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Drone Attacks on Saudi Arabia's Oil Refining Facilities: Lessons to be Learnt

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It is not the impact of the decline in Saudi oil production caused by the attacks on oil infrastructure in Abqaiq and Khurais, but the risks of the repetition of these attacks is what really matters for the global oil and petrochemical market.

The consequences of September 14th's attacks on the Saudi oil infrastructure were immediately declared by the international expert community as one of the most sensitive oil shocks that have hit the global oil market since 1973 when the Arab oil producers imposed an oil trade embargo against States supporting Israel in the Yom Kippur War. Indeed, the attack on oil and refining facilities in Abqaiq and Khurais has temporarily decreased the Saudi oil output by 5.7 million barrels per day (mbpd) which is equal to 5 per cent of the global output. This one-time decrease in the global oil production has immediately spurred the large number of negative predictions. The negative forecasts suggest that if Riyadh fails to bring its output back on line within a month or two, the existing spare production capacities of other oil exporting countries will not be enough to compensate for the lack of Saudi oil in the market. The subsequent supply deficit, in turn, was expected to bring oil prices far beyond the current level.

Some experts even made unrealistic predictions that prices might even cross the US$100 per barrel threshold, should Saudi Arabia fail to restore its oil output in the promised short-term period. This would, consequently, increase incomes of key oil producing countries while harming the interests of main oil consumers such as the US, EU, India, China, South Korea and Japan. At the same time, the potential decrease in Saudi oil exports would solve the problem of global oil oversupply in 2020 and would allow the members of the so-called OPEC+, a group of oil producers involving OPEC and non-OPEC countries, to further maximize their profit by abandoning production limitations they first adopted in 2016 to keep oil prices high.

False Expectations

From the very beginning, the above-mentioned negative scenario had little chances to be implemented nowadays. First of all, in modern realities, oil production shocks have a rare long-lasting impact, as the demand always needs less time to adjust to them, than if it happens with oil supply during changes in consumers' behavior. For sure, the oil production drop in Saudi Arabia could not go unnoticed. It led to the temporary spikes in oil prices that partially dropped in the following days.

However, these price jumps were largely determined by the speculative nature of the modern oil market, absence of substantial data on the actual damage of the Abqaiq and Khurais infrastructure and uncertainty regarding the period of its repair. The absence of clarity caused panic; thus, contributed to boosting the prices up. In addition, some of the Saudi Arabia's customers such as India did not have enough reserves to secure their needs in imported oil in the long run. For instance, according to some estimates, India's strategic oil reserves are enough to sustain its needs for 9 days. The concerns of these consumers of the Saudi oil, and expectations that they will be looking for alternative sources of supplies have only boosted the rise in prices. Yet, as soon as the market prospects became clearer and brighter, these negative expectations were offset, and so were the prices whereas the market performance became more stable.

Not the last role in the stabilization of the situation at the oil market was played by the fact that the current aggregated world reserves of oil are enough to satisfy existing demand for up to four months. This period might be enough for the world economy to readjust the global demand and bring additional production capacities on line. The initial estimates of the Saudi capacities to repair their oil infrastructure also appeared to be too pessimistic. Instead of initially suggested period of four months, the pre-attack production level was restored within several weeks while the restoration of full production capacities might end up by December. However, after reaching the pre-attack level of oil extraction, Saudi Arabia can afford spending time on the restoration of its full producing capacities: due to its obligations to cut oil output within the framework of the OPEC+ agreement, on the eve of the Abqaiq incident, the de-facto oil output of Saudi Arabia was far below production capacities (approximately 9.6 mbpd against 12 mbpd). Given that the members of the OPEC+ are considering the extension of the current production cuts beyond 2019, Saudi Arabia will not need its spare oil extraction capacities any time soon.

The Attack on Abqaiq and Saudi Petrochemical Industry

The fall in Saudi oil production appeared to be far more sensitive for the Kingdom's petrochemical industry and its consumers. On the one hand, the Abqaiq incident clearly demonstrated that Saudi Arabia was successful in diversifying its economy through the development of oil and gas-related industries. However, it also showed the vulnerability of the economy whose development is based on predominantly vertical diversification.[1] The disruption of oil production deprived the leading KSA's petrochemical companies of their feedstock effecting their own output capacities and the volume of their exports. Meanwhile, the importance of the Saudi petrochemical industry for the global market of petrochemical products is difficult to underestimate. The years of diversification programs turned the Kingdom into a the leading producer of ethylene (9% of the global capacity), polyethylene (8% of global capacity) and monoethylene (8% of the global capacity) that are important feedstocks for a wide array of industries starting from automobile to package industry. As opposed to oil consumers, the clients of Saudi petrochemical companies in Europe and, especially Asia, appeared to be less prepared for the supply disruptions when their partners from Saudi Arabia informed them about possible delays with

[1] Vertical diversification implies adding new stages of processing (or suppling) of domestic/imported inputs. In this model, the output of one production activity becomes the input of another. This, in turn raises the added value produced inside the country. For Saudi Arabia such strategy meant the development of the advanced petrochemical sector on the base of existing oil and gas industry. See, for instance, Ashraf Mishrif, Industrialization and Diversification Strategies in the GCC Countries https://www.researchgate.net/publication/330081651_Industrialization_and_Diversification_Strategies_in_the_GCC_Countries accessed 28 September 2019.

product delivery in October and November.

Yet, even the disruptions in Saudi petrochemical exports might not have that long-lasting effect on the global economy. As it has already been mentioned, the repercussions of production shocks are less long lasting than the changes caused by alterations in consumer's behavior. In case of production shock, the rules of the market play the leading role by readjusting the supply-demand balance. However, the consumer's behavior is mainly driven by psychological perceptions and expectations that are not always relevant to the rules of economics. Under these circumstances, the consumers' concerns that drone attack might reoccur can change the whole picture.

New Threats and the Potential Long-Term Consequences of the Abqaiq Incident

The Abqaiq incident demonstrated that the oil and petrochemical complex is facing a new type of security threats when the relatively cheap air-strike weapons can be effective against sophisticated air defenses bringing high damage to their targets. On August 20, when commenting the situation with Abqaiq attacks, the US Chairman of the Joint Chiefs of Staff, General Joseph Dunford, was clear that even an increase in the numbers of the US personnel in the Middle East and the provision of new weapons to the Saudi Arabia cannot guarantee the security of the oil infrastructure in the Gulf. These statements only confirmed and aggravated market concerns. The possibility of new attacks on the oil infrastructure of the Gulf itself will ensure a slight increase in oil prices that will be difficult to counterbalance as it is not connected to the production capacities but perceived as geopolitical risks. The risk premium on oil exports from the region is estimated in the wide corridor between USD5 – 10 per barrel. This will definitely help ensure the fluctuation of oil prices in the corridor of USD60-70 per barrel until, at least, 2020.

On the other hand, the risks of repeating attacks on the oil refining and producing infrastructure in the Gulf will compel consumers to decrease their reliance on supplies from the region. In the first turn, this process will affect Asian clients of Saudi Arabia such as China, India, South Korea and Japan whose percentage of dependence on oil imports from Riyadh vary varies between 16 and 36 per cent. Under these circumstances, for instance, Russia can be an alternative from which the Asian consumers can import while decreasing their dependence on the Saudi Kingdom. During the last decade, China already occasionally increased purchases of the Russian oil to be less dependent on the Gulf hydrocarbons. Nevertheless, Moscow is not the only alternative supplier of oil and petrochemical products to the Asian consumers. Neither is it the main option.

Who else can Profit from the Attacks?

As argued by analysts, given raising American capacities to produce oil and polyethylene, the US might profit much more from the increased access to the Asian market, should the local producers decide to diversify the sources of their supplies. Thus, right after the Abqaiq incident, the Chinese importers of liquefied petroleum gas (LPG) were seriously considering additional purchases of LPG from the US to compensate for potential delays with the delivery of feedstock from Saudi Arabia. It is notable that even

high tariffs that made the American products expensive for the Chinese companies did not prevent consumers in China from considering the American offer. Under these circumstances, the US oil industry has already received the signal from the White House that it needs to continue growing in order to ensure the country's own energy security and to increase presence in the overseas market. This =also sends a message to investors that the recent negative tendencies in the American oil industry should not prevent them from investing their money into US independent oil producers, especially when, in 2019, the US was supposed to become a net exporter of oil for the first time in recent history.
The Premier of Canadian Alberta, Jason Kenney, was even more precise in his statements. He argued that the oil industry of Alberta is located in a far safer place than the oil of the Gulf, thereby hoping that global oil consumers will pay more attention to Canada as an alternative supplier of oil. Even the petrochemical industry of Europe is expected to profit from the overall situation when the local consumers in the EU countries decide to become less dependent on Saudi imports.

What should be done by Saudi Arabia?

Under these circumstances, the change in the behavior of the traditional Saudi Arabia's clients might bring new challenges for Riyadh. On one hand, it will have to fight harder for its traditional Asian markets. For now, the Saudi business is to prioritize the implementation of its contract obligations for its Asian consumers of petrochemical products. However, this might not be enough: the Saudi side will also have to think about raising effectiveness of its oil infrastructure's defense. Among all, the changes in the geographical structure of country's oil and oil refining infrastructure are highly desirable: as demonstrated by the Abqaiq and Khurais attacks, just two successful precision strikes allow shutting down the lion share of Saudi oil production.

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