PAYAM DARYA

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MARITIME EVENTS

Are the Movements of Some OPEC and Non-OPEC Destroying This Organization?

The Story of Split!

Sapid Shipping Co. P.J.S. (IRISL Group)

Safiran Payam Darya (SAPID) Shipping Co. as an IRISL subsidiary operating a fleet of 55 vessels with the capacity of over 3.3 million DWT, provides a wide portfolio of customer-oriented shipping services to transport dry and wet commodities in five cargo-based ranges from bulk food, chemical, industrial to crude oil, petroleum and other liquid cargo under attentive management in dedicated departments. The company is organized to meet all requirements of our clients carefully and precisely as every client is important to us!

Our services include:

- Offering tramp cargo carriage with vessels having different DWCC in four departments including : Bulk Chemical, Industrial, Food and Tanker Departments covering both voyage, time charter orders with regard of cargo shipments between almost all globally recognized ports.
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DEPT	FAX	TEL	E-MAIL
Bulk Industrial Dept	+98 21 26100403	+98 21 26100402	BULKINDUSTOPS@SAPIDSHPG.COM BULKINDUSTMARKTG@SAPIDSHPG.COM
Chemical Bulk Dept	+98 21 26100461	+98 21 26100460	BULKCHEMOPS@SAPIDSHPG.COM BULKCHEMMARKTG@SAPIDSHPG.COM
Food Bulk Dept	+98 21 26100401	+98 21 26100400	BULKFOODOPS@SAPIDSHPG.COM BULKFOODMARKTG@SAPIDSHPG.COM
General Cargo Dept Asia/Euro Liners	+98 21 26100478 +98 21 26100477	+98 21 26100475 +98 21 26100474	mkt-euroasia@SAPIDSHPG.COM OPR-EUROASIA@SAPIDSHPG.COM
Chartering Dept	+98 21 26100465	+98 21 26100729 +98 21 26100329	CHARTERING@SAPIDSHPG.COM
TANKER Dept	+98 21 23843762	+98 21 26100456	OP-TANKER@ SAPIDSHPG.COM COM-TANKER@ SAPIDSHPG.COM

Sapid Shipping Co. P.J.S. (IRISL Group)

Tanker Department is determined to play a sustainable ,highly competitive and dynamic role in the international market by providing quality and shipping services to major oil and chemical tanker clients. This Department is presently operating a fleet of 8 tankers, consisting of 2 Suezmax ,1 MR chemical carrier, 2 Handysize chemical and 1 bitumen carrier working worldwide without restriction.In 2018, six MR chemical tankers will join to our fleet and we are intensely working on the market of South east Asia as well as Mediterranean Sea area to extend our activities.

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+98 21 23843762	+98 21 26100456	OP-TANKER@ SAPIDSHPG.COM COM-TANKER@ SAPIDSHPG.COM

Sapid Shipping Co.P.J.S. (IRISL Group)

General Cargo Liner Dept. is equipped with a fleet of 15 multi-purpose and modern heavy lift vessels which dealing with shipping of project cargos, steel products, raw materials, heavy machinery , pipes, spare parts, bagged products, timber and MDF among others between ports in Asia (Far East ,South East Asia, Indian subcontinent , Middle East etc.) , Europe (the North Continent, Black Sea, Mediterranean Sea etc.), Africa, South America and Canada to Persian Gulf and vice versa.

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FAX	TEL	E-MAIL
+98 21 26100478 +98 21 26100477	+98 21 26100475 +98 21 26100474	mkt-euroasia@SAPIDSHPG.COM OPR-EUROASIA@SAPIDSHPG.COM

HDASLINES
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Hafez Darya Arya Shipping Company

(The Container Arm Of IRISL Group)

Hafez Darya Arya Shipping Company owns 30 container vessels of various sizes with aggregate capacity of 91,300 TEU and operates 7 weekly loops as follows:

1. **HDM Service :** Deploying 6 vessels including 5 vessels of 6500 TEU capacity, and 1 vessel of 5100 TEU covering all ports in Far East and North China up to Persian Gulf and Middle East.
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3. **ISC Service :** Employing 3 vessels of 2200 TEU capacity, connecting Singapore, Port Klang and all ports in South East Asia to Middle east.
4. **SAS Service :** Using 2 vessels of 1000 TEU capacity, making a direct connection between South Iranian ports and Indian Subcontinents to East African ports of Mombasa, Darussalam, and Zanzibar.
5. **ECL Service :** Deploying 4 vessels with the capacity of each 2500 TEU respectively. Making fast connections between all European and Mediterranean ports up to Persian Gulf.
6. **IIX Service :** Operating 4 vessels including 3 with capacities of 1000 TEU, making an exclusive and direct connection from India to Umm Qasr of Iraq, Iran and Emirates.
7. **XPG Service :** Deploying 5 vessels including 4 with capacities of 1100 TEU and 1 with 300 TEU connecting all Southern Iranian ports of Bandar Abbas, Bushehr, Bandar Imam Khomeini, Assaluyeh and Khorramshahr to the Persian Gulf (Qatar) vice versa.

Hafez Darya Arya also operates more than 270,000 TEU of owned containers while any extra required numbers can be leased whenever and wherever required to satisfy customers, demands State-of-the-art-web-based software system and on line tracking and container tracing system is another facility provided by Hafez Darya Arya Shipping Company to our esteemed clients. Further information may be available through our

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Management office: Tel : +98 21 23843701
Fax : +98 21 23843702
Email: md-office@hdasco.com , md@hdasco.com

Marketing and Customer Service Division:
Tel : +98 21 23843199 +98 21 23842000
Fax : +98 21 26100740-1
Email :
gm.marketing@hdasco.com; dgm.marketing@hdasco.com
nc.marketing@hdasco.com; sc.marketing@hdasco.com
eu.marketing@hdasco.com; sa.marketing@hdasco.com
ijk.marketing@hdasco.com; ex.marketing@hdasco.com
(Attending Customers' Complaints): crm@hdasco.com

Operation & Capacity Management Division:
Tel : +98 21 23843182
Fax : +98 21 23843704
Email : gm.operation@hdasco.com
dgm.operation@hdasco.com

Container Operation Department:
Tel : +98 21 23843156
Fax : +98 21 23843705
Email: gm.cs@hdasco.com; dgm.cs@hdasco.com
csl@hdasco.com

Financial Department:
Tel : + 98 21 23842660
Fax : +98 21 23843707
Email : financegm@hdasco.com; financedgm@hdasco.com

Planning & Development Office - Responsible for attending Customers' Complaints, supervising Forwarders & Agents as well as overseas representatives' performances
Tel : +98 21 23843246
Fax : +98 21 26100748
Email : gm.plan@hdasco.com; dgm.plan@hdasco.com
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Head Office

Mostafa Khomeini St. Ghazian,

Anzali Free Zone, Iran

P.O.BOX: 4315671145

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Fax: +98 (13) 44 42 36 26

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No.8 Mehrshad Alley, shahid Soltani (Sayeh)
Str. Africa (Jordan) Blv.
Zip Code: 1967714643 Tehran- Iran
www.sslil.net
E-mail:dir.office@sslil.net
Tel: +98 21 22059136
+98 21 22058078

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Legal Representative:
Ali Akbar Ghonji

Editor-in-chief:
Amir Fallah
m.fallah@irisl.net

Journalists:
Behrooz Ghahremani, Seyed Majid Motahari
Leyla Beyranvand, Fatemeh Moonesan,
Sarah Zeinalzadeh, Narges Ehsandar,
Elham Ghorbani,Fatemeh Bayat,
Fereshteh Azizkhani,
Hossein Torkashvand

Designer:
Fatemeh Abedini

Financial-Administrative Department:
Golnoosh Afrooshe

Photographer:
Ali Nazemi

ADDRESS:
No.523, Asseman Tower, Shahid Lavasani
(Farmanieh) Junction, Pasdaran Ave.
Tehran - Iran.
P.o.Box: 19395/1311
Tel: (+98 21) 26100368
Fax: (+98 21) 26100371

General Manager of
Advertising Department:
Fatemeh Moonesan
Tel: +989210471077
+982123844728
Email: mounesan@irisl.net
moonesan2011@gmail.com

Domestic Advertising Manager:
Sahar Eyvazi Adli
Tel: +989124238451, +98212384759
Email: eyvazi@irisl.net

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Populism Versus Rationalism!

By: Amir Falah
Editor in Chief

Concurrent with the twenty-first century in which the world entered a new modern era, ample of behaviors changed and the world followed peace and communication at least after the two ruinous wars, and consequently the world confirmed convergence, universality in economy and of course diplomacy more than the past.

Although the outburst of concrete phenomenon such as Al-Qaeda and the Taliban which were the product of the last century led to the world shock as well as the behavior of terrorist that caused war-oriented measures, new rationalism changed the discourse after the economic recession of 2008 and the West who was the mother of new theory once again started a young approach which is called "Real Policy" within the internet transparency era.

Unilateralism of the U.S. as the largest economy of the world brought about variation in the war functions. However, there was rationality behind such a bullying action in which it authorized the basis of international law; the product of "social contract" after the Word War II.

The crisis of 2008 passed due to this rationality and global convergence and the world hoped for an agreement of the century; an agreement based on which the Iranian nuclear program's controversy ended, and JCPOA became symbol of a new theory, according to which the whole world once again started negotiation versus war.

It demonstrated that the deepest and most eroded gulfs are not dealt with the bullet, instead they are solvable by discourse and this was the product of modern wisdom; the wisdom that although changed truth with truth and concept with concept, confirmed the same "apprehension" which was real and objective. It was admitted that wherever logic is dominating, one could reach the minimums on the basis of that. Considering the post war era and collapse of the Soviet Union as well as a change in Chinese perspective from Maoism to Dangism, today world figured out that the utopianism period has been past and the social life has been constructed nor for the maximums but for the minimum. In other words, the perspective changed to the idea that "interpret the world, not change it".

However, the economic pressure destroyed all the existed layers in a way that the world did not realize the emerging phenomena in the platform of modern world and liberal reasoning. They called it populism while it was practically just a return to the abrogated theory of "change of the world"!

Fukuyama, in the book "Political Order and Political Decay" published in 2014, believes that excessive confidence in the rationality of liberalism and forgetting this predicate according to which people passed the stage of democracy such as the U.S. and Bush as well as Clinton period, is a warning due to the return to the behavior of these two modes of thought (Bush and Clinton). This could bring about terrible consequences, and in 2016, this prediction was successful, and Southern populists won the Northern elites, and a phenomenon appeared in the U.S. that broke out all the notions of the post war world.

Trump entered the White House with a theory that was opposition; the opposition to everything that was the achievement of the world and years of negotiations lied behind that. On the basis of this behavior and at the very beginning of the days of his presidency, he entered the tariff war due to his incompetency and lack of perception of a new economy. After a year passed from his presidency, he directly managed the economic confrontation to apply tariffs on commodities of other countries.

However, another opposing behavior of this phenomenon could be seen in the exit from the JCPOA which was called the modern achievement of the world in the middle of the second decade of the current century. According to the international law, an agreement was reached that all sides exploiting a discourse, managed one of the most challenging issues and that was verified through the global instrument, but Trump was decided to oppose and finally it happened.

The exit from the JCPOA meant the return of sanctions but the Europe started disagreement against the U.S. to save its face. However, there is not anybody who does not know the impact of America's economy on large companies which created a boom in the economic relations that was the product of JCPOA.

Iran, as one of the parties of the treaty, declared that if Iran's interests were not met, it would not be necessary to continue JCPOA. Meanwhile, Iran in accordance with the rationality it has taken, has given European countries and other parties the opportunity to protect this important achievement.

Trump who does not recognize any rule, contrary to the diplomatic custom, did not attend any meeting and did not give any statement to announce his disagreement. He just exploited the cyberspace and threatened the world with the support of some dead groups such as Mujahedin to create restrictions in the platform of Iran's economic relations, but moving against the stream would not let him to achieve his goal.

Iran's goal of being present in the international agreement of JCPOA was to take advantage of the economic benefits and the lifting of sanctions. Presently with the withdrawal of the U.S. and limitation of this goal, Iran shocked the U.S. rightly based on the new achievement of international politics, namely, "Real Politics". Due to such an achievement, "if a barrier situated against Iran's oil sale, there is not any reason for other countries to sell their oil". This is not a threat, instead, it is a practical step taken by the country that the large proportion of its global impact is the oil resources.

Given the lack of understanding of modern world, once again, trump threatened the world and in the light of rising oil and fuel prices in his country, he used the countries of the region to neutralize Iran's lack of presence in the market and reduce oil prices. However, lack of understanding and use the Twitter tool instead of a real activity defeated him.

During the time the JCPOA was achieved, the Supreme Leader's speech came out in a statement that "If the U.S. shows good progress, the possibility of negotiation in other dimensions could also occur". However, as he had predicted, the U.S. lack of honesty particularly after Trump's presidency has questioned Trump's new discourse of readiness for another agreement.

Trump aimed at gaining power through dependency on twitter and having disrespectful behavior toward Iranians. However, the country's underlying politics led to a reference to public understanding and reminded that the nuclear agreement is not an achievement and it is a product of social contract. This agreement was achieved based on recording discourse and international law.

Trump's behavior which was based on insult, disagreement and threatening has shocked the world, and this is the same literature that brought about ruinous wars 70 years ago. These wars were based on disrespect, instability and, of course, foray in the interests of other countries. Therefore, the new and modern world would no longer be convinced for any war.

If we accept that preserving the existing conditions was considered one of the requirements of the modern world and the fact that economy and economic homogeneity would be interpreted as a fair distribution (not equal) of benefits in the world, and if we admit new ideas based on economic liberalism have been destroyed for human benefit; Trump's disapproval is a reminder of the sharpest actions of the last century and it must be admitted that populism and demagogy are nothing but distortion.

It should be said that the world faces an irrational giant after many years, and this phenomenon will be solved through human intellect!

What Is the Role of Straits, Waterways, and Ports on Global Economy?

Trade Gateways!

MD of HDASCO in an interviewee with PD:

Leading container companies to move to monopoly

The flow of container-shipping line's performance was not desirable due to the losses most of them reported. This event led container lines to move toward monopoly and reduction in number as might be less than ten container lines would be remained at the global level. In line with this and during the last three years, more than 10 leading shipping lines bankrupted, sold or merged. Meanwhile, those operated in the niche markets such the national fleet survived. To elaborate the situation of container lines in the international scope, PD managed an interview with the MD of HDASCO, Cap. Hamzeh Keshavarz

How do you evaluate the present condition of container shipping in the world?

Considering the globalization mottos, shipping industry has being prepared for a significant change and ordered mega size ships with the capacity of 22,000 TEU. Due to the crucial role of container in which it provides the distance between cheap producer and consumer to be shorten considerably, many experts believe that container is more important even than WTO and GATT.

Entrance of ULCVs caused western industrialized countries which lost competition against developing countries in Asia, to move around "Protectionism", the one which Trump is paying serious attention to. Then, these measures make the cargo carrying not to experience the expected favorable growth. Regarding the fall in freight rate, an increase of tonnage in the international market as well as high speed of supply in comparison to demand have been recorded as the mega size container ships came into operation. Moreover, some remained lines became larger through coalition and merger and put pressure on medium lines. However, niche markets have been affected less than others and more than ten shipping companies bankrupted, sold or merged during the last three years. OOCL shipping company, which was the last national line of Hong Kong, was sold during the last month.

How will be the future of container shipping?
As explained earlier, shipping lines are to be decreased to 7-9 and moved toward monopoly. Consequently, the secret agreements among the lines would probably increase. In addition, fuel price that is a derivative of oil price at the global level has enhanced the lines' cost which resulted in the inappropriateness of revenue to performance costs.

What are the effects of cargo's supply and demand on container shipping?
Given the proposed issues in the world and the hottest topic of the media, demand would not enjoy a considerable growth. The ships enlarged, the Panama Canal widened, ships transited from this canal which had to revolve the Americas at past and the two-sided Suez Canal improved which all led to an increase in the supply side.
On the other hand, increase in oil price could encourage oil-rich countries, countries adjacent to the Persian Gulf, Caspian Sea, South America and Africa to buy more oil. After the end of the intended imposed wars and start of the growth in involved countries, shipment of cargos will be increased. Therefore, it is expected that good opportunities being created in the regions' market and IRISL could exploit them to achieve its national goals.

What are the effects of trade war of the China and U.S. on container shipping?
Given the supportive tariffs that countries have put in place to protect their domestic products, we have faced a trade war. Imposing tariffs means restriction of cargo transportation at an international level. In this way, the middle lines that are in operation in the extensive international scope would be threatened.
In addition, the trade war as well as other regional issues have somehow affected the oil transportation, so that oil and fuel prices are rising, which will increase other shipping lines' costs.
In this condition, the Islamic Republic of Iran shipping Lines has constantly attempted to have the most of its activities in traditional and niche markets and focus more on areas with strong points. Stopping foreign shipping lines to enter Iran, although it is a threat to the country, can be exploited as an opportunity for development relying on the IRISL's capabilities. While the sanctions may limit the presence of IRISL in the international markets, it can create confidence on the part of the country's merchants for transportation by focusing on domestic and niche markets.
Currently, foreign shipping lines that transit to Iran's ports have increased their freight rates. However, IRISL has always tried to balance rates so that no shocks are imposed on the exporter or importer.

Considering these elaborations how will be the activities' of IRISL as an international company?
IRISL has passed a desirable situation in August for instance that European industrial markets are not active and consequently the amount of cargo decreases, it reported a high volume of cargo to be transported.
In the export side, fortunately, besides winning the tenders which was carried out in a totally competitive circumstances before the sanctions' issues, proper measures in terms of junior management have been taken to enhance the exported goods of the country.

How do you evaluate the performance of container division of IRISL during the last year?
Container division of IRISL experienced a total growth of 17.2 in carrying cargo which consisted of 18.1%, 7.8% and 49.1% growth in importing, exporting and the international era in 2017, respectively. However, in comparison to the optimistic budget that it has set, a 4.1 percent fall in terms of TEU recorded.
Concerning the revenue in 2017 in comparison to 2016, it saw an increase of 31.2%. It is noteworthy that in 2017 the company faced a rise in fuel prices from $300 to $500. Moreover, the company faced unexpected tariffs by the side of PMO which have not been taken into consideration at the time of setting the budget. The container division of IRISL carried about 46 percent of the imported goods of the country in 2017. Fortunately, during the second quarter of 2018 it enjoyed carrying 56 percent of the imported goods.
The company is responsible for carrying strategic commodities from India to Afghanistan through Chabahar. In addition, the shipping line to Qatar and Iraq also demonstrates excellent performance.

How is the cooperation of the company with other lines?
The company has had a very good joint collaboration with some foreign lines, which has now been stopped by the U.S. government's pressures, but it does not have a negative effect on its operations fortunately.
So far, a significant number of containers have been purchased in finance form, which has increased considerably compared with the past and the common condition in a way that it brings about a good success in attracting finance. Moreover, the company exploits the container ships of Valfajr Shipping Company.

What steps have been taken to exploit new technologies?
In the field of digitization, Marine Information Technology Development Company (MITD) is due to prepare a very good digitalized package by the end of September. At the same time, container division of IRISL has provided satisfying and effective online measures for the customers.

Given the new sanctions, how do you evaluate the condition of container shipping fleet?
Fortunately, the age and capacity of our ships will meet the needs of the country. In the previous sanction era that foreign shipping companies refused to enter Iran's ports, IRISL along with Valfajr handled carrying goods to 85 percent. Meanwhile,

IRISL announced its readiness to both transport goods from the main origins in form of liner and containers from other lines in form of feeder to the ports of the country by utilizing its mega size ships in the case of necessity. Regarding the national interests, no restriction or consideration existed. Meanwhile, governmental policy-makers and marine sovereignty organizations must not be worried about the shortage of feeder which was proposed in some contexts.

What is your approach to overcome the current situation?
IRISL is an active part in this economical war which is obliged to carry out its duties in the best manner. In the current specific circumstances, collaborative efforts between all the sovereignty organizations as well as port and marine polciu0makers can bring us to our great national goals and pass through these particular conditions successfully.
Yet, the other related organizations must comprehend the real concept of issues and improve the primary and effective economical institutions.
Our colleagues, both at the office and the sea, should pay special attention to the circumstances we are passing through. Their double effort, solidarity, and understanding of the issues along with grace and inspiration of Allah will make us to overcome this important economic struggle and not only we can enjoy the benefits gained from it, the economy of our country will be appreciated.

The Challenges of Bulk Shipping Market and the Ambiguous Outlook

By considering the challenging conditions of the global trade market and the political conditions prevailing on the major players of the world economy, the bulk shipping market is also not safe from the tensions and challenges. It seems like all the factors such as politics, economy, and industry have contributed, and the climate issue has been added to test the ability of shipping companies more than ever, and this is the critical point where management, especially crisis management, can act as a savior. It will rescue this sinking ship in a hurricane and foggy weather to reach the safe shore. In following paragraphs, there is an interview with Ali Akbar Ghonji, CEO of Safiran Payam Darya Shipping Company, to analyze the bulk shipping market and the challenges ahead.

How do you analysis the outlook of bulk shipping market?

Up to now, in 2018 trade tensions, Chinese trade policies and disruptions in supply have existed, and this trend will continue and affect the market, although the growth of the bulk fleet will remain low.

According to fundamental principles of demand and supply, the owners of bulk carriers should have a positive outlook on the future of the market, but there are several external factors that are effective in this market, and the marginal improvement in this market may be negatively affected. These factors can be sanctions and trade wars.

Commercial tensions, China's trade policies, disruptions in capacity with sanctions and reduced scrapping activities, as well as the delivery of very large Vale bulk carriers, have made the future of the market still uncertain, despite optimism.

In the whole maritime trade market there are concerns about the intensification of the trade wars, and the bulk market is no exception. How do you analyze this? Is there any reason for being concern?

China-US trade war has high potential for changing the flow of bulk trade and disturbing the markets of this sector. Both countries have been involved in bilateral tariffs since April 2018. The White House has targeted import of $ 50 billion from China, and Beijing has targeted imports of agricultural products from the United States. In addition to China, the United States has imposed additional tariffs on imported steel and aluminum from its major suppliers, including the Europe, Canada and Mexico.

In addition, soybeans and maize have been changed the trade lane, and buyers and sellers have made changes to their resources. If China implements agricultural tariffs on the imports of US, Brazil will have the potential to compensate for China's imports, exactly if logistical issues are resolved.

Another option is that China chooses domestic production to compensate for the drop in imports from the United States, which will have very bad consequences for the bulk market. In any case, the outcome of the business tensions can be positive for the company, because by shifting the import route of agricultural commodities from the United States to Brazil and Argentina, the ability to enter this market for international transportation will arise.

These days, what are the most important and challenging news for bulk carrier owners?

Several incidents, including industrial events and sanctions, have prevented the transportation of iron ore and bauxite, which may continue. Minas-Rio, iron ore mining project in Brazil, which annually produces 26.5 million iron ore, have been stopped due to technical problems, which is expected to continue until the fourth quarter of 2018. Meanwhile, some events have negatively affected the trade of bauxite and downstream products such as alumina and aluminum. One of these events is a strike in the bauxite mine of Guinea.

The US treasury also imposed sanctions against Russian entities such as United Company Rusal, which is major aluminum producers in the world accounted for 6 percent of the global production, so many of the companies cut off their communications with the company after the sanctions. In total, bulk carrier owners will monitor carefully the developments in the market and the disruptions in the supply of bulk commodities will continue.

How do you analysis the supply side of dry bulk market?

Four Vale Max ships have been operational from the beginning of 2018 and 26 more will be delivered within two years. All of these ships will be used for long-term contracts to carry iron ore on the Brazil-China route. These 30 vessels can carry 48 million tons of iron ore annually from Brazil to China, which will result in making 67 Capesize ships idle. At present, the rate of Capesize ships is lower than all types of ships, and its sharp fluctuations make major changes in the dry bulk index.

Another important issue in this field is the low activity of scrapping, which has been driven by a relative improvement in the market, so that, in comparison to arise of 13 million tons of capacity, only 1.7 million tons were scrapped. While fleet growth in this sector has been lower compared to the growth of trade, the low level of scrapping, despite the new IMO environmental rules, suggests that some owners still have the desire to retain fleets.

How do the structural reforms of the Chinese economy affect the bulk market?

Chinese policymakers have continued to make structural reforms to reduce pollution, although the decline in industrial production had naturally been temporary in order to improve air quality last winter, but the policies introduced to manage long-term growth will reduce shipping.

Canceling financial incentives, reducing credit growth and undermining construction activities will reduce China's economic growth. This reduction will lead to a decline in China's steel demand. Also, China's iron-smelting factories are making changes in order to use scrap iron as inputs, which will reduce demand for imported iron ore.

In this way, it is not surprising that 2018 will be the year of slump for iron ore, as it is likely that China's consumption will be slowing down. In sum, the IMF has predicted China's economic growth to decline 5.5% by 2023.

What is the role of climate change and drought in the bulk carrier market?

This year, grain crops have faced drought challenges in some parts of the world. After several years of steady growth, the agriculture trade has been a major source of revenue for owners of bulk owners, especially Panamaxes on long routes. However, this year, soybeans, wheat and corn, accounting for half of the global grain trade, have suffered from drought.

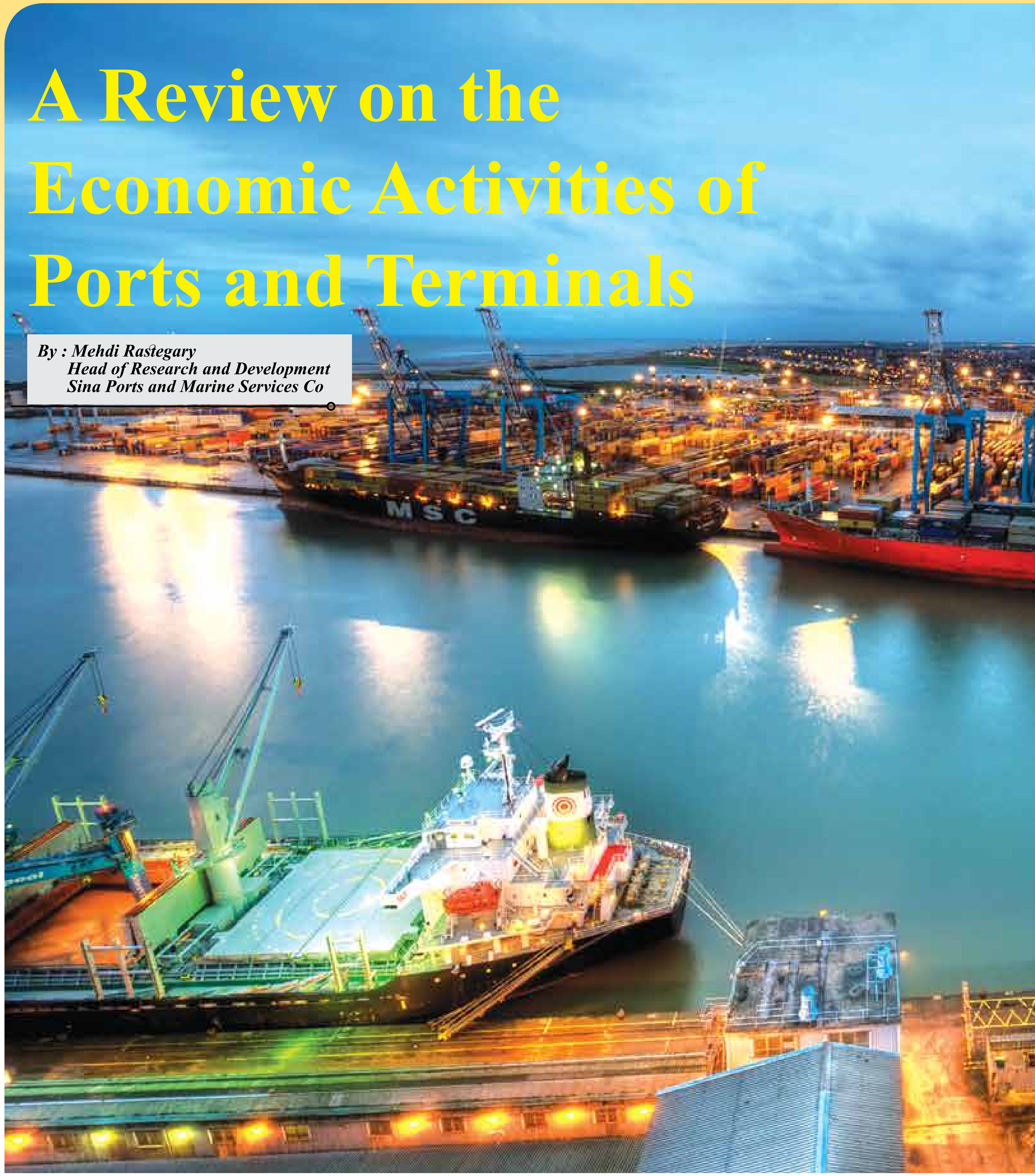
Argentina has also suffered a severe drought in soybean cultivation, and its production is projected to decline by 14 million tons and reach to 40 million tons. In addition, climate change has also led to a reduction in the production of wheat and corn in Western Europe and the Black Sea. Meanwhile, Canada, another major wheat producer, suffers from drought, which will reduce the country's wheat production and exports. All these changes will lead to higher prices for grains, which will subsequently decrease demand and reduce shipping.

Which factors affect the rates of global bulk market? What about Iran? What is the effect of supply and demand and other effective factors on reduction and increase in freight rates?

In the world, factors such as the BDI, fuel rates, financial costs, and port costs affect the bulk freight rate. Furthermore, due to the fact that bulk transportation are tramp trade and are not liner, a round trip should cover the cost and profits. Therefore, any change in the factors causes the price to change. At the same time, supply and demand are determining factors of rates.

In Iran, changes in different parts such as increase in indexes, demand for transportation in several regions, and the current condition of the country (which leads to the calculation of fuel costs and port costs based on SANA foreign exchange rate), as well as the withdrawal of foreign fleet from the Iranian market have made increase in demand. This issue coupled with an increase in the final price, will make a competitive and unilateral rise in freight rate, and of course this is related to the market.

In the years before the recession, before 2008, the BDI was over 11,000, and even the freight rate for Panamax ships exceeded $ 80,000 per day. Since mid-2016, when the BDI was even below 400, the freight rate fell to less than 7,000 per day. However, human resources, technical, fuel, and other costs always changed with the trends of their own markets and did not follow bulk sector indicators. As a result, in the current situation in which the country faces problems and indicators are increasing, the freight rates are reasonable, and the process runs well and is under control.



A Review on the Economic Activities of Ports and Terminals

By : Mehdi Rastegary
Head of Research and Development
Sina Ports and Marine Services Co

Introduction

In the past fifty years, global economy has been underpinned on International trade. International trade facilitates the focus of production systems on relative advantage of economies, augments the global flow of work, capitals and goods and hence boosts the reduction of costs. It also provides the access of producers to global markets, and brings more diversity and competition to the markets to favor the global customers. Between 2001 and 2017, in line with the 5.67% annual growth rate in the world GDP, the merchandise export experienced 6.81% growth in the global level. Likewise, the global services export has grown 6.34% on average basis in the past 12 years.

International trade relies heavily on transportation services. Transportation is the principal means for mobility of merchandises and the people around the world. The mobility of these resources is a key element to develop the needed efficiency, agility, and access to the global markets: transportation provides the cost-and-time-efficient delivery of resources (e.g. raw materials, semi-finished goods, equipment, labor force, etc.) for establishment of production systems throughout the world. Moreover, it also provides the access of billions of customers and consumers to the goods and services provided by multitude of suppliers in the global markets. This renders transportation to a very essential element in the global economy. Within the past decade, transportation services have constituted the average shares of 18.61% and 23.26% in the global export and import of all services, respectively.

Between all the transport modes, Maritime transport has the largest share in facilitating the mobility for international trade. As oceans and seas cover 71% of the planet, maritime transport is practically seen as the best means of access to overseas markets. Moreover, in comparison to the other modes of transport, the maritime transport merits significant advantages in terms of economy of scale, less pollution, less consumption of renewable resources, less land use, and less need to infrastructural investments. On this basis, nearly all supply chains in our world have essential maritime transport legs within them. The global economy totally depends on the maritime transport; almost 90 % of the global trade is transported by sea and as D.Mitropolous once said, without maritime transport half of the world will freeze and the other half will starve.

Maritime transport and the roles of the ports

Maritime transport actually works in terms of the interaction of merchant shipping and commercial ports. Considering the international trade as the blood in the body of the state's economy, so the merchant shipping acts as the arteries that bring and carry it in high amounts to the ports (i.e. the heart). The other modes of transport also act as blood veins that carry the blood between the heart and the organs of the body. Nearly all of the international trade of a state runs through its ports and is circulated in the embodiment of its economy by different modes of transport. A state without ports can resemble a body without a heart that shall rely on an external pump to induce the blood circulation in it. This is most evidently seen in terms of the landlocked states: For instance Limao,N. and Venables A.J. (2000) in their study indicated that being located in a landlocked state is equivalent to a 1000-kilometer additional distance from the origins of trade. In this sense, access to sea is a great geo-economic advantage to any nation.

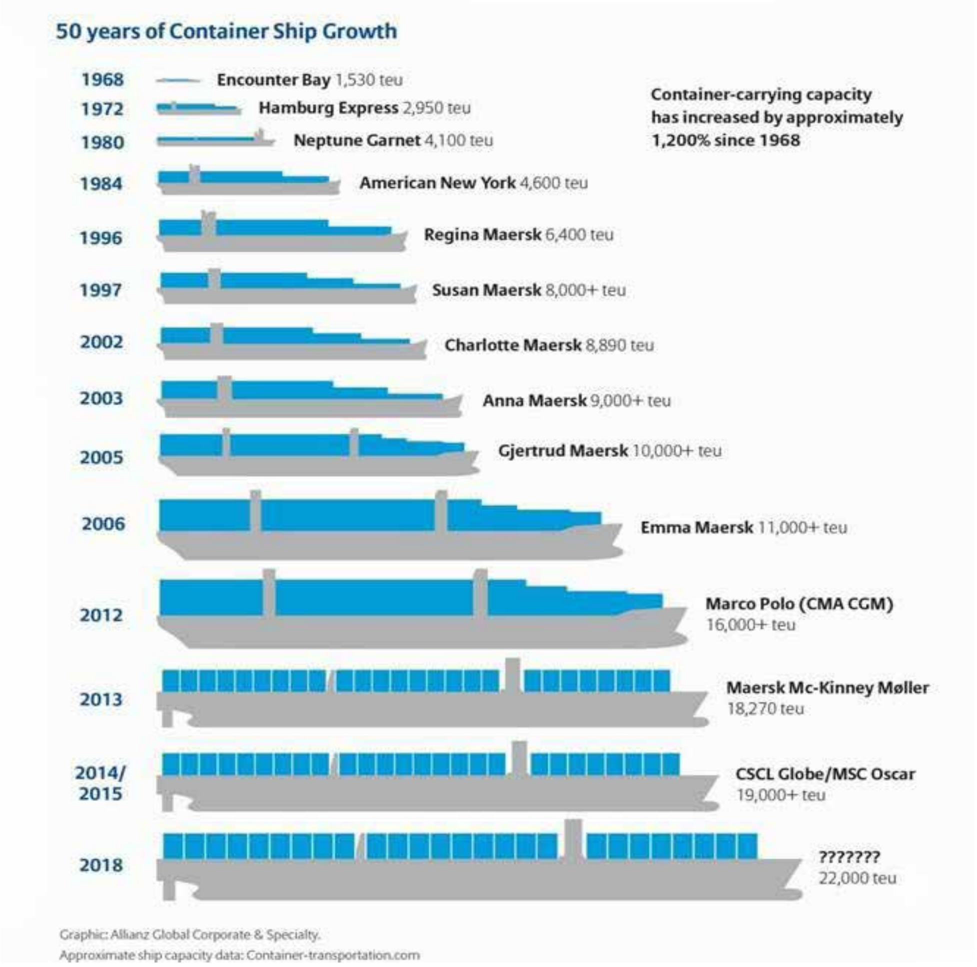
The port acts as the vital hub for concentration of the hinterland societies' supply chains. In this sense, those societies (that encompass households, firms, and the government) depend on the port for the delivery of the imported goods to them, as well as the delivery of their exported goods to the targeted overseas markets. Any defects or stoppages in the performance of ports will affect the performance of these supply chains and their interested parties in the hinterland and foreland. A certain impact of such poor performance will be an increase in the costs of maritime transport to that port. This will have detrimental effects on trade facilitation; for instance Limao,N. and Venables A.J. (2000) argue that a 10% increase in maritime transport costs will reduce the trade volumes by more than 20%. The findings of Radelet,S. and Sachs,J. (1998) also indicate that a raise in shipping costs will lead to reductions in the growth rates of manufactured exports and GDP per capita. They argue: "… doubling the shipping cost (e.g. from an 8% to 16% CIF band) is associated with slower annual growth of slightly more than-half of one percentage point." The most catastrophic impacts appear when these supply chains are totally disrupted by the shutdown of port for any possible reason. One clear instance was the Tianjin port explosions and the temporary shutdown of this port in August 2015 which according to Eventwatch annual report (2016) incurred a 9-billion USD loss in its depending supply chains throughout the world.

The ports shall primarily facilitate the exchange of goods between the maritime transport and inland transport modes. Whereas port development is a high-stake, time-consuming, and expensive process, the limited number of ports with higher capacity and productivity often act as magnets of trade. Furthermore, as the shipping industry has focused on ship size growth as one of the main sources of economy of scale in sea, it is increasingly encountering diseconomy of scale in ports. The best instances can be seen in the container shipping segment: the ultimate container ship capacity grew %1200 larger between 1956 and 2015. Respectively, the shipping lines have been exceedingly demanding for higher quality port facilities and services in the past five decades. For instance, in 2011 the CEO of Maersk demanded for 6000 moves in 24 hours per ship. Such standards are still very hard to achieve even in the most developed ports of the world. Hence, the selective preferences and agreements in the shipping industry has led to emergence of hierarchical regional hub-and-spokes networks in the port markets throughout the world that focus on delivering the container trade in terms of transshipment. In this hierarchy, the hub ports attract more cargo traffic and shipping services, which not only comprises the gateway traffic for their hinterland societies, but also includes the traffic that should be delivered to the lower level ports in the hierarchy (i.e. the pivot and minor ports). In this sense, the transportation costs for the direct hinterland of higher-level ports always enjoy lower transportation costs, more speed in delivery of goods, and higher attraction of international trade and its value chains. In these structures, the top-most level ports (i.e. the regional hubs) also make enormous revenues at the price of higher transportation costs in lower level ports while extending their strategic influence on the supply chains of the hinterland

markets of these ports (and their foreland markets). These conditions lead to development of a very risky and costly intraregional competition between the ports: every port is striving to ascend in the regional hierarchy and many of them are struggling to position themselves as the regional hub. This requires great investments in infrastructure and capital goods.

As mentioned, the magnitude of cargo flows transported by ships is largely different with those delivered (or picked) by inland transport modes. The port shall be capable to handle the cargoes arriving (and leaving) by any of these transport modes and provide a buffer capacity to facilitate the interim storage of them in the port. In response to the ever-increasing demands of the shipping industry, the port should continually endeavor to improve its productivity or to construct new facilities. Both of these processes are technology-driven, capital-intensive, time-consuming with many constraints in terms of current operations, availability of land, time, finance, and many more factors. The port construction projects costs range from several millions to billions of Dollars and bring a great boom to the construction sector. Indeed, the port is the most significant infrastructural facility in the maritime transport. Yet, it is essential to consider that investment in port facilities mainly ends in sunk costs which can only be recovered from the revenues (and other achievements) of the port. This is a very risky decision due to immovability of assets, entry barriers to the market, volatility of cargo flows, revenue troughs, relations with shipping lines, etc. These constraints bound the limits of the port and its terminal sizes; According to Rodrigue J.P.(2011): "A too large single facility would represent an undue risk of capital investment as they can take a long time to amortize and reach profitable traffic levels. It is thus more likely that the existing model aiming towards clusters of terminals owned by different operators within the same port or in ports in proximity will endure as it conveys flexibility and competitive pressures within port facilities. Hence the right-sizing of port and its terminals is a critical and complicated decision in terms of policymaking in transportation systems.

Ports are most characterized by the terminals industry as it represents the core business in them. The terminals industry is a semi-manufacturing industry that in spite of supplying terminal services is heavily reliant on port facilities, large terminal equipment fleets, and a huge pool of human resources. In order to avoid congestion, the terminal can only utilize 60 to 70 percent of its costly resources at best. This means that the terminals shall always carry the heavy burden of idleness of 30 to 40 percent of their afforded valuable resources at all times (in the best-perceived conditions). As a matter of this, the terminals industry is always concerned with optimal mobilization of its resources, maintaining highest possible levels of productivity, reducing costs, eliminating wastes, and maximizing the revenue streams. Although there is an almost permanent conflict between the economic interests of the shipping lines and the terminals, the terminal generally follow the demands of the shipping lines to keep them interested in the port. By emergence of Ultra Large Container Vessels, the waste and idleness of the terminal resources is also exacerbated. Among the instances for this, we can point to wastage of berths, heightening of the peaks and troughs in the workloads of terminal operations, worsening of schedule reliability issues, increase of the risk and the needed time in marine operations, and so on. In this context, the shipping lines generally always demand for better services with lower costs. In the microeconomic level, satisfying such demands is a constant challenge for the terminal operators throughout the world.



Development of terminals and logistics facilities in ports requires a great amount of land. According to Rodrigue,J.P (2017), the need for land in ports is markedly growing in response to the need to serve larger ships in ports: while the area of container terminals in the past decade were normally around 30 hectares, the new container terminals area in the regional hubs is around 80 hectares. The port area needs heavy construction and maintenance. Moreover, the port area surroundings is usually occupied by many logistics and freight distribution centers that are also heavy consumers of land. Yet it is important to notice that port development also adds to the value of the land considerably. The lands inside the port perimeter are usually rented to port concessionaires (e.g. terminal operators) and other businesses for commercial use. The value of the land also rises in the neighborhood of the port area as businesses and industries locate themselves in the adjacency to benefit the advantages provided. This also brings population centers to the vicinity of the port and all these facts contribute towards adding to the value of land as a consequence of port development. Good instances can be sought in the added value of lands in mega port like Jebel Ali port (a former fishing village) and Singapore port (islands formerly characterized by wetlands).

Ports also provide services that generate added value in the trade flows. These include:

- Receiving goods, breaking shipments, preparing for shipment, returning empty

packaging

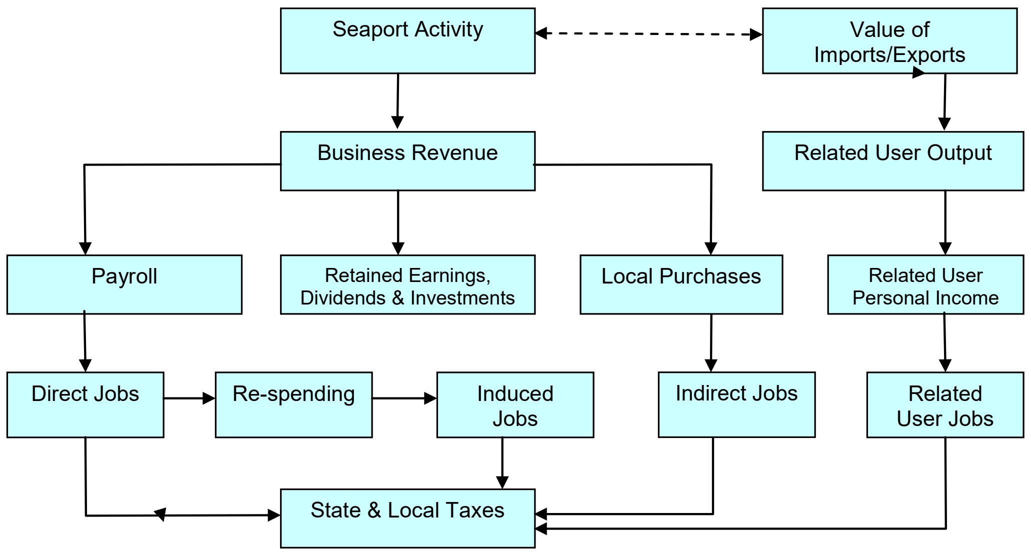
- Simple storage, distribution, order picking
- customizing, adding parts and manuals
- Assembly, repair, reverse logistics
- Quality control, testing of products
- Installing and instruction
- Product training on customer's premises

The Value Added Logistics services not only provide the ports with extra revenue streams and employment opportunities, but they also attract more trade by integration of further links in the value chain to the port. The formation of value-added logistics clusters in ports not only supports and boosts the trade facilitation level in ports, but also provides the port with flourishing revenues and employment. The instances can be seen in Singapore, Jebel Ali, and the Korean and Japanese ports. In some parts of the world, the port also allows the manufacturing industries to enter into port areas. These industries locate themselves in the port area (or its adjacency) to benefit the advantages of the port. These may include speedy and cost-effective delivery of imports and exports (e.g. goods, raw materials, supplies, machinery, etc.), enjoying the value added logistics services, utilization of natural resources (e.g. water supplies), financial incentives, legal exemptions, and so on. These industries bring more resources, capabilities, trade, revenue, employment and population to the port. Instances of this are best seen in ports like Antwerp, Rotterdam, Shanghai, Kaohsiung, and many others.

The Role of Ports in Economic Development

Apparently according to our discussions, beside the essential contribution of ports

to trade facilitation in the national and regional levels, they also act as significant contributors to local and national economy by employment, business development, revenue making, tax payments, and enhancement of welfare.
There are several models to explain and assess the contributions to the national economy. The contributions are usually considered in form of employment, personal income, revenue, investments, turn over, facilitation of export, value added, and tax. The following exhibit indicates a scheme of the economic model acknowledged by the American Association of Ports and Harbors (AAPH).



Flows of Economic Impacts through the Economy (Source: AAPH(2016))

In this model, the economic contributions of the port come from business revenues, jobs, personal income, and tax. In this sense, we will review the reported figures for UK, and US ports at each pace. The reports have been published by AAPH in United States and Centre for Economics and Business Research (CEBR) in United Kingdom. The author would like to notice that the methodologies of assessment and reporting the economic impacts of ports in these countries have some discrepancies, and the figures are only given to provide the reader with a rough sense of the magnitude of such impacts. The reporting has been done based on the performance of US ports and UK ports in 2014 and 2015 respectively.

Table 1 - Number of ports and split of handled Cargoes in the years of study (CBER(2017), AAPH(2016), UK Department of Transport (2016))

	Number of Ports	Total Cargo Handled (MM Tons)	Import Cargo (MM Tons)	Export Cargo (MM Tons)	Domestic Cargo (MM Tons)
UK Ports (2015)	188	496.7	285	152	59.7
US Ports (2014)	149	2590.17	688	633	1269.40

The firms in the port businesses are organized to serve the freight flows that enter the port (from either sea or land). They gain their business revenues by supplying such demanded services in the port. The services may vary from port to port, but they mostly fall under the following table's categorization. The list can be elaborated to several other kinds of charges and dues by referring to the tariff books of other ports. These charges and dues provide great stable revenue streams for ports. The terminal industry usually provide above 20% profitability, which is quite remarkable in the transportation sector.

Table2- Cargo and Passenger Handling Terms
(Source : New York Shipping Association Inc.,2010)

•Waterside Services:	•Loading and Discharging
–Tugs –Pilots – navigation experts who board the vessel to facilitate travel and calling within the harbor and channels. –Line Handling – the port fee that covers the labor costs associated with tying up or releasing the mooring lines from a vessel. –Launch – the fee associated with the use of launches to transport pilots, other personnel or supplies to or from a vessel. –Radio/Radar – the fees associated with radio and radar use and equipment. –Surveyors – the fees associated with insurance reviews of the vessel. –Dockage – the fees assessed a vessel to offset the use of the docking facility. –Lighterage – the expenditures associated with offloading or loading cargo from a smaller vessel to the vessel.	–Stevedoring –Clerking and Checking –Watching/Security –Cleaning/Fitting –Equipment Management, Maintenance and Leasing •Storage at the Maritime Terminals –Wharfage -- the fee against the cargo that is discharged (or crosses the wharf) from the vessel while at dock. Wharfage fees may be flat rates applied on a per ton basis or a commodity specific rate such as $45 per auto driven off a roll-on, roll-off (RO/RO) vessel. –Yard Handling –Demurrage – the fee associated with storing cargo at the terminal beyond the time specified in the transportation arrangements. –Warehousing –Auto and Truck Storage –Bulk Storage –Refrigerated Storage •Cargo Packing –Export Packing –Container Stuffing/Stripping –Cargo Manipulation/Lashing – activities that include strapping, blocking and arranging the cargo to minimize shifting and damage during transit. •Government Services –Customs and Inspection (including agriculture) –Entrance/Clearance/Immigration –Quarantine –Security

By reliance on their revenues, the port firms employ people, provide the dividends to stockholders, make investments in their businesses, lessen their liabilities, and procure the needed goods and services to maintain their business activities. This revenue stream and the employment, personal income, and tax provided by it, establish the direct impact of port to national economy. Table 3 gives the estimated direct economic impacts of UK and US ports as reported by CBER and AAPH.

Table 3- Direct Impact of Ports on the economy of United Kingdom and United States (AAPH(2016), and CBER(2017))

	Employment (Jobs)	Personal Income (MM USD)	GDP/GVA (MM USD)	Tax (MM USD)
UK Ports (2015)	101,000	5,347	11,104	2159
US Ports (2014)	541,946	29,115	124,449	8197

Note: CBER argues that it uses the Gross Value Added (GVA) to eliminate the effect of subsidies and product taxes from GDP, and defined GVA as : GVA + Taxes on products - Subsidies on products = GDP).

The port firms spend a significant amount of their revenue to purchase the goods and services needed to maintain their business activities. These spends provide the grounds for development of many other depending businesses that in turn contribute to the economy by their own employments, investments, personal incomes, and tax payments. The economic impacts in these second-tier firms that are dependent on port firms constitute the indirect impacts of ports on national economy. The estimates for indirect economic impacts of ports in UK and US have been reported as below.

Table 4- Indirect Impact of Ports on the economy of United Kingdom and United States (AAPH(2016), and CBER(2017))

		Personal Income (MM USD)	GDP/GVA (MM USD)	Tax (Indirect + Induced) (MM USD)
UK Ports (2015)	319000	3816.45	23267.25	..
US Ports (2014)	322,017	16678	99922	32829

The employees in the port firms and those from the port-dependent firms spend most of their income in the state's markets to provide the livelihood of their households. Moreover the relying firms on the port (e.g. the forwarders, the manufacturers, the haulers, the railway companies) make many purchases in the local and national markets. These spendings support the revenue streams, employment, personal income flows, and tax payments in a third tier of firms throughout the local and national markets and engender a third level of economic contribution that is acknowledged as induced economic impacts of the port. Table 4 contains the estimates of CBER and AAPH for the induced economic impacts of the UK and US port.

Table 5- Induced Impact of Ports on the economy of United Kingdom and United States (AAPH(2016), and CBER(2017))

	Employment (Jobs)	Personal Income (MM USD)	GDP/GVA (MM USD)	Tax (Indirect + Induced) (MM USD)
UK Ports (2015)	276,000	3234.95	23267.3	..
US Ports (2014)	822,884	99,922	99,922	32,829

The AAPH report goes one step further and estimates abovementioned quantities for the American exporters and importers who use US ports. Although one might argue that the sustenance and survival of these businesses and their supply chains depends on the functions of the port, others may find it exaggerating in some ways. The estimated figures for economic impact of these parties in US ports are given in table 6.

Table 6- Impact of Importers and Exporters of Ports on the economy of United States (AAPH(2016))

	Employment (Jobs)	Personal Income (MM USD)	GDP (MM USD)	Tax (MM USD)
US Ports (2014)	21,380,000	1,000,315	4,332,733	

By combination of the direct, indirect and induced impacts, one can achieve an aggregate measure of port's economic impact in each contribution category. Table 7 gives the calculated multiplier for each impact category in UK ports. These multiplier coefficients can represent the proliferating contribution of the production factors to the entirety of national economy. For instance the data in table 8 implies that by creating each one job in the UK ports, more than 3 indirect jobs has been created among the suppliers of goods and services to the port firms, and this has further supported the generation of near to 3 other induced jobs in the society. In result, one can say that each employment opportunity in the port will support around 6 employment opportunities outside the port.

Table 7-Aggregate Impact of Ports on the economy of United Kingdom (CBER(2017))

	Employment	Personal Income	GVA
Indirect Multiplier	3.16	0.70	1.10
Induced Impact Multiplier	2.73	0.61	1.06
Aggregate Impact Multiplier	6.89	2.31	3.15

The resultant economic impacts of the ports in national level can be estimated by incorporating the direct, indirect, and induced impact in each category in a lump-sum aggregate figure. AAPH also assimilates the exporters/importers impacts in each category. Table 7 presents the aggregate economic impacts of US and UK ports as reported by AAPH and CBER.

Table 8-Aggregate Impact of Ports on the economy of United Kingdom and United States (AAPH(2016), and CBER(2017))

	Employment (Jobs)	Personal Income (MM USD)	GDP/GVA (MM USD)	Tax (MM USD)
UK Ports (2015)	695,000	12,398	34,993	2,159
US Ports (2014)	1,686,847	145,715	224,371	41,026
US Ports - Exporters/ Importers impact included (2014)	23,066,847	1,146,030	4,557,104	321,082

By incorporating the estimates of exporters and importers into the aggregate economic impact constructs, the results astoundingly increase by 1267% in terms of employment, 686% in terms of personal income, 1931% in terms of GDP contribution, and 683% in terms of taxes.

Nearly in all parts of the world, the studies concerning the economic impacts of ports signify the enormous size of such impacts on the entirety of the national economies. For instance, the CEBR report indicates that the UK ports has supported 2.21% of national employment and generated a volume of 224.4 Billion USD of Gross Value Added that is equivalent to 7.84% of GDP in the national level in 2015. Similarly the AAPH report suggests that in 2014 the economic output of cargo flow through the US ports has provided a value of 4.6 Trillion Dollars to the national economy (equivalent to 26.2% of United States' GDP in the same year) and supported 15.64% of employment in the national level.

These interpretations strongly explicate that the economic role of ports is not restricted to trade facilitation, and the port itself acts as an engine that boosts the economic growth. By reviewing our discussions, we can say that the port is a dynamic, complex, and inevitable part of the transportation system that has determining effects on the economic life of the nations. Yet, the people, the policymakers, and even the port firms are less aware of the economic roles, capacities, and impacts of the ports. Developing and enriching this kind of understanding is the requisite condition to augment the needed mindset for transforming into a maritime nation. If not, the nation will not be able to develop her needed maritime advantages and will lose several precious development opportunities in a fast-paced globalized world.

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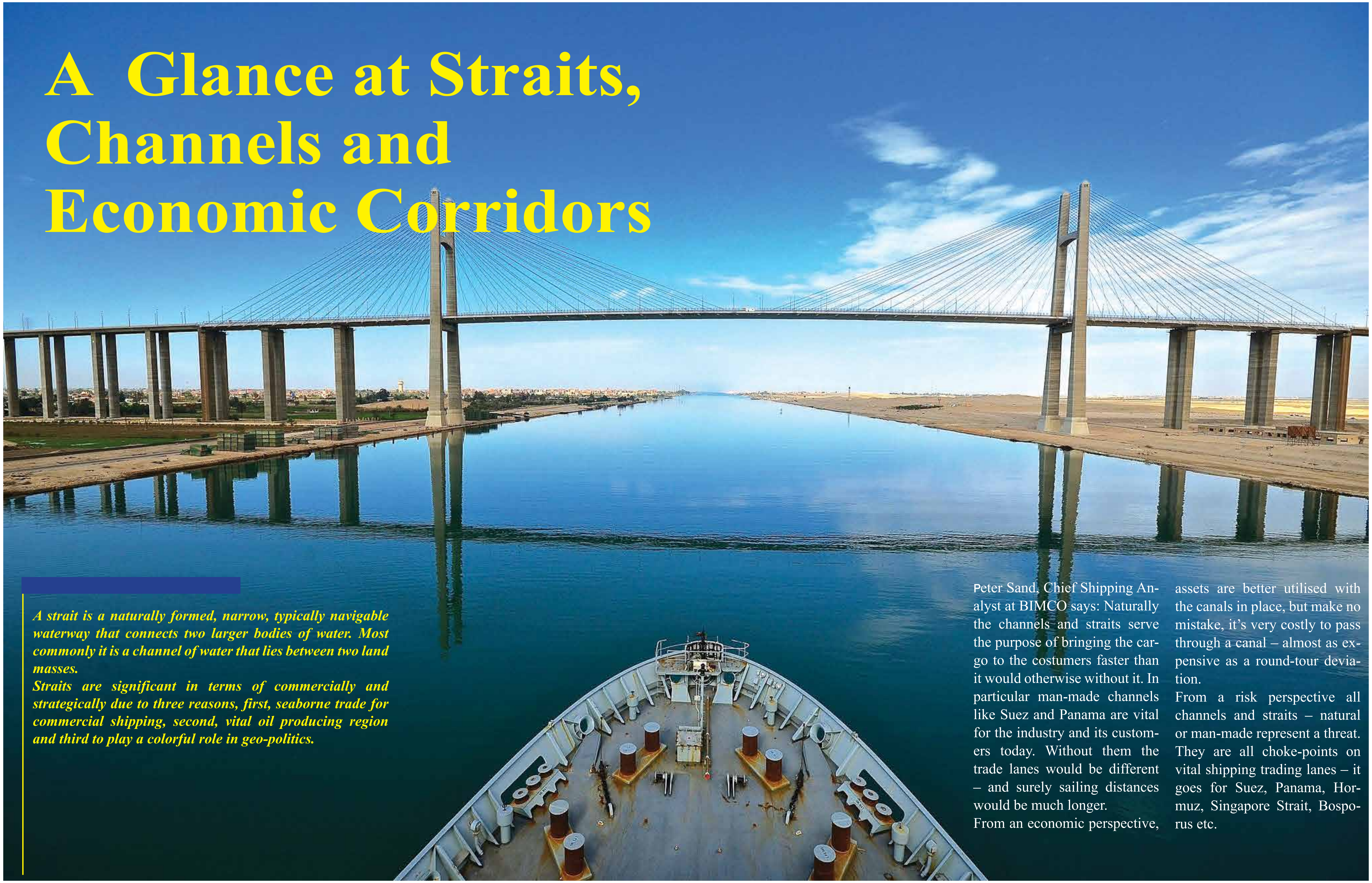


A Glance at Straits, Channels and Economic Corridors

A strait is a naturally formed, narrow, typically navigable waterway that connects two larger bodies of water. Most commonly it is a channel of water that lies between two land masses.
Straits are significant in terms of commercially and strategically due to three reasons, first, seaborne trade for commercial shipping, second, vital oil producing region and third to play a colorful role in geo-politics.

Peter Sand, Chief Shipping Analyst at BIMCO says: Naturally the channels and straits serve the purpose of bringing the cargo to the costumers faster than it would otherwise without it. In particular man-made channels like Suez and Panama are vital for the industry and its customers today. Without them the trade lanes would be different – and surely sailing distances would be much longer.
From an economic perspective, assets are better utilised with the canals in place, but make no mistake, it's very costly to pass through a canal – almost as expensive as a round-tour deviation.
From a risk perspective all channels and straits – natural or man-made represent a threat. They are all choke-points on vital shipping trading lanes – it goes for Suez, Panama, Hormuz, Singapore Strait, Bosporus etc.

Major Straits Of The World

Name	Joins	Location
Malacca Strait	Andaman Sea & South China Sea	Indonesia - Malaysia
Hormuz strait	Gulf of Persia & Gulf of Oman	Oman-Iran
Palk Strait	Palk Bay & Bay of Bengal	India-Sri Lanka
Sunda Strait	Java Sea & Indian Ocean	Indonesia
Yucatan Strait	Gulf of Mexico and Carribbean Sea	Mexico-Cuba
Mesina Strait	Mediterranean Sea	Italy-Sicily
Otranto Strait	Adriatic Sea & Ionian Sea	Italy-Albania
Bab-el-Mandeb Strait	Red Sea & Gulf of Aden	Yemen-Djibouti
Cook Strait	South Pacific Ocean	New Zealand (N & S islands)
Mozambique Strait	Indian Ocean	Mozambique - Malagassy
North Channel	Irish Sea & Atlantic Ocean	Ireland-England
Taurus Strait	Arafura Sea & Gulf of Papua	Papua New Guinea - Australia
Bass strait	Tasman Sea & South Sea	Australia
Bering Strait	Bering Sea & Chuksi Sea	Alaska-Russia
Bonne-Fasio Strait	Mediterranean Sea	Corsika-Sardinia
Bosporous Strait	Black Sea and Marmara Sea	Turkey
Dardenleez Strait	Marmara Sea and Agean Sea	Turkey
Davis strait	Baffin Bay & Atlantic Ocean	Greenland-Canada
Denmark strait	North Atlantic and Arctic Ocean	Greenland-Iceland
Dover strait	English Channel & North Sea	England-France
Florida Strait	Gulf of Mexico and Atlantic Ocean	USA-Cuba
Hudson strait	Gulf of Hudson & Atlantic Ocean	Canada
Gibraltar Strait	Mediterranean Sea & Atlantic Ocean	Spain-Morocco
Magellan strait	Pacific and South Atlantic Ocean	Chile
Makkassar Strait	Java Sea & Celebeze Sea	Indonesia
Tsungaru Strait	Japan Sea and Pacific Ocean	Japan (Hokkaido-Honshu island)
Tatar Strait	Japan Sea & Okhotsk Sea	Russia (E Russia-Sakhalin Island)

The Strait of Malacca is the longest strait in the world and from an economic and strategic perspective, it is considered as one of the most important shipping lanes in the world. After the Strait of Hormuz, the busiest water corridor is the Strait of Malacca.

This connects the Indian Ocean to the Pacific Ocean, linking the major Asian economies of India, China, Japan, South Korea and ASEAN with the rest of the world. The remarkable growth in international trade has brought about similar increase in the volume of commercial traffic traversing through this major sea lane.

The other important point is that more than 80% of the oil that arrives to China by sea travels through the Strait of Malacc. This creates a security issue for China as the Straits function as a strategic 'chokepoint' through which China's energy supply must pass. Essentially, whoever controls the Straits of Malacca has the ability to heavily disrupt a vital energy corridor to China. There is no shred of doubt that the government of China is aware of its energy dependence and the vulnerability of this supply.

Oil shipments through the Strait of Malacca can supply two of the world's fastest growing economies, China and Indonesia. In the recent years, crude oil has taken between 85% and 90% share of annual total petroleum which passes through Strait of Malacca.

The Strait of Malacca is also a significant transit route for liquefied natural gas (LNG) from Persian Gulf and African suppliers, particularly Qatar, to East Asian countries with upward trend of LNG demand.

The Strait of Hormuz which is known as a "chokepoint, is among one of seven extremely narrow water corridors that big ships tend to use as shortcuts.

Strait of Hormuz provides the advantage of cost and time saving, so that it is faster and cheaper to travel from the Middle East to Europe through the Suez Canal (another chokepoint) than by circling Africa, for example. But it should not be overlooked that since chokepoints are surrounded by land, they are vulnerable to regional and national politics, so, they are as risky as they are useful.

This strait is of great significance, because it is a geographic chokepoint and a main artery for the transport of oil from the Middle East. Iran and Oman are the countries nearest to the Strait of Hormuz and share territorial rights over the waters.

Suez Canal is an artificial sea-level waterway located in Egypt and connects the Mediterranean Sea with the Gulf of Suez, a northern branch of the Red Sea. Suez Canal which officially opened in 1869, is one of the most heavily used shipping routes in the world, witnessing the passage of thousands of vessels every year.

The canal, which connects Asia with European and American economies, offers a shortest maritime route between Europe and the regions that share a border with the Indian Ocean and the Western Pacific Ocean. The canal also connects the Port Said in northeast Egypt with Port Tewfik at the city of Suez in the south.

It is important to say that that it reduces the distance between Europe and the Far East by a third. The head of the Suez Canal Authority (SCA), Mohab Mamish, announced that the revenues of the Suez Canal registered a historic annual record, pushing up by 16.7 percent at most times throughout 2018 in comparison with last year.

The world's largest container ship, the 400-meter long OOCL Hong Kong, passed through the Suez Canal carrying 21,400 containers in 2017. Given that canal is responsible for eight percent of global sea-borne trade annually, it plays a significant role in the growth of

> **“More than 80% of the oil that arrives to China by sea travels through the Strait of Malacc.
> Oil shipments through the Strait of Malacca can supply two of the world's fastest growing economies, China and Indonesia.**

Egypt’s economy. It is important to highlight that the Suez Canal generated revenue of $5.3 billion in 2017.

In the book of THOSE WHO MADE THE HISTORY OF THE CANAL has come: Between 1975 and 2015, the canal was considerably widened, deepened, and modernized. It became one of the main sources of foreign exchange for Egypt, which, in 2015, launched a new pharaonic project: doubling the canal and building a vast industrial and urban zone intended to draw millions of inhabitants. That is the Egypt of the future that the visitor discovers, before dreaming again of grand journeys.

The Nieuwe Waterweg is a ship canal in the Netherlands from het Scheur west of the town of Maassluis to the North Sea at Hook of Holland. Nieuwe Waterweg Witnesses the commuting of more than 15,000 sea-going vessels annually. To create optimum accessibility to the port, the Nieuwe Waterweg and the Botlek needed to be deepened by one and a half metres along a distance of twenty-five kilometres. The start of the dredging work for the deepening project was launched in March 2018.

To maintain the vitality of the Rotterdam port industry, investment in its conservation and renewal is essential. In the long term, the port will need to be prepared for the transition from a linear, fossil fuel-based economy to a circular biofuel-based economy. An economy in which materials and raw materials from vegetable-based origins are created and renewable organic sources are recycled for as long as possible whilst maintaining their quality. The Botlek is able to play a key role in this transition.

According a general definition of economic corridors, they are considered as integrated networks of infrastructure within a geographical area designed to stimulate economic development. They may be developed within a country or between countries. Corridors exist in Asia, Africa and other areas. Economic corridors often feature integrated infrastructure, such as highways, railroads and ports, and may link cities or countries. They are meant to provide two important inputs for competitiveness: lower distribution costs and high-quality real estate.

Establishing an economic corridor, then, is a holistic strategy that improves and enhances investments in transport, energy, and telecommunications in the region. A highly efficient transport system means goods and people move around the region without excessive cost or delay. This improvement promotes further economic growth and regional development, thus contributing to poverty reduction. (ADB 2008).

It can be asserted that the construction of economic corridors and other infrastructural projects featuring land-sea-air transportation routes among different countries and even different continents, is a paramount move in modern society.

The Rotterdam/Antwerp–Genoa corridor is one of the most significant routes for freight traffic in Europe and this is why it is currently being expanded. The New Rail Link through the Alps (NRLA), which includes the Lötschberg and Gotthard base tunnels, forms part of this corridor.

One consequence of closing political and economic links between the countries of Europe of is the huge volumes of goods move through the continent across different national borders. The plan is for most of these goods to be transported on nine rail freight corridors that have been identified by the European Union. These corridors are currently being developed and expanded.

The two main sea routes are through the Suez Canal between the Eastern Mediterranean Sea and the Red Sea, and around the Cape of Good Hope at the southern end of Africa.

Currently there are more corridors under development: the European Union-initiated TRASECA lines into Central Asia; the North-South Corridor, a combined sea and rail route from India through Iran and into Russia; and the revived Silk Road, or second Eurasian Land Bridge, which Russian rail experts call the Trans-Asian Mainline (TAM).

“Throughout history, trade route or trade corridor is the blood-line of intellectual and economic developments.” Dr. Hsuan Feng believes.

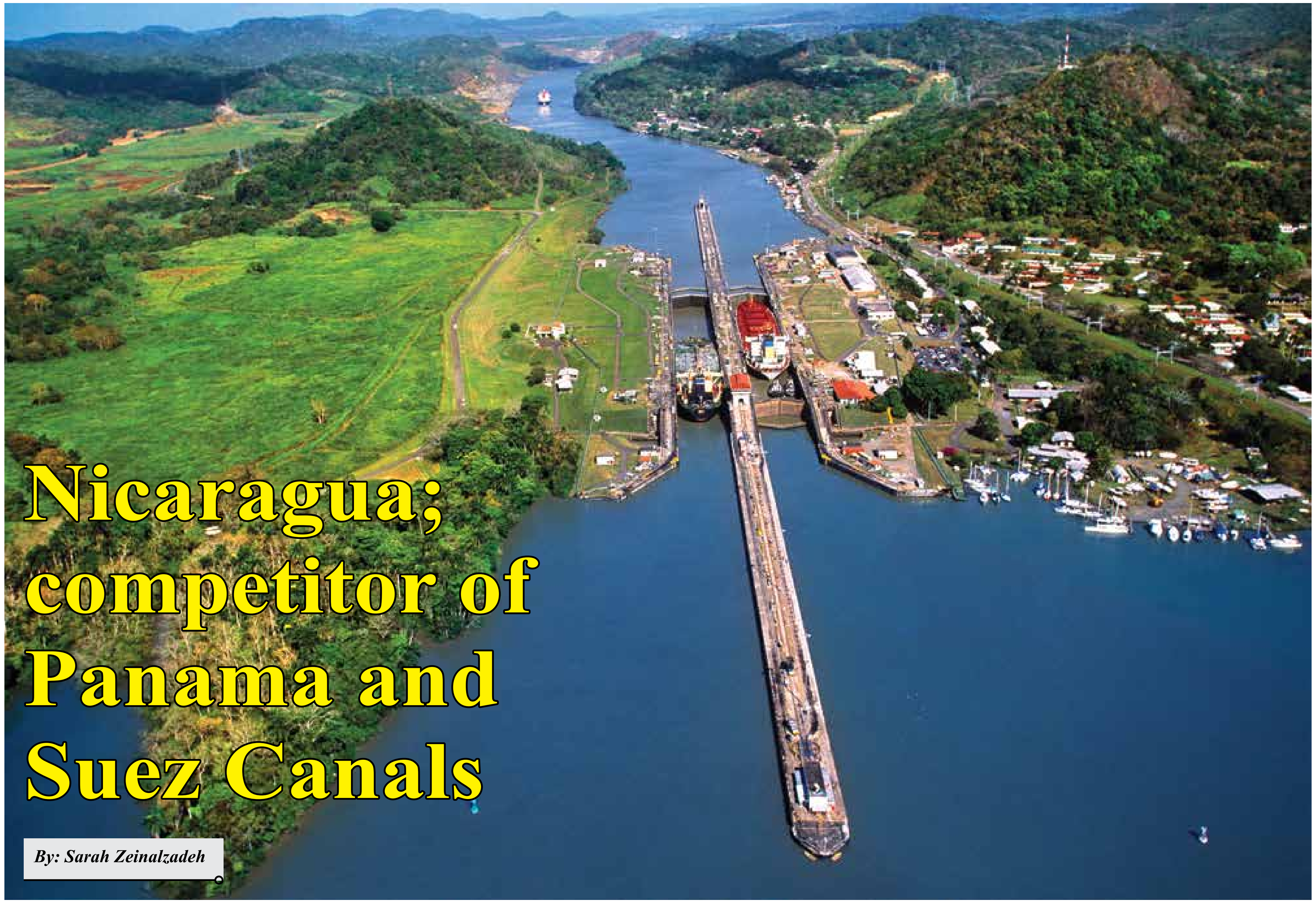
“One consequence of closing political and economic links between the countries of Europe of is the huge volumes of goods move through the continent across different national borders.

Moreover, the transport corridor TRACECA is the renaissance of the Great Silk Road (Silk Road). The corridor starts in the Eastern Europe (Bulgaria, Rumania, Ukraine) and also crosses Turkey. There are routes passing the Black Sea to the ports of Poti and Batumi in Georgia, further using transport networks of the Southern Caucasus, and a land connection towards this region from Turkey.

From Azerbaijan, by means of the Caspian ferries (Baku – Turkmenbashi, Baku – Aktau), the TRACECA route reaches the railway networks of the Central Asian states of Turkmenistan and Kazakhstan. The transport networks of these states are connected to destinations in Uzbekistan, Kyrgyzstan, Tajikistan, and reach the borders of China and Afghanistan. China is now building six economic corridors, namely the New Euroasian Continental Bridge, the China-Mongolia-Russia Corridor, the China-Central Asia-West Asia Corridor, the China-Indochina Peninsula Corridor, the China-Pakistan Corridor and the Bangladesh-China-India-Myanmar Corridor.

These corridors, which connect most of the countries and regions along the Belt and Road, are of great significance to the success of the initiative. Economic corridors will not only shorten trade distances and facilitate international business, but also accelerate economic integration and globalization. For instance, Chinese investment only ranked 16th in Pakistan before the construction of the corridor, but now China has become the largest investor in the country after the construction of China-Pakistan Economic corridor.

While China is the major player, the importance of linking trade and facilitating intra-country and intra continent economic integration cannot be ignored when studying trade corridors in the region.



Nicaragua; competitor of Panama and Suez Canals

By: Sarah Zeinalzadeh

The Shipment of commodities by sea can take several weeks and even sometimes more. The construction of manmade waterways, which has had an important impact of increasing the efficiency of this invaluable industry altered the transportation section. Considering the benefits they carry, charges paid for the construction would be neutralized. By cutting new, more direct routes through land, the construction of canals shortens shipping routes. The great advantage of this measure is time and operating costs which are saved. Consequently, exploiting quicker transits, major commercial centers are serviced in a less amount of time, enabling ships to be used for additional sailings per year. These additional sailings mean more frequent shipping schedules, with the capability of more goods being traded on a global scale.

Shipping trade routes have played a crucial role throughout history encouraging countries to build their trade in everything from variety of things including spices, electronics, and cars to clothing. Presently, Over 90% of all products made and sold are transported by ship worldwide, making the oceans, seas and rivers of the world an essential part of the supply chain of many businesses.

Major Canals Connecting East to the West:

Suez Canal

Located in Egypt, it officially opened in November 1869 aiming at connecting the Mediterranean Sea to the Red Sea. One of the world's most heavily used shipping lanes, the Suez Canal provides the shortest maritime route between Europe and the lands lying around the Indian and western Pacific oceans. This 120 mile (193km) stretch of water allows ships to travel between Europe and South Asia without navigating around Africa, reducing the sea voyage distance by about 4,300 miles equals to 7,000km.

Panama Canal

Opened in August 1914, the Panama Canal allows the possibility of connection between the Atlantic Ocean to the Pacific Ocean and serves more than 144 of the world's trade routes. This 48 mile (77km) stretch of waterway provides vessels to avoid the lengthy Cape Horn route around the southernmost tip of South America, where strong winds, strong currents, large waves and Icebergs make these some of the most treacherous waters in the world to navigate. The Panama Canal, which takes between 6 to 8 hours for ships to transit bring about a reduced route from the Far East to the US East Coast of around 3,000 miles equals to 4828km.

Goal behind the Canals' Expansion; Easily Coped with the 21th Century Ships

Given growing trade between East and West following the manufacturing in the East and a growing middle-class in Asia with a demand for Western goods, there has been a sharp increase in the number of vessels navigating these two major canals. This progress in shipments has caused delays, although, at the same time, there has been a dramatic increase in the size of the new ships being built, to the extent that many are too large to navigate the canals. As such, steps have been taken to improve these pivotal shipping channels to deal with the increased demand, through the largest expansion projects on both the Suez and Panama canals.

Construction procedure in the Suez Canal was undertaken to develop a new channel parallel to the original one to allow larger ship to pass through it. When the new 22 mile stretch of channel opened in August 2015, the 'New Suez Canal' as it was given a new name, doubled the daily capacity of the canal and more than halved waiting times, whilst deepening of the main waterway allowed for larger ships to navigate the canal.

Moreover, the Panama Canal expansion, which opened in June 2016, has formed a new lane of traffic along the canal through the construction of a new set of locks, doubling the waterway's capacity. The expansion of the canal has enabled the passage of vessels that can carry up

to 13,000/14,000 TEUs; approximately three times the size of the 5,000TEU, which the previous locks could manage.

Competition between Suez and Panama canals

Considering the upward trend in international trade as well as shipping companies that pay averagely £165,000 to £300,000 for a 4,500 TEU vessels to manage the transit of their vessels from the world's busiest shipping lanes, it is no surprise that the Suez and Panama Canal operators are eager to boost the fruitfulness of their channels. In line with this, investment on both canals has been attracted to enhance operating capabilities and to obtain a competitive edge over the other.

The operation of a productive canal system has positive effects on the surrounding community. Economic investment in the expansion and development of ports and supporting infrastructure in countries within the vicinity of the canal provide job opportunities with is definitely encouraging.

When it comes to shipping, it seems that size really does matter. Due to the restrictions on the size of ships capable of passing through the Panama Canal prior to expansion, Danish Maersk company took the decision in 2013 to move all shipments to the Suez Canal as it worked out more cost effective to put 1 x 9,000 TEU through Suez as opposed to 2 x 4,500 TEU through Panama.

However, the Panama Canal expansion appears to have prompted a revised routing for the shipping line as amongst the carriers that have committed to commercial transit through the new Panama Canal locks, Maersk have confirmed that they will be operating a service string through the canal.

Presently, the increased capacity at both canals has increased choice for shipping lines operating on East to West trade routes. Therefore, the factors that determine how they decide which route is more cost effective are investigated. Although ships utilizing the Suez canal from Asia to US navigate a distance of an additional 5% to those utilizing the Panama Canal, the distinct variance in the toll charges between the two canals means that the Suez is actually more cost effective when fuel prices are low. However, if fuel is expensive, the Panama Canal becomes the more attractive proposition due to its shorter distance.

Despite the expansion of the Panama Canal, it is still not capable of handling the largest of the container shipping vessels and the Suez Canal is still capable of accommodating larger ships than Panama.

It is worthy to have a look at the volume of cargo and performance of the Panama during the last year. This Canal recorded 403.8 million ton in the fiscal year 2017 which was unprecedented during its 103 years of history. The volume of cargo handled in 2017 demonstrate a growth of 22.2 percent in comparison to 2016 which was directly in relation to the moved cargo through this waterway lane. In addition, ships' transit in terms of number enjoyed an increase of 3.3 percent in 2017 and reached 13,548 ships.

Moreover, Panama Canal Authority announced that since the beginning of 2018 reservations have been increased from six to seven. Through this step, the canal could be host of more capacities in the new locks. Also, far from the 23 ships which was considered to transit the water way, seven new transaction of post-panamaxes recorded.

On the other side of the coin, the Suez Canal witnessed 18 thousand ships and 1million ton cargo during the last year. The canal brought about the most revenue for the country. Besides, seaports of the canal are being developed and the government at the same time will improve Nile as the strategic trade route.

Will the competition be more challenging?

A New Canal?

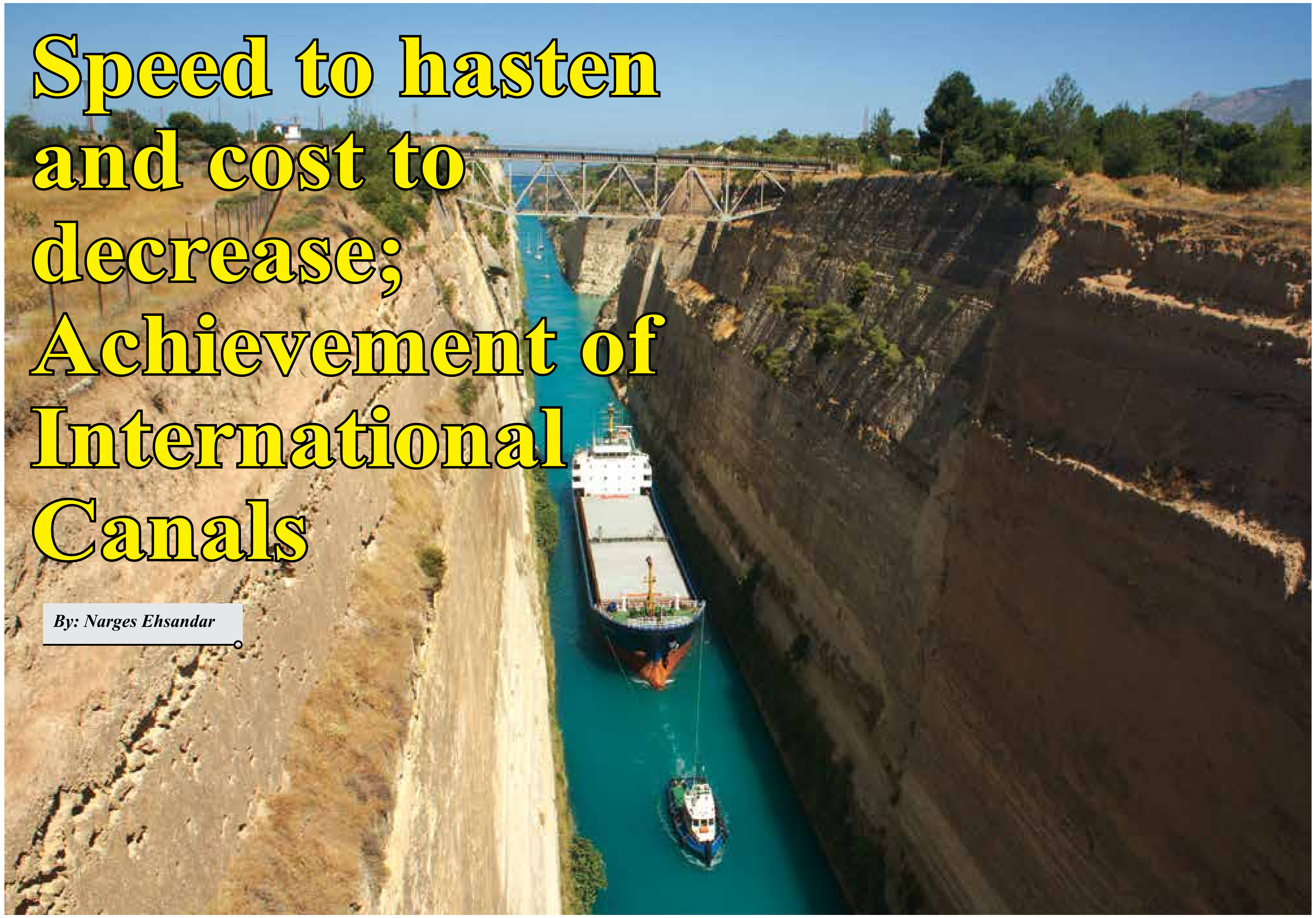
Determining the economic advantages that can be gained from operating an international shipping lane, the Nicaraguan parliament has confirmed plans for a Chinese company HKND Group, headed by billionaire Wang Jing, to build a 173-mile canal through Nicaragua.

A new Canal in Nicaragua could potentially have a damaging effect on the Panama Canal trade. Considering its geographical position, the Nicaraguan canal would offer the capability to operate larger vessels in servicing similar ports. With Panama and Suez already in competition, would there be enough trade for all 3 canals?

Three times as long and almost twice as deep as its competitor in Panama, Nicaragua's canal will require the removal of more than 4.5bn cubic metres of earth. With the dimensions of each of the locks' chambers planned to be 520 m (1,706 ft) long, 75 m (246 ft) wide, and 27.6 m (91 ft) sill depth, the Nicaragua Canal is being designed to allow transit for larger ships than those that pass through the Panama Canal. To show the differences in detail, the new third set of locks in the Panama expansion are only be 427 m (1,401 ft) long, 55 m (180 ft) wide, and 18.3 m (60 ft) deep.

The new canal is supposed to be completed in 2019. News that the project may not yet go ahead will be encouraging to the competition.

A new Canal in Nicaragua could potentially have a damaging effect on the Panama Canal trade. Considering its geographical position, the Nicaraguan canal would offer the capability to operate larger vessels in servicing similar ports. With Panama and Suez already in competition, would there be enough trade for all 3 canals? Even if so, would the additional competition decrease income from toll fees? If this were the case, it could spell good news for carriers in so far that it could push down shipping charges – But would this mean less investment in future on these integral transit routes? This definitely remains an open question and the market should wait for the future.



Speed to hasten and cost to decrease; Achievement of International Canals

By: Narges Ehsandar

An international canal is a general term that includes global straits and locks. Canals are locks, which separate dry lands and join waters. The difference between strait and lock is defined in terms of how they are created which for the first one it is originated naturally and the latter one through digging artificially to shorten the marine routes. More than 100 inter-oceanic straits and locks exist worldwide among which Hormoz Strait, Suez Canal, Bosporus Strait, Dardanelles Strait, Strait of Gibraltar and Malaca play a pivatol role in international realms in term of economy, military, energy transport, cargo carrying and passenger transfer. In line with this, countries highly invest to control or create canals and occasionally costal nations and marine powers face conflicts over determining the sovereignty.

Considering more than 90 percent of the global transportation which is achieved through sea, massive volume of heavy commodities are shipped by ships to the world.

Doubtless, cargo carrying brings about cost for the owners and revenue for the shipping companies. Shipping's revenues is calculated based on cost from origin to destination. The cost includes personnel salary, ship age, crew foodstuffs, fuel and other related port costs. These costs are calculated by ship owners, a percent of profit for carrying added to this and the finalized cost is announced to the cargo owner. Therefore, the distance being short or long is crucial for the owners because in the case of long distances, the owner has to pay more and consequently the consumer has to pay more too. Here is the role of canals and straits that shorten the routes and decrease the cost effectively.

Another properties of the canals and straits is the safety of ships crossing them due to seasonal and monsoon storms. Moreover, from the legal perspective there are national regulations and international rules governing them. Meanwhile, the operator of the canal is the country in which the canal created. International rules such ad marine traffic have to apply through the canals. However considering the aim of the country to gain profit by creating the canals, transit rule of the ships from domestic waters have to be beneficial. In other words, all ships are capable of crossing the created canal unless a tension exists between two countries and then the operator one limit accessing in some specific cases. The operator country receive transit fees from ships on the basis of their size and type. In addition to this kind of revenue, canals have other sources of income such as developing fisheries, providing required measures and services of the ships and local guidance that give rise to employment in those regions.

In some parts of the world, natural circumstances let the marine routes to be shorten through digging canals and make a connection between two points. However, ships are to pay costs to transit the canals, their finalized cost decrease by one third. For instance, Kiel Canal has been created in the north of Germany through land drilling which lesson the distance between Adriatic Sea and the North Sea. Besides, the Suez Canal which launched in 1869 shrank Europe- Asia distance by 900 kilometer. In other words, the distance from Adan to Strait of Gibraltar through Cape of Good Hope was 16002 kilometers, which decreased to 6940 through the Suez Canal. Moreover, Panama Canal located in the western hemisphere with 82 kilometer long made the shipping between pacific and Atlantic possible in a way that ships no longer had to transit through South America. In this situation, the common route of shipping between New York cities and San Francisco which was 22500 kilometers lessoned to 9500 kilometers through the Panama Canal. In the past, ships aiming to cross the Pacific ocean had to go around the South America but after the completion of the Canal they directly go to the U.S from Europe and to the Eastern Asia. Averagely, it takes 8/10 hours for a ship to pass the canal during which crew can

enjoy the most beautiful and modern engineering designing.

Panama's Canal Tonnage Increases 22.2% in Fiscal Year 2018 compared to 2016 and 2017. The development of the Panama Canal included the construction of new locks in the routes surrounding the Pacific and Atlantic Ocean, which created the third traffic lane and increased the cargo movement capacity twice. In addition, the development of the channel led to access to Pacific Ocean with the purpose of development of marine canals and water resources.

> **Panama's Canal Tonnage Increases 22.2% in Fiscal Year 2018 compared to 2016 and 2017. The development of the Panama Canal included the construction of new locks in the routes surrounding the Pacific and Atlantic**

Volga–Don Canal which connects Volga River in the Caspian Sea to Don in the closest point 101 kilometers long. This can officially opened in June. The amount of prisoners who had an active role in this project approximately reached 100,000.

After the completion of forming process, Volga–Don known as the most important communicative tool in river transportation system between the two rivers. This canal starts from Sareptsky beaches in south of Volga and ends in Tsimly Onsk Reservoir in Don River. The canal owns 13 pier for berthing, three pumping shipping canals, three dams, 17 waterworks and two repair and rescue waterworks. Nine of them are located in the declination surface which are accommodated for ships with the maximum length of 88 meter and four are set in the Don River to admit ships of 44 meters in length. The determined capacity for ships to pass through the canal is five thousands ton.

The aims and reasons for the construction of the Volga-Don canal were creating a deep waterway between the Volga and Dan River to reach the Black Sea. Besides, irrigation of agricultural lands in of Volgograd and Rostov, electric power generation, development of transportation infrastructure in southern Russia such as the construction of ports, docks, the railway station and the new regions were of utmost importance. Moreover, creating the reservoir in the downstream part of the Dan River, along with the preparation of the Volga-Canal had been taken into consideration. The required shipping space for ships to berth was exploited that includes two accommodations (Nos. 14 and 15), downstream and upstream access canals and earth dams. Meanwhile, power plant of shipping canal of the Volga-Don is the best and the most difficult accessing rout of Russia to the surrounding seas. Since its entry into the maritime system, it has become a connecting waterway from the northern seas to the southern seas.

This canal has halved the distance between the coastal areas of the Europe part of Russia and connected it from the ports of the Baltic to the Black Sea ports.

A state institution is responsible for the authority of Volga-Don lock and shipping canal. Annually, 10,000 ships pass through the canal and transport approximately 13 million tons among which 60 percent are oil and oil related products. In addition, 450 million cubic meters of water per year are used for shipping, 160 million cubic meters of are applied to agricultural irrigation and supply of freshwater cities and villages next to the canal are all provided through the canal. In the mid-1990s, to preserve the locks and water facilities along with ensuring the security of shipping, Volga-Don canal repair, renovation and technical equipping started.

The Volga-Don is an important loop of deep waters in the European part of Russia and is currently a supplier of cargo transit in the southern Russian waterways located in the international shipping corridor of the north to the south. The canal also plays a carry a pivotal role in transporting cargoes within the Azov-Volga-Don Astrakhan region.

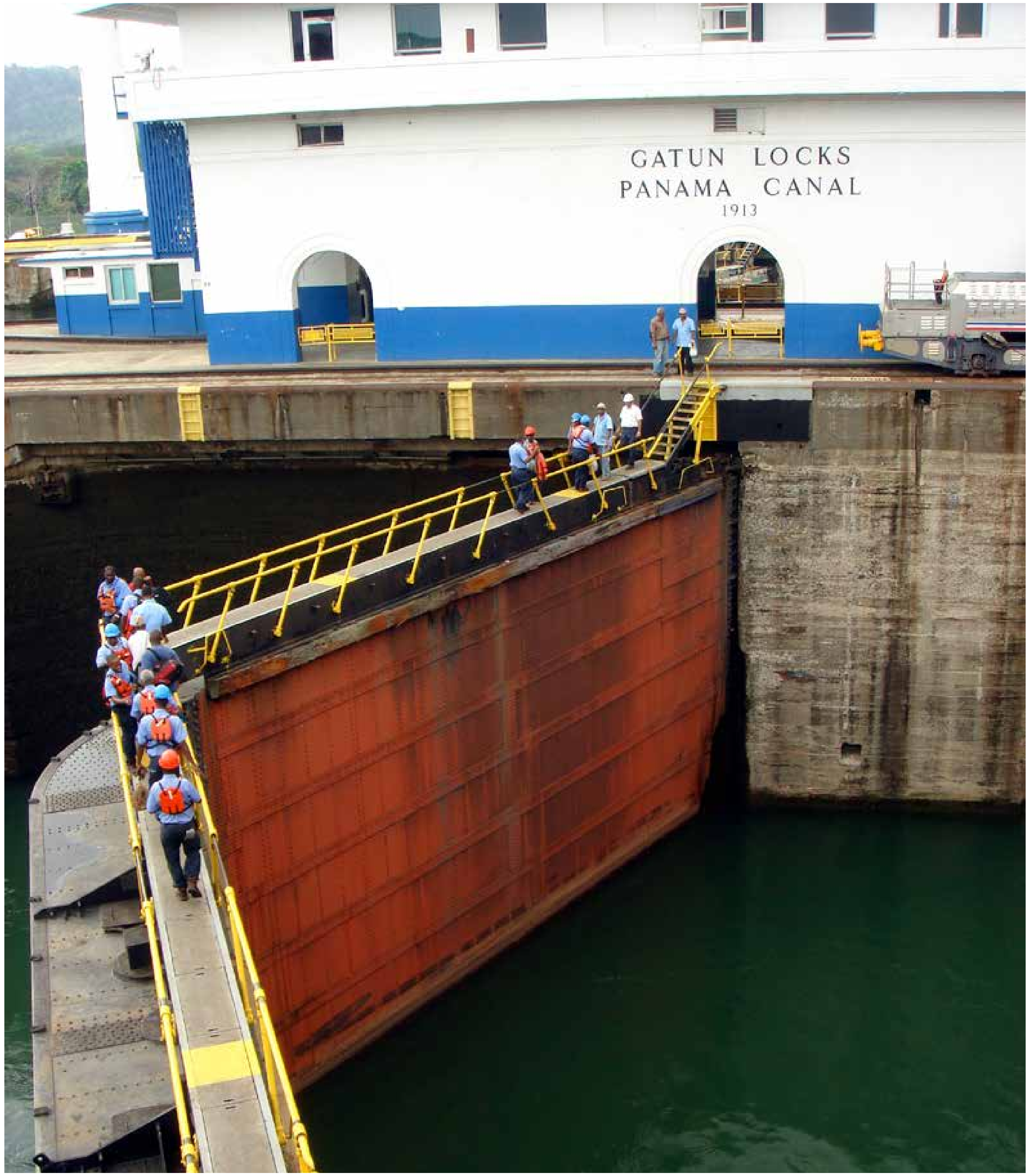
The large Hangzhou canal is China's longest lock made by human hands as well as the largest canal in ancient China. This canal is an important tourist destination that is navigable and plays a significant role in China's transport and trade in addition to carrying positive environmental impacts on its adjacent areas. In line with this, UNESCO has registered this canal in the World Heritage List.

Therefore, human beings using their creative minds and constructing artificial canals and locks, provided valuable services in terms of saving time and transporting goods at an incredible speed from the north, south, east and west of the world.

The Role of International Waterways in the Global Economy

Case Studies: Strait of Hormuz, Strait of) (Malacca, Bab-el-Mandeb, and Suez Canal

By: Meisam Mirzaei



The strategic location is a location where its events have regional, continental or global reflections, and a point that can be used as the center of communication or the concentration of military forces and defense fortifications.[15] The most important indicators for assessing the strategic location of the sites are:

1. Having a communication position,
2. The possession of valuable natural and economical resources,
3. Being next to international waterways or straits,
4. Placing between two or more important areas,
5. Having a military position,
6. Possessing maritime status and access to free waters.[20]

International straits and channels have the potential to affect both the national and foreign policy of the countries, as well as the military and maritime strategies, and allow their coastal countries to control the trips in them, so they have a strategic value.[15]

International straits and channels have communicational, political, security and economic functions. Their first function is the communicational function and the potential to establish commercial, economic, and military ties and transferring of passengers and goods between two places or on waterway.

Straits have been the place to convey the commodities and to carry out economic relations of countries for a long time, thus played a significant role in the development of global trade.

So, their economic function is also defined in this way, which is a major part of growth in world trade is accounted for transferring in them.

As the military and security functions of the straits, these waterways play an important role in the transfer of power, logistics, fleets of the countries, and the policies of the countries about them can be a factor for the loss of security and endangering the stability of a region.

The political functions of the straits are also related to their communication, economic and geostrategic values. On the other words, each of these functions has a profound role in influencing national and foreign policy of the Strait coastal countries and can be a powerful tool for relations with other countries and put them in a superior position.

Among the international straits and canals in glob, the most important and most influential straits and waterways with strategic, geostrategic and geopolitical roles are the Strait of Hormuz, the Strait of Malacca, the Bab-el-Mandeb Strait and the Suez Canal.

Strait of Hormuz

The Strait of Hormuz is a narrow curve shape channel that links the Persian Gulf to the Indian Ocean. This strait is a concavity connected from the north to Iran and from the south to the Al-Musandam peninsula.[18] The length of this Strait is 187 km. Its entry is marked with two ridges: "Rass Dabah" and "Rass Alkouh" on the coast of Iran; the exit of the Strait is the region between the Rass Sheikh Massoud and Hengam Island.[19] The width of the Strait is at the shortest distance between the Quayen Kabir and Larak Islands, 38 km, and at the longest distance between the two countries' coast - from the Nakhle Nakhoda on the coast of Iran to the northern point of Al-Musandam, 90 km. Also in the eastern boundary - between Rass Dabah and Rass Alkouh - the width of the Strait is 96 km and in the westward - between the port of Bostaneh and the port of Dubai - it is 150 km. In terms of depth, the strait floor in the north and south direction is not symmetrical, so that its sharp slope is on the south coast and the smooth slope is on the northern coast. The deepest point is adjacent to the southern coast of the country and the Oman, in which the way of separate transportation plans is located along this coastline. The depth of water from the west to the east increases. The average depth in the west of the Strait and in the Persian Gulf is 25 meters and its deep sections rarely exceed 73 meters.[15]

This strait has been considered a strategic point for South West Asia and the world for a long time. Historical studies show that in different periods before and after Islam and also in the current period, Strait of Hormuz has a strategic importance and was the place of competition of powers to dominate it and in the present time, this role has been preserved and all The countries of the world are aware of its key importance in the economies of

the countries.[21]

According to international centers, the Strait of Hormuz is the most important channel for the transportation of crude oil and its products, with 17m bpd in 2011, 16.8m bpd in 2012, 16.6m bpd in 2013, 16.9m bpd in 2014, 17m bpd in 2015, and 18.5m bpd in 2016. About 30% of the crude oil trade and other liquids were transported through the Strait of Hormuz in 2015, which increased in the following year.[7] In fact, one-third of the world's daily crude oil traffic is taking place through the Strait of Hormuz as the strategic gate which connects the Middle East oil producers (West Asia) to the main markets in Asia, Oceania, Europe, North America and other areas.[5]

In 2016, 18% of US oil imports were transferred from the Persian Gulf.[2] According to the Lloyd's List Intelligence, the U.S. Energy Information Administration (EIA) estimated that about 80% of the crude oil was sent to Asian markets through this strait, and the most important destinations of it are China, Japan, India, South Korea and Singapore. In the export of LNG, Qatar exported 3.7 trillion cubic feet through the Strait of Hormuz in 2016. According to the British Petroleum (BP) in 2017, this volume is more than 30% of the global trade of LNG.[7]

In sum, the Strait of Hormuz is the channel of communication between many countries for commercial and economic exchanges, and millions of barrels of oil and its products and also tons of other commodities are exported or imported through it per day, and the economy of many countries in the world, including Europe West, America, East and South-East Asia, and all Gulf states depend on its security and openness. This strait is in the control of Iran within the framework of international law, and the country is legally and executively governed on it. The history of the post-Islamic revolution in Iran shows that the Strait of Hormuz, with the governance of the Islamic Republic, has always been in the service of peace and stability of the region and the world. The history of the post-Islamic revolution in Iran shows that the Strait of Hormuz, with the rule of the Islamic Republic, has always been in the service of peace and stability of the region and the world.

Strait of Malacca

The Malacca Strait is one of the most important strategic paths in the world, supporting a major maritime trade between Europe and Asia-Atlantic, which has the volume of 50,000 ships annually.[6] The Strait covers about 500 miles north to south between Malaysia and the Indonesian Sumatra Island and its water shares with three coun-

tries: Malaysia, Singapore and Indonesia.[3] In fact, the strait is located between Indonesia, Malaysia and Singapore, connecting the Indian Ocean to the South China Sea and the Pacific Ocean. Malacca Strait is the shortest seaway between Persian Gulf oil suppliers and Asian markets, especially China, Japan, and South Korea.[8] The length of the strait is about 800 km, its width is between 50 - 320 km (2.5 km at the narrowest point) and its minimum depth is 23 meters (about 70 feet). The Malacca is the longest strait of the world in international navigation, and its passage can take about 20 hours.[6]
According to statistics, the total crude oil and petroleum product flow from the Strait of Malacca in 2011 was 14.5 m bpd (12.8 m barrels of crude and 1.7 m barrels of products), 15.1 m bpd in 2012 (13.2 m barrels of crude and 1.9 m barrels of products), 15.4 m bpd in 2013 (13.3 m barrels of crude and 2.1 m barrels of products), 15.5 m bpd in 2014 (13.3 m barrels of crude and 2.2 m barrels of products), 15.5 m bpd in 2015 (13.9 m barrels of crude and 1.6 m barrels of products), and 16 m bpd in 2016 (14.6 m barrels of crude and 1.4 m barrels of products). The level of liquid natural gas (LNG) passing through the Strait of Malacca was 2.8 trillion cubic feet in 2011, 3.5 trillion cubic feet in 2012, 3.9 trillion cubic feet in 2013, 4.1 trillion cubic feet in 2014, 3.6 trillion cubic feet in 2015, and 3.2 trillion cubic feet in 2016. [9] In total, about 30% of the world's trade and 80% of Japan, South Korea and Taiwan imports of oil are transferred through the Strait of Malacca.[6]
The geographic location of the Strait of Malacca and the statistics of the flow of oil and non-oil products from it, as well as its role in international trade, indicate the importance of this international waterway.
If the Strait of Malacca is blocked, nearly half of the fleet will be forced to land around the Indonesian archipelago, including along the Straits of Lombok, between the Bali and Lombok Islands, or through the Straits of Sunda between Java and Sumatra. These are the alternative routes. These alternative routes reduce global transportation capacity and increase transport costs and potentially affect energy prices.[10]

> **The geographic location of the Strait of Malacca and the statistics of the flow of oil and non-oil products from it, as well as its role in international trade, indicate the importance of this international waterway.**

Strait of Bab-el-Mandeb

Bab-el-Mandeb Strait is 19 miles in width and approximately 50 miles in length. Its depth changes from 100 fathoms (about 183 m) to 2 fathoms (3.6 m) and 6 fathoms (about 11 m) in the coastal cliff area. This strait locates on north from Yemen to Djibouti and Somalia to the south, connecting the Gulf of Aden to the Red Sea. Bab-el-Mandeb is part of the Mediterranean Sea route to the Far East. The Perim Island divides the Strait into two channels: in west Dact-el-Mayun is 10 miles wide and 10 miles long, and in east Alexander's Strait is 3.5 miles wide and 3 miles long.[4]
Bab-el-Mandeb Strait controls access to the Suez Canal and the strategic route between the Indian Ocean and the Red Sea. Navigation in this strait is limited to two channels for inbound and outbound traffic. A significant amount of tanker trips along narrow impassable channels).[6] Approximately 50 ships daily pass from the Strait of Bab-el-Mandeb.[4]
According to statistics, the total crude oil and petroleum product flow from the Strait of Bab-el-Mandeb in 2011 was 3.3 m bpd (2 m barrels to the north and 1.3 m barrels to the south), 3.6 m bpd in 2012 (2 m barrels to the north and 1.6 m barrels to the south), 3.8 m bpd in 2013 (2.1 m barrels to the north and 1.7 m barrels to the south), 4.3 m bpd in 2014 (2.2 m barrels to the north and 2.1 m barrels to the south), 4.7 m bpd in 2015 (2.5 m barrels to the north and 2.2 m barrels to the south), and 4.8 m bpd in 2016 (2.8 m barrels to the north and 2 m barrels to the south).[11] 10% of the annual Western European oil is transferred through this strait.[4]
Bab-el-Mandeb Strait is one of the three critical places allows access to Algeria, Tunisia, Libya and Egypt through the Mediterranean to import 70% of their wheat. In addition, 32% of potassium chloride in the world - the most common fertilizer - is passed through this strait.[1]
The traffic statistics in the Bab-el-Mandeb Strait indicate the importance of the strait for the various countries of the world. The closure of this Strait will be followed by serious consequences and will force the tankers to deviate from the route and cross the Cape of Good Hope.[6] Indeed, closing the Strait of Bab-el-Mandeb means cutting off the direct flow of European and North African oil to Asian markets and preventing tankers from reaching the Suez Canal.[1] Driving tankers to move from the alternate route, the Cape of Good Hope, also increases the time and shipping costs. In addition, oil flows to the south from Europe and North Africa cannot reach the markets of Asia in the long term through the Suez Canal and Bab-el-Mandeb.[11]

Suez Canal

The Suez Canal in the African country of Egypt connects the two Mediterranean and Red Sea, causing the separation of Asia and Africa. This canal is the shortest waterway between Europe and coastal regions of Indian Ocean and the western part of Pacific Ocean.[22] In introduction of this canal by diverse sources, there are different numbers for its length. Some mention the length of this waterway is 165 km, some say 166 km, and some others consider it 168 km.[20]
The idea of connecting the Mediterranean Sea to the Red Sea by the waterway at the time of third Pharaoh formed about 2000 BC, which dug the first canal through one of the branches of Nile River near the Suez port, and the two seas connected to each other. This canal was mended in the term of second Pharaoh (665-610 BC) but after that, it was destroyed. As Achaemen Darioush the king of Iran conquered Egypt (522-486 BC), by digging other canal established Suez waterway and shipping restarted in this path.[16]

After the destruction and abandonment of the Suez Canal in 1854, the French diplomat Ferdinand Dulspes, following the strategic importance of the canal, could take the 99-year concession for construction and operation of Suez Canal from Mohammed Saied, Khedive of Egypt. At that time, Egypt was part of the Ottoman Empire and under the dominant of its king for the construction and the exploitation of the Suez Canal. In December 1858 the Suez Canal was established.[17] The company, which is legally an Egyptian institution, started construction of the canal on April 25, 1859, and ended it in 1869.[22]

According to statistics, the total crude oil and petroleum product flow from the Suez Canal in 2011 was 2.2 m bpd (1.4 m barrels to the north and 0.8 m barrels to the south), 2.9 m bpd in 2012 (1.7 m barrels to the north and 1.3 m barrels to the south), 3.2 m bpd in 2013 (1.9 m barrels to the north and 1.3 m barrels to the south), 3.7 m bpd in 2014 (2.1 m barrels to the north and 1.6 m barrels to the south), 3.8 m bpd in 2015 (2.1 m barrels to the north and 1.7 m barrels to the south), and 3.9 m bpd in 2016 (2.4 m barrels to the north and 1.5 m barrels to the south).[13]

The amount of liquid natural gas (LNG) passing through the Suez Canal in 2011 was 2.1 trillion cubic feet (1.8 trillion cubic feet to the north and 0.2 trillion cubic feet to the south), 1.5 trillion cubic feet in 2012 (1.2 trillion cubic feet to the north and 0.3 trillion cubic feet to the south), 1.2 trillion cubic feet in 2013 (1 trillion cubic feet to the north and 0.2 trillion cubic feet to the south), 1.2 trillion cubic feet in 2014 (0.9 trillion cubic feet to the north and 0.3 trillion cubic feet to the south), 1.3 trillion cubic feet in 2015 (1.1 trillion cubic feet to the north and 0.3 trillion cubic feet to the south), and 1.2 trillion cubic feet in 2016 (0.8 trillion cubic feet to the north and 0.3 trillion cubic feet to the south).

From 2000 to 2015, the import of wheat through the Suez Canal grew by 120%.[1]

In 2016, the crude oil and products and LNG passed through the Suez Canal were respectively 17% and 6% of all transferred goods.[14] Most of the Suez Canal trips into north (2.4 million barrels per day) are to European and North American markets, and the rest to the south (1.5 million barrels per day) are mostly to Asian markets. Oil exports from the Persian Gulf countries (Saudi Arabia, Iraq, Kuwait, the United Arab Emirates, Iran, Oman, Qatar, and Bahrain) account for 84% of the flow through the Suez Canal to the north. In 2016, the largest importers of oil through the Suez Canal were the European countries with 78% and the United States with 14%. Exports of oil from Russia with 17% of the flow to the south of Suez Canal accounts for the most transferred shipments, and Turkey with 15%, Netherlands with 11%, and North Africa, including Algeria and Libya, with 12% are in the next steps. The largest importers of the oil from the south direction through this way are Asian countries and Singapore, China and India accounting for over 50% of total imports.

By describing the volume of the import and export of oil and non-oil goods through the Suez Canal as a waterway made by humans; many countries in the continents of Asia, Africa, Africa and America are dependent on this channel, and any disrupting on the transit process will have a global consequences and will have political, security, economic, and communications effects.

> **By describing the volume of the import and export of oil and non-oil goods through the Suez Canal as a waterway made by humans; many countries in the continents of Asia, Africa, Africa and America are dependent on this channel, and any disrupting on the transit process will have a global consequences and will have political, security, economic, and communications effects.**

Conclusion

International waterways, such as straits and canals, have undeniable importance because of the role of them in communication between countries and, more importantly, the role they play in international trade and economics through the transit of significant quantities of oil and non-oil goods through them.

Among the international waterways, the three Strait of Hormuz, Malacca, Bab-el-Mandeb and the Suez Canal, have a far greater importance than other international channels in the world due to geopolitical, strategic and geostrategic roles. As mentioned in the text, each of these ways passes through a large volume of oil, products, LNG and many non-oil commodities.

In comparison with the four main waterways of the world (the straits of Hormuz, Malacca and Bab al-Mandeb and the Suez Canal), the Strait of Hormuz has the most important geopolitical and geostrategic role. According to the latest statistics, the daily traffic of oil and its products ranges from 18.5 to 19 million bpd and the flow of a large volume of this product in three other channels depends on its passing. More than 30% of the maritime trade of crude oil and other liquids in the world is made through Hormuz Strait. The Strait of Malacca with about 30% of the maritime energy trade is in second rank. (Table1)

In sum, by considering that the daily flow of oil and non-oil goods from the straits of Hormuz, Malacca, Bab-el-Mandeb, and the Suez Canal is plentiful and has a crucial role in the trade and economy of countries and regions of the world, any disturbing action in their traffic, or in other words, obstruction of each of them, can make a serious problem for the world economy.

Table 1. The volume of oil and petroleum products traffic from 2011 to 2016 from four major waterways in the world

Names of Waterways	2011	2012	2013	2014	2015	2016
Strait of Hormuz	17	16.8	16.6	16.9	17	18.5
Strait of Malacca	14.5	15.1	15.4	15.5	15.5	16
Bab-el-Mandeb	3.3	3.6	3.8	4.3	4.7	4.8
Suez Canal	2.2	2.9	3.2	3.7	3.8	3.9

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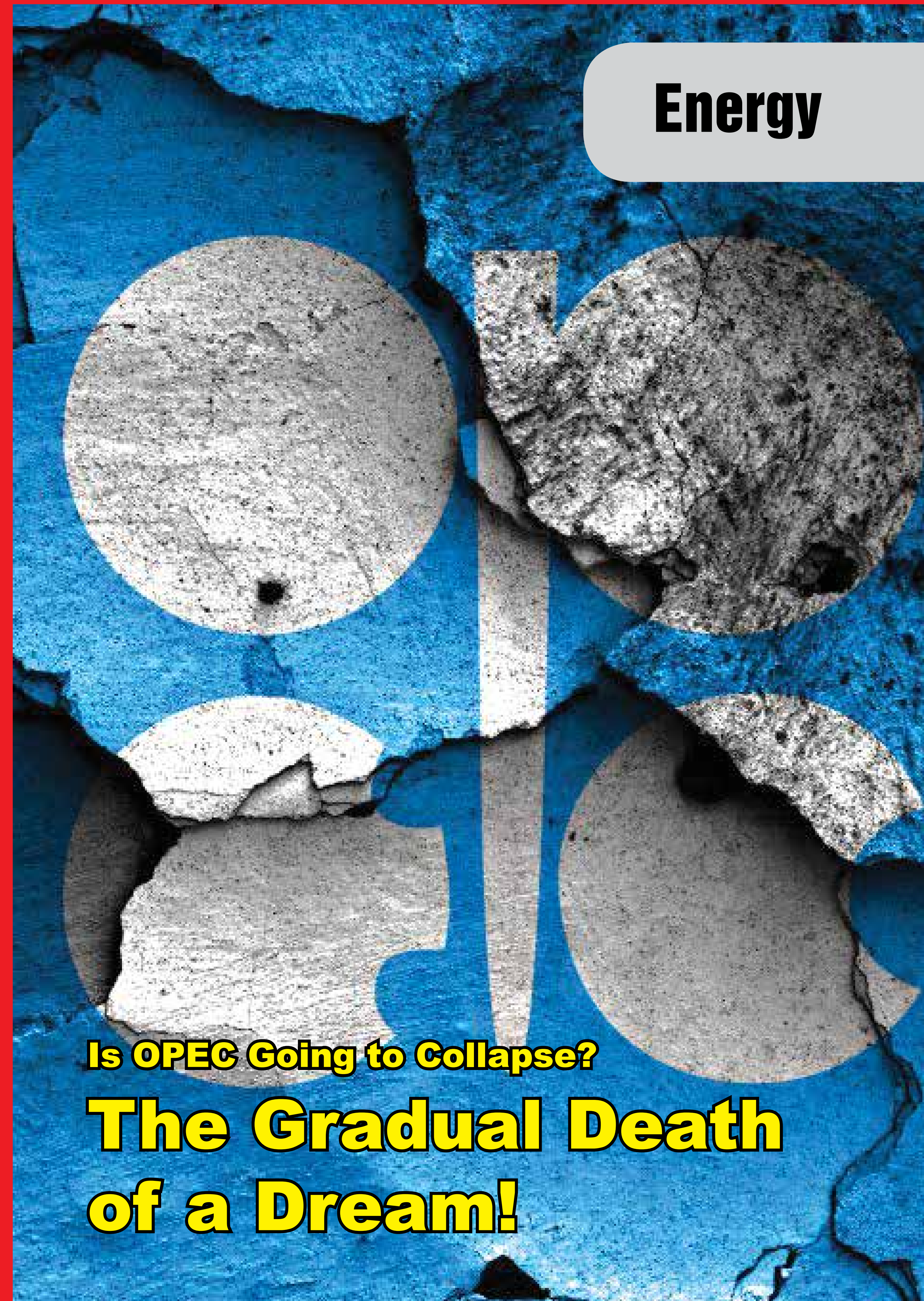


Energy

Is OPEC Going to Collapse?

The Gradual Death of a Dream!

OPEC is considered as the most effective global organization in oil relations. This organization was stablished in 1960 in order to reinforce the presence of powerful oil producer in the market to price this strategic commodity, and it has now hurt by the unkindness of some members on its 58th anniversary.

Will some of the OPEC's members destroy this important oil cartel?

The danger of 60 years history collapse

By: Houri Ghasemi

Although the organization has always emphasized the separation of politics and its decisions, it has always been influenced by international politics and diplomatic relations between its members, and whenever tensions between countries are minimized, OPEC has also been able to play a real role in the oil market.

Indeed, OPEC has always been the protector for its members, which supplies more than 30 percent of the world's oil in total, and it has helped them in the hardest days. However, over time, members of OPEC were divided into two categories: pigeons (cheap oil defenders) and bats (expensive oil defenders). Iran and Saudi Arabia, as the two main members in this oil cartel, tried to dominate other members as leaders of these groups. But both groups have proven over time that economic benefits can overcome any disagreement, and OPEC eventually reached consensus.

Of course, over the past few years, the shadow of political disagreements with trends in the acquisition of traditional Iranian markets following oil sanctions against this country has called into question the quota, which was the main characteristic of OPEC, but within a couple of years after the oil price fell below $30, despite the fact that Iran and Saudi Arabia had serious differences in the regional and international scenes, they reached a consensus on the oil market and the rise in prices.

American hostility to oil cartels

The consensus was again an alarm for the major consumers of oil, since whenever OPEC members being together for economic interests, it showed that political opponents were left and they go to Vienna.

Consequently, the US Congress is following a bill (NOPEC) by the US Congress to capture global oil markets from foreign producers, which will allow Washington to complain OPEC for manipulating oil prices.

However, the NOPEC idea is not new issue and it returns to 2000. Former US presidents, George W. Bush and Barack Obama threatened to use their veto power to stop it if the bill was passed as a law. In 2007, a similar bill was passed in the United States House of Representatives with 345 votes in favor, against 72 votes in opposition, and in the Senate, it passed with 70 votes in favor, against 23 opposing votes, but it faced with the White House's opposition. However, this time there is a high probability that Trump will sign such a bill as a law.

Donald Trump has been OPEC's critic for many years, and during his campaign in 2016, his verbal warfare was reflected on the pages of international newspapers. Trump at that time said that the United States should completely stop oil imports from Saudi Arabia. He also promised to secure American energy independence from enemies and oil cartels and create complete American energy independence.

Despite this danger, Saudi Arabia, following the withdrawal of USA from JCPA and the possibility of reducing Iranian oil exports, is listening to Donald Trump's order to offset the decline in the oil market, knowingly or unknowingly closing its eyes on the fact that the USA not only does not seek benefits Saudi Arabia in the oil market, but also it is trying to reduce the power of the Middle East in oil market and is preparing the ground for the end of OPEC's life.

Iran heard the alarm

But the alarm has been well known by the Iranian oil minister. By considering this, Bijan Zanganeh before and after the OPEC 174th meeting wrote to the President of the OPEC Conference and even the Saudi energy minister, warning that OPEC's independence is in danger.

In the first step, Iran's oil minister, Bijan Zanganeh sent a letter to Minister of Energy and Industry of the United Arab Emirates, Suhail Mohammed Faraj Al Mazroui, and the president of the Organization of Petroleum Exporting Countries (OPEC) conference. The Minister of Oil referred to the imposition of unilateral and illegal US sanctions against the Islamic Republic of Iran which violates international agreements, and by referring to the "Article 2" of the OPEC Statute, which emphasizes the interests of each or all of the members, called for the inclusion of a separate agenda at the upcoming OPEC conference entitled "Support of the meeting of OPEC ministers from members who are subject to illegal, unilateral and transboundary sanctions."

In this letter, he emphasized if as a result of these sanctions, the Islamic Republic of Iran's share of the oil market is reduced, Iran will return to its normal production level as soon as possible, without any restrictions on it.

Zanganeh, referring to comments by some members of the OPEC in recent days, noted that no country is an OPEC spokesperson and that the organization's decisions are made only by the consensus of all its members.

Despite the letter that was written before the OPEC 174th meeting, Saudi Arabia became the spokesman for anti-OPEC Trump's policy, and over the meeting, it defended the increase of oil production. Although this demand was not achieved by Iranians, countries were required to continue to produce oil within the framework defined by OPEC 171th meeting, which was a great success for Iran.

Zanganeh's insistence on maintaining the quota system

Following this letter, Zanganeh, in spite of tensions in the political relations between Iran and Saudi Arabia, wrote to the Saudi Minister of Energy, and by appreciating the country to comply with the reduction commitment, insisted that the Joint OPEC/Non-OPEC Ministerial Monitoring Committee (JMMC) has no right to comment on any decisions made by this organization.

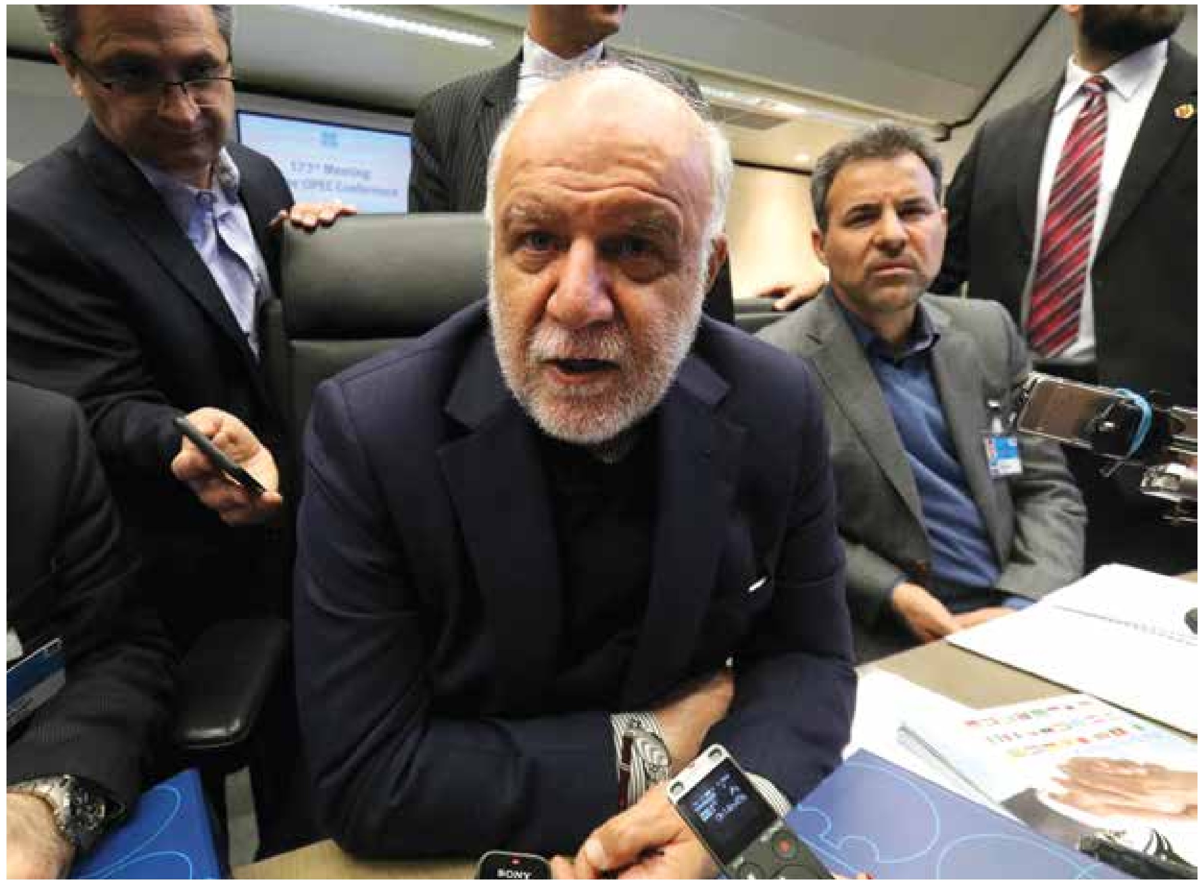
Pointing out that, according to the decision of OPEC 174th Conference, the members pledged to start from July 2018 to assert their commitment to the production adjustment of 100%, he said: "But this decision is not a license to increase production beyond the quotas allocated to countries at the OPEC 171th meeting, and not a license to redistribute quotas for trade adjustment commitments among member countries."

Zanganeh emphasized: In my opinion, in the production and quota observation issue, only OPEC decisions that are adopted by the consensus of the ministers of the member countries are valid and should be considered by OPEC members as the standard of operation. In this regard, the Joint Technical Committee for the monitoring of the global supply reduction agreement, based on the mission for that it is defined, should monitor and report on the level of production and the level of compliance of countries.

This time, the Iranian Oil Minister also emphasized the important role of OPEC in future decisions and is trying to keep this cartel still strong in the oil market.

Weakening OPEC with unilateral behaviors of members

But the agreement of Saudi Arabia and some other oil producers with the statements of Donald Trump forced Zanganeh to rewrite another letter to President of the OPEC Conference. The oil minister of Iran, in a letter to Emirates Energy Minister Sahil Mohammed Faraj Al Mazroui



and the Director General of the OPEC, emphasized that any increase in production by any member of OPEC beyond the obligations set out in the Statement of Conferences 171 and 174 violates this agreement.
Referring to the decision of OPEC 174th Conference that emphasized on 100% commitment of OPEC members to achieve maximum production, he added that no decision has been taken regarding the substitute the production share of one member to the other members, and insisted that any increase in production by any member of OPEC is beyond the obligations set out in the Statement of Conferences 171 and 174 and violates the agreement.
Zanganeh asked all members to adhere to their commitments and decisions made by OPEC at 171st and 174th Conferences and to avoid from any unilateral action, which would cause damage to OPEC's unity and independence.
He further added: "at a meeting of the joint OPEC-non-OPEC ministerial monitoring committee, Iran announced that any unilateral increase in production by the member states more than their commitments in the minutes of the OPEC decisions would stimulate the United States to act against Iran.
While expressing regrets at the unilateral actions of some members that undermines the foundations of the OPEC, he said: "OPEC's decisions are not such as to justify the actions of some members in pursuit of USA demand for increased production, which was adopted with political motives against the Islamic Republic of Iran and announced publicly. Since we all agree on separating OPEC's efforts from politics, we should not allow others to undermine OPEC's unity and independence through political action."
At the end of this letter, Zanganeh added: "While we may have positions similar to those expressed by any of our non-OPEC partners such as Russia, but I want you as the president of the OPEC at this historic moment of long-term principles, to protect the unity and interests of OPEC."

Emphasize again and again and again

This time, the Oil Minister of Iran made clearer criticisms and specifically stated that OPEC's independence was in danger, but still there was no one to be aware of these warnings, and Iran once again stood up against OPEC's collapse.
Zanganeh wrote another letter to Al Mazroui and emphasized that if OPEC members do not fully respect their commitments, the effectiveness of the only successful intergovernmental organization of developing countries with over 60 years history in the oil market will be in danger.
Referring to the decision of the 174th Conference of the OPEC on June 22, 2018, that the member states pledged to increase their level of commitment to reduction target to 100% from July, he added: "This decision is not a license to increase production beyond the quota set by the 171st Conference, nor the permission to re-distribute the quota of production cuts between members."
"This means that the decisions and the specified limitation at the OPEC 171st Conference are still valid, and the production of countries should be in line with the pledges," he said.
The minister said that according to the latest monthly report of the OPEC, the production of some member countries in June was far higher than the quota for them, and it was a violation of the commitments made at OPEC 171st Conference. He explained: "It is worrying that the violation will continue in the following months of 2018 (the remaining months of agreement) and will run into a routine, in contradiction with the decisions of the 171 and 174 Conferences."
He said that if OPEC members do not fully respect their commitments, it will gradually endanger the effectiveness of the OPEC, and violator members of the organization will be the responsible for this.

Misinterpretation of the correct decision

Despite the fact that other members, without regard to whole interest in the oil market, are continuing their individualist efforts, the tireless oil minister of Iran did not stop and wrote another letter to Faraj Al Mazroui, and in the letter by referring to the supervisory mistake of the JMMC on the implementation of decisions in 171st Conference and the Resolution 174: 513, he added: "As I mentioned in the previous correspondence, an accurate interpretation of the decisions of the OPEC 174th Conference is necessary to monitor the proper implementation. The decision taken by the first extraordinary meeting of the joint ministerial committee to monitor the OPEC and non-OPEC agreement and communicated to the Joint Technical Committee (JTC) on July 18 added my concerns to JMMC's misinterpretation of the decisions of the OPEC conference."
Zanganeh continued: "At that meeting, as stated in its report, the JMMC has wanted JTC to monitor the implementation of the decision taken at the fourth OPEC and non-OPEC ministerial meeting, , but did not mention any thing about monitoring the decision of OPEC 174th Conference.
Oil minister emphasized that Iran participated in the eighteenth session of the JTC without having the right to vote, and incredibly saw the efforts of some members of the committee to redistribute excessive quota between them and attempt to assign excessive quota to non-OPEC countries. He explained: "This JMMC and JTC operation is completely in conflict with their supervisory status, and indicating a misinterpretation of the JMMC from its position and not paying attention to the decision of the OPEC 174th Conference."
Taking a look at recent decisions by some members of the OPEC boosts the probability that the USA efforts for decreasing the impact of OPEC in oil market and finally deactivating it will be done by the producers, and as long as they do not sacrifice alliance for economic benefits by political differences, the unilateral defense of Iran from independence and unification of OPEC cannot be effective alone, and it is necessary that all members do action until there is chance.

What is the reaction of the market to sanctions on Iranian oil?

USA against World Energy Security

The first phase of the resumption of unilateral US sanctions against the Iranian economy began a month ago and, according to the announcement by the US president in November 2018, Iran must wait for much strict sanctions.

Since oil is one of the main objects of Iran's economy, this time the oil industry has been seriously targeted at sanctions, and Donald Trump has announced in an ambitious hope that the sanctions will reduce 2.8 million barrels of Iranian oil export to zero in order to close one of the most important foreign exchange earnings of Iran.

Although all emphasize that zeroing Iranian oil exports is almost impossible, and in the worst case, only half of the country's oil exports can be extracted from the world market, but in general, there will be obstacles for Iran to sell its own oil.

We have been talking to Seyed Mahdi Hosseini, the former director of international affairs at the Ministry of Petroleum, and the designer of the Buy Back and IPC contracts for the feasibility study of zeroing Iran's oil exports, as well as the ways and means to deal with it. He believes that Iran should take the most advantage of the conflict between the world and the United States in this situation, in order to gain the opportunity to operate the international private sector in Iran through the pressure of governments.

According to him, the use of international legal instruments, such as the International Court of Justice, could make Iran victorious in unilateral economic war started by USA. So Iran can dominate the global relations and communications. These issues and more are discussed in this interview with the Payam Darya Correspondent, which you can read below.

The president of the United States has announced that since November 2018, Iranian oil sanctions will be intensified. In your opinion, will the current status of the oil market allow the United States to do so and if sanctions are imposed, how much will Iran's oil exports decrease?

The issue of stopping Iranian oil exports is not just a matter between the US and Iran, but it is an issue of the global oil market. It is clear that for various reasons including world economic growth, population growth, standard of living, and so on, the world is facing increasing energy consumption. In addition, there are factors that reduce energy consumption. The first of these factors is environmental considerations. These days, several conventions have been signed in the world, obligating countries to reduce greenhouse gas emissions, which means reducing fossil fuel consumption.
The next factor is the growth of technology. The growth of technology will result in higher efficiency and lower consumption.
However, despite the fact that renewable energies had the highest growth rates in 2017, the share of renewable energy compare to oil and gas is still low, and by looking at the energy basket of the world, the share of this energy category is lower than 10%.
Therefore, the world in the coming years should think about providing adequate and proper oil on the market. Oil lonely accounts for 30% of the world's energy basket, and Iran will play an important role as one of the major oil producers and one of the largest holders of oil reserves. By considering the fact that world demand growth for crude oil in the world was 1.7 million bpd last year, but output growth was only 0.6 million bpd, concerns are growing. The United States has the largest share in production growth of 690,000 bpd. In contrast, the Venezuela with decrease of 440,000 bpd and Saudi Arabia with reduction of 450,000 bpd had the most declines in the world. Even Saudi Arabia has not been able to produce its quota in 2017.
On the other hand, as in the past decades there has been the cause of military conflicts, military intervention, and so on in some places like middle east, there is concern in the world about supply of energy, so far as the first US attack to Iraq is known as the oil war which was happened after Iraq's military invasion of Kuwait and the capture of its oil fields.

Given these concerns, is there currently enough oil in the world to meet the needs of consumers?

There are two factors in supplying oil. The first factor is whether there is essentially enough oil in the world. In this case, experts have two different theories. One group of reservoir engineers believe that the oil fields have been out of their half-lives and have become obsolete and we are heading towards a decline in oil fields, which makes concerns in oil market. On the other hand, according to statistics, economists believe that we will have oil for years. Their opinion is that the world's oil reserves totaled 300 billion barrels in 1960, and it was anticipated that the oil would be exhausted within 40 years, but by 2000, looking at reserves; we found 300 billion barrels had increased to a thousand billion barrels. It means that, in addition to meeting global demand in 40 years, the reserves have tripled with new discoveries and new technologies. Also, in 2012, this figure reached to 1,600 billion barrels, so in this case I am advocate of economist.
But this oil is underground and there should be invested billions of dollars until it comes to Earth. The International Energy Agency (IEA) predicts that in the decade, $ 16 trillion in the energy sector should be invested in order to supply the world with its energy demand. Of course, $ 10 trillion of this $ 16 trillion will be related to electricity and electronic issues, and about $ 6 trillion must be invested in oil and gas sectors.

Despite this need in the world, US sanctions against Iran mean that the investment will be stopped in one of the largest countries holding oil and gas reserves. What does this mean?

The sanction against Iran means that this investment will not be made, so the oil market situation will be critical. In fact, in simple terms, the Iranian oil sanction is a war with the world because it causes the world's concerns about the supply of oil.
Although the US has already invested heavily on unconventional oil and has added 4-5 million barrels to its production, unconventional oil is not reliable for a long time, as a shale oil or shale gas well has a lifespan from 3 to 4 months and it should be dig again, while a typical oil well in Iran is up to 50 years old.
Concerns about the supply of sufficient oil makes some consumer countries to be as an explorer and help to increase production in oil projects around the world. For example, one of these countries is Japan. The energy of this country is imported totally, and its security is back to the security of energy supply. For this reason, it has announced to its oil companies, such as INPEX, that they will be financed if they do some exploration activity anywhere in the world.

The president of the United States considers his ultimate goal of sanctions against Iran to reduce oil exports of this country to zero. Do you think it will be possible?

An important point that could avoid USA to achieve its goal for zeroing Iran's oil exports is that traditional Iranian oil markets are growing. China, India, East Asia, South Korea and ... are our traditional oil market. Europe wants to preserve JCPOA because of the conflictions and humiliations of the United States (three of the European countries asked for adhering to JCPOA, but the American president did not respond), and also they need our oil, so the world is in opposite position of America in this case.
However, if sanctions are implemented, some parts of the European and Asian private sectors that are concerned about their own capital in the United States will abandon this market and reduce their oil purchases from Iran, so Iran's oil exports will drop to some extent, but Iran's oil exports will not be zero. I believe that in the worst case scenario, it may be 1-1.2 million barrels as it was in the past sanctions.

Recently, Iran has submitted a

complaint to the International Court of Justice, which considers it illegal to return sanctions against Iran by USA. So the chief of this court wrote to the United States and called for sanctions to be postponed to clarify the issue. Do you think this could help Iran preserve oil exports?

This complaint has been prepared by Iran in accordance with the Vienna Convention. The Vienna Convention is a convention for monitoring the good implementation of agreements between the governments. Article 66 of the Vienna Convention states that if a country wants to withdraw from an agreement, it must first prepare some conditions; it should warn, wait three months and eventually if it withdrew and the opposing party objected, it can complain to the International Court of Justice.

Under Article 72 of the Vienna Convention, and according to a letter written by the head of the court under the same citation, even if the United States had the right to withdraw, it would not have had right to impose sanctions.

Therefore, it was argued that both parties should be present in order to approve the jurisdiction of the court, but it is not relevant. Since in this case that the United States has unilaterally withdrawn from the treaty, Iran can sue unilaterally and the court will check the conditions. This article emphasizes that if someone withdraws a treaty, they should not take steps to eliminate the chance of returning to the treaty. As Iran and the United States have signed the Vienna Convention and are committed to it, in accordance with this Convention, imposing the sanctions will be illegal.

Also, in the resolution section of JCPOA, article 65 stated that if there were any objections to its implementation, according to Article 33 of UN Charter, they could submit complaint to the International Court of Justice. It should be noted that Article 33 of UN Charter is statute of the Court of Justice in the Charter of the United Nations. So the Vienna Convention is accepted by Iran and the United States, and with this in mind, I hope very much that we could achieve our goals.

By increasing the probability of return unilateral sanctions against Iran by the United States, the possibility of exporting oil from Iran to Russia has been strengthened. Can the purchase by Russia help Iran to export oil at the term of sanctions, and what will be the reasons for Russia to do so?

Although we have a very good political relationship with Russia, it is our competitor in the oil market, and it wants to take our place in the international markets as it did before. That's why I believe that in the investment and marketing sectors, we should not work with our rivals, but we should pay attention to consumers. Therefore, we must deal with Europe, China, South Korea and Japan, which needs our oil. In an emergency, we do everything that is logical, but it's not right to imagine that the Russia can solve all of our problems. If we are to pursue an inappropriate discussion of oil against commodity, it's important to note that our general industry is Western industries and the Russia cannot supply the necessary spare parts and commodities for us.

What do you think is the most important solution to confront the sanctions?

The first point that comes to mind is that we should sell our oil from every way we can. I believe that what we experienced in the previous sanctions was expensive. We got into trouble, economic corruption was created, and some persons like Zanjani emerged, and so on. Therefore, we must learn from it and write another scenario to counter the sanctions.

For example, during the Buy Back contracts to deal with sanctions, we have taken maximum advantage of the conflict of interests between Europe and Asia with the United States, so that over the two to three years, we signed 20 contracts worth about $ 50 billion, which resulted in South Pars development and creating the capacity for one million barrels of oil.

At that time, the United States could not boycott anyone, and even this conflict of interests within the United States was formed, so US oil companies announced that your sanctions are actually against US oil companies because Iran makes contracts and It does its job, and in the meantime, we have missed our share of this good energy market (Iran is really attractive and geologically the country is one of the best in the world, and oil companies love the geology of Iran).

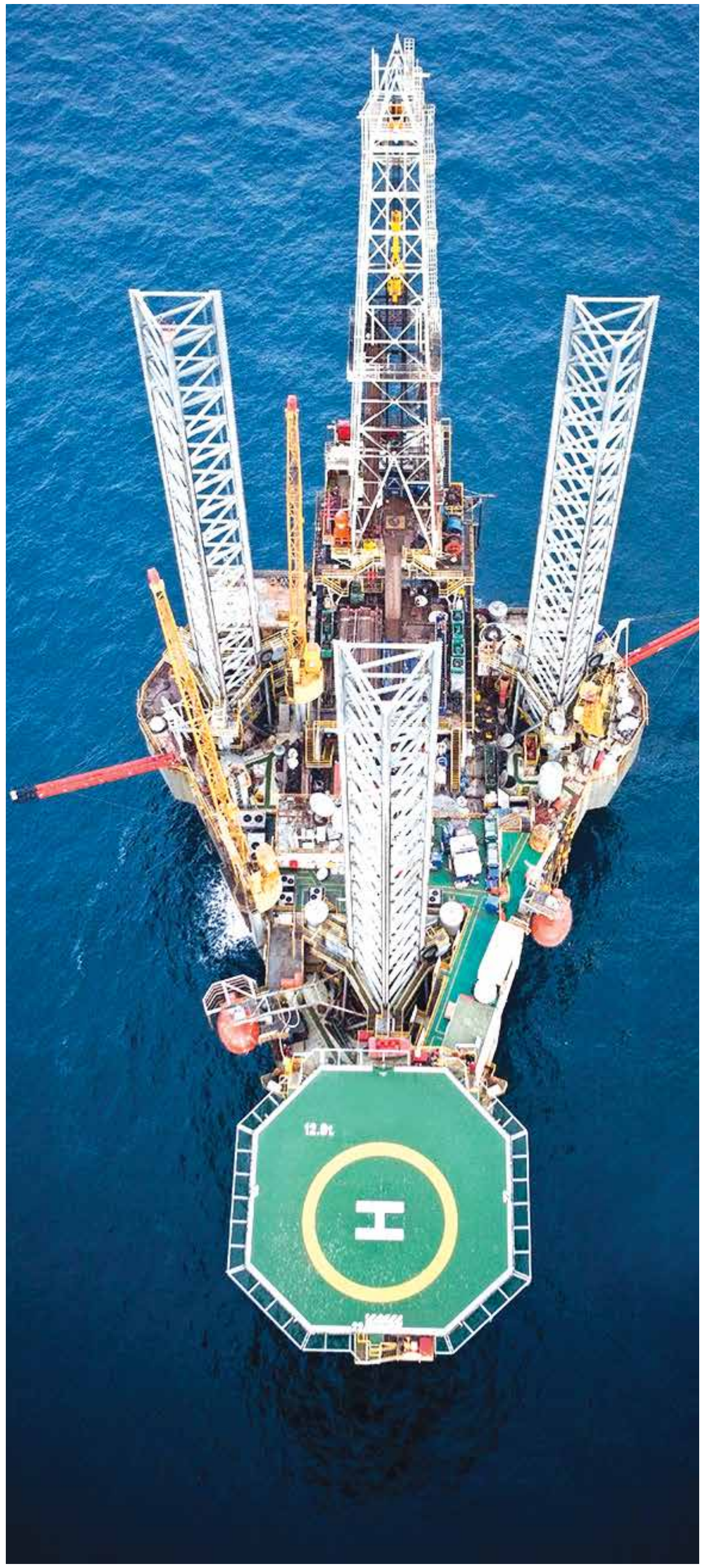
The result was that within the United States, an association with 470 companies, monetary institutions, banks, and etc., was created in 2000, and it pushed the US government to lift sanctions on American companies.

This pressure on the US government was so high that I believe if the September 11th event did not happen to affect the whole world, the sanctions against Iran would have surely lifted at that time.

Therefore, we must recognize the conflict of interests and take the most advantage of it. These days, this conflict of interests between USA and others has reached to maximum, and we should take benefit of it as much as possible.

How can this conflict of interest be managed to maximize the benefits for Iran?

In my opinion, the first is to focus on the Europe countries; this is now being done. Iran wants Europe to prepare a supportive package of JCPOA. We should give solutions to Europe and Asia that want to preserve JCPOA. Today there are two groups. One group of governments in Europe and Asia



are heavily angry with America and want to stand against the decision of this country. The supportive package of JCPOA is prepared for this reason and we should try to have billions of digits instead of millions.

In contrast, the private sector of the countries are the main points of the business to sell services and invest in Iran, so governments can encourage the private sectors to continue cooperation with Iran by doing supportive activities.

This is practicable because the Iranian oil market is attractive. This will of course have two dimensions. One dimension is economic and oil needs, and the other is the political dimension that wants to oppose the United States. Of course, other experts may have better solutions that should be taken into consideration.

If this is done, then the United States will be forced to allow private companies that are concerned about the sanctions, as it did in previous 2000 sanctions.

The oil minister said that if we signed more contracts with major oil companies in the world, we would not be easily sanctioned. Do you think the more contracts would make lower the risk of sanctions?

If we could take advantage of the opportunity of JCPOA and finalize several contracts with large companies from England, France, Europe, Asia, Japan, etc., the story of Buy Back contracts would repeated again, and the US did not know

and could not deal with which company and fine which of them and maybe today we were not in this condition. Also, if we could prove that our production would reach 5.6 million barrels in the next two years, the US president could not say that we are zeroing Iranian oil exports. Of course, some people in Iran said this was impossible, but it was possible. Total Russian reserves are 100 billion barrels, and it produces 11 million bpd. Iran's reserves with a current recycling rate are 157 billion barrels, so why we cannot produce more oil?

Another point is that today Saudi Arabia has a recycling rate of about 50%, it has reached 70% in one field, but our recycling rate is less than 25%. If we were working like Saudi Arabia, bringing new technologies and our recycling rate was like them, it would mean 15 trillion dollars in national wealth. Our 150 billion barrels of oil would reach 300 billion barrels, but with current technology, this wealth is lost in the underground, or taken from neighbor countries.

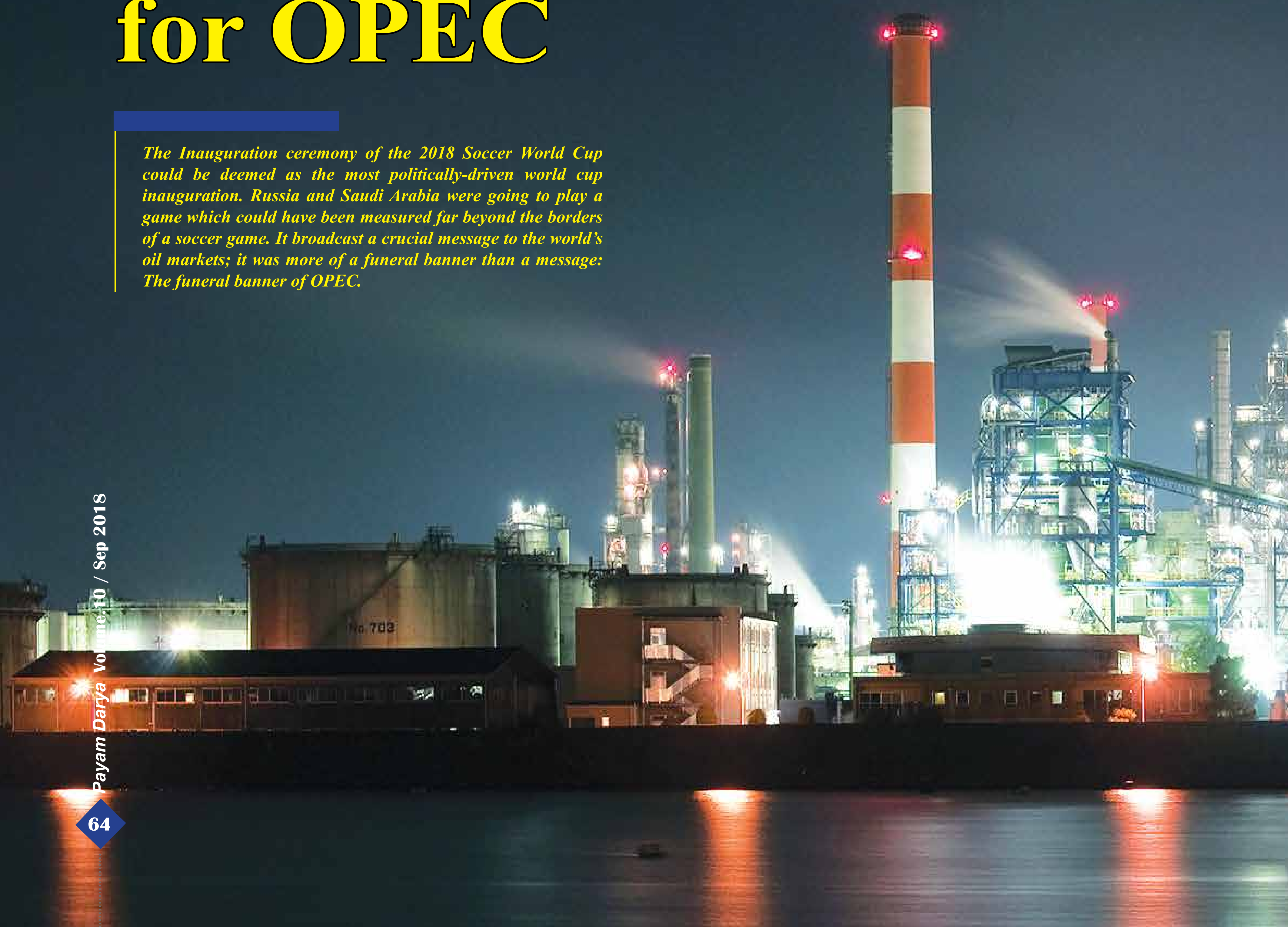
And as the last word …

First-class companies must enter into negotiations. First-class companies have two features. First of all, as they are credible, their work is important and they do the right thing, and wherever they get into trouble, they spend even more on the contract to maintain their credibility. In fact, they sacrifice their benefits to preserve their credibility. Second, large companies have political power.

I even believe that we can achieve a strong oil lobby in the world with the proper oil contract. Our theory was based on the same thinking from the beginning, and in the 5 months, the contract model was extracted and we held an international seminar. In fact, the support of an oil lobby can solve a lot of political issues for Iran.

An Elegy for OPEC

The Inauguration ceremony of the 2018 Soccer World Cup could be deemed as the most politically-driven world cup inauguration. Russia and Saudi Arabia were going to play a game which could have been measured far beyond the borders of a soccer game. It broadcast a crucial message to the world's oil markets; it was more of a funeral banner than a message: The funeral banner of OPEC.



Prior to this game, it was announced that the Russian President, Vladimir Putin, and the Crown Prince of Saudi Arabia, Mohammad bin Salman, would attend the stadium to watch the game up-close. The delicate point here was that the Saudi energy secretary accompanies Bin Salman in this trip, and as expected, the world cup inauguration was a chance for Saudi Arabia and Russia to prove that they intend to design a new system in the oil market to play a bigger role in pricing and guiding this market.

Saudi Arabia and Russia produce over 22 million barrels of oil every day, which accounts for 20 % of the oil produced globally. Earlier than this, these two countries played a crucial role in the agreement to reduce production in fall 2016 in order to increase the oil price. Given that the earlier collaborations of these two countries led to acceptable results, they are now tempted to rely on their 20-percent share of the world's oil market and implement their intended global oil structure. Indeed, on the one hand, Saudi Arabia and Russia wish to stand facing their traditional rivals such as Iran; and on the other hand, not let the United States fulfil its dream of increasing its oil export through unconventional oils.

Dream of Totalitarianism in the Oil Market

Saudi Arabia wishes to establish its position in OPEC as an unrivaled one, in such a way that other members, particularly Iran, give in to all its decisions and demands in the oil market. Russia, as well, wishes to depict how trivial Crimea-and-Ukraine-related US sanctions on this country are by staging his power in the field of energy supply for the world in general and for Europe in particular.

Even if OPEC and non-OPEC countries' agreement to reduce oil production does not hold up, Russia and Saudi Arabia have made a mutual pact to pursue their endeavors to manage energy market. This matter could be a grave threat for the survival of OPEC. In fact, Saudi Arabia is highly interested in reducing the effectiveness of OPEC, and believes that Saudi will be better off on its own and away from the other 14 OPEC members. Thinking of its own interests and not considering the interests of 14 other nations, Saudi Arabia believes it has a far easier way to grasp the global oil market.

The most significant cause that is driving Saudi Arabia to reduce OPEC's power is dismantling the rationing system. By eliminating rations among OPEC countries, each of the members could produce and sell oil as much as its capacity allows. Yet, Saudi seems to have forgotten the last time it did not fallow the ration plans and dropped the oil price to under $ 30. On the other hand, another major reason for the Saudi Arabia and Russia's unity today in the oil market is the sanctions of the United States against Iran. As serious rivals of Iran, these two countries have always tried to capture Iran's traditional market. Even though they have some conflicts and differences of opinion with the United States, sanctions of Iran provide them with a unique chance to gain more influence in the market. Nevertheless, a brisk glance at the earlier oil sanctions on Iran highlights that the absolute 100-% sanctions on Iran's oil are impossible. Even the United States has retreated from this high-flying goals; and even if it happens, Iran has proved that it could retrieve its markets at an incredible pace.

Hazardous Game of Oil Impactors

Even with their high production capacity, Saudi Arabia and Russia are unable to compensate Iran's 2.8-million-barrel share of oil and gas condensates, in case Iran is totally removed from oil sales.

Saudi Arabia's oil production record has never seen the actual production capacity of 11 million barrels a day. In order to depict that its daily production capacity is 12 million barrels daily, Saudi Arabia is currently using the oil in its reserves, currently having been worked out to be approximately 240 million barrels. This procedure was also formerly conducted by Saudi Arabia, while Kuwait was occupied by Iraq and as well, while Saddam Hussein was dethroned from Iraqi presidency. By the end of 2015, Saudi Arabia's crude oil reserve was 325 million barrels; however, this figure diminished noticeable in 2016 and 2017 to supply a part of the country's daily oil sales, which was 10,460,000 and 9,954,000 barrels a day, respectively. With an 80-million-barrel reduction in 2016 and 2017, Saudi Arabia's crude oil reserve shrank to 245 million barrels by the end of 2017. Dividing the amount of reduction to the number of the days in the period of reduction, we can perceive that 670,000 barrels a day from the daily sales of Saudi Arabia's crude oil was supplied from its reserve; hence, if the country intends to add 1 million barrels a day to its sales, its reserves are able to support this sales rate up to 8 months only.

Given that reserving oil is one of the most significant impactors in this market, Saudi Arabia's approach in raising its crude oil sales cannot possibly be a sustainable one. Besides, this increase can pose a grave risk to the oil market: If Saudi Arabia cannot deliver this added 1 million barrels a day, the ramifications to the oil market would be perilous and non-compensable unless another country is able to deliver several hundred thousand barrels a day more than its current sales capacity.

Likewise, Russia, which had already signed the 2016 agreement on reducing 600,000 oil barrels together with 9 other non-OPEC nations, is considering increasing its production in recent months. Just like Saudi Arabia, the question regarding this decision is: Does Russia have such production capacity?

Traditionally, Russia has proved that it is unable to increase its daily production more than 100 to 150 thousand barrels. Hence, with the 850,000-barrel sales of Libya out of the market, Russia's small-capacity increase would not be commercially justified. In short, Russia is not the right alternative for the replacement of Iran's share of the oil market.

OPEC to Deter Saudi Arabia's Reaching its Dream

Inability to increase its production capacity is not Saudi Arabia's only issue in its attempt to remove Iran from the oil market. Being an OPEC member, Saudi Arabia is facing various legal problems in its crusade. Hence, with the above-mentioned measures, it is trying to reduce the power and functionality of OPEC and turn its decisions as the final say for other members. In a letter to all OPEC members, Saudi's energy secretary, Khalid Al-Falih, officially announced that the monitoring plan for oil production, sales and maximum production limits is no longer in place for each country alone, and what counts is the overall production of all the countries involved in the plan.

In order to bypass the commitments that it had made in OPEC's most recent concludes, Saudi Arabia has placed strong emphasis on the term "overall commitment". Under this term, OPEC members are bound to be 100-% committed to the global agreement on reducing production. Now, Saudi Arabia is offering an interpretation from this commitment, which conspicuously contradicts the reduction agreement. In this inference, Saudi Arabia announced that no specific maximum production limit has been set for each country alone; rather, the commitment to maximum production rate is

commitment to overall OPEC-produced oil. Hence, it is no longer interested in observing other countries' share of the OEPC oil export. This is a clear violation of the agreement since in the commitments made in the 171st OPEC meeting, maximum production limit has been set for each member. In the 174th concludes, all countries have been requested to honor this commitment fully, not that a maximum limit is set for total OPEC production.

Saudi Arabia's reference to the term "overall" is a bold violation of the spirit of OEPC's concludes and agreement on production reduction. In fact, right under the clause that Saudi Arabians are referring to, OPEC concludes contains a directive that encourages the committee of secretaries to monitor the limits and make sure that commitment to global reduction agreement is observed with no alterations. This part is what Saudi Arabia and those interested in imposing a diplomatic failure on Iran are neglecting. The noticeable point here is that the concludes does not delegate any authority to any committee member to terminate the agreement or to change its course of execution.

Based on the OPEC November 2016 meeting concludes, the committee of secretaries is responsible for monitoring each and every member to make sure they honor their commitments in the agreement. In the light of this responsibility, preserving the shares of each OPEC member is the main duty of this committee, and this matter has vividly been emphasized in the final concludes of the meeting. Under this plan, each country is committed to abide by its maximum production limit so that total OPEC production is kept at a desirable level. Hence, what Saudi Arabia is after is dispersal and projection in the oil market and weakening the position and role of OPEC.

Oil to Return to 3-Figure Prices

In the light what was discussed above, oil market is on the threshold of a shock, which could boost the prices to their peak. Another factor that could accelerate the rise in oil price is the possibility of a massive reduction in Iran's oil production. Oil market investors count the disruption in Iran's oil export as a price booster and OPEC's increased sales as a price killer in the market in the upcoming months. The collapse of Venezuelan oil industry, which exploded like a time bomb, and Iranian oil industry's return to sanctions era have prepared the grounds for a tremendous shock. Hence, the growing pace of disruption in international oil supply is promising news for those who favor a rise in oil price, up to the point that oil market activists have speculated figures of over $ 150 per barrel.

Even though the increase in the oil production of Russia and some OPEC members have so far harnessed price jumps to some degree, and have managed to reduce oil price from its 80-Dollar peak in May 2018; it should be noticed that the price boos in May was an upshot of Trump's decision to withdraw from JCPOA. That is to say, Iran's oil export had not fully been left out of the oil market back then. Therefore, once Iran's oil sanctions are executed, a price jump is awaiting the market, just like it occurred in 2012. Other speculations have it that under sanctions, Iran's oil export might diminish approximately 800,000 barrels daily. Seeing that every 1-million-barrel reduction in daily international oil supply can bump Brent Oil prices up to $ 17, it is estimated that new sanctions on Iran can raise oil prices up to the borders of $ 100. This is likely to happen while even the most optimist oil market activists never predicted a 3-figure price for the black gold, at least not in the near future. After all, oil tends to be more of a strategic good than an economic commodity; and political factors play the most colorful role in its destiny.

Evil Triangle to Fly over OPEC

A meticulous survey of recent OPEC meetings in Vienna convey that the position of this organization in intentionally being weakened by Saudi Arabia and Russia, and with the company of the United States. A novel identity is currently being formed in this field, which could forge oil geopolitics for many years to come.

Saudi Arabia's current role in OPEC is now more colorful than ever, and this country was the most effective player in the decision to reduce oil prices in Vienna meeting. Saudi's energy secretary, Khalid Al-Falih, made it clear that his country would take whatever necessary measure to supply the needs of the market and emphasized Saudi's capacity to increase its production as much as 1 million barrels a day. He enjoyed the full support of Russia's energy secretary, Alexander Novak, in this decision.

Russia is the second most significant player in the oil market today, after Saudi Arabia. Even though it is not an official OPEC member, Russia, as the world's largest crude oil producer, has managed to establish its position in the global oil price management side by side with Saudi Arabia. The importance of this country in oil market has grown to the point that Saudi's energy secretary, Khalid Al-Falih, publically announced that Russia is being considered to join OPEC as an associate member. The two countries show signs of establishing collaborative ties, and the new unity between the two nations in global oil markets management is deemed as a tremendous change. Russia's role in managing oil markets is yet another launch pad for Putin to boost Russia's power and influence to earn more cooperation and diplomatic interaction from the world's largest oil consumers, including the United States.

In the course of the past decades, oil price has been the axis around which the relationship between Saudi Arabia and the United States revolved. The efforts of Saudi's prince to reduce oil prices and his commitment to maintain these efforts have always been the turning points of diplomatic ties between Riyadh and Washington. Nevertheless, with the Trump's taking office as the United States president and his claims as to his country's not needing Saudi oil, US-Saudi ties have turned colder. At this point, Saudi Arabia's attempts in forging a novel framework of collaboration with Russia bears the message that in the upcoming years, Russia will play a more colorful role in managing global oil price.

Despite an upward leap in the popularity of Shale oil, the United States has not managed to strengthen its influence in global oil markets yet. The noteworthy point here is that the US does need OPEC and non-OPEC nations to increase its oil production. Hence, although the United States is only inches away from the independence point in terms of oil, the black gold is still a key player in its foreign policy, seeing that an increase in oil prices means a reduction in profit or even loss for its industry.

In conclusion, the geopolitics of oil in the world is undergoing a crucial change, whereby Saudi Arabia and Russia are endeavoring to gain the most profit by relying on their production capacity. Yet, we should wait and see whether or not the new order in oil market can hammer out better days for black gold producers once it has been implemented.

As the final word, I am of the opinion that last week's decision regarding reducing production reflects the new political-petroleum collaborations between Russia and Saudi Arabia, which is a new turning point in the global oil order. It as well reflects that oil geopolitics is still significant, despite a forward leap is Shale oil and the energy change in the United States.

Trump Command...?!

In the past two years, the president of the United States has proven that Twitter is one of the most important ways of coveying his serious positions to the world, so when he decided to explicitly warn his allies in OPEC that they should keep oil prices low, he went back to this popular social network.
Donald Trump criticized OPEC members in a harsh and humiliating tone about manipulating oil prices and keeping prices high on the market, and demanded that gasoline prices be lowered now.

The president of the United States said in this tweet: “The OPEC Monopoly must remember that gas prices are up & they are doing little to help. If anything, they are driving prices higher as the United States defends many of their members for very little $’s. This must be a two way street. REDUCE PRICING NOW!”
But this did not end there, and the president of the United States criticized OPEC for the second time in the past few months for manipulating oil prices.
Donald Trump wrote on Twitter: “High oil prices and OPEC remain responsible for it. It’s not good at all.” Although US President has used fewer words to criticize OPEC this time, he continued to speak from a powerful position. The president of the United States also said in an interview: “OPEC stops price manipulation; we are supporting many countries in this organization.” Or he said: “They (Saudi Arabia and its allies) should recoup the Iranian oil off the market. Who are their enemies? Iran, Iran is their big enemy and they have to do it.” He speaks so strongly of his position that it was belived that Saudi Arabia is the colony of this country, and Saudi king, Salman bin Abdulaziz must be his servant.

USA defense of cheap oil

But why the US president is so concerned about prices in the oil market! While the United States has consistently supported high oil prices because of the economic growth of unconventional oil production, but why now it is emphasizing the prices should not be allowed to grow!
The answer is, of course, simple. The United States is worried that oil prices will re-enter $ 100 level, the prices that could affect the domestic industry, with sanctions imposed on Iran’s oil exports and sales from November. Also, rising fuel prices near to Congressional elections could reduce the share of Republican representatives.
Although the United States is confused over the two

sides road: expensive and cheap, prefers prices to be no more expensive. So the US government has asked Saudi Arabia and some other OPEC members to increase their production about one million barrels per day. By considering more profits and withdrawal of Iran from the oil market, Saudi Arabia and some Persian Gulf producers have supported the idea of increasing production by 300,000 - 400,000 barrels per day. Of course, the major of this increase should be done by Saudi Arabia that has more floating capacity and can quickly increase its inactive fields, but it should not be forgotten that Saudi Arabia currently generates almost all its capacity, and the expectation of increasing the production to 12 million barrels per day seems unachievable.

Saudi Arabia's consonance with the American dissonance instrument

That is why, despite the fact that the president of the United States wrote on Twitter that Saudi King Salman "agreed" in a phone conversation to increase oil production to roll back oil prices, but a few hours after the president's remarks the White House announced: "The Saudi king has said that his country would increase oil production if needed."

While the president of the United States talks about keeping oil prices low, in cooperation with some producers, the main reason for rising oil prices in the market should be sought in its policies. In fact, sanctions of Venezuelan oil as one of the most important black gold producers in South America and the threat of global markets to remove Iranian oil from international trade are the main reasons for rising prices.

In the same issue, oil minister of Iran, Bijan Zanganeh in response to a request by the president of the United States from some of OPEC members to increase oil production under Iran's oil export ban said that OPEC is not an American organization, and oil should not be used as a political weapon against other countries.

Iran wants the oil market to be unpolitical

The oil minister of Iran has emphasized that OPEC is not part of the US Department of Energy. OPEC is not an organization that obeys Trump. This is a very important point. Trump believes he can order OPEC. He has created problems for the oil market by imposing sanctions against two important members of OPEC, and now wants and expects OPEC to change things. This is not fair.

Zanganeh said that "it is important for us and some other members of the OPEC that the oil market be unpolitical," he added if the oil market is organized based on the principles of supply and demand, it will be in the interests of the consumer and the manufacturer.

He said OPEC needed to support the idea that the oil market should be non-political and condemn any use of oil as a weapon or tool against some countries.

Zanganeh criticized US

President Donald Trump's remarks on the need to reduce the global price of crude oil, saying that the treatment of Trump with some members of the OPEC is offensive. He added when Trump instructs an independent country to raise production, because I am protecting you with the little money I receive from you and providing your security, it's not true.

Advocating the OPEC's approach, he added that OPEC's principle is that the oil market is not political and that political factors should not interfere, so the supply and demand in the market could determine the final price of oil.

USA masochism in the oil market

On the other hand, asking not to buy Iranian oil by Trump and put pressure on European companies when Nigeria and Libya crisis continue, oil production in Venezuela dropped, and domestic consumption in Saudi Arabia will increase because of summer, the action of USA is a masochism which causes a sharp increase in oil prices in global markets. In fact, Donald Trump has made mistake in anticipation of Saudi Arabia and other oil producers to compensate for the drop in production generated by sanctions against Iran, and it seems that the Trump is the victim of Saudi Arabia and several other oil producers claiming they could offset Iran's oil exports of 2,500,000 bpd and encourage him to take action against Iran. Now, although they and Saudi Arabia are selling more oil at higher prices, they do not produce themselve, but they supply from oil storage in their countries.

Therefore, despite the efforts of Trump to convince OPEC to increase production with the goal of reducing oil prices, if the US does not exempt Iran's oil buyers, prices will rise again, and if price increases more than before, the likelihood of utilizing US strategic oil storage to balance the oil market will arise, so it means higher prices.

The danger of NOPEC for OPEC

In addition to the Trump's predictions for the oil market with cooperation of some

producers, it is important to note that since 2000, the US Congress has begun examining various forms of the draft law known as NOPEC. If the plan turns into law, OPEC could be criticized by the US government unti-monopoly for tampering with energy markets.

Furthermore, if the US is on the verge of elections and high gas prices are causing voters discontent, political pressure on OPEC will increase. So what's new now? Two former US presidents, George W. Bush and Barack Obama, threatened to use their right to veto in order to prevent ratification of the law. Now President Donald Trump is in power, and he is very dissatisfied with OPEC, accusing the organization of maintaining a high oil price as a monopoly cartel, so he is interested in ratification of this law.

American Misunderstanding of Oil Cartel

Donald Trump's attempt for decreasing oil prices, followed by a fall in gasoline prices in the United States, is on the verge of congressional elections, and the president is struggling to reduce gasoline prices in the country in order to hold the structure of congress as Republican to have a simple way ahead of ratifying the law. In fact, in the US political atmosphere, there is a lot of misunderstanding about OPEC, and this will remain as long as US fails to increase its oil production dramatically.

Finally, it should be emphasized that, although OPEC has its own weaknesses, this organization would still be the confidence point and ultimate support of the oil industry, and a better-modified OPEC is better than a destroyed OPEC.

Nevertheless, with the execution of Trump's orders, the Saudi family and Saudi allies in OPEC are destroying OPEC and their future, because US president, who did not commit on JCPOA and disregarded to the United Nations, will not be merciful to them either. They should recall that OPEC was established with the initiative of Iran and Venezuela in Iraq to fight and resist the political pressures of governments such as Trump and to protect OPEC's members in 1960; so preserving it can help in the global historic oil crises, such as the fall in prices in 2015, and restore their economic deficit.

Close Up

Will Yuan Acceptance in LME Change the Trend of Global Economy?

In Search of Globalization!

A Giant Leap in Fulfilling China's "One Belt, One Road" Dream

Mahmoud Esfandiari Soluklu
Mercantile Exchange manager in Export Development Bank of Iran Brokerage

On May 21st 2018, news agencies quoted the managing director of London Metal Exchange, Matthew Chamberlain, announcing that in the near future, the futures contracts of metal products will be placed on LME board based on Renminbi (RMB). Approximately two months earlier in March 26th 2018, futures deals of petroleum based on RMB had begun to appear in Shanghai international energy exchange.

The launching of this market by the world's largest oil purchaser means that the traditional platform of dealing Brent Oil in London and West Texas Intermediate Oil in New York are going to be challenged. This matter could influence and control oil prices and as well, it could turn Shanghai Energy Exchange into a major pricing reference in this geopolitical industry. Besides, it could strengthen China's national currency both in the domestic and in international deals and payments. This way, China would become a much more interesting place for foreign investors.

For years, China has been endeavoring to promote its national currency's position in international payments and give RMB a more comparative power in its rivalry with other currencies. In this pursuit, the two mentioned measures were paramount steps. However, based on the latest Swift data, RMB settles on the 5th position in this rivalry, after US Dollar, Euro, Sterling Pound and Japan's Yen. Based on the report released by the Asia-Pacific, Europe, Middle-east and Africa executive of Swift, despite the rising trend of China's economic growth and the diverse strategic supports from China's national currency, RMB's use in international payments is still low and its acceptance rate is lower than the rate which is expected. The report highlights that the share of RMB in the domestic and international payments in December 2017 reached only 1.61 %.

Being home to 76 % of RMB transactions, Hong Kong holds the largest share of transactions with this currency; and London, by hosting 5.59 % of RMB-based transactions is the largest out-of-China ground for deals with RMB. China is the largest consumer of metal worldwide and London LME is where the largest number of metal deals takes place. Making metal deals in LME is extremely popular with Chinese investors and manufactures, in a way that LME metal section sees more and more action day by day. Therefore, the recent action of LME, which is launching futures deals of metal products based on RMB and accepting this currency as deposit for LME-operating banks and brokers, could be considered a strategic bond to strengthen the ties between world's largest metal purchaser and its largest metal deals center.

In the light of this measure, China moved one step ahead in fulfilling its highflying dream of superseding Yen, Sterling Pound, Euro and then US Dollar in international deals. Particularly in case of recent months, when the trade and tariff war between the United States and China has reached its highest heat, this new development in LME is increasingly significant for China, as it is a trump card for this country to challenge US Dollar and create a turning point for its national currency. What confers added significance to this matter is that the unforeseeable measures of President Trump question and weaken the legitimacy of the United States as world's economic leader and passes this position to world's second largest economy i.e. China: The China which intends to strengthen its position in world's economy and trade by its "One Belt One Road" plan (also known as "Modern Silk Road") and to become the world's main trade center by

China moved one step ahead in fulfilling its highflying dream of superseding Yen, Sterling Pound, Euro and then US Dollar in international deals.

retrieving its days of glory with the ancient Silk Road.

The new development will bring about massive profit for LME by more and more Chinese customers being attracted to it. Using RMB for making futures deals significantly reduces the dealing and currency-exchanging costs of Chinese manufacturers and as well, it reduces the risk of foreign exchange transfer for them. Customers would have the luxury of choosing their method of payment and this matter would make valuable contributions to completing the service package LME offers to its dealers worldwide.

In addition, investors from countries that are under Dollar sanctions by the United states, such as Iran and Russia, are absorbed to this market with fewer obsessions and lower costs through dealing with RMB. Following the launching of futures oil market with RMB in the international energy exchange of Shanghai, Oanda Asia-Pacific Head of Trading Stephen Innes stated that this exchange is a matchless

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opportunity for Iran to sell its oil using RMB instead of Dollar.

Admittedly, it is going to take a while for Iranian investors to be able to enter LME futures metal market given that China has been the largest purchaser of Iran's oil from the olden days and using RMB for payment has been desirable for both nations. Nevertheless, London is a strategic partner to the United States and dealing with under-sanction Iranian companies is a crucial redline that LME does not cross. Hence, there is a big barrier ahead of Iranian investors in LME.

On June 11th 2018, Iranian Economy secretary signed 4 MOUs with China. One of these MOUs, which was signed between Iran's Economy Department and China's Infrastructure Development Organization, was regarding the financial resources of the two countries for investment and the use of Rial and RMB for business trades. Another document was regarding collaborations in terms of stock exchange and securities, which was signed between the two countries' exchange authorities.

In the light of these agreements, establishment and expansion of mutual and multi-faceted collaborations between China's and Iran's goods and energy exchanges can increase the activities of the two nations' in one another's markets. This act, along with using RMB for oil and metal futures markets can eliminate the deterrents and fortify Iran and China's economic and political ties.

LME Welcomes the largest economy of the world in the near Future

The LME, owned by Hong Kong Exchanges and Clearing (HKEX), recently allows traders to use the Chinese currency as collateral. HKEX last July has introduced Yuan-denominated gold futures. Considering a sign that RMB or Yuan in international finance is on the rise, PD conducted an interview with Keyvan Jafari Tehrani, Steel, Base Metals & Minerals International Market Analyst to clarify the objective of such a measure and at the same time to magnify the significant impact of this big change on the trade globally. The transcription of this interview is readable as follows:

What is the history behind forward purchasing of metals which are conducted by RMB in LME?

Regarding the first question focusing on the reason behind deals that are recorded in LME by Yuan or RMB based on the proposal and suggestion presented by China, I am sure you know that this country is the second largest economy of the world. China passed Japan during 2005-2008 and became the second economy power in the world of economy. Presently, this country is trying to precede the U.S. and become the superpower of the economy globally. Meanwhile, there are ample of conflicts between the two nations in different projects such as minerals and steel in which the china is followed by the U.S. however, to be the leading economy of the world, it is not sufficient to be powerful one in one field of activity. Personally I believe that china has a great chance to become the first economy of the world mainly due to the permanent presidency of Mr. Xi Jinping. He is the only one to drive China to become the first power of the world. In addition, he introduced many new projects such as building a big city as well as the most important project of OBOR which later change and named "Belt and Road Initiative". This project consists of one road by sea from the eastern part of china to the northwest of Africa and five or six roads by land that passes from northern part of Iran, i.e. CIS countries. Besides, one of the other major roads passes across Pakistan and from the city, Kashgar- officially known, as Kashi is an oasis city in Xinjiang, located in the western part of China and is Afghanistan's neighbor- to being connected to Gwadar port in Oman Sea. China is attempting to make an approach to the Oman Sea and the Persian Gulf. It aims to do the large proportion of oil imports by this railroad in the near future

or through a pipeline which is parallel to the road. It easily could manage the transfer of oil from Gwadar port to Kashgar and then to some networking rails all over china.
As you might know, most imports of china has been happen through Malacca strait and by exploiting Malaccamax vessels which is equal to three tankers. The capacity of each Malaccamax vessel is almost 300,000 DWT and it is one of the biggest vessels in the world which is one size smaller than the valemaxes vessels and carry iron ore from Brazil to china and other countries of the world.
In line with this, a significant motive lies behind such a measure taken by Chinese and that is the security preference. As mentioned earlier china imports oil from the Oman Sea through pipeline or the railroad to protect the ships and commodity from the hands of pirates who attack to the tanker and steal assets of the ships in Somali and Bab-el-Mandeb. To prevent such occurrences china selected Malacca strait as the main route to transfer oil to the eastern part of the county without taking any risks.

What is the aim of LME (London Metal Exchange) by encouraging china to build trades by RMB?
Considering the pivotal role of china in producing a variety of products, it is one of the major index determiners of the LME. LME products cover all the metals, base metals and steel and it is one of the main advocates of China due to the crucial function it carries as both producer and consumer. Moreover, having the chance to be the world's first economy during 2023/2025 encourages LMB to support all the trades built by RMB.

China is attempting to make challenges with them to become master in most of the transactions not only in the exchange companies but to become the leading exchange market of the world.

What will be the effect of this measure on commodity exchanges and commodity markets of the world?
I believe that generally some exchanges in the world would not be happy and satisfied by this measure taken by China. Definitely, China is to provide the basics for Dalian and Shanghai exchanges to be the leading ones in the near future. Therefore, if this action is being admitted by other exchanges due to the fact that china is the largest buyer and seller of the commodities, they will be disappointed. In other words, china is attempting to make challenges with them to become master in most of the transactions not only in the exchange companies but to become the leading exchange market of the world.

Considering the dollar-oriented trades, what is the impact of this measure on the international economy and global market of money?
Obviously, this brings about weakness in the U.S dollar and other currencies. Weak in this context does not mean the value reduction or devaluation of dollar. It means that when RMB become one of the major currencies to build a trade in LME, many people who are one side of the transaction with China may be affected. For instance, some countries

including Iran, exports iron ore or other minerals to china or sometimes one might buy some products from China. In both cases when one side of the transaction is China, traders around the world prefer to deal in terms of RMB. In this case, a country such as Iran that suffers from the tremendous sanctions is not able to do the trade by the U.S. dollar. Therefore, I believe that this measure has a negative influence on the U.S. dollar and other major currencies as Euro in the international trade market.

What are the advantages and disadvantages of such a measure?

China is the one to enjoy the most benefits gained from the action due to the fact that in building any trade with distinct currencies obviously you are obliged to pay more to exchange it and then the exchange rate will directly affect the finalized deal. Put in other words, when trade is carried through the national currency of one country specifically china and in term of Yuan or RMB, that is china to get advantage resulted from it. In this case, china avoids paying on the basis of exchange rate to lose money.

Other side of the coin demonstrates that countries who are not familiar with Chinese currency are the only one to suffer from the measure's clear drawback. For instance, the common currency in most of the commercial deals is the U.S. dollar even it is under the sanction in Iran at present. The reason lied behind that is directly related to the people eagerness to immediately fill the gaps as they know the value of dollar and bought a large amount even when it reached to 10/11 thousands Toman. However when it comes to RMB, one has to calculate and divide the currency by 6.5 to find how much it is in RMB which is not really simple and clear for the majority of people. As you know in Iran the most traders, businesspersons and companies are not selecting Euro. Considering the sanctions, companies record documents of invoices for instance to avoid facing any challenges. Moreover, focusing on the price of any commodity, people first value it by the U.S. dollar. Therefore, the shortcoming of such trades is the unfamiliarly of people with the national currency of the origin or destination country in general and with RMB in particular.

What benefits will be reflected in metal market of Iran and to what extent it will provide the internalization of Iran Mercantile Exchange?

Obviously as I explained earlier most of the Iran's traders choose china for exporting base metals or minerals which mean that at least we sell copper, iron ore concentrate, Chromium (concentrate) to china because this country is the main producer of the base metal trying to buy the materials.

Selling true RMB is an advantage to avoid first problem stock due to the. In line with as you might know, there was a bank called "Kunlun Bank" during the sanctions era which was responsible for the exporting moneys gained from Iran. Meanwhile, some imports happened as well and the earning from that was kept there. However, the Kunlun Bank is no longer strong and active. There is a possibility of reaching a conclusion between Iran and china and consequently some new banks would start operating. Moreover, in my perspective, there should not be any worries regarding the Yuan business since traders are not bound to the common currency due to the sanctions.

Regarding how IME positively would become one of the international exchanges and come to the international board, I might say a difficult way is expecting us. It depends on how the IME is being connected to the international banking system or SWIFT.

Since the existence of the sanctions and the impossibility of a connection between Iran banks and international banking system/ SWIFT, IME would not be able to demonstrate its real position.

I disagree; Therefore, I am.

"Leftists did not have any strategies at the beginning. They opposed and only opposed. They opposed whatever that was stated or done."

Raymond Aaron

It all began when a man grew up to be the emblem of the post-World-War-Two modern world: A man whose only plan was opposing. He opposed whatever mankind had achieved on its way toward peace, establishment and steadiness. He opposed stability and economic ties: Two terms which came to be known as sacred in the modern world of after World War II.

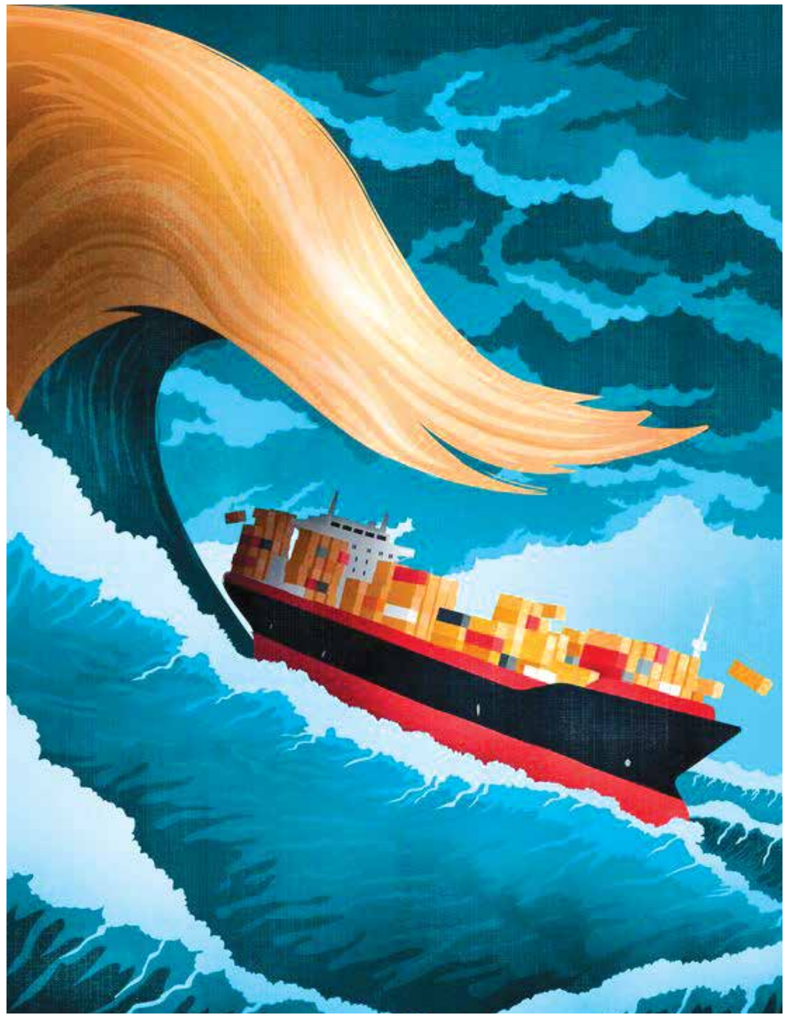
From the very first day he stepped foot in the White House, Donald Trump laid the foundation of his decisions on the principle of opposing all collaborative rules and contracts. He questioned all the constructs of the modern world by his famous AMERICA FIRST motto. What is wrong with this motto that has caused all this distortion and disharmonies?

Following the World War II and the social contracts that were devised to walk toward sustainable development and aversion from war, economic balance and ties came to the spotlight. In a universal agreement, countries came to understand that the only way to avert ruinous wars to build a world where economic benefits are divided among all nation states in a fair (yet not necessarily in an equal) manner. This division meant that all countries were involved in the same source of benefits, and no country would attempt starting a war just because it was left out of economic gains.

The fundamental principle of post-war world and moving on from the age of enlightenment was establishing strong economic entanglement among countries, hoping that the world could do away from war. In the pursuit of this goal, a novel concept emerged in the world's political literature: realpolitik.

Following the world war and surviving the 1930s rising-from-mercantilism economic recession, the world well learned that the two most paramount keys of balanced economic development are consumerism and comparative advantage. The former was a significant reason for the production of various instruments and hence ease man's life; however, it was the latter that led to the novel concept of comparative advantage. The principle of comparative advantage suggested that countries should move away from nationalization and focusing on what is within them; instead, every country should develop and expand its most powerful economic aspect and share its benefits with the world. Only this way would economic entanglement emerge, and it indeed did.

Nevertheless, the day-by-day development and the ups and downs in global economy, China's entrance to common economic markets from the mid-20th century, and the large population of this country



pushed the world toward a massive and comprehensive reform to protect its post-war achievement: Establishing multi-national corporations. Following the implementation of Deng Xiaoping's thoughts, the seemingly-socialist China entered the capitalistic world, and relying on its inexpensive workforce and its large consumption market, this country managed to revive its lost glory. This matter managed to save the world from the grave massive 2008 crisis. That is to say, the spirit of economic convergence was inspired in multinational corporations for the purpose of promoting economic entanglement.

Based on what has been discussed so far, if we admit that the universal acceptance of comparative advantage theory was one of the achievements of post-World-War-II world, we can argue that trade balance lost its classic meaning: Formerly, the turnover of money was considered extremely significant in economy, yet, after many years, someone took the lead on world's economy and free trade who once again made a shocking flashback to concepts such as "nationalization", "domestic power" and on the top of them "trade balance". In fact, the economy of the United States alone was twice as large as that of China and almost as large as Europe; hence, he utilized this superiority to push the economy into distortion and disruption with a retreat.

One main reason why countries began to share benefits and interests could be moving on from pointless conflicts and reviving from the economic recession caused by setting tariffs (mercantilists pushed the world to the threshold of collapse by setting tariffs in the 1930s). In order to prevent such bitter experiences from happening again, countries decided to find a solution to get rid of unnecessary bureaucracy and restrictive tariffs; and that solution was nothing but the establishment of World Trade Organization (WTO). The organization was founded in the pursuit of increasing economic trade among countries, which happened to be the ultimate goal of globalization theory.

In an unprecedented action, trump decided to set tariffs on foreign products in order to compensate the trade deficit of the United States, return of the multinational corporations to the United States (even though their shareholders are mostly American) and tackle unemployment. This measure (i.e. return to domestic industries) might be deemed as a legitimate right for every country on the look of it; nonetheless, it is in total contrast with the final outcome of globalization, which is creating added value through joint efficient actions.

If avoiding conflict is considered to be the main aim of economic entanglement, and if interests and benefits are supposed to be shared within this theory, then all the role players in the entanglement share all the profits and all the losses. Indeed, an unwritten rule in this game is that the "advantage" is in "competition"; and once competition is established as a principle, its outcome would be a successful product that could meet the needs of the consumer.

If competition occurs in the price and in quality, there is no denying that some American industries have now lost their comparative advantage. As a case in point, in metal industries, some countries – namely China – have expanded their steel production capacity to 1 billion tons a year and have thereby established a dominant advantage for themselves. In short, based on the objectives of establishing WTO, each and every member country must uphold the principle of competition.

This principle, however, is the one which is not warmly welcomed by the new economic team of the United States administration. They believe that positive trade does belong to the United States only. Admittedly, this perspective is prone to severely disrupt the world's economy given that other nations might start holding the same view and propose that the MUST have positive trade. This anarchy is a grave threat to maintaining the comparative advantage theory and hence is a threat to globalization.

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This unrecendetned-in-the-last-7-decades unfamiliar and unadjusted perspective of the United States new administration was applied to the nuclear deal with Iran as well, and drove the US to withdraw from JCPOA. Breaking an international legal deal of such a scale injected tremendous fear into the global oil market and caused such an abrupt in the prices that the US market itself was the first one to bear losses.

Even though in the 175^{th} meeting of OPEC, member countries decided to increase their production up to 1 million barrels within a certain period, the United Arabic Emirates and Saudi Arabia, as followers of Trump, were the only two countries that expanded their oil production to stabilize oil price. Yet, the negative look at the global market caused this increase to fail to fill the gap. Accordingly, after 18 months of freezing petroleum, world's strategic reserves were noticeably diminished and a miscalculation happened again.

Today's economic world is the host of an invited guests, and that is Trump's misunderstanding of the market where economic entanglement is deeply seated. Trump is recognized as a conservative; however, if we accept the famous Hayek quotation "The left end (Bolshevism) and the right end (Fascism) all fall on one point, and that is radical leftism" and we also accept that the basic left economic theory is the nationalization of economy, we reach the conclusion that Trump's populist behavior in domestic realm and bullying behavior in foreign realm is a cartoonist picture of radical leftists. This picture best reminds us of the French Jacobin, whose motto was "Freedom, Equality, Brotherhood; otherwise, Death".

It looks as though the wandering soul of Fascism is now emerging in economy, it has inspired bullying in the United States president, and it has raised distortion and disruption in the world, which has a very short password: I oppose all your achievements.

Oil Market Turbulence and the role of trade war in it

By: Elham Ghorbani

> the trade war between USA and China threatens global economic growth to be affected. This trade tension will subsequently weaken the economy of both countries and, overall, will reduce China's crude oil demand. This will not only affect USA and China, but it can also affect many other countries

Oil, traded at the highest price in the last three years, faces many challenges, such as supply disruptions in Libya and Venezuela, and the reimposition of sanctions against Iran, which has led OPEC members and their allies to unite to boost production. In this situation, the drop in U.S. reserves and the decline of production in Norway and Gabon also add to the risk. In top of all of these issues, the trade war between USA and China threatens global economic growth to be affected. This trade tension will subsequently weaken the economy of both countries and, overall, will reduce China's crude oil demand. This will not only affect USA and China, but it can also affect many other countries.

What's going on in the global oil market these days?

Concerns about the decline in Libyan oil production have left the price of this substance unsustainable. The Libyan oil production in the first five months of 2018 fell by more than 50 percent to 527,000 barrels per day (bpd). In May 2018, Saudi Arabia, OPEC members and allies such as Russia agreed to increase their production in order to curb the rise in prices and compensate for the decline in world production of countries such as Libya.

With the strike of Norwegian oil workers and the decline in Norwegian oil production,

which occurred for the first time in the last six years, the oil market is getting worse. Royal Dutch Shell shut down the North Sea oil field and its workers have threatened to strike. In Gabon, on the west coast of Africa, oil production in the sites of Total company fell by half in June after strikes began. In Venezuela, production dropped in the sixth consecutive month and reached to the lowest level over the past 15 years.

U.S. headache worsens oil market dizziness!

When USA unveiled a new list of $200 billion tariffs on Chinese goods, made a harsh tension in global oil market and the price of oil reached to $74 per barrel. If this list is implemented, it will directly affect about half of the total US imports from Asia. In addition to consumer items such as clothes, TVs and refrigerators, some other listed on the White House list including, oil products such as motor fuels, kerosene and naphtha. So, Asian refiners have taken action to supply their demand, as they predict that the USA-China trade war will intensify as well as USA has tight plan to stop Iranian oil exports to foreign markets.

While the Chinese authorities are seeking retaliation for U.S. actions, the state media of this country condemned the Donald Trump's government to the "gang of hoodlums ".

In the first line of this war are U.S. crude supplies to China, which have improved from nearly zero before 2017 to 400,000 bpd in July.

Although U.S. exports account for only 5 percent of China's total crude oil imports, American suppliers earn $ 1 billion monthly for this volume of exports at current prices, and this will undoubtedly be reduced by the new tariffs.

However, the U.S. crude was not listed in the list of 545 products that the Chinese government had set up to impose tariffs in response to USA tariffs, experts believed that it will be subject to import tariffs in the future because it is the only critical way. However, China's crude oil imports from the US dropped 226,000 bpd in July 2018, while in March 2018 the record was 445,000 bpd, according to reports.

An increase in U.S. shale oil production could offset the market supply deficit, but rising margins between the two pricing indicators, WTI and Brent, suggest that current infrastructure is the main limitation of the US crude oil supply to the market. The lack of infrastructure for transmission pipelines in the Midlands to deliver crude oil to the United States Gulf, the inability of tanker terminals to serve large vessels, limited storage capacity and increased labor costs are only part of the limits that prevent US oil shipments to farther destinations. Although U.S. shale oil production has been record-breaking and has the potential to offset the reduction of production in Venezuela, Iran and OPEC, it will only be possible if the infrastructure is provided.

Excessive oil prices will subsequently destroy the demand for this commodity and could result in reversing OPEC's ambitious efforts to tighten market conditions. Consumers in key economies such as Brazil, USA and India have expressed their unwillingness to raise oil prices. In India, gasoline and petrol prices peaked in May 2018, and the government was forced to reduce prices by reducing taxes. Similarly, in Brazil, because of the high price of gasoline, truck owners applied for a strike, and subsequently the government was forced to reduce taxes. Also, the price of gasoline in the United States has come to a level which needs political reaction, and each gallon is traded at $ 3. As a result, short-term oil prices will be at a high level, as U.S. shale oil will not be able to reach the market and OPEC members' demand will also be tightening market conditions.

The United States is the world's largest exporter of bunker (such as gasoline and petrol), and plans to expand it by 2019 to become the largest LNG exporter in the world. The country's LNG export in 2017 was worth $ 3.3 billion. However, China, which is the world's largest oil importer, has severely restricted LNG imports from the United States in the last two months (June and July 2018).

However, the United States has seriously planned to invest on infrastructures which are not available today in order to could export its oil products in the near future. For example, only one gas pipeline project of 800 miles (1287 kilometers) in Alaska has cost $ 43 billion to transfer LNG from the United States to China, and it would not be possible to expect such a huge amount of cost will be ignored in this trade war if China stop importing its LNG from the USA. By considering the intensity of USA actions, this reaction from China is not impossible.

Under such circumstances, the United States has been waging a massive crisis with more extensive tariffs against the country with the largest import capacity in the world, as well as the re-imposition of sanctions against the world's fifth largest oil producer. It also destroy the maps of OPEC members and non-members, because with this country's policies, retaliate of other countries will change the origins and destinations of trade, which will add to the tension of the market.

"The United States has been waging a massive crisis with more extensive tariffs against the country with the largest import capacity in the world, as well as the re-imposition of sanctions against the world's fifth largest oil producer

Opportunity-makers threats

Before discussing on commercial balance of USA and China made the start of a trade war, two informed officials announced that China tried to offset its trade deficit with the United States. So, Sinopec, the largest Asian refinery in China, ordered crude oil from the United States by the highest level. The trading arm of this refinery, Unipec, bought 16 million barrels (about 533,000 bpd) of US crude oil for loading and shipping in June 2018, and this volume of monthly purchases in the history of this company was unprecedented.

The U.S. oil export infrastructure development is on dilemma to continue the process, as its recent oil exports record highs, and China has been had a big role in these records more than ever before. U.S. crude oil production reached 10.7 m bpd, driven mainly by the increase in West Texas shale oil production, which was

over 3 m bpd. However, the infrastructures are insufficient to move this product out of the United States. Although the U.S. shale oil price is lower than the Brent rate, the discount on per barrel of this oil, is at the highest level for the past three years, and is $ 8.09 per barrel.
Now that China has threatened to apply a 25 percent tariff on U.S. crude imports, and Washington's new sanctions against Tehran will be imposed from November 2018, we have to wait for more intense waves of oil markets in the world. This will stimulate the Asian refineries, especially South Korea. As South Korean economy is heavily dependent on trade, it is not at all in favor of the global crisis as a result of the conflict between China and the United States.
Previously, analysts and energy activists involved in the development of LNG infrastructure believed that China's desire to offset the trade balance with the USA could lead to an increase in energy imports from the USA to China, and this would lead to an expansion of ethanol sales and help to prosper the activities of the LNG production plants. Although initially Washington and Beijing, following the talks, had been backing the trade war, and the USA wanted China to rethink about its industrial policies, by imposing new tariffs on imported goods from China by the USA, the trade tensions between the two countries intensified, and accounts and actions collapsed. At the beginning of the intensified war of tariffs, an executive from China's Dongming petrochemical Group, as an independent refiner from Shandong province, announced that his company had canceled all its crude oil orders from the USA. He said the Chinese activists expect the Chinese government to impose tariffs on U.S. crude imports, and he will provide its group orders through suppliers in the Middle East or West Africa by then. The JTD Energy Group also announced that it would be possible for China to replace Iranian oil with crude from U.S as the Chinese importers are not afraid of being punished by U.S. sanctions.

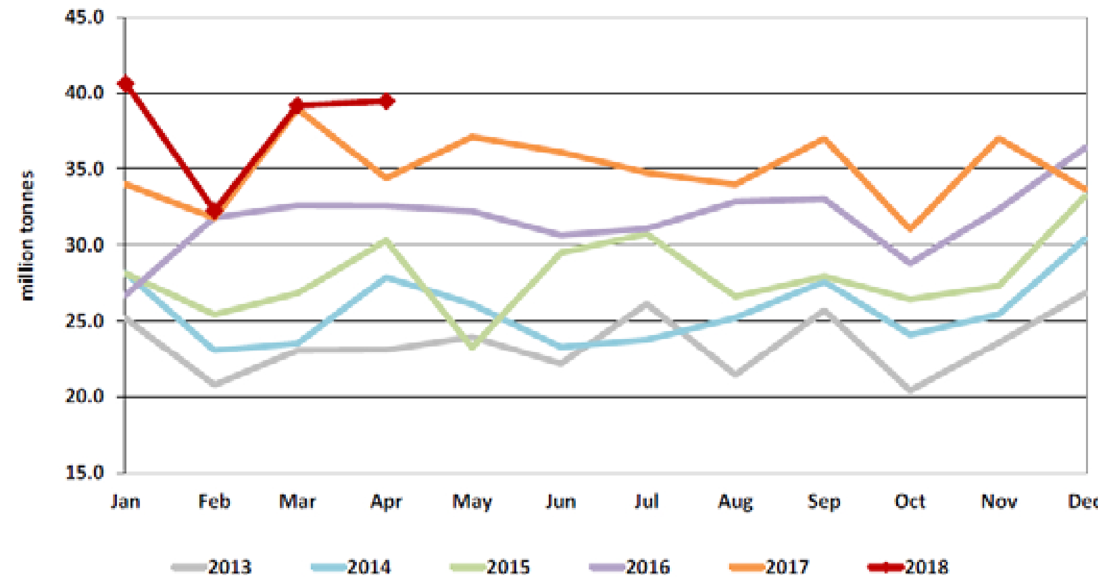
“The trade conflict between the United States and China, as well as the tensions between the United States and Iran, will not only affect the oil market of these countries, but will also lead changes in the quantity and destination of imports and exports of many countries

It should be noted that the trade conflict between the United States and China, as well as the tensions between the United States and Iran, will not only affect the oil market of these countries, but will also lead changes in the quantity and destination of imports and exports of many countries, some of which are Japan and South Korea.
But among the chaos, everyone is looking for opportunities to hunt. If China imposes tariffs on U.S. crude oil imports, it will provide the South Korean tool for the purchase of U.S. crude oil, since the United States will seek the market to sell its oil. In consequence, bargaining power in the countries of the region will rise, as American retailers have already made discounts on their crude oil to maintain their market share. On the other hand, China is likely to increase purchases from Saudi Arabia, Russia, the United Arab Emirates and Iraq.

China is a valuable member of oil trade market

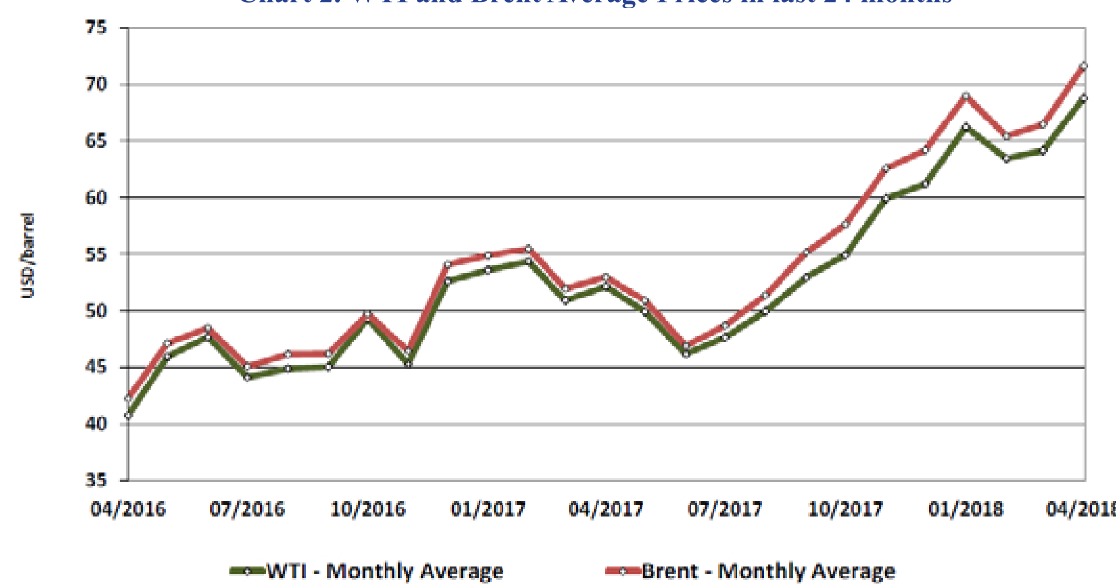
Now, if China wants to use this tool, the restriction or prohibition of the imports of U.S. crude, what space will open for others to operate, and what will be the threats and opportunities?
For the last five years, China's oil imports have been described in Table 1. Considering China's capacity for import from U.S. oil products, whether the country such as USA will be able to prosper by imposing tariffs for a country with such potential or it will incur losses in turbulent oil market?

Chart 1. Monthly Crude Oil Import of China



As shown in Chart 1, China's total crude oil imports have been steadily increasing overall, in large part because of the high profit margins of refineries. In the first four months of 2018, China imported 151.5 million tons of crude oil, up 8.9 percent compare to the same period in 2017.
Based on Chart 2, and looking at the trend of rising oil prices in the 24 months leading up to April 2018, we find that the trade of this commodity is so important that something equivalent to it cannot be found in the current market. Therefore, threating any country by limiting its trade (import or export) in this section will be really detrimental. After oil prices reached $ 30 per barrel in early 2016, Brent crude oil and WTI recovered due to OPEC's decline in oil production. More recently, as the U.S. president has threated to impose new sanctions on Iran, the oil prices have raised more than before. In April 2018, the average Brent and WTI prices were $ 71.6 and $ 68.8 per barrel respectively. In 2017, these figures had a growth of 35.2% and 31.9%, respectively.

Chart 2. WTI and Brent Average Prices in last 24 months



Will the Acceptance of Chinese Yuan in LME Result in an Important Change in the Economy of the World?

Confucianism Rebellion Against Weber Values!

Given the most populated country of the World, china could change its economic process and if we are keen to have an exact look at the evolution, it came back to the death of Mao Zedong- Former Chairman of the Communist Party of China- when Deng Xiaoping became the new leader.

London Metal Exchange (LME) admitted China's currency as the one having the capability to be dealt in the exchange market. Considering this measure by LME as one of the most important and considerable economic news during the last months, one could argue the significance of this news.

Given the most populated country of the World, china could change its economic process and if we are keen to have an exact look at the evolution, it came back to the death of Mao Zedong- Former Chairman of the Communist Party of China- when Deng Xiaoping became the new leader.

Deng who had to manage the country after a mass starvation was considered as one of the political critic of Mao in a way that he was abandoned during his life. After his death, Deng gained the leadership of the most populated country under a united flag.

he clearly figured out that to manage such a population he has to pass through the dominated ideology of the time and to move through development and improvement behaviors have to replaced for structures. Therefore, he started industrialization of the country that was exactly on the other side of Mao's views who selected agriculture to revive China. However, another important measure taken by Deng was a change in a society-oriented behavior to free market.

Considering the Soviet Union which was representative of the socialist economy based on industry and china on agriculture, Deng entered the free market by passing these two views. Moreover, he reconstructed his country and took step in the development route by building industrial complexes and attracting foreign investors.

The inclusion of Deng's ideas into the charter of the Chinese Communist Party and the law of the country made it possible for this great East Asian country to begin reconstructing China depending on its amazing work force! Reconstruction in the global arena!

The Chinese, who realized that in order to achieve their nostalgia, the revival of the heavens' empire, which is rooted in myths of this country not in politics, they must enter the economy. While they followed capitalism in the economy, they relied on the Marxian predicate that was economies build politics once again.

The flourishing economy for China was the country's ideal power which consequently caused them to sweep the entire East.

Once upon a time, the British Empire believed that there is not an end to their life, but it was the Chinese who objectified this belief by economic

development and exporting their products.

In the meantime, the post era of the World War II as well as globalization gave hand to china to awake for one more time.

Since the 21th century began, world media repeated one thing for several times and that was the amazing and unbelievable growth of China. In line with this, Chinese who found out handling the world market needs development in their economic measures soon concentrated on one of the key economies of the word i.e. steel.

Because if the development and economic integration were to be thought of as a product of Western thought, in order to conquer the castle it required the use of the western method. Then, Chinese exploited the view that steel in the tool of development and started creating massive steel mills.

This meant that the country needs the raw materials of this industry including iron ore and its derivatives like pellets and coke more than elsewhere in the world, and that was the point where all the ships carrying iron ore and other required material of steel production found an important destination: It's China!

This caused china to be determiner of two key elements in trade. Considering the urgent need of china to the first raw material to develop and create several manufactures, it became the largest buyer of these materials and affect the price to the large extent. Secondly, marine transportation particularly bulk section concentrated on China more than ever due to the huge volumes of mine productions moving toward that country.

Each increase in steel production would shift the price index in the iron ore market and bulk transportation to the point where the world which produced 600 million tons of steel in various types before 2008, gained a 70-percent share of china producing 700 million tons by the end of 2007.

However, 2008 was the beginning of the economic crisis in the world (based on the real estate crisis in the United States, where the real estate crisis means a reduction in the global need for steel), the China which has gained a new understanding of the market, began to shut down some of its manufacturing units in this section promised to return by more efficiency, and this happened in 2012.

After the calmness of financial crisis as well as urgent need of the people to steel aiming at reconstruction, Chinese could record in production and practically affect the deal market of steel.

Based on what has been discussed so far, 700-million tons of world steel production was a new record. However, following receding global financial crisis and urgent need to steel for reconstruction, China has revised the market and managed to record a remarkable production of one-billion tons, in a way that this trend has had a meaningful influence on the steel market and its trade.

When it comes to metal deals especially steel, one might refer to the pricing market and the main axis of transaction and that is London Metal Exchange (LME).

London and its metal exchange are of utmost importance due to being both the financial market of the world and providing the accommodation for one of the future largest markets in it. Presently, LME admitted Yuan as the acceptable currency in the market's transactions and this event brings about a shock to the economy of the world.

The Chinese, which had suppressed the value of Yuan against the dollar over the years to gain advantage over other countries, is currently increasing the Yuan's strength, which means that the dollar, after the collapse of the Bretton Woods system, is a big boom and faces an important competitor.

Moreover, Chinese concentrated on the economy and finally they successes to alive their rights globally. Now, this phenomena of being admitted by LME means that not only Chinese learned the rules of the game but also they are planning their own model; a model which is going to be created not based on the "The Protestant Ethic and the Spirit of Capitalism" but on the Confucianism thoughts.

BIMCO Secretary General and CEO Angus Frew:

The environment is probably the biggest issue on our agenda

By: Fatemeh Moonesan

Reducing Greenhouse Gas (GHG) from shipping industry is a significant issue that needs strong action. Moreover, Digitalization and potential threat of Cyber Attack should be addressed more than ever. In order to collect more on these issues and other important issues in the shipping industry, Payam Darya magazine has conducted an exclusive interview with BIMCO Secretary General and CEO Angus Frew. You will browse the transcript of this interview in the upcoming section.

As you well aware, Digitalization has received a lot of attention in the recent years, what are your plans for promoting it across the industry?

Digitalising the industry is one of the keys to unlocking efficiencies that can benefit the industry from both an economical and environmental perspective. BIMCO's role is very much as a facilitator of projects and bringing the industry together.

We recently finished our role in the EfficienSea2 project, which was an EU-funded project. The overall project was to create and implement innovative and smart solutions for efficient, safe and sustainable traffic at sea through improved connectivity for ships.

BIMCO's contribution – along with its partners - was the Maritime Reporting Model (MRM).

This prototype model aims to standardise communication between ships and shore. The key lies in ensuring each type of information a ship needs to share is associated with a unique name – a tag – that software developers must use.

Using a global standard for tagging information – such as the ship's name or the number of crew onboard – in software systems can make sure that the information transmitted by the ship always ends up in the correct 'box´ at the receiving end, no matter who the recipient is. In more technical terms, it is a harmonisation of data models used by maritime stakeholders.

Our prototype has shown that the MRM can reduce the administrative workload for ship masters by 80% in connection with port calls, so we will continue to pursue this standard.

In general, you can say we are very focused on standardization, as the shipping industry needs global standards to achieve the optimal results when digitalizing.

An example of that is our standard for software maintenance developed together with CIRM (Comité International Radio-Maritime).

The goal of the Standard on Software Maintenance of Shipboard Equipment is to make sure software updates happen in a secure and systematic way. It

will increase the visibility of the software installed on board, ensure the effective planning of maintenance and facilitate effective communication between the different parties involved in maintaining the software. Keeping software up to date is also necessary to minimise hacking and malware problems.
We informed the IMO about the standard in December 2017 and BIMCO and CIRM have asked ISO to turn it into an ISO-standard to make it more robust. ISO has accepted the proposal and the work is on the verge of starting. BIMCO expects a working group to complete the standard in 2022.

Ultimately, we would also like to see digitalization and standardisation in the interface between ships and ports. Digitalisation should also lead to more effective port calls.

What plans do you have for fighting against Cyber Attacks?

BIMCO is mainly focused on the ship-side of cyber security because of the many onboard operational technical computers that needs to be protected.
On the IT side the shipping industry is – like any other industry– exposed to various forms of cybercrime, such as ransomware, or fraud committed using fake websites or emails.
Together with HIS Markit we are doing a big industry survey on the issue of cyber security. Information about how the shipping industry is affected is an important tool if you want to create the right procedures and countermeasures to protect against cyber-attacks.
The cybercrimes that are on commercial systems are however not BIMCO's main focus, as other organisations and companies are specialized in that. BIMCO is instead speaking to ship yards and the International Association of Classification Societies (IACS) about building cyber resilient ships in the future.

There is an increasing pressure for shipping to be greener and more sustainable, what strategies are you going to take in this regard?

The environment is probably the biggest issue on our agenda right now, and our strategy is to make sure that the rules, regulations and targets are realistic and practical. BIMCO is a very practical organisation, so we try to make sure our members have the information they need to make important business decisions. We also voice our opinion at the IMO to make sure the Member States get accurate information to help them make good choices on how to implement the decisions they are asked to make. We are working hard to make sure there are practical rules and procedures in place for the upcoming 2020 sulphur cap. It is clear, that the industry has many concerns and questions on this issue, and we have several people working on drafting practical proposals for IMO. We are also collaborating with the other industry organisations, such as the International Chamber of Shipping, to make sure that we speak with a united voice on these issues.
The other major agenda point is Green House Gases. I think we can reach zero emissions in the second half of this century, and we are very satisfied with the Green House Gas strategy adopted by the IMO. IMO outlined a target to reduce GHG emissions by at least 50% by 2050 compared to 2008, and we see that as ambitious, but not impossible. We think the industry can deliver on this target, even though we aren't sure exactly how to do it.

I find it very encouraging that the shipping industry probably peaked its CO_2 emissions in 2008. And we are in fact the only industry in the world with a fixed reduction target at this point. That said, the industry needs to invest in innovation and technology. We need more efficient ships, but I think ports have significant ways to improve the entire industry's efficiency.

> **The other major agenda point is Green House Gases. I think we can reach zero emissions in the second half of this century, and we are very satisfied with the Green House Gas strategy adopted by the IMO.**

What is often overlooked is the performance and execution of port calls. Ships all too often speed up to arrive at a port on time, only to be instructed to await free berth at anchorages outside the port. This means that a lot of energy is wasted to power ships through water at too high speeds just to sit idle after arrival. It is about maximising time spent at sea executing a voyage with the lowest possible constant speed, BIMCO has calculated that this can reduce GHG emissions by as much as 20% on such voyages.

How do you evaluate Iran's cooperation with BIMCO?

In light of the new US sanctions, we are taking advice on the necessary treatment of BIMCO's members based in Iran. BIMCO is an international association with no legal entity or office in the USA; despite this, we believe that there will be some restrictions placed upon BIMCO and the services we provide to our members in Iran. We will continue to evaluate our approach and will notify our members in Iran at least a month ahead of the deadline of any actions that we will be obliged to take. Our members are of course always welcome to reach out and discuss their membership with us.

Racing against time:

Chaos caused by bureaucrats and politicians under public pressure

By: Seyd Ali Farkhondeh

According to this report, "the world has warmed by one degree Celsius since the industrial revolution. The Paris agreement- the nonbinding, unenforceable and already unheeded treaty signed on Earth Day in 2016- hoped to restrict warming to two degree." The report adds as per current trend the odds, is 5% to succeed. But with president tramp and his appointee at EPA policies in Washington this is more doubtful.

Emission of greenhouse gases of human origin is considered to be the main cause of climate change and current heat waves unprecedented in many places taking life. Although CO2 is considered as the most constituent of greenhouse gases but other product of exhaust gas such as NOx and SOx are also important on human health due to acidic oxides forming Acid rains.

A report published by New York Times on August 2, 2018 is a narrative about environmental effect of man made pollution on climate change and the Green House Gases (GHG) mainly Carbone dioxide.

Almost 50000 vessels operate in international waters. About 80% of global trade by volume and some 70% by value are moved by sea. Marine transports fuel consumption is around 5 to maximum 10% of global demand (6.1% in 2012) amounting to 45 to 49.5% Residual Marine Fuel demand, which in general has a Sulphur content of average 3.5 m/m%; but due to less restriction in the past its contribution may arguably be disproportionate to world Acid Rain pollution.

In nature the main source of Sulphur production are Volcano and Sea Plankton. Human activity is also a contributor. According to a fact finding report by CONCAWE study group, shipping contribution of man made SOx is 10% globally, hence IMO as a responsible international body has taken measure to curb and reduce this contribution.

Contrary to NOx reduction which started worldwide on year 2000; SOx reduction in Europe was first started under directive EC/32/1999 amended by EC/33/2005 but it did not take effect since the receiving ports in Europe could not provide and offer such fuel to visiting vessels, hence could not implement the directive.
One alternative then was to use shore power while ships were at port, which was a pundit discussion only.
MARPOL Annex VI regarding Sulphur in marine fuel came into force on 2005 with a worldwide limit of 4.5 m/m% according to ISO 8217 (2005) with a global average fuel available of ~3.5 – 4 %. Nevertheless IMO Special Emission Control Area (SECA) came into force after 2005 at Baltics Sea to become the first area to reduce the use of low Sulphur HFO of Maximum of 1.5 m/m%; reducing to 0.1% after year 2015.
IMO announced On 2016 that after January 1, 2020 outside the ECA areas consumption shall be below 0.5 % limit and carrying any fuel oil above this limit is illegal unless vessel is equipped with means to reduces SOx at Exhaust outlet before released to Atmosphere.
Sulphur is considered essential for life and has a cooling effect; and although the de-Sulpherization process in refineries requires extra energy which expert estimate to increase an additional 3% carbon dioxide a major GHG! But it looks its damage to Earth and its inhabitant outweighs its benefits!

The challenge to IMO was global availability of marine fuel with less than 0.5 m/m% Sulphur. The announcement was criticized by many in the industry notably by refinery experts, which estimated at least 5 years is needed for refineries to be able to produce such fuel. A new installation such as Coke Cracker Units is needed to remove Sulphur.
As reported in 2016 by International Energy Agency (IEA); it is estimated that global production of residual fuel will be around 6.85 million barrel per day (mb/d) about 1.1 million tonne/day (mt/d) by year 2021 exceeding by almost 2 mb/d (300’000 t/d) against 4.9mb/d (760’000 t/d) demand.
The demand for residual fuel in shipping will be decreased to 1.2 mb/d (186’000 t/d) 25% of total global residue demand in 2021 from 3.15 mb/d (490’000 t/d) 45% of total demands; close to other sources estimated 49.5% of total world demand in year 2018.
For light fuel the move is on the opposite. It is estimated that by 2021, global demand for Diesel fuel will be more than 30.4 mb/day against 28.8mb/d refinery output. Light fuel demand in marine sector is to increase by 2.7 mb/d from 1.2 mb/d in 2018 to 3.9 mb/d in in 2021. This is 7% increase from 3% to 10% of share of total global demand by Marine transportation.
IMO 2020 implementation was subject to assessment on 2018, to make sure that fuel is available globally otherwise the implementation to be postponed to 2025. This caused some ambiguities as many ship operators were doubtful and reckoned the date 2025 to be more practical rendering uncertainty preventing many owners making decision for technological development.
Delft et al as appointed by IMO asserted and convinced the organization that there will be sufficient fuel globally available of different type to industry on and after January 2020. Hence January 2020 is now fixed to be the date to implement 0.5 m/m% cap globally except ECA areas which will remain as more stringent limit of 0.1 m/m%.
There are 2 methods namely primary (pre-combustion) and secondary (post combustion) to choose by ship operators when it comes to SOx control. With primary method the ships have to use fuel with Sulphur content of less than 0.5 m/m% while by secondary method ships can burn fuel regardless of its Sulphur content to treat the exhaust gas before released into atmosphere by use of catalyst and scrubbers.
In primary method the fuels available to ships are low Sulphur HFO, a blend of High Sulphur HFO with low Sulphur lighter oil, with a cost of 150 $ extra per tonne; MGO double the price of HFO and LNG.
Crude oil is a flammable liquid found in rock formations in the Earth consisting of a complex mixture of hydrocarbons of various molecular weights with general formula of C_nH_{2n+2}, plus other organic compounds. The proportion of hydrocarbons in the mixture is highly variable and ranges from as much as 97% by weight in the lighter oils to as little as 50% in the heavier oils and bitumen; it currently provides about 30~35% of world energy demands[1].
Crude oil from different geographical region have different characteristics and varies in density, however for the purpose of this report the density of crude oil is assumed to be the average value of 850 kg/m3 and it is lighter than water. Depending on the origin of crude oil it contains various impurities such as Sulphur, Vanadium, Sodium, etc. for instance North Sea oil better known as Brent oil with density of 831.9 kg/m3 has a Sulphur content of 0.36%, and Iran light’s density ranges to 854.5 – 857.1 kg/m3 with 1.4 – 1.5 % Sulphur content. Such figures or Iran heavy ranges 865 – 870 kg/m3 and 1.8 % respectively[2].
Since crude oil consist of a mixture of hydrocarbons mostly alkanes, also known as paraffin, which are hydrocarbons with straight or branched chains containing only carbon and hydrogen thus the lighter oil has larger amount of hydrogen in comparison with heavier oil which contains higher amount of carbon. Although the amount of sulphur is low but crude oil with higher sulphur is heavier, considering that atomic number for sulphur,

1 Exxon Mobile; Economist, April 2005, page 17, table 6

2 McGraw-Hill, Platts; petroleum methodology and specifications guide, January 2005

carbon and hydrogen are 32, 12 and 1 respectively. Sulphur has acidic nature and is not a desirable element in refineries as well as being harmful from environmental perspective.
Historically refineries are designed to refine crude oil in distillation towers for valuable products which can loosely classified such as Petroleum gases (C2 – C4), Naphtha (C5-C12), gasoline /petrol (C6 – C10 mostly C8 Octane), Kerosene and Jet fuel (C11 – C15) Gas oil and Diesel oil (C16 – C18) and lubricant base (C19 – C20) and whatever is left is termed as residue, which are as recognized by ISO 8217 as RME, RMG Residue Marine grades E and G.
Since sulphur is chemically bonded in fuel oil its removal is not a straight forwards process and according to refinery expert new installation such as "Cock Cracker Units" tower is needed to remove sulphur.
There are reports that Iran backed by Saudi Arabia, two heavyweights in the industry have pleaded to IMO for extension, but there seems to be little chance for any success!
According to a report by Clarkson out of 94200 current vessels with a tonnage of 1925 million tonne operating worldwide some 40000 about 41% may need to use Scrubber in order to comply with 2020 requirement if such fuel is not available worldwide. This assumption may suggest that the rest of fleets one way or another already adopted to use LSMGO or similar fuels perhaps because plying in Emission control

There are reports that Iran backed by Saudi Arabia, two heavyweights in the industry have pleaded to IMO for extension, but there seems to be little chance for any success!

Areas ports and inland waters only. However as per reports by Delft about 3500 vessels will be equipped with scrubber by year 2020. This number is disputed by others reports to be too optimistic and other research group such as Norwegian group SEB estimate it to be about 2000 which is similar to Korean Classification KR assumption. Therefor it looks that the rest of 40000 vessels have to choose primary solution by using low sulphur fuel and since the LSHFO is not so readily available the use of LSMGO is unavoidable. The cost of MGO affects extra operational cost. Price of LSHFO is estimated to be extra 150 $/MT over HSHFO by KR and SEB. The price of MGO and MDO are almost double the price of HFO although is considerable but prices of up to 750 $/MT has already been experience in hay days of before 2006 and there is no reasonable reason for industry not to stand the same this time. From operational prospective the use of MGO for with current Engines may cause leakage at high pressure pumps designed for more viscose fuel (12 cSt to reduce to less than 2 cSt and cause of diesel nocking phenomena unless the engine is de-rated and RPM at MCR is reduced, which can be translated in power loss and speed reduction. There is a positive gain however small; it may render longer life of certain parts.
According to an interview published by Payam Darya, IRISL's bimonthly publication 3 refineries in Iran was designated to be equipped to produce LSHFO, but there are reports that the plan has been handicapped as the Chinese partner has pulled out due to illegal US sanctions.

LNG an alternative marine fuels

One alternative is to use LNG as a cleaner fuel. There are some progresses and many ship owners are intending to order dual fuel diesel engines. Shell marine at a recent seminar in Dubai announced they are ordering two afro-max tankers with dual fuel. One problem with LNG is the possibility of bunkering worldwide. According to a recent study by a Benelux marine university comparing two ports of Dubai in UAE and Sohar in Oman There is a strong contest between UAE and Oman to be first to establish LNG bunkering in the Middle East. Iran shoring entire northern part of Persian Gulf and Gulf of Oman with large natural gas reservoir especially at South and North Pars gas-fields with ideal locations such as Salakh on southern shore of Qeshm Island on north of Strait of Hormuz, Sirik overlooking Strait of Hormuz situated on the east and Jask at Gulf of Oman all three ports not far from Iran number 7 gas pipe line IGAT 7 also known as peace line as well as port of Chabahar a potential hub for land-lock countries of central Asia. Salakh situated on south of Qeshem Islands is only 5 miles away from Strait of Hormuz and few miles from Iran gas grid home to Qeshm Star Bunkering company with owned private port is the most attractive place for LNG bunkering with a moderate 7 million tonne per year liquefaction plant. There are reports that a conceptual plan has already been considered and discussed. Though the main obstacle is likely the sanctions against Iran energy sector.

One of the problems with LNG is that it requires conversion of engines at a cost and bunkering availability worldwide.
There was reports that officials gathered to discuss the objectives of a €53.5m Mediterranean LNG bunkering project in Brussels last month. The 'Poseidon Med II' is the second phase of a EU-led LNG bunkering infrastructure project. The first phase developed a strategy for the introduction and promotion of LNG as a marine fuel to reduce shipping emissions in the Mediterranean. Under phase two of the project, groups involved are aiming to have finalized technical designs and plan approval for 'LNG capable' retrofits and new build ships by 2020. Further, ports involved in the project are said to be working towards a regulatory framework for LNG bunkering as well as developing an LNG fuelled feeder ship. It is reported that officials from the ports of Piraeus, Trieste, La Spezia, Venice, Genoa, Koper, Rijeka and Limassol were present at the discussions.
A recent delivery of a 6500 cbm on June 5 this year (2018), South Korean shipbuilder "STX Offshore and Shipbuilding" at is Changwon Jinhae to join Shell bunkering LNG bunkering operation in Rotterdam to cover North Europe including Norway, Belgium and Baltics'.
LNG bunkering currently amounts for 50000 tonne/day as per IEA agency.
Secondary method basically is the use of scrubbers to wash away exhaust by Seawater, the same way as it has done on tanker vessels as deck seal.
The scrubbers units are an extra cost to owners as capital cost evaluated as today's market price by KR to cost between 2 to 7 billion Korean won (1.8 to 6.3 million USD) depending on the size. Some economists consider this a capital cost in comparison to bunker cost which can easily be shared with cargo owners. Depending on size of ships and cost of fuel by figures provided by KR to cost return is as low as 45 days to 2 years. Nevertheless there are more into it, as it said the devil is in details. The maintenance and the disposal of removed sulphur is one problem. Many ports in Europe and USA do not allow any discharge. Other problems especially for existing vessels are also to be considered may include extra weight because of scrubber unit and piping system which may require inclination experiment for leading vessel as most classification require the test if light weight is changed by 2%. The size and weight of scrubbers may be as such for large vessels that these may be positioned at ship poop deck. Installation of piping system in already

designed ship and high capacity pumps and new opening for sea chest will probably affects the vessel equipment number hence new winches and windlass and stability as well as speed and water flow along the hull. Change of stability calculation and plan approvals. For a small vessel of 25 to 30 tonne deadweight equipped with an engine consuming 25 tonne HFO at least one seawater pump with capacity of 250 or 300 M3/H is required. Another problem is the discharge pipes due to highly corrosive nature of effluent the pipes are to be ultrasonic test every year; DNVGL recommend every 6 months. The large opening for sea chest and rush of huge mass of water perpendicular at the hull near propeller will influence the water line at propellers and as mentioned will have some tangible effect on speed and propeller life. The scrubbers are fitted on exhaust outlet before released to atmosphere influencing the exhaust velocity. Most engine makers require a minimum of 6 m/second at exhaust outlet on top of funnel. Again for existing vessel this has been optimized hence to add new equipment with water mist on the way of exhaust gases, there will be some reduction in exhaust velocity. Discussing this matter with one scrubber manufacture, it was understood that the velocity would drop to 5 m/s, some 17% reduction hence in most cases an extra fan may be needed. Since the vessel power calculation has been optimized not including new ancillaries there would be extra burden on power producing auxiliaries to be considered. In discussion with some informed concerned person in Italy a cruise liner in Orlando, USA has already scrapped its ships scrubbers after 2 years for LS fuel due to maintenance and operational difficulties. These make owners to think twice before installing scrubbers. That is may be reason for giant ship owner Maersk has stated that they will follow to comply with LS Fuel as their best option.

According to records available by July 2018 some 750 ships are equipped with Scrubbers an increase of 300 compare to 419 by end of March of the same year.

Exhaust Gas Cleaning System Association on June 23, 2018 based upon its member's information, reports of 1561 scrubber unit manufactured or on order, but only 983 units is delivered to existing and/ or under construction vessels. Total of 615 of existing vessel 463 vessels are equipped with open loop and 152 using hybrid (open/close loop). And 368 vessels under construction 220 are to use open loop, 148 to use hybrid system.

Use of scrubbers is mostly used on Cruise/RO-RO/ROPAX 28% (mainly plying within ECA ports,) Bulk carrier 28%, Tankers 23%, Container carriers 16% and 5% other types.

Delft group, IMO appointed has an optimistic number of 3500 vessels will be equipped by year 2020. But more realistic by various reports confirms 2000 maximum 2500 will be practically equipped with scrubber. Clarkson research estimated some 40000 vessels have to use LS fuel, either MGO or LSHFO, a serious task.

The Norwegian study group SEB in 2018, believes the return cost depending upon size, and fuel consumption varies. It is 4 to 5 years for handy max consuming 25 t/d.

Reports from South Korea is advocating the use of scrubbers; "Scrubber installation is the strategy that real world shipping companies are currently taking the most." Many Korean Owners planning long-term contracts with shippers to cover the initial cost of scrubber installation. Polaris Shipping plans to install scrubbers on six vessels that are engaged in long-term transportation contracts with shipper POSCO. Further POSCO, is planning to install scrubbers on 20 raw materials lines from December to the end of next year. Korea Shipping, H-Line Shipping, and Pan Ocean participate as well.

Polaris Shipping is also planning to install scrubbers on 15 vessels for long-term transportation contracts with Vale, a global iron ore supplier last year and the shipbuilder is Hyundai Heavy Industries.

Hyundai Merchant Marine is also contemplating two ways to install scrubbers or build LNG carriers, while ordering 20 vessels.

The shipping industry thinks Hyundai Merchant Marine will install scrubbers. Other large shipping companies, including SK Shipping and Pan Ocean, are reportedly planning to install scrubbers.

While many shipping companies will be happy to share the cost with customer by using other companies are happy to pass the cost to customers by using more costly fuel, considering that industry has already experience high fuel prices of up to 750 $/Mt of the heydays of 2004-2006 period.

Maersk group has already expressed its policy will be to comply by using LSHFO. Shell shipping officials attending a seminar this summer in Dubai expressed that they are ordering 2 Afro-max tankers. NITC, giant Iranian Tanker Company last year announced that they are intending to order 10 duel fuel tankers.

Therefore there are few alternatives with high initial cost and it may looks it all depends on early momentum to reach a threshold for a viable cost effective lead in the market to reduced the environmental damage.

The global warming did not take place overnight, but as mentioned in the beginning of this report it is a long process, significantly since Industrial revelation in the Netherland and England. The global warming is started and caused by west industrialization since industrial revolution by heavy pollution in earlier and deforestation in Europe and the bill is being paid by everyone as there is no border when it comes to air pollution, and global warming.

To ask for global action as agreed in Paris requires convictions demonstrated then and to be bullied by ignorant in Washington and oil majors.

According to the same NYT report mentioned in the beginning: "if by some miracle we are able to limit warming to two degrees, we will only have to negotiate the extinction of world's tropical reefs, sea-level rise of several meters and the abandonment of Persian Gulf." Climate Scientists are branding 2nd and 3rd degree as long and short term disaster and 4th degree warming as drought in Europe and many part of the world to be claimed by desert.

Iran is a signatory to Paris agreement on climate change and (as reported) has pledged to reduce its GHG related pollution by 4 to 12 per cent; hence it seems that except United States which has backed off from both Paris agreement and JCPOA the rest of world has an legal and moral obligation to support Iran on environmental peaceful developments in its Energy sectors such as Solar, Wind, LNG and LSHFO production.

Commercial manager of PetroKaveh in an interview with PD:

Iran to produce 30% of the world's Ethanol by 2020

Considering Iran with ample resources of gas, industries such as petro-chemistry plays a pivotal role due to injecting a high amount of income. Presently, production of methanol leads Iran to be ranked the first one in the Persian Gulf and will produce 30 percent of the world's ethanol by 2020 through utilization of PetroKaveh in Deyr region. Jafar Asgariyan, commercial manager of PetroKaveh company in an interview with Payam Darya called transportation issues "Achilles Heel" and said: the country needs 80 ships to carry petrochemicals as all the complexes of Kaveh, Marjan and Bushehr come to operation. At the same time, less than 10 ships carry methonal products. Transcription of this interview is presented below:

Produced methanol of Kaveh Industrial Group will be definitely exported and it is not for domestic use. The process needs port and related services through which Kaveh has access to all the possibilities.

When did Kaveh start working?

Kaveh Industrial Group started working in the realm of glass industry 35 years ago. Considering one of the required raw materials in producing glass, which is sodium carbonate and the fact that it was limitedly produced in the country, Kaveh Co. inevitably imported its compulsory substances from Russia and Turkey. Gradually, Kaveh Industrial Group found the first sodium carbonate production plant with a production capacity of 200,000 tons per year in Maragheh, and now it is unique in this field. Following this, another plant with the production capacity of one million ton will come to operation in Fars, Firuzabad nine months later.

In which process is the company's activity in the petrochemical sector?

Kaveh Industrial Group decided to start working in private sector as the pioneer one in petrochemical industry. To achieve this, the company provided the platform of creating the largest methanol plan of the world with the production capacity of 7000 ton per annum in Deyr port. However, establishing the plant occurred at the time the sanctions began and the activities had to be stopped. After the implementation of JCPOA and sanctions' removal, the required machineries had been imported and installed. So, it is expected the plant to be exploited in the coming months. Although the Group is owned by the private sector, it is thoroughly independent in term of supplying equipment and utilities.

Produced methanol of Kaveh Industrial Group will be definitely exported and it is not for domestic use. The process needs port and related services through which Kaveh has access to all the possibilities.

What is the reason behind choosing Deyr Port to establish the company?

First, dimension of this space is appropriate for the future development. Secondly, the goal of producing utility was achievable in Deyr port.

At present, PetroKaveh has an area of 240 hectares in the region of Dyer, of which 60 hectares are used to produce methanol, and another 180 hectares are considered for the expansion of plans.

How much methanol will the company produce and export?

Expected amount of export is equal to the total capacity of the plant i.e. 7000 ton daily and 2.300 million annually which is soon be achieved.

Where does Iran rank in methanol production?

Iran's methanol capacity will reach 10 million ton (13%) by the end of 2019 as the production in PetroKaveh and other petro-chemistries of the country begin. The mentioned amount of production will be extended to 20 million ton per annum by 2020. In other words, Iran will be responsible for producing 30 percent of the

world's methanol.
Having access to significant gas resources, Iran is capable of producing methanol competitively. One of the country's rival in this section is the U.S, which exploit shale gas. However, this kind of production will be beneficiary if oil price reaches more than $60. In line with this, Iran enjoys high level of cheaper oil and then it has more competing power to produce methanol in the world. Moreover, methanol consumption is on the rise and it is in fact an original substance. Besides, methanol sub categories are increasing and consequently a growth in demand will take place.

How do you evaluate Iran's petrochemical industry?

Iran stands in the first place in the Persian Gulf region in terms of methanol production. Given petrochemical industry's capacity to produce more goods with high level of value added, increasing tonnage in Iran has always been a priority while never an increase in value added has not been taken into account. Unfortunately, the industry somehow ignored this fact and it concentrates on consumption of the produced gas while producing goods with a higher value added is a preference. Therefore, following the increase in tonnage of the products is not the straight and appropriated step.
To what extent, investing in industries such as petrochemical would be effective in prospering the economy of Iran?
For a country such as Iran which has ample of gas resources, utilization of industries as petrochemical is pivotal. This industry might be helpful in the economy. To produce methanol, gas is converted to liquid which is then consumed in two parts of the energy and chemicals.
Considering the resources, we could earn considerable revenue, which will be consistent by the next 100 years. Other industries will be launched as well. This industry of course is a specific one and achieving to the goal means the difficult production. In the case where we get the chance to reach our goal, we can change gas to an excellent source of income along with entrepreneurship.

Who are the major consumers of methanol worldwide?

Approximately, 60 percent of methanol is consumed in China. Besides, South Korea, Japan, Taiwan and India are other main consumer of this type of gas. In line with this, shipping with the purpose of exporting is indispensible. Drawbacks of transporting petrochemical products would loosen the plants around the country as Iran's rivals including Arabia, the U.S. and others waiting for it to occur.

What measures have been taken to transport the products?

Shipping is the main negative side of the industry. It is supposed that all the produced methanol of Kavel Co. are to be exported and then the way of transporting becomes important. At the meantime, shipping industry of carrying chemicals is weak. Four domestic companies own about 10 ships to carry the product but it can be said they are old and out of work. At present, petrochemical fleet of the country export one third of the produced capacity of Zagros, Fanavaran and Kharg Petrochemical Companies. This will increase by 2020 as other petrochemical complexes such as Kaveh, Marjan and Bushehr exploit and then 80 ships are needed.
During the sanction era, freight rate of petrochemicals reached $112 per ton. Whatever the cost of transporting decrease and the amount of goods increase, profits gained from the product will enhance. Given the high freight rates during the sanctions, companies did not earn that much profit from selling methanol. The most profit was obtained by countries include Saudi Arabia, Oman and producers such as Methanex corporation Trindad which carry the products with lower freight rate.
Regrettably, this is one of the primary issues in the realm of petrochemical transportation. Now, many active petrochemicals carry their goods with indefinite ships.

LNG is the bridge to 'Zero Emissions' shipping

The advent of industry wide tightening of allowable sulfur emissions is getting nearer. Suddenly, with the deadline now little more than one year away, the countdown clock will very soon be ticking much louder.

Simply stated, the cap on allowable sulfur content in marine fuels, presently at 3.5 percent in many geographical regions, will be reduced to 0.5 percent in January 2020. The 0.1 percent sulfur cap, already in effect since 2015 in coastal Emissions Control Areas (ECAs) in Europe and North America, will remain.

As carriers struggle with deciding which is the best way forward to compliance, liquefied natural gas – or LNG – has emerged as an attractive option, because it is "…virtually sulfur-free…" as oil major Shell explained in their brochure, IMO 2020: What's next?, a document aimed at marine fuel customers.

Location, Logistics & LNG

One uncertainty surrounding all choices is price inputs to any business case for one choice over another. These are tied closely to questions of fuel availability. When prices of low sulfur fuels reflect scarcity, capital investment in scrubbers or in LNG propulsion (slightly more expensive than conventional diesel engines) look more attractive, with shortened payback times and/or increased incremental savings over time. The path towards January 2020 presents many other uncertainties, including whether oil suppliers can (a.) make low sulfur fuels available at strategic bunkering locations and more importantly (b.) whether they can produce sufficient quantities of low sulfur distillate fuel in the aggregate. For owners choosing to install scrubbers (after an investment analysis), there are many questions about the slope of the installation learning curve, and the efficacy of adapting a landside technology to the maritime environment. For owners choosing to build LNG fueled vessels, the most immediate question centers around availability of the fuel itself. It is here that the conundrum of 'chicken and egg' suggests that LNG fuel must be available as a pre-condition for LNG propelled vessels to enter a particular trade lane. Or, instead, does the fuel supply respond to LNG capable vessels calling (or hoping to call) at certain ports? LNG fueling makes sense where trade routes are fixed and known well in advance. Not surprisingly, the first steps have been taken in environmentally hyper-conscious regions. While many ports are studying LNG fueling, its actual availability is limited. The World Ports Climate Initiative of the International Association of Ports and Harbors (IAPH) notes that LNG bunkering facilities are already available, or planned, at ports in Scandinaviaand Northern Europe and some Asian ports.

LNG bunkering barges are a movable link in the fuel supply chain, solving the 'chicken and egg' dilemma as they can move to where the ships are. In service now, a handful of these LNG bunker barges replenish their fuel inventory at a liquefaction facility and then move to where the customers are. Seacor Holdings, for example, has acknowledged that LNG bunkering "…is starting to come into the market…" according to Chief Operating Officer Eric Fabrikant. Fabrikant says that Seacor looks closely at non-commoditized sectors of the market, and described LNG bunker barges as "a nascent space."

mong the oil majors, Shell has taken early and big steps in LNG fuel supply. Rotterdam is the base for its 6,500 cbm bunker tanker Cardissa, which takes on LNG at the Gas Access to Europe (GATE) terminal, which in turn takes delivery of LNG in large quantities from oceangoing tankers that bring gas from the Mideast and Asia and then store it. A second vessel will be working out of Rotterdam, and placed on charter to Shell Western LNG BV. With Wartsila supplied cargo handling systems and tanks, the 3,000 cbm vessel that will be owned through French / Belgian consortium and then chartered by the oil major. Its smaller size will afford the additional flexibility to bunker vessels operating on Europe's inland waterways. The barge is being built in Romania and will be outfitted in the Netherlands. In the coming months, fueling will be conducted from a newly constructed 2,200 cbm LNG barge built at Conrad Shipyard. In late summer, TOTE Maritime's fuel provider, JAX LNG, has received a Letter of Acceptance (LOA) from the USCG for the operation of its waterfront LNG facility (which will include a small liquefaction plant) and the approval to conduct barge-to-ship LNG bunkering operations. According to TOTE, "Barge-to-ship LNG bunkering is scheduled to commence in early 2018."

DP World revenues up on volume growth

Increased throughput and new businesses boost bottom line, but near-term trade outlook remains uncertain.

DUBAI-based ports operator DP World has benefited from improved conditions in global trade during the first half of the year but has warned that geopolitical headwinds and recent changes to trade policies continue to pose uncertainty for the container market.

Revenues at the group were up 14.4% to $2.6bn during the first half, with strong volume growth across its regions supported by new businesses including Drydocks World, Dubai Maritime City and Cosmos Agencia Marítima.

On a like-for-like basis, revenue increased by 3%, driven by a 4.6% increase in total containerised revenue. But the ongoing problems at Doraleh and startup costs in Santos ate into profits, which were down 7.9% at $629m.

Profit declined due to the deconsolidation of Doraleh (Djibouti) and consolidation of DP World Santos (Brazil), which remains in ramp-up stage.

Chairman Sultan Ahmed Bin Sulayem said: "The near-term trade outlook remains uncertain with recent changes in trade policies and geopolitical headwinds in some regions continuing to pose uncertainty to the container market.

"However, the robust financial performance of the first six months also leaves us well placed for 2018 and we expect to see increased contributions from our recent investments in the second half of the year."

Adjusted earnings before interest, tax, depreciation and amortisation grew 7.9% and ebitda margin for the half-year stood at 50.3%. Like-for-like adjusted ebitda grew 4.2% with a margin of 54.4%. The company blamed the consolidation of lower margin maritime services businesses for the fall in the ebitda margin.

Last month, DP World reported a 6% like-for-like increase in volumes across its portfolio for the first six months of the year, despite a slowdown in the second quarter.

DP World handled 35.6m teu across its portfolio of terminals in the first half of 2018, with gross container volumes growing by 4.8% year on year on a reported basis and 6% on a like-for-like basis.

Port of Hamburg H1 container volumes fall on fewer empties

The Port of Hamburg saw container throughput fall 2.7% to 4.3m teu in the first half of 2018, mainly due to handling of fewer empty boxes. The port said in a press release that 525,000 teu or 15.6% fewer empty containers were handled during the period, while throughput of loaded containers was almost flat at 3.8m teu, sliding just 0.6%.

Meanwhile Port of Hamburg's intermodal connections are improving, with railborne container movements rising 5.4% to 1.2m teu. "In the 2018 first half, the previous year figures were beaten, and even the 2016 record. Landside seaport-hinterland transport by rail therefore developed especially satisfactorily," the port said. Overall rail's share of the intermodal transport split rose 2.3 percentage points to 45.1%.

"A glance at the throughput trend for loaded and empty containers in the first six months shows that the Port of Hamburg handled less transhipment cargo and empty boxes. Its share of loaded containers remained stable in a tough competitive field, while Hamburg's significance as Europe's leading rail port was underlined by distinct growth in railborne container transport," said Axel Mattern, joint ceo of Port of Hamburg Marketing.

"Against the background of the still outstanding adjustment of the fairway on the Lower and Outer Elbe, it is understandable that shipping companies should utilize slot capacities on mega-containerships calling at Hamburg primarily for loaded boxes. Unlike cargo bound for the local region and loaded boxes, transhipment cargo and empty containers are less tied to specific ports. We therefore hope that planning permission will be granted before the end of the year, and the fairway adjustment finally implemented after a wait of 17 years."

Almost 64% of the downturn in container throughput in the first half of 2018 is attributable to lower transhipment throughput, primarily on feeder services in the Baltic. Transhipment handling for the first six months totalled 1.6m teu, 4.4% less than in the previous year. "Transhipment performance, or its share of total container handling, may have dropped in the first half by comparison with the previous year by 0.7 percentage points to 37.9%. At the same time, however, the Port of Hamburg consolidated its position as the hub for freight bound for the Hamburg Metropolitan Region or originating there. Local cargo's share continues to develop steadily," commented Ingo Egloff, joint ceo of Port of Hamburg Marketing.

World's 1st LNG-Powered cruise ship sees the light of day

AIDAnova, the world's first cruise ship powered with LNG, has left Meyer Werft's building dock in Papenburg, Germany.
It took almost two hours to float out AIDA Cruises' newbuilding in the evening hours of August 21.
The 180,000-ton vessel will now berth at Meyer Werft's outfitting pier where its mast and funnel cladding will be fitted.
In addition, further testing with LNG will be performed on the ship's engines and acceptance procedures by the shipowners will also take place.
From December 2018, AIDAnova will begin its maiden season with cruises around the Canary Islands. Before those cruises get underway, the new ship will come to Hamburg. On December 2, 2018, the 6,600-passenger vessel will visit the Hanseatic City on the Elbe, after which she will head for Gran Canaria.
Thanks to its four dual-fuel engines, AIDAnova can be operated both in port and at sea with the currently most environmentally friendly and lowest-emission fossil fuel.
For this reason, AIDAnova tops Nature And Biodiversity Conservation Union's (NABU) 2018 cruise ship ranking as the ship does not use heavy fuel oil.
As explained, all the remaining 76 ships which were checked, even eight out of nine new vessels coming into the market this year, will continue to use HFO, according to the association.

ReCAAP: asian armed robbery incidents surge in July

A total of seven incidents of armed robbery against ships were reported in Asia in July 2018, Asian piracy watchdog ReCAAP ISC informed.
During the month, seven actual incidents were reported. All have been verified and reported to the ReCAAP ISC by ReCAAP Focal Points and Contact Point.
There has been an increase in the number of incidents in July 2018 as only one incident was reported in June 2018.
Of the seven incidents, two occurred on board ships while underway and five on board ships at anchor/berth. One was a CAT 2 incident and six were CAT 4 incidents.
There were no reports of piracy incidents in the area during July 2018. The agency added that there were also no reports of abduction of crew in the Sulu-Celebes Seas and no hijacking of ships for theft of oil cargo.
The last actual incident reported to the ReCAAP ISC occurred on board Super Shuttle Tug 1 in March 2017; and the last attempted incident occurred on board Kudos 1 in February 2018. As of July 31, 2018, nine crew are still held in captivity.
ReCAAP ISC informed that a total of 47 incidents, comprising 36 actual incidents and 11 attempted incidents, had been verified and reported from January to July 2018. Compared to the same period a year earlier, when a total of 49 incidents comprising 42 actual and seven attempted incidents were reported, there was a 4% decrease in the number of incidents

Over 60% of newbuilds at Korean yards in first half include scrubbers

With the IMO's 0.5% sulphur cap fast approaching, the Korean Register is registering a rising demand for scrubbers on new tonnage because there are high risks associated with low-sulphur fuel oil.

Earlier adopters of scrubbers are expanding the installations onto their entire fleet, says KR senior surveyor Hyun-Tae Kim SHIPOWNERS have increasingly opted for scrubbers to meet the 2020 sulphur regulations when ordering new tonnage, according to the Korean Register.

More than 60% of the newbuildings, or about 90 units, placed at South Korean shipyards for the first half of this year included scrubbers. This represented a sharp rise compared with a share of only 25% between 2016 and 2017, Hyun-Tae Kim, senior surveyor for the Korean Register, told a seminar in Singapore on Thursday.

Most of the scrubbers were fitted on bigger vessels, such as very large crude carriers, but installations on middle range tankers have also increased, he noted. Yard capacity remained a challenge, as the early adopters — such as the cruise lines — who started to use scrubbers as early as 2009, are now expanding to install the devices to their entire fleets. "If they had a lot of trouble in the operation of scrubber systems, they would not extend the installation of scrubbers to the rest of their fleet," Mr Kim said. "It looks likely that more shipowners will opt for scrubber technology to remove sulphur from the fuel when it is burned as uncertainty remains about low-sulphur fuel oil availability and potential operational complications." Mr Kim pointed out that there was no guarantee of being able to buy identical types of low-sulphur fuels at different locations, which could lead to problems when the fuels were blended.

"There is not an international standard at the moment for low-sulphur fuel oil and although the International Maritime Organization has requested the International Organisation for Standardisation to develop this, it will not be ready until 2022."

Even if ships are allowed to use a non-compliant bunker when qualified fuels are not available at a port, the de-bunkering operation they will have to conduct when reverting back to compliance would also create issues, Mr Kim said.

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