take another dimension of better security and protection for these citizens. The GCC countries should also consider investing and promoting the private sector. The private sector holds enormous potential and can enable the countries to generate significant non-oil revenues and move away for dependence on oil revenues.

**Conclusion**

The period of low oil prices is likely to bring about a new phase in the GCC, despite the volatility in oil prices and anticipated contractions in the region, the GCC will continue to play a significant role in the long term growth. With OPEC inaction on grounds of curbing oil production and in turn further impacting oil prices, new dynamics have emerged in the oil markets. In such a situation, the US has emerged with its Shale oil supply, and has over-time considerably prospered as a result of technological advances, availability of capital and creating temporary excess in the market.

Although, with new efficiency and extraction techniques, the shale oil producers can soon re-enter the market and start production again, as soon as the oil prices stabilize and the markets are rebalanced. Self-sufficiency and independence will give way to reforms on the US outlook and will create new nuances in its foreign policy in the GCC. Although given the importance of the large oil reserves, the GCC countries will continue to be of strategic importance to the US.

Moreover, on a domestic front, the Gulf States need to work on their policies to diversify their economy. This can prove to be expensive and a long process for many, but there needs to be a shift with respect to reliance on oil revenues. Since, many countries of the GCC face economic constraints, which in the long run can lead to instability within the countries, there is a greater need to diversify income within the countries.
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