Oil Market Collapse, Damages the Iraqi Economy and Changes Oil Geopolitics

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The collapse of the global oil market is undoubtedly unprecedented in its timing, magnitude, spread and devastating impacts across the globe. A strange and unpredicted association of a few, but major, factors had contributed to the current threat, causing much uncertainty and vulnerability on national and global levels. The revised "OPEC+" production cut agreed on 12 April prompted initial minor improvement in oil price, but there remains very many serious concerns that such reduction is much below what is needed to bring stability to and balances a saturated global oil market.

This article aims at estimating the collapse in oil market on Iraq first then on both Russia and Saudi Arabia, as they are accused for "OPEC+" failure early last March that ignited the oil price war, and assesses the geopolitical and political economy consideration that contributed to and further complicate the impasse. The article provides a summary of two articles written and published in Arabic recently and an update on recent deliberation by "OPEC+" and G20 Energy Ministers to rescue the situation and bring some stability to global oil market under existing threat of Coronavirus to the world biosecurity. My two articles attempt to provide comparative assessment of the impact of the collapse with particular focus on short-term horizon, i.e., the remaining nine months of this year under different Brent oil price scenarios on Iraq, first article , while the second focuses on Russia and Saudi Arabia.

The first part of this article focuses on the unprecedented dangerous association of coronavirus, oil market fundamentals and unwise geopolitics. Part two presents the impacts on Iraq oil export revenues, while part three estimates the consequences on Russia and Saudi Arabia' oil export revenues and also provides brief vulnerability analysis covering them as well as China and the USA regarding oil production, oil imports and oil exports. Part four attempts to explain and understand what brought us to this impasse, while the last part explores recent oil diplomacy efforts to find a way out of the current mess.

Part one: Biosecurity, market fundamentals and geopolitics

There has been unprecedented concurrence, globally, between the spread of the Coronavirus-"COVID-19" epidemic (which prioritized biosecurity requirements), oil supply-surplus and oil demand 'stoppage' (which has become what might now be called an oil double shock leading to augmenting global oil stockpile) and acrimonious international relations due to conflicting geopolitical premises.

The biosecurity threats associated with the Coronavirus have had a significant and effective impact, especially after the virus had spread outside China and after the World Health Organization-WHO recognized the pandemic- COVID-19. A wide range of strict and unprecedented measures have been adopted at all levels, economic, social, political, sports, cultural, recreational and even family activities, in addition to declaring states of emergency and closing land, sea and air borders at the national and local levels. In short, biosecurity requirements led to the adoption of a "remote work" method and to a situation of voluntary or mandatory "isolation / quarantine" at the level of individuals, families, communities, cities,

regions, and the entire country. This massive "cessation of human activities" has had many significant impacts on the global economy.
In addition to the direct negative effects of the cessation of human activity (especially work activities, production and services), tremendous financial resources were allocated (after initially modest allocations) to secure biological security and to counter its negative effects, it has been growing rapidly, reaching, for example, one trillion euros in the European Union (and recently consider further €500billion), two trillion dollars in the US (with a new package under consideration) and 22.5 billion dollars in India among others. The G20 Summit "held remotely" on March 26 decided to allocate $5trillion to confront the Corona pandemic with specific pledge in support to WHO; however, it is not known whether this amount is in addition to what was allocated already in the European Union, America, and other countries, or does it include them, and no reference has been made to implementation mechanisms and their timeframes. Moreover, the recent harsh words by Trump against WHO and possible reduction of US funding to the organization is totally counterproductive and renegade on G20 Summit' commitment.
Finally, the activities of most governments, as reported by various international media on daily basis, focused primarily on how to confront the epidemic and fortify biosecurity, especially after the casualty number (deaths and infections) in Europe and the US escalated dramatically, the presentation of situation assessment reports, the provision of statistics on it, and the adoption of laws imposing state of emergency among others.

Oil market fundamentals, basically supply and demand, witnessed double shock in conjunction with the prevalence and spread of the Coronavirus; global oil supply was already saturated with significant surplus (that is, oil production exceeds global demand for it), which was also unprecedented, estimated between 4 to 10mbd from February to May, according to IHS Markit, whereas, Rystad Energy estimates supply surplus could reach, on average, about 6mbd during this year.
Supply-surplus has generated two consequences: the first is the drop in Brent oil prices from $67.31 in December 2019 to $45 before "OPEC +" meeting on 5-6 March 2020, and the collapse continued since then; and the second is an increase in the size of all types of oil stockpile and inventories such as the "obligatory" strategic petroleum reserves- SPR for member states of the International Energy Organization-IEA; strategic or reserve storage in other countries, especially China and India, in addition to various types of commercial / industrial storage facilities for companies and refineries, whether in fixed tanks or floating in tankers or what companies and firms involved in oil trading, speculation, hedging funds and alike at the international level (known since 2008 as "paper barrel")

Rystad Energy estimates indicate to a current global storage capacity-GSC at around 7.2 billion barrels of crude oil and petroleum products, including about 1.4 billion barrels actually loaded on oil tankers, and constitutes 76% of the available GSC. This means that the continuation of oversupply and low oil prices would fill-up the spare GSC easily and at a lower cost from one side and on the other, that will, as a result, continue pressuring oil prices downward for a longer period (and this, actually, is a Déjà vu of what happened during the 2014 price crisis and afterwards).

What makes the situation worse and darker is the occurrence of an unprecedented "stop and drop" demand for oil in China first and then in the rest of the world later because of the Corona epidemic, which led to a significant paralysis in all aspects of human activities, leading inevitably to the continued stoppage of demand for oil as long as the pandemic persists.

According to the estimates of the US Energy Information Administration (EIA), China's consumption of oil and oil products during the first quarter of this year was around 13.9mbd, a decrease of 600kbd compared to previous year. On the global level, EIA estimates global petroleum and liquid fuels consumption averaged 94.4mbd in the first quarter of 2020, a decline of 5.6mbd from the same period in 2019 (EIA). The cumulative effects of the Corona epidemic on global oil demand could lead to a reduction of about 8mbd, according to Goldman Sachs estimate.

In short, supply-surplus and demand "stop" (referred to as dual shock) and augmenting oil stockpile, and this unprecedented association with the spread of the epidemic makes the current oil price collapse largely different from previous collapses in 1998, 1987, 2008 and 2014 and could lead, as a result, to significant and wide effects that, by necessity, require many measures and enormous costs to address these effects. This also became the first time in which "oil consumers" do not enjoy directly and timely the collapse of oil prices, especially in Western industrialized countries, due to the cessation or paralysis of most forms of human activity.

International geopolitics and divergence of national interests made things even worse when "OPEC+" failed at the wrong time, as discussed below in part three, causing further mayhem to a market already suffering from serious supply-demand gap.

Part two: Estimating the impacts on Iraq's oil exports revenues

Iraq will be hard-hit by the current crash in oil market and low oil prices; a reoccurrence of state fiscal crisis due to structural imbalances, heavy high dependency ratio, failed economic policy, prevalence of unprecedented chronic corruption and Kleptocracy, dysfunctional domestic political order among others.

Our estimation indicates Iraq's oil exports revenues for the remaining months of this year decrease by 44.4% when Brent oil prices fall to $30 a barrel and by 87% if it drop to $10/b, assuming Iraq is capable of utilizing maximum production and export capacities, compared to revenues calculated on the actual export prices, reported by SOMO, for February 2020.

The direct impact of oil price collapse through losses in Iraq's oil export earnings was estimated under various levels of Iraqi oil export prices and capacities. The estimation was premised on the following assumptions and considerations:

1- Using Iraqi official data for the month of February regarding the volume of crude oil production, the volume of oil exports and realized price of oil export (excluding KRG data);

2- Iraq's maximum oil production capacity was estimated on the basis of the highest actual monthly production plus the volume of the reduction that was adopted in line with the "OPEC+" decision 2016 and with the assumption that Iraq was compliant with that reduction (despite the varied positions regarding the extent of that compliance). Note that this

assumption may not be realistic in the event that production of some oilfields stops due to foreign oil companies invoking the "circumstances or force majeure" clause, which forces them to deport their foreign staff, as was the case in the Al-Gharraf field/ DhiQar Governorate that took effect on 18 March;

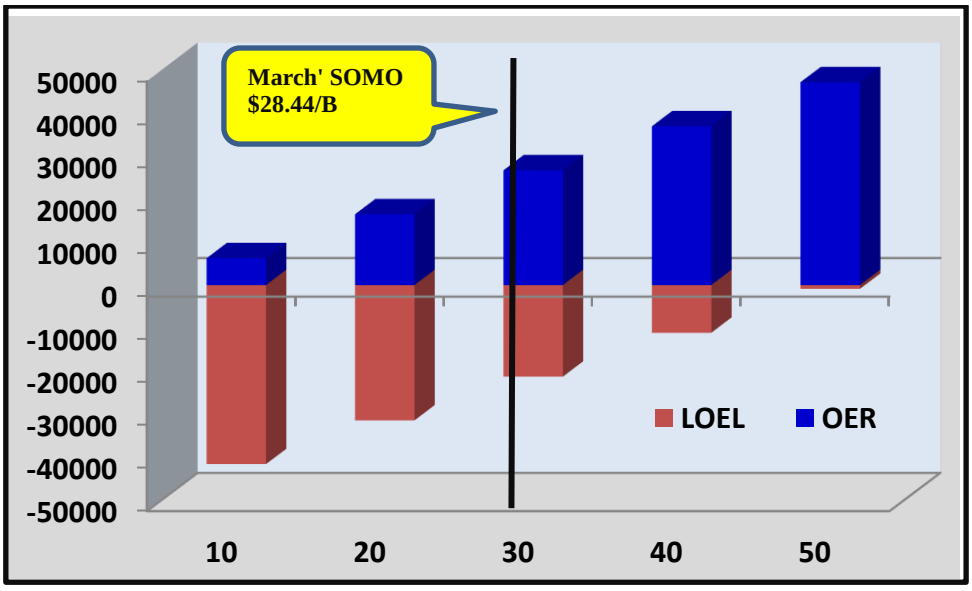
3- Because of limited capacity for domestic consumption of oil, especially in the refining sector, petrochemicals and electricity generation, any increase in oil production is included in oil exports;

4- Iraqi oil export prices published by SOMO represent the monthly average of oil exports according to different pricing equations and several marketing arrangements (there is no need here to go into their details); and because of that, the available data and a long time series indicate that Iraqi oil export prices are usually less than the Brent oil price at various rates. Accordingly, oil export price was calculated on the basis of Brent price minus the average price difference between Brent oil and the SOMO prices for January and February this year. For this purpose, Brent prices included in the EIA-STEO Short Term Energy Database have been used;

5- In light of the above, total future monthly oil export revenues were calculated (based on the maximum daily export rates), compared with the returns actually achieved in the month of February (before the failure of March “OPEC +” meeting), then estimating the monthly and total losses during those remaining nine months, as shown in the following chart.

Chart (1)

Estimated total oil export revenues (OER blue columns) and total losses (LOEL red columns) in Iraq oil export revenues (million dollars) according to different Brent oil prices ($/ barrel), for the period of April: December 2020



The above estimation reveals the following:

First, total oil export revenues may drop to unprecedented levels of about $6.229 billion if Brent oil price drops to $10 a barrel and remains so for the rest of the year. This means oil export revenues losses increase as oil prices drop, as the rate of decline in oil export revenues

increase from 1.8% to 87% when prices drop from 50 to 10 dollars a barrel. In other words, any increase in production and export of Iraqi oil will not compensate actual revenues of pre March “OPEC +” meeting. Actual March Iraq oil price was $28.44/b representing ca.45% decline from February export price;
Secondly, total losses in export revenues increases when production stops in any of the oil fields (as happened on March 17 in Al-Gharraf field, thus reducing the volume of Iraq’s “maximum” production and exports by 60 to 95kbd- thousand barrels per day). Moreover, Iraq oil production cuts pursuant to “OPEC+” revised cut of 12 April, was set at 1.061mbd (see table in part Five) implying further cuts in oil exports. Hence, in a sense, our estimate could represent a best case scenario, for maximum rates of oil production and export, but also implies high degree of vulnerability.
Third, hence, Iraq will inevitably face the conditions of «risky endeavors" and "nightmare” of the fiscal crisis of the state where the government finds itself, once again, unable to even pay the salaries of its employees, which I warned (as some Iraqi oil experts have done) over and over in my previous writings, due to the lack of availability of any type of financial buffer, reserve or sovereign fund;
Fourth, and as a result, the plight of Iraq continues with the continuation of the conditions that led to this major collapse in oil prices, which is likely under current condition of "biosecurity", global geopolitical considerations, the unprecedented cessation in the overall activities in all sectors and in most countries and, finally, the supply glut and oil inventories.

Different measures were suggested regarding four major topics to mitigate these very serious challenges facing Iraq: 2020 state budget, ministerial restructuring, oil sector and international cooperation; the details are provided in my first article, above mentioned.

Part three; Comparative Assessment and Vulnerability Analysis

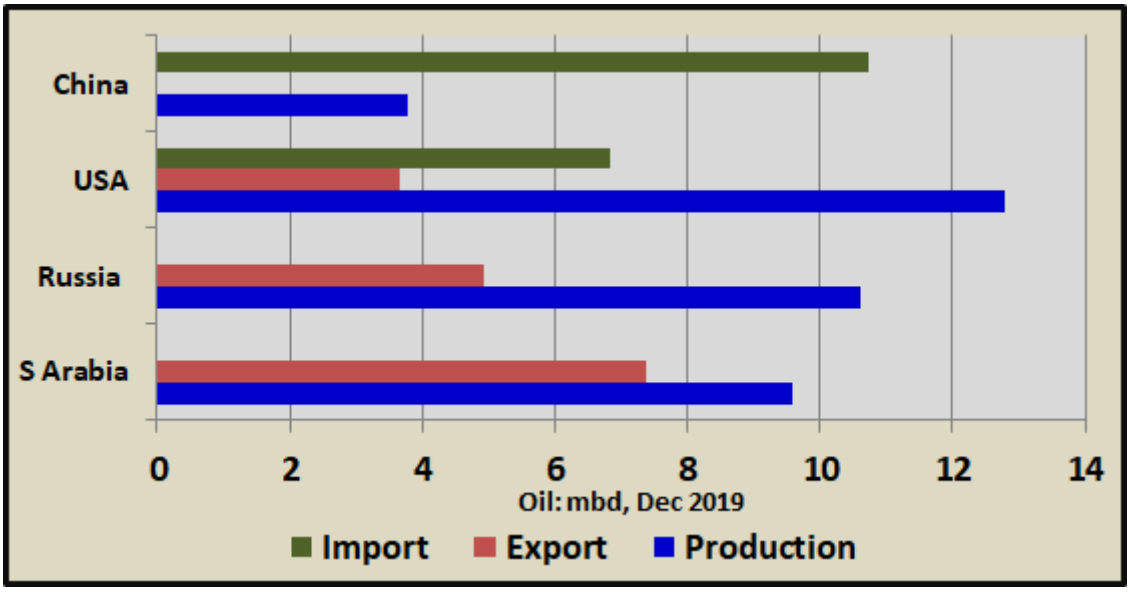
To help understand the geopolitical (internal and international) attitudes and considerations of the four most influential countries on the global oil market it is vital to know and assess their oil balances: production, export and import. For that purpose the following chart was prepared covering Russia, Saudi Arabia, China and the US, as in December 2019 based on formal statistical data compiled from the JODI database (JODIOIL).
The following brief remarks are made on this chart:
Regarding crude oil production, the US ranks first, followed by Russia and then Saudi Arabia. The consequence is that the impacts will be directly proportional in the event that global demand for oil "stops", meaning it is bound to reduce its oil production. In other words, the US will be most vulnerable compared to Russia and Saudi Arabia, and Russia more affected than Saudi Arabia.
But the picture changes (and becomes opposite) when looking at data for crude oil export, with Saudi Arabia occupying the lead, followed by Russia and then America. This also means the impact is directly proportional in the event global demand for oil "stops" and / or the marine transport of oil ceases (for any reason).
The damage becomes more effective, and also direct, if the "ratio of exports to oil production" is taken into consideration; as it reflects the structure of the national economy and the dependency on foreign currency - for Saudi Arabia and Russia. This percentage was the

highest (77%) for Saudi Arabia, (47%) Russia and (29%) USA, indicating that Saudi Arabia would be more impacted, in the event of a decline in oil exports, compared to both Russia and the US.

The situation is completely different when looking at crude oil imports, which are limited to America and China only, because both Saudi Arabia and Russia do not import crude oil. It is clear that China is the largest importer of crude oil in terms of quantity and proportion of oil imports to total domestic demand for oil. This is due to two main reasons: the first is the magnitude of domestic demand for oil for refining sector (which was estimated, by EIA, at about 13mbd in 2019) and for the strategic reserves, as China is considered one of the most important and largest suppliers of goods and products to international markets. The second is its low oil production (estimated at about 3.8mbd) compared to the size of domestic demand for and the volume of crude oil imports.

These facts and statistical data indicate the great impact of China in the event of a decrease or stoppage of oil production and/ or exports at the international level, and at the same time, a "stop demand" for oil in China will, as a result, affect the production and exports of crude oil at the global level as well. This indicates the extent of overlap and the mutual effect between supply and demand on the one hand, and between the major oil producing and consuming countries, on the other.

Chart (2)
Oil balance for four major countries as of December 2019
Production (blue), Export (red), Import (green) – mbd



As for the US, it is the second largest importer and the third largest oil exporter at the same time; it imports the equivalent of more than half of and exports about a third of what it produces. In the normal conditions, US benefits from low oil prices through imports and loses through exports, but because the volume of imports exceeds, to about twice, the volume of exports, US benefits, in net-effects, from low oil prices. This may what had prompted the US President to request (on March 13) from the Department of Energy-DoE to fill-up the

strategic petroleum reserve-SPR by buying 77 million barrels, in addition to what is in the storage of 635 million barrels, with cost tag of about 2.5 billion dollars (SPGlobal).

But the current situation, as mentioned above, is exceptional by all respects and standards, which mean the US is greatly susceptible to reductions in production, export and import of crude oil, in the event that demand "stops" due to the impact of the Corona pandemic. This largely explains the magnitude of the rescue package that was adopted by the US Congress on March 25, and approved by Trump for an unprecedented amount in the history of US $ 2 trillion, codified in a massive document of 880 pages (document). The information also indicates that Trump's request to augment the SPR by 77 million barrels, above mentioned, could not be done because this requires Congress approval, which did not include the amount required under this rescue package (SPGlobal).

After briefly analyzing the oil balances of the major countries I turn now to address the possible repercussions of "OPEC +" failure early last March.
OPEC members agreed at their meeting (5-6 March) to recommend additional production cut of 1.5mbd (distributed between 1mbd for OPEC countries and half of that from the ten non-OPEC countries, the most important of which is Russia), as from 1 April until the end of the year, instead of June 30. Russia did not endorse the recommendation and, instead, suggested extending the then current agreement (without additional new cuts) to the end of the second quarter or even to the end of the year.
"OPEC +" meeting failed at an unusual speed and put forward, directly, confusing unilateral hardline positions, followed by non-conciliatory statements. Thus, cooperation and coordination efforts that continued since the last quarter of 2016 suddenly ended at a sour atmosphere. Saudi Arabia decided to raise its production to 12.3mbd and Russia, in response, expressed its willingness to increase its production by 0.5mbd (which means that its production reaches about 11.12mbd), as of April 1, when the then agreement expires.

The extent of the ability of both countries to achieve what they declared and what are the consequences of their failure to achieve that is analyzed, then possible impact of these decisions on oil export revenues for both countries is estimated within different oil prices scenarios, as outlined below.

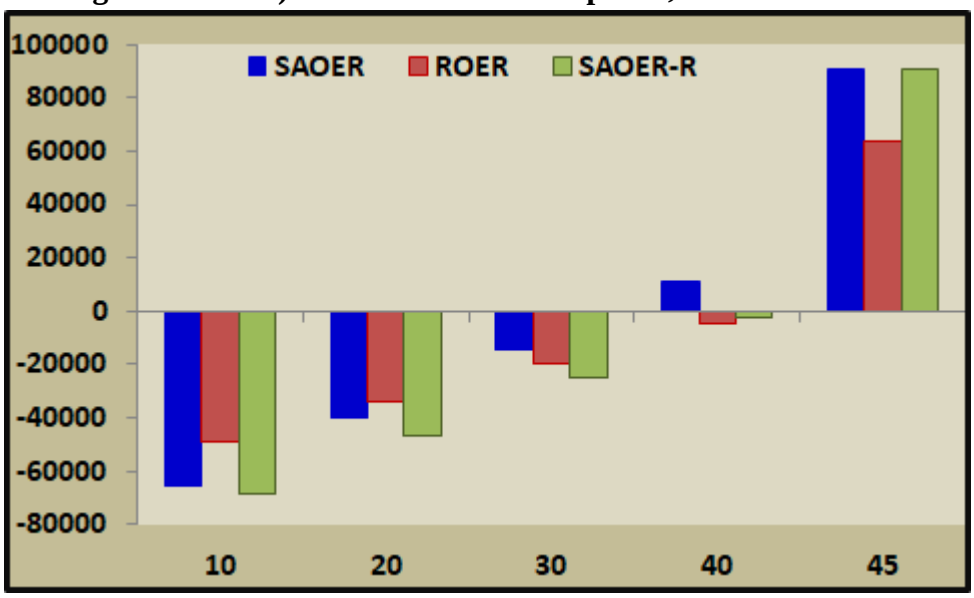
1- Take Brent oil price of $45/barrel as a reference price for the comparison, which was prevailed immediately before the "OPEC +" meeting failure to reach an agreement, on the evening of Friday, 6 March 2020; this price was adopted in estimating the revenues of oil exports for both countries for the month of February (i.e. the reference month before "OPEC +" meeting fails;
2- JODI data was used to determine the volume of oil production and export for both countries in December 2019, given the continued validity of the "OPEC +" agreement at that month;
3- Calculating and estimating losses in oil export revenues using oil prices ranging between 45 dollars and 10 dollars per barrel and the levels of export announced by both countries (although there are serious doubts about Saudi Arabia's ability to achieve the production levels announced, as will be discussed and clarified later);

4- In view of the variation affecting the volume of Saudi oil exports in summer months, the export revenues and losses have been calculated on a monthly basis from April to end of the year considering the months of April - September as summer months and October to December as winter months for both countries. It is worth mentioning that Saudi Arabia uses more than 0.4mbd of crude oil only to generate electricity (EIA);
5- The big variation in the ratio of oil exports to oil production due to structures of the economy in both countries: Saudi Arabia exports 77% of its production in winter season and 72% in summer season, while the corresponding ratio in Russia is much lower and also the opposite, i.e., it exports up to 46.5 % in winter season and 51.5% in summer season.

In light of the above, the following chart shows total losses in oil export revenues as a result of the failure of "OPEC +" March meeting, compared to what it was before the said meeting, as follows:
1- Both countries suffer significant losses in their oil export revenues had "OPEC +" agreement continued and price of $45 maintained; this constitutes an example of what is known in the literature of international negotiations as a "lose-lose" situation or case. This also clearly indicates the flaws of the opinion that increase in production (or the “market share” thesis) compensates for the decline in oil prices, which is based on erroneous assumption that demand absorbs the increase in production / supply (which is totally incorrect and unrealistic assumption in the current context), particularly, in the short and medium terms, i.e., to the end of this year;
2- Saudi Arabia’s losses are estimated to be greater (in total and proportion) than Russia’s losses when Brent price drops below about $24/b. For example, when oil price drops to $10, Saudi Arabia’s losses, for the period from April to the end of the year, total to about $65.3 billion, compared to Russia’s losses of ca. $48.7 billion during the same period (in the following chart, the red column represents Russia (ROER) and the Saudi blue column (SAOER);
3- Saudi Arabia achieves a breakeven in its export earnings for the remainder of the year at a price of $40/b and total (throughout the period) production of 12.3mbd, while Russia achieves a breakeven in its export earnings for the remainder of the year at the price of $35/b and production of 11.1mbd (throughout the same period);
4- But there are many serious doubts about Saudi Arabia’s ability to increase its production from 9.7mbd (in March) to 12.3mbd (from April) and sustains it for the remainder of this year, knowing that the last number exceeds “Nameplate production capacity” by 300kbd. Aramco's statement (on March 15) that it will reduce its expenditures, logically contradicts efforts to increase production to the targeted level (WSJ). Also, the indication that it will produce 10mbd during the months of April and May, and that it accepts a price of $30, could be perceived as a retreat from the previously non-compromising Saudi position (Reuters).
In addition, the capacity of the oil tanks (storage capacity) inside and outside Saudi Arabia (in Jordan, Egypt, the Netherlands and possibly Asia) may not provide this additional difference (i.e. 300kbd) for nine consecutive months without refilling the tanks again. Also, the Saudi agreement with Kuwait regarding neutral zone fields (Wafra and Khafji fields) and the conditions of the Corona epidemic may not allow the addition of more than 150kbd in best conditions from these two oilfields.

In addition, there are no indications that there are possibilities to absorb the quantities of associated gas that would be produced when Aramco produces 12mbd.
Finally, any new high-profile attack by the Yemenis on large oil facilities, similar to the attack of mid-September 2019 on Abqaiq and Khurais oil facilities (with 5.7mbd capacity), would deal a painful blow to Saudi Arabia and paralyze its ability to export these high quantities.
5- Factually, maximum production achieved by Saudi Arabia since the beginning of 2009 to date was 10.673mbd in July 2016; therefore, this figure was taken to revise (a sort of sensitivity analysis on production and export variables) the impact of March OPEC + disagreement on Saudi Arabia (green column SAOER-R).
On the other hand, Russia achieved, in December 2018, maximum oil production of 10.726mbd, which makes Russia closer to achieving what it announced by increasing production (by 0.5mbd) compared to the 2.5mbd increase announced by Saudi Arabia.

Chart (3)
Estimated losses in oil export revenues during the period April-December 2020 for Russia (the red column), Saudi Arabia (the blue column) and Saudi Arabia-revised (the green column) at different Brent oil prices, million dollars



6- Under the revised scenario, Saudi losses in oil export revenues exceed losses incurred by Russia, though both countries lose revenues whenever oil prices fall below $40/b; the price is currently very much below that threshold. Thus, the revised total losses in oil export revenues of Saudi Arabia (green column SAOER-R) increase from about $65.3billion to about $68.7billion dollars if the price drops to $10/b.
7- Due to different structural features of their economies, Saudi Arabia could be impacted more by the decrease in export revenues due to lower prices and the usual decrease in the volume of oil exports, particularly during summer months. Such a significant decline in oil export revenues could force the Saudi decision maker to take risky and difficult actions. They could adopt austerity measures (but this could have high domestic political cost) or make significant use of its sovereign funds (but this could seriously impact or eliminate the aspirations of Vision 2030) or sell some oil assets, partially or completely, as was recently

promoted by the intention of selling Aramco oil pipelines inside Saudi Arabia (and this could depreciate Aramco shares).
As mentioned above, Saudi oil exports vary between summer and winter than is the case with Russia. Also Russia exports more than 2mbd of petroleum products, while Saudi Arabia exports less than 1.5mbd of these products. Moreover, Russia' gas exports by pipelines is no less important than exporting oil, and this is an additional advantage for Russia compared to Saudi Arabia. Finally, the list of other Russian exports includes many other products (from rare earth valuable natural resources to modern arms and weaponry and advanced technology among others) that Saudi Arabia lacks.

Part Four: What brought this situation despite its apparent devastating consequences?
Most of the positions, analyzes, reports, and studies that I have seen, which are many, place the blame on Saudi Arabia and try to understand or explain what motivated the Saudi position, although some, especially Saudi commentators with a few others, put the blame on Russia as well.
It is known, to begin with, that Saudi Arabia had previously refused to take action at the beginning of the previous price collapse that began in June 2014; their refusal was under the pretext of maintaining or recovering "market share" (and/or for international geopolitical considerations that were aimed at putting economic pressure on Iran, Russia, and Venezuela at that time). That stand led to an increase in global oil inventories, which contributed to the continued deterioration of oil prices. When the policy of "flooding the markets with cheap oil" failed (and the geopolitical objectives did not materialize, especially after the signing of the Joint Comprehensive Plan of Action (5+ nuclear deal with Iran) in 2015, Saudi Arabia contacted Russia and that led to the "OPEC +" agreement on November 30, 2016, implemented as of January 2017. Actually, Saudi Arabia, throughout the validity of the agreement, reduced its production by more than the agreement requires, i.e., "over compliant". Also, Saudi Arabia worked hard to adopt during the March 2020 OPEC meeting, an additional 1.5mbd production cut by "OPEC +", as mentioned above.
Russia rejected the additional cuts and proposed an alternative through a continuation of the then current agreement for the second quarter or the entire 2020. The Saudis reversed position, suddenly and dramatically, by 180 degrees: from proposing additional production cuts to threatening of using maximum production capacity and, thus, pushed entire OPEC into disarray! What are the causes of this behavior, what are its justifications, and how can it be explained?
The Saudi position, from the standpoint of international negotiations, can be described as a "confrontational positioning," which, expectedly makes everyone loses in application of the "on me and on my enemies" Arabic saying.
There could be many situations when such confrontational positioning is adopted or interpreted: 1- the negotiator (the Saudi) has an alternative or other alternatives that give a better result than this agreement; 2- The negotiator believes that the other party (Russia) cannot continue in his position and will submit sooner or later while he (the Saudi) can tolerate the consequences of waiting- so it is a waiting game; 3- The negotiator has planned in advance this outcome (i.e. no agreement); 4- The negotiator's lack of wisdom, knowledge and

indifference to outcome; 5- The negotiator is not keen on maintaining and developing the relationship with the other party.
Data analysis, shown above, clearly indicates that first and second situations or interpretations are not applicable to Saudi Arabia, which means the possibility of the third, fourth or fifth cases or any combination thereof could provide realistic understanding and possible driver behind Saudi behavior.

One observer seems to associate Saudi position on oil price to the crackdown of two major power brokers inside the Saudi Royal Family, when former Crown Prince Mohammed bin Nayef and Prince Ahmed bin Abdelaziz Al Saud were both arrested immediately before OPEC+ meeting (CW). This could indicate that Saudi Crown Prince Mohammed bin Salman, known by MBS, uses "OPEC+" meeting as an opportunity to divert international attention from the arrest of about twenty members of the ruling family, assuming world attention is preoccupied with the collapse of oil prices and the spread of Coronavirus and, thus, pay no or little attention to domestic power struggle and governance within the Saudi Family. In the same context, other view asserts that the de-facto Saudi decision-maker i.e., MBS lacks wisdom and prudence, as manifested by the fact that many of the crown prince's decisions, statements and actions and the way he takes decisions had actually led to negative and catastrophic results in many cases (RA). In other interventions, lessons are not learned from previous similar experiences were highlighted, as MBS and his brother, the current Oil Minister, repeated the same mistake Saudi Arabia made when the prices collapsed in mid-2014 and that prompted Russia to take the lead in forming and sustaining "OPEC+" (MLO). Other interventions pointed at the importance of preserving pride, image and reputation that the Saudis perceive themselves as strong and influential, particularly in their regional and Islamic environment. Similarly, such perception alleviates Saudi Arabia to a supper-power status as it aims to reduce Russia's share in the oil market and to eliminate US shale oil simultaneously. But, some Senators in Washington stated what Saudi Arabia has taken while the world is facing corona pandemic is "unforgivable and unforgettable" and Russian reaction indicate that Saudi Arabia is "unreliable and unthankful"; this appears that Saudi Arabia is losing credibility with both US and Russia simultaneously!

On the other hand, Russian position was more rational and flexible at the beginning and then became more determined and stubborn later, though for a while. Russia proposed, as said above, continuing the then current agreement until the end of the year and prepared to discuss the matter before "OPEC+" agreement expires at the end of March. But after the Saudi oil minister refused to discuss the matter, stressing uselessness of further discussion, the Russian position became more steadfast and determined. Russian officials stated that the country has $570 billion in reserves and sovereign funds; its annual budget since 2014 is based on the price of ca. $40 and that any increase above that price was allocated to sovereign funds; that Russia can live (from 6 to 10 years) with $20 or $25/b , and because of statements by officials from Saudi Arabia, the UAE, Kuwait and Iraq, it was announced in Moscow that Putin was not ready to discuss the issue with any of these countries.

It is worth noting that there was a kind of agreement between Putin and the heads of Russian oil companies on the need to keep the agreement with OPEC, but without any additional cuts

in oil production. The reasons for this are many. Where on the Russian side, especially the head of the state company Rosneft, believes that the current “OPEC +” production cuts had given American shale oil a life-line and, thus, any further cut would only boost the development of shale oil production at the expense of “OPEC +”. Actually, US data lend support to this claim; in 2019 US oil export increased, over 2018, by both magnitude and number of destinations. US crude oil exports averaged 2.98mbd 2019, up 45% from 2018 and the number of destinations (markets) also increased from 41 to 44 (EIA).
This is unacceptable to Russia, they say, especially with the presence of US sanctions against the Nord Stream2 pipeline, economic sanctions against Russia and the inclusion of the president of the Rosneft on the US blacklist (EURACTIV). The information also indicates that Rosneft has a group of projects scheduled to start production in 2020/2021, and this explains the company's opposition to any additional production cuts. Moreover, and technically, all Russian oil, like all OPEC+ oil, is “conventional” that requires prudent reservoir management corresponding to their natural pressure, while all US shale oil can be on-and-off at will, except for financial considerations.
There is also an opinion saying that a drop in prices to less than $25 serves Russia in two ways: it reduces the development and production of US shale oil, thus gives more room to Russian oil in the global oil market (as discussed above). Likewise, such low prices, could push Saudi Arabia, as it had after mid- 2014 price collapse, to request dialogue with Russia again, and then, another opinion says (MLO), Putin leverage the situation to ask the Saudis and press them to contribute in solving the Syrian problem, and this, if materializes, strengthens the geostrategic position Russia has already in the Middle East, on one hand, and guarantees the implementation of the numerous agreements (twenty of them worth more than $2billion) that were signed during Putin's visit to Saudi Arabia last October.

As for the US position on the oil prices collapse, it was welcoming at the beginning, especially through the phone call between Trump and MBS, and Trump's request to buy more oil for SPR, as mentioned previously. However, Trump retreated after it became clear the extent of low prices effects on US oil production and the increasing impact and spread of the Corona epidemic in the country.
Most of the views related to US shale oil economics, as was the case for the “stripper-wells” era prior to “Fracking revolution”, indicate a price range that somewhat determines the official position of the US administration: in the upper limit (when oil prices rise) US oil producers benefit while oil consumers negatively impacted, and at the lower level (when oil prices fall) the opposite occurs, as US oil producers are hurt while oil consumers benefit. Most of the attention is focused on the minimum, and the proposals at the time of oil drop were related to estimating the breakeven price (a price that allows production to continue without profits). Since the price collapse in mid-2014, the concept of shut-in price has emerged (a price that is less than the operational cost, which leads to stopping production and closing the project, especially for small producers).

The focus on the minimum oil price is understandable and very justified because the issue is related to domestic political economy, to the national interest, to energy security and to

attaining the goal of "Energy Independence" policy that America worked on achieving since the beginning of the 1970s.
Estimates differ in determining the minimum (the breakeven price) a lot: according to Rystad Energy, only five shale oil companies have a Brent oil net price of less than $30, while JP Morgan estimates that Chevron needs $55 to cover its expenses program. Big Oil tends to have a rather high breakeven oil price, probably due to their high internal rate of return-IRR; ExxonMobil requires oil prices of about $74/b, Shell needs $65/b and for BP it is $53/b (The Guardian).
The decrease in the price below the minimum reduces also investment and operating expenses of E&P companies, which leads to contraction in activities of oil services companies. In this regard, Rystad Energy expects companies to reduce their expenditures by about $250 billion in 2020 and 2021 in the event of a price drop to $30, which leads to a decrease in activities and thus the demand for oil services by about 15%.

Among other important effects of oil price collapse is the revaluation (reduction) of the proven oil reserve for US oil companies including shale oil producers. For major oil companies oil price collapse leads to corresponding reduction in their assets through the known practice of "Book reserve", which in turn contributes to eroding the value of their shares in the stock market; because companies are legally obligated to inform the US watchdog, i.e., SEC, and submit a new evaluation periodically. CNBC TV reported on the evening of March 31 that the shares of the oil companies lost about 90% of their value to that date.
As for the medium and small producers of shale oil, most of their business depends on reserves-based funding; when oil price declines, so does the value of their reserves and thus they become increasingly compelled to declare bankruptcy. It has been estimated that loans backed by oil & gas reserves mount to $200 billion, and this might lead banks to setting up independent companies to own and operate oil and gas assets of the defaulted companies, subject to the approval of the regulating authorities.
As for what is related to the upper limit of oil price, it has not received much attention, and the information related to it is very limited. Simon Watkins recently stated that this upper limit is around $70, but I have not seen anything else than this estimate by other sources.

Because of the increasing impacts of oil prices collapse on shale oil production, six senators submitted a letter, on March 25, to Secretary of State Pompeo, starting by accusing Saudi Arabia and Russia of started an economic war on the US, and they urged him to exert pressure on Saudi Arabia and provide alternatives and remind them what America can do if Saudi Arabia refuses to respond to what was stated in the message. On the same line, 13 Republican senators from oil-producing states wrote to MBS expressing dismay at what they described as Saudi policy "to lower crude prices and boost output capacity". A draft Cassidy Bill proposes imposing, on Saudi Arabia, a tariff with respect to petroleum or petroleum-related product or byproduct to ensure that the price of such petroleum or petroleum-related product or byproduct is not less than $40/b.

Also the call for enacting "NOPEC" legislation resurfaced, urging Trump to sign it and deliver what he advocated in 2011; which means controlling all financial assets and assets of

OPEC members in America, the international banking system and other unilateral measures. Surprisingly, this call came while OPEC at its weakest position!

Fifth: Oil diplomacy to find a way out

In the midst of these complex circumstances, contradictory stances, and tense international relations, presidents Trump and Putin, at the request of the former, held on March 30 - one day before "OPEC +" agreement expires, a phone call during which they addressed issues of Corona pandemic and the global oil market. Regarding oil matters they agreed that their energy ministries held consultations on the oil issue, which could become an important milestone, if succeeded, in global oil diplomacy.

That call furnished the path for two consecutive events: on 9 April OPEC+ meeting, held via webinar, and the following day energy minsters of G20 meeting held via webinar as well. OPEC+ meeting agreed on a rather gradual phasic approach comprising the following:
1- Adopt production cuts for 2 year period starting from 1 May 2020 to 30 April 2022, with possible prolongation to be reviewed during December 2021; a much prolonged period compared with previous arrangements;
2- Volume and duration of the cuts are as follows: 10mbd for the period 1May to 30 June 2020, 8mbd from 1 July to 31December 2020 and 6mbd from 1 January 2021 to 30 April 2022;
3- The baseline for the calculation of the adjustments is oil production of October 2018 based, as with the previous arrangements, on the information from secondary sources. The baseline level of 11.0 mbd applies to both Russia and Saudi Arabia, (Iraqi official communication indicates that the originally proposed base line was 11.3mbd, but upon Iraqi strong insistence it was reduced to 11mbd) hence total cuts for each of Russia and Saudi Arabia becomes 2.508mbd for phase one, adjusted proportionally for the remaining two phases);
4- The agreement is conditional on the consent of Mexico since all other countries had agreed on the above; Mexico refused the 400kbd cut and proposed, instead, only 100kbd.

Unlike “OPEC+” meeting, G20 Energy Ministers’ virtual meeting did not come up with specific cuts but asserts their support to stabilize the market and arguing that low oil prices has already forced some producers to cut production, particularly in the US, Canada, Brazil among others. Moreover, the African Petroleum Producers' Organization (APPO) countries, who are not in the “OPEC+”, have committed to contributing to the global efforts at stabilizing the oil market, by effecting adjustments on their daily productions. Details of APPO adjustments will be communicated to the OPEC Secretariat as soon as possible. However, Russian and Saudi officials estimate that other oil producers should cut by 5mbd to complement “OPEC+” cuts and thus, bring some stability to oil market.

The following table summarizes the profile in oil production cuts during the first phase as agreed upon by “OPEC+” during their virtual meeting held on 9 April 2020

Oil Production Cut-mbd			
OPEC	Non-OPEC	Total	Iraq

	Phase 1: 1 May-30 June 2020			
RP	26683	17170	43853	4653
NP	20598	13255	33853	3592
PC	-6085	-3915	-10000	-1061

(RP: reference production; NP: new production level; PC: production cut; OPEC list does not include Iran, Venezuela and Libya)

The above production cuts changed after intensive oil diplomacy between Washington, Moscow and Riyadh post G20 Energy Ministers' meeting to rescue the situation; one immediate result of the diplomacy is a revised agreement when, on Sunday 12 April 2020, "OPEC+" reduced its production cut to 9.7mbd including Mexico, with only 100kbd cut instead of the proposed cut of 400kbd. Hence, the new production cut of 9.7mbd is divided between OPEC and non-OPEC at 6.085mbd and 3.615mbd respectively; an outcome of reducing the new production by 300kbd, to have Mexico on board, while keeping the reference production unchanged!!. Production cuts for the second and third phases become 7.7mbd and 5.8mbd respectively.
Trump, after changing, again, his position regarding US readiness to cover 250kbd on behalf of Mexico, praised the cut as "great, and will save thousands of American jobs", he also thanks both Russia and Saudi Arabia for the revised cut. Statements from both Moscow and Riyadh assert that Precedents Trump and Putin and King Salman agreed to continue their cooperation to stabilize oil market.
Russia and Saudi Arabia production during the three phases will be equal: 8492mbd, 8993mbd and 9495mbd.

"OPEC+" revised cut had a positive initial impact on oil prices for a while, but many informed sources suggest that "OPEC+" cut and G20 EM elusive commitment is insufficient and will not balance global oil market enough; indicating further possible decline in oil prices are unavoidable due to: depressed global demand, continued oil supply surplus, accumulated oil inventories and COVID-19 lockdown. Absence of genuine truthful commitments supported by full compliance by all, difficult times are ahead with too much uncertainty, volatility and many economic catastrophes.
But everything definitely depends on when the Corona pandemic is internationally controlled; as saying goes, what it is after Corona pandemic is not the same as before it.

Norway

13 April 2020