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Floating Oil Storage: A Means to Increase Oil Profits or Evidence of the Effectiveness of the Embargo on Iran?

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ABSTRACT

This article begins by introducing the nature of the tanker market in recent years and the main reasons for deflecting tankers from their normal usage of transporting oil and converting them into floating storage devices due to changes in the market structure. The research then defines the reasons for using tankers for floating storage and concludes with a depiction of the use Iran makes of floating storage in its attempt to contend with the volatile situation of the oil market.

The oil tanker market has considerable influence on the modern economy. The increasing importance of oil as one of the main elements in energy consumption caused the tanker market to become a significant and influential factor in the oil industry. In 2009, for example, half of the 88 million barrels of oil consumed worldwide was transported by various types of tankers, with the rest being transported overland. However, changing consumption patterns, government maritime laws, dependence on tanker building companies and the need to scrap some of the tankers due to superannuation or surplus have made the market very volatile and been detrimental to tanker industry profits. Generally speaking, factors such as world demand for oil products, the distance between oil producing countries and oil consuming countries, the laying of transatlantic pipelines, the number of tankers converted to floating storage devices, and tanker availability as well as the number of tankers designated for scrapping have influenced the industry and its cost effectiveness.

1. Introduction

From time to time, oil companies convert oil tankers into "floating oil storage". Floating Oil Storage is a system that makes use of tankers, normally used to transport crude oil, for temporary storage. Tankers converted for storage anchor in various ports for short periods of between 4 to 6 weeks, and sometimes for longer periods of 3 to 6 months. In most cases, VLCC tankers are used for floating oil storage because they have the capacity to hold about 2 million barrels of oil. Since 2006, floating oil storage has increased due to European environmental laws, trader machinations to increase their profits, tightened sanctions on Iran and the marked changes in oil production and oil consumption patterns. In recent years, Iran has become the main player on the floating oil storage market. Between 2008 and 2009, Iran used floating oil storage both to raise profits and to adhere to its budget. In 2010 and 2011, however, the increase in floating oil storage proved the effectiveness of sanctions on Iran and emphasized Iran's difficulties in selling its products to oil companies and to Western states (Lee Taseoo, 2004; EIA, 2011).

The economic crisis that erupted in August 2008 caused the tanker industry to collapse and to revert to the difficult situation it had been in during the 1980s. Unlike with other industries, however, the crisis in the shipping industry was already predictable at the end of 2006 when, although there was a sharp increase in oil consumption, a larger than necessary number of tankers were put to use. Indeed, there were 2,098 tankers in 2001, and that number had risen to 4,177, with only 85% in use, by 2006. Despite the warning signals, the shipping companies only began to realize the depth of the crisis when the economic crisis in the United States worsened. As a result of a lack of activity and a sharp decrease in profits, the number of tankers sent for scrap rose significantly. For example, 826 tankers were sent for scrap in the 2 years period between 2005 and 2007, while a similar number was sent for scrap within the very short period between the end of 2008 and April 2009. The economic crisis also caused oil companies with big tanker fleets to increase their floating storage in order to reduce the number of vessels at hand, thereby enabling them to raise daily freight rates. In November 2009, for example, 141 oil tankers, about one tenth of world tankers, were reported to have been converted for floating storage, which proves the extent of the crisis (OPEC, 2009).

The shipping and tanker industry continued to lick its wounds in the years that ensued the crisis. Indeed, despite the

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revival the industry underwent in 2010 when freight prices temporarily increased, the tanker market reverted to its lack of stability in 2011, mainly because orders for new tankers had been made before the crisis and could not be cancelled. Between July and October 2011, for example, the average cost for leasing a VLCC (Very Large Crude Carrier) was $12,000 per day, the lowest it had been since the mid-1980s. For that reason, the shipping companies were forced to scrap tankers that had been in use for less than 15 years while they had, heretofore, only scrapped tankers that were at least 22 years old. Furthermore, there has been a significant decrease in orders for new tankers: according to the Gibson ship broking company, the 5.6% increase in 2010 decreased to 2.1% in 2011. As a result of the slowdown in orders and failed attempts to be more efficacious, many companies went bankrupt and others slowed down shipping speeds in order to minimize operating costs. Despite the drastic steps taken, however, there were 64 new VLCC tankers at the end of 2009 and, according to estimates, there will be an additional 80 such tankers by the end of 2012, which will bring about unprecedented excess in tankers and cause freight rates to be low. Moreover, the crisis in the industry was further deepened by the tsunami that hit Japan in March 2011 and caused a decrease in demand for oil products, as well as the sharp decrease in Libyan oil production, all of which also resulted in lessened need for tankers. The state of the tanker market in recent years has caused freight rates for VLCC tankers on the Japan – Persian Gulf route to go down to a mere $5,000 per day, in contrast with the average freights rate of $160,000 per day in May 2008 (Wiese Bockmann, 2008; Tankers 2011; McCarth, 2011 ; VLCC opportunities, 2011).

2. The Use of Tankers for Floating Storage

Oil companies sometimes convert oil tankers for floating storage use. Floating storage is a way to make use of tankers, which are ordinarily used to transport crude oil, for temporary storage. Tankers that are converted for storage use anchor in various ports for short terms of between 4 and 6 weeks, and sometimes for longer terms of between 3 and 6 months. In most cases, VLCC tankers are used for floating storage because of their capacity to store about 2 million barrels of oil. Usage of tankers for floating storage has grown since 2006 due to European environmental laws, trader machinations to increase profits, tightened sanctions on Iran and the marked changes in oil production and oil consumption patterns. All those factors have had an influence, both short and long term, on oil prices.

The use of oil tankers for floating storage grew in October 2003 when the European Union drafted a resolution to gradually prohibit single hull tankers from anchoring in European ports. That resolution was yet another in a long line of resolutions that aimed at reducing pollution and preserving the environment in EU countries. The resolution even stated that the EU would work towards ensuring that similar laws be adopted by international organizations and by shipping organizations, and indeed, as soon as the resolution was passed, single hull tankers carrying crude oil were prohibited from anchoring in European ports. The resolution also included a plan for the tanker industry to gradually phase out single hull tankers. It was resolved, for example, that single hull tankers carrying 20,000 tons would be prohibited from entering E.U. ports by 2005. The next stage was a resolution that MARPOL tankers, which had less potential to damage the environment, would also be prohibited from entering European ports as of 2010. As a result of the tough European legislation, there was a significant cutback in single hull tanker fleets between 2003 and 2010. In 2011, there were a mere 57 such tankers in the world, mainly in China, Brazil and Indonesia, compared to 628 tankers in 2007. As a result of the limitations against single hull tankers, companies began to take them off the market and many were converted into floating storage vessels in order to avoid scrapping them. Floating storage, which had heretofore been negligible, now began to increase because of the legislation (Wiese Bockmann, 2007; McCarthy, 2011).

The afore-mentioned sub-prime crisis in the United States was unprecedentedly detrimental to the shipping industry in general, and to the tanker industry in particular. The sharp decrease in economic activity and the reduced demand for oil products became a problem for the tanker industry, which absorbed heavy losses. At the beginning of August 2008, the price of a barrel of WTI oil on the New York Mercantile Exchange was $148.31, as compared to $35.59 in December 2008. Despite the economic depression and the steep drop in demand for oil products, however, many traders believed that the price of oil would rise and therefore hastened to store oil in tankers in order to later sell it at higher prices. Oil pumping was now not advantageous for the OPEC states due to the drop in oil prices, and they therefore had to cut production in order to raise prices, and indeed, OPEC's decision to cut production in November 2008 encouraged many traders to store oil in floating storage. Between January and April 2009, an average of 45 to 50 tankers out of a total number of 532 VLCC tankers were used for floating storage in order to take advantage of potential future profits from gradual oil price increases (Wingrove**,** 2009; Joshi**,** 2009).

3. Iran's Role in the Floating Oil Tanker Market

Iran has become more powerful in the tanker market in recent years. The National Iranian Tanker Company (NITC), which was privatized in 2009, turned Iran into the most important player in the oil tanker market in the Middle East and the fifth largest in the world. In 2010, the company had 28 VLCC tankers, 9 Suezmax tankers and 5 Aframax tankers, and according to their acquisition plans, Iran will have 50 VLCC tankers by 2013, thereby becoming the most important player in the market. Iran has increased its tanker fleet because it aspires to freedom of maritime movement and because 70% of VLCC tankers are nowadays en route to Asia - mainly to China and India. Furthermore, an enlarged fleet can provide a quick solution to increasing demand as well as preserve Iran's position as a leader in the energy market in its competition with Russia,

and, more recently, with Saudi Arabia, over the Asian markets. While the Saudis reduced the number of their tankers from 46 to 35 between 2006 and 2011, the Iranian fleet grew from 32 to 47, which amounted to about one third of OPEC's entire tank fleet (Lloyd's 2009**;** Lloyd's 2009**;** OPEC 2011).

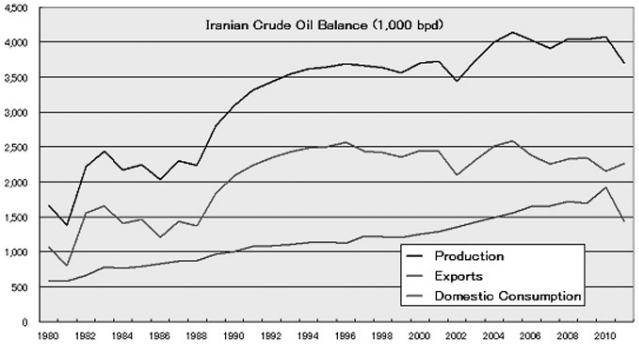
In recent years, other than increasing its influence in the tanker market, Iran has also become the most prominent floating storage user. During 2011, for example, on several occasions, it converted almost its entire tanker fleet - 24 out of its 28 VLCC tankers - into floating storage. Furthermore, about 50% of tankers converted to floating storage worldwide are from the Iranian tanker fleet and, in some cases, the number of Iranian floating storage tankers make up 80% of the market. For example, Iran was using 16 out of the 18 VLCC tankers converted for floating storage worldwide in October 2011, while at the end of March 2011 it was using 24 out of a total of 55 tankers, indicating that there were times in 2011 when Iran had about five billion dollars' worth of goods in floating storage (Lloyd's, 2011).

As a consequence of its power in the tanker market, Iran used floating storage for several purpose up until 2010. In 1991, Iran, Kuwait and Saudi Arabia increased the number of their floating tankers to 91 in order to raise freight costs. In other cases, Iran used tankers to store excess oil because of OPEC resolutions to immediately cut production rates. In 1999, for example, Iran put 39 million barrels of oil into storage after an OPEC resolution to slow down production. In 2006 Iran used the same system to store oil when fields such as Soroush and Nowruz reached peak production due to limited land storage facilities. On the other hand, just before oil prices collapsed in 2008, Iran significantly reduced its floating tanker supply in order to take advantage of the high market prices and to rake in enormous profits. Iran's policy reflects its use of tankers to make big oil profits as well as its central role in shaping the market (Lloyd's, 1999; Lloyd's, 2006).

At the end of December 2008, the price of a barrel of Brent oil was $33.83, about $4 below the profit margin of some of the prominent OPEC states such as Saudi Arabia, Kuwait and the UAE. Iran and some of the leading oil companies, such as Shell and British Petroleum, hastened to convert oil tankers to floating storage in order to sell their goods at higher prices in the future, and indeed, there was an increase in the amount of crude oil in floating storage in the ensuing months - from 55 million barrels in February 2009 to 100 million in April – with Iran using one third of the all worldwide tankers for floating storage. The increase in the number of tankers converted for floating storage became evident as of February 22nd 2009 when the price of a barrel of Brent oil was $41.27 and increased by 25% to $51.84 a month later. Moreover, in September 2009 the price of oil neared $60, the lowest target price set by OPEC. Indeed, at the time there were 45 million barrels of crude oil in floating storage, and one month later, those numbers had risen to 60 million barrels - a third of which were Iranian - one of the causes for the increase of the cost (Lloyd's, 2008; Wingrove, 2009; EIA 2009) of a barrel to $ 74.58.

Iran's use of floating storage is noticeable when oil prices drop below the target price set by OPEC. Iran's policies regarding floating storage are, however, not consistent when oil prices rise above OPEC's official target prices. There have been several cases since 2010 when Iran has not reduced its floating storage although it could make significant future profits by doing so. From October 2011 on there was a worldwide decrease in the number of tankers converted for floating storage due to the aspiration to sell the goods before the year's end. Nonetheless, Iran continued to have the biggest floating storage fleet in the world. In October 2011 there were 46 million barrels of crude oil in floating storage, 34 million of which were in Iranian tankers, compared to 39.7 million in November, 28 million of which were Iranian. In other words, even when traders worldwide were cutting down, Iran still kept its oil in floating Storage (International Energy Agency, 2011; Rogaliano, 2011).

There are several ways to explain Iran's choice to keep its floating storage fleet despite the economic disadvantages. First of all, the increase in the number of floating storage tankers can be explained by the fact that Iran often increases its production rates beyond the target set by OPEC, and because it has limited land storage facilities, it transfers its excess oil to tankers. Iran has intensified its use of floating storage since 2009, however, and the theory that it is due to limited land storage facilities cannot be justified because the extent of Iranian exports has not significantly changed in recent years and Iran is actually exporting less than it was in 2008, before which it did not make marked use of floating storage. Another explanation is that Iran's increased use of floating storage results from OPEC's resolutions to cut oil production in order to raise prices. That does not quite explain it either because Iran used floating storage even at times when there were no decisions to reduce production (Lloyd's, 2009; Lloyd's, 2011; Iran Energy Data Statistics and Analysis-Oil, 2012).



It could also be that Iran is using tankers to transport the oil from maritime areas to land storage facilities. Iran has 13 maritime oil fields which provide 29% of its estimated 4 million barrel daily oil production, but even if one considers that all the oil produced in maritime areas is destined for domestic use, that only amounts to 900.000 barrels per day. In order to transfer that amount monthly, 15 VLCC tankers are required, which is the average number of Iranian tankers that have been converted for storage since 2010. But even that does not provide an explanation because, in most cases, the tankers con-

verted for storage were spotted anchoring in Iranian ports for several weeks, submerged 19 meters deep, which means that they were full of oil and therefore had no reason to remain there if they were meant to transport oil from the maritime fields to land storage facilities. The fact that they remained in place for relatively short terms and were not used for domestic purposes indicates that there was another reason for its use of floating storage (EIA, 2010; Wiese Bockmann, 2011).

The claim that Iran increased its floating storage because of the prohibition against single hull tankers does not explain things either. Indeed, since December 2011, Iran has not allowed the entrance of single hull tankers into its territory. Moreover, Iran has not possessed single hull VLCC tankers since 2005 when it began its purchase of 28 new double hulled VLCC tankers, and by 2010 most of the Iranian fleet abided by the European Union regulations. Although Iran has used single hull tankers for floating storage on several occasions, they were Suezmax tankers, and in most cases (Intertanko, 2011) it uses VLCC.

In the last two years, there has been a correlation between the increase in the number of tankers used for floating storage and the tightening of the embargo on Iran. Until 2008, the sanctions were limited to arms trading and the provision of nuclear products, but in March 2008, new sanctions that included the freezing of Iranian company assets and the surveillance of their bank activities were imposed. In June 2010, the sanctions against Iranian maritime activity were intensified: Iranian ships and tankers were supervised, financial undertakings with Iran were restricted and foreign banking was limited. Japan ceased its financial connections with a number of Iranian establishments, South Korea severed its cooperation agreements with 124 Iranian energy and shipping companies, Switzerland prohibited financial ties with Iranian companies, and the European Union limited its relations with Iran in July 2010 after prohibiting all trade ties, mainly in the energy and financial sectors (MEMRI, 2011).

The embargo on Iran made it very difficult for the Ayatollahs regime to export its oil. The sanctions and in particular the limits put on the Iranian financial sector made it very complicated for traders who wanted to buy Iranian products. As a result, the number of floating storage tankers constantly grew until buyers or financial establishments who were willing to fund the transactions were found, which is why most of the VLCC tankers converted into floating storage were classified as vessels for short term storage of five to six weeks, meaning that the products were ready for export but the banking operatives were taking longer than usual. There was an example of such a delay in May 2011 when India purchased 20 million tons of crude oil from Iran but the Indian Central Bank could not transfer payment due to the sanctions imposed by the West. The Iranians immediately sought ways to minimize the damage and transferred the tankers to Ain Sukhna port near the Suez Canal and from there the oil was transferred via the Sumed oil pipeline to Western tankers in the Mediterranean. Because Iranian oil is mixed with oil that comes from other destinations, it cannot be isolated and it therefore appears to be relatively easy to get around the embargo. That procedure, however, is an extremely slow one because transferring the products to Egypt and then to Western buyers is more complicated and longer than simply loading the products in Iranian ports. As a result, the Iranians preferred to find buyers themselves, and to increase their floating storage facilities until that happened.

The number of Iranian tankers used for floating storage increased even more when Iran's circle of clients dwindled. Between 2010 and 2011 there was a decrease in oil imports from Iran in countries that adopted the sanctions, such as Japan, India and Italy. Countries that adopted the embargo only partially, however, such as South Korea, China and Turkey, increased their imports from Iran, although towards the end of 2011, even those countries that belonged to Iran's circle of important customers, such as China and South Korea, began to show signs of cracking, and soon they too began to reduce their dependence on Iranian oil and to increase their oil imports from Saudi Arabia. Indeed, oil imports from Saudi Arabia to China at Iran's expense increased when the civil war broke out in Libya in 2010: the violent conflict that erupted in that North African country caused a cessation of oil exports, and Saudi Arabia had to increase production in order to make up for its fellow OPEC member's inability to export. As a result, trading between Saudi Arabia and China increased and relations between the two countries became stronger. In October 2011, Saudi Arabia exported 978,000 barrels of oil per day to China, about a ten percent increase in comparison to the 893,000 barrels it had supplied the Asian country one year earlier. China's ability to maneuver between Saudi Arabia and Iran ameliorated its bargaining powers (Lloyd's 2011). Indeed, China was able to asses Iran's low selling power by the amount of its floating storage and thereby to force Iran to be more flexible in its oil prices. It therefore seems that the floating storage market in the Persian Gulf will be an indication of the effect of the embargo on Iran in the coming months, and that Iran will be forced to be flexible in its oil prices, which will be detrimental to its profits in the future (Lloyd's, 2011).

Conclusions

Iran, like the oil companies, converts oil tankers into floating storage in order to increase its profits in the future. In the last two years, however, it seems that the fact that Iran has the largest floating storage fleet in the world is an indication of tightened sanctions and of the Islamic republic's difficulty in finding immediate buyers for its products.

In the near future, there is likely to be an increase in Iranian floating storage tankers until Iran can find buyers for its products, because of the additional sanctions imposed on it and the general agreement amid European Union countries, and lately also on China and South Korea's part, to reduce oil imports from Iran.

On the other hand, those countries will take advantage of Iran's distress and will demand significant discounts in oil prices if Iran, under heavy sanctions, wants them to buy its

products, which in turn will be detrimental to Iran's profits in the future.

In the coming months, the world oil market will be instable and volatile because as long as Iran is unable to find buyers, there will be less supply, and the moment it finds buyers, oil prices will plunge due to increased supply.

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