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Syriana Once Again: Speculations on the Future of OPEC

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Abstract

This paper deals with the complexities of crude oil geopolitics in the wake of recent escalating tensions between OPEC led by Saudi Arabia and OPEC plus members led by Russia. The paper traces the story of the Syrianic Dreams of global super powers in the Middle East and in the surrounds of the Caspian Sea prior to 1950s and afterwards. The paper proceeds to analyse the looming threat to the architecture of crude oil geopolitics in recent years caused by the decisive emergence of the US as the world's largest oil producer since 2014 - a development that was entirely driven by galloping shale oil production in the country. It is argued that the shale oil shock has threatened the future of the OPEC and that of larger coalition bodies like OPEC+, that are led by Saudi Arabia and Russia respectively. As the world braces itself for a new oil price war in 2020, we take a look at what possible geopolitical configurations that could emerge from these extraordinary circumstances and the strategic elements surrounding crude oil pricing in the world. We also study the threat to the time tested instrument of petrodollars in the wake of increasing efforts to de-dollarize crude oil transactions through digital currency alternatives like the petro-yuan.

Keywords: Oil diplomacy, Syriana, Shale, Game theory, Oligopsony, OPEC+, Price War, Digital Currency

1. Introduction

Moving from an analog to a digital era: Complexities of the 21st century world

The Rockefellers and Rothschilds are not just names inscribed on public avenues and banks, they are synonymous with 18th century oil wealth during the peak of the industrial revolution. John D. Rockefeller founded the Standard Oil Company, which is a predecessor to modern day oil giants like Exxon Mobil, which ranked second in the Fortune 100 list as of 2019. The Rothschild family owned the flagship tanker of Shell Transport and Trading which merged with Royal Dutch Petroleum to form the giant we know as Royal Dutch Shell todayⁱ.

Two consecutive world wars in the 20th century spurred an unparalleled increase in the demand for oil, not just as a source of energy but also to fuel weapons of warfare. At the start of World War I, oil demand was weak as its practical functionality was mainly restricted to kerosene for lighting. By the end of World War I, it was evident that a country's geopolitical influence could largely be determined by access to oilⁱⁱ. Until the Middle East (led by Saudi Arabia) emerged as the new epicentre of crude oil in 1940s, the pride of place of oil reserves in the world was the littoral of the Caspian Sea. This largely explained why Hitler took on the impossible challenge of invading Russia very early on during World War 2. However after World War 2, the middle east decisively emerged as the new epicentre of Oil production and politics aided by the 'Syriana' obsession of strategists and statesmen of US and UK to reshape and remaking geographic regions of the world (and in particular the Middle East)to suit their strategies in the geopolitical chess board. Indeed Vladimir Putin of Russia has also been equally obsessive about re-shifting the epi centre of crude oil, back to the Caspian Sea, Russia's own political backyard, which nests time tested oil powers of the world that include Russia and Iran.

By the late 20th century, power over global oil markets shifted from oil-consuming countries in the Western world to oil-producing states of the Middle East. This shift in power manifested itself with the formation of the Organization of Petroleum Exporting Countries ('OPEC'). The OPEC was founded in 1960 and comprised 5 member states at the time of its formation - Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. As of 2020, it has 9 additional members, bringing the total member states to 14. Barring Iran, all other traditional powers of the Caspian Sea belt were not part of OPEC as they were part of the erstwhile Soviet Union.

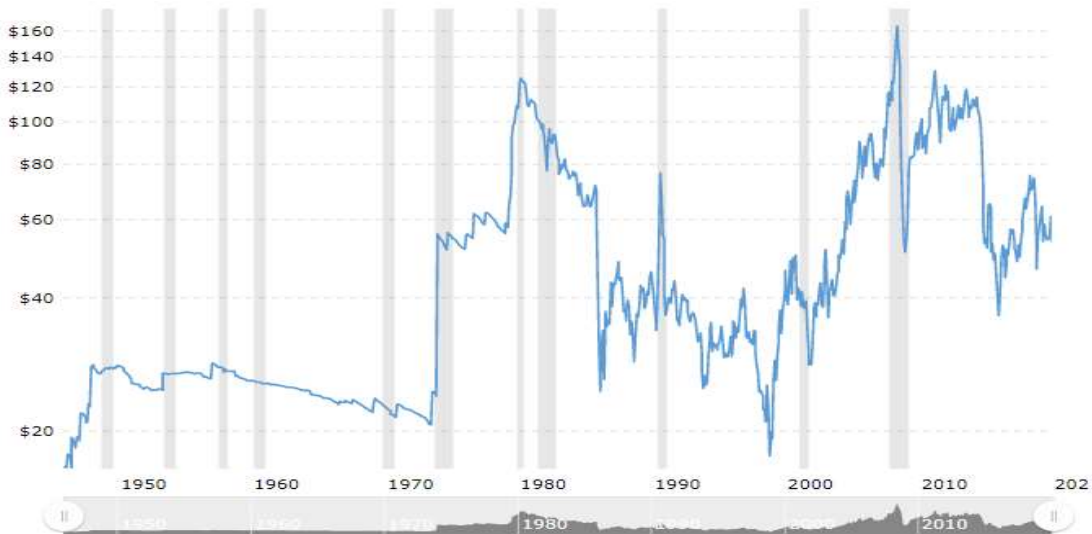
The 21st century has added new layers of complexity to the oil industry in the form of i) new avenues of international geopolitical volatility such as civil wars in the Middle East and the quest for oil independence by USA; ii) adoption of digital currencies; and iii) a boom in development and adoption of renewable/ alternate sources of energy.

It is against this backdrop, that we wish to study the dynamics and impact thereof of the global oil politics market as of present day.

The Past Moulds the Present: Evolution of Oil Geopolitics

Before proceeding with a study of modern-day oil geopolitics, we have attempted to capture major historical events that have served as founding stones of oil political dynamics todayⁱⁱⁱ.

Fig 1
Interactive charts of West Texas Intermediate (WTI or NYMEX) crude oil prices per barrel from 1946-2020)^{iv}



Source: <https://www.macrotrends.net/1369/crude-oil-price-history-chart>, accessed on 9th March 2020

Israel-Arab hostility of 1973

The Yom Kippur War, fought between Arabs and Israel in October 1973, marked for the first time the beginning of hostility between Israel and the Arab world based on crude oil as a weapon. In the wake of the war, Arab oil producers placed embargoes on oil exports to settle scores with countries that supported Israel in the war. The situation was complicated by the disbandment of the gold standard by the US. In 1974, the US and Saudi Arabia signed an agreement to adopt the petrodollar system i.e. where payments for oil exports were denominated in USD.

Counter Strike: 1974-80

In response to the new aggressive approach of OPEC oil-importing countries formed the International Energy Agency ('IEA') and attempted to reduce their dependence by exploring alternate sources of energy like nuclear power; and developing technology to enable offshore extraction. In 1986, the exploration of nuclear power met with a slowdown due to the Chernobyl disaster in Ukraine.

The Second Oil crisis: 1980-81

The revolution led by Ayatollah Khomeini and the fall of the Shah of Iran led to strains in oil supply. Coupled with an increase in consumption demand, the political change in Iran caused oil prices to double.

Introduction of the Production Quota System: Mid 1980s

As production in the OPEC states increased, oil prices nosedived. Saudi Arabia imposed production quotas to stabilize prices. This policy was subsequently reversed in an attempt to capture greater market share, but production quotas were soon re-imposed in 1986.

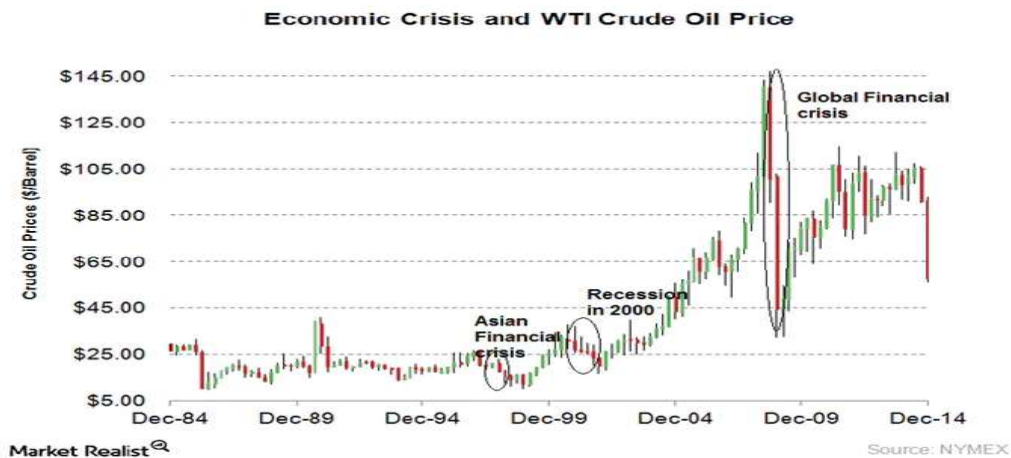
The First Gulf War and turmoil in Kuwait: 1988-91

A conflict over access to the lucrative Gulf market for oil exports metastasized into the First Gulf War or the Iran-Iraq War, damaging production facilities in both countries. Iraq subsequently turned its aggression on Kuwait following a threat to put downward pressure on oil prices, a move that resulted in imposition of sanctions on Iraq. These were the first instances of ‘petro-aggression’ in international oil relations.

1998: The Asian Contagion

The Asian Financial Crisis started with a devaluation of the Thai Baht following a government decision to revoke the peg to USD. This created a domino effect in the region with a succession of currency depreciations in South-East Asia leading to a slowdown in demand for oil from the region and a consequent fall in oil prices^v.

Fig 2
Oil Prices during Phases of World Economic Crises 1984-2014



(Source: NY Mercantile Exchange)

The Second Gulf War: March-April 2003:

The twin tower terrorist attacks of 9/11 in the US changed the course of international geopolitics that led to US intervention in Afghanistan and the Middle East. USA troops in Afghanistan ended Taliban influence in the region. Later US and its allies invaded Iraq due to its alleged support of Al-Qaeda as well as on the ground that Saddam Hussein was developing weapons of mass destruction. Many experts believe that US intervention did more harm than good, creating a power vacuum that enabled the formation of insurgent forces like ISIL/ ISIS. Years of continuous warfare damaged the infrastructure and administrative systems in the Iraq severely inhibiting oil production.

Discovery of Shale Oil Reserves: 2007

The discovery of shale oil in the US changed the course of oil geopolitics. The US now had the ability to turn on its own oil tap uninterruptedly and reduce dependence on the Middle East, for its oil requirements.

Supply Disruptions and Impact of Chinese affluence: 2007-08

During 2007 to mid-2008 widespread production strikes took place in Nigeria and Venezuela. Chinese demand for crude oil reached a new high around this time due to increasing affluence of the Chinese economy and Beijing Olympics. These factors cumulatively pushed Brent crude prices up to USD 144 in July, from USD 96 in January.

The sub-prime crisis: 2008-09:

The US economy faced one of its worst shocks since the Great Depression during the 2008 sub-prime crisis. Financial giants like the Lehman Brothers, Bear Stearns collapsed and Merrill Lynch has to be bailed out by the US Federal Reserve. Linkages in the global financial system caused the crisis to spread to other countries and global oil demand collapsed leading to a fall in prices to USD 35 per barrel.

The Arab Spring: 2011-14:

The Arab Spring which was a succession of citizen-led uprisings in the Arab world, particularly in Egypt and the oil-producing state of Libya further stifled oil supply causing prices to climb up.

Boom in shale production: 2015-16:

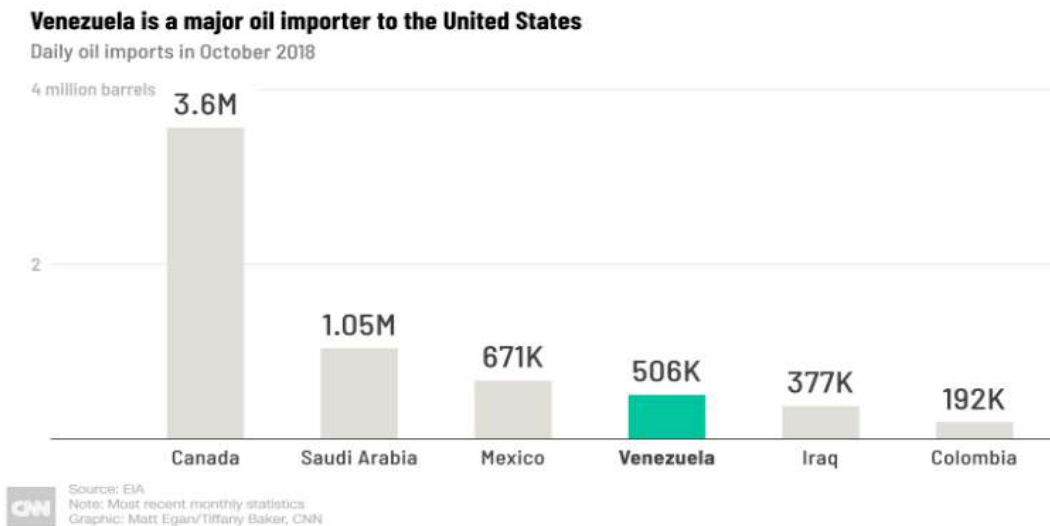
Shale technology developed rapidly, bringing down the costs of shale oil drilling. Production surged causing a fall in the price of Brent futures to USD 30 per barrel in January 2016.

Venezuela crisis: 2017

Venezuela, the founding member of OPEC, is undergoing a political and economic crisis triggered by a fall in oil prices which led to record levels of hyperinflation and a shortage of basic commodities. Venezuelan output has now fallen to a 30-year low due to a decay in the energy industry brought on by the economic slowdown. On the political front, there is widespread public unrest against leader Nicolas Maduro who is responsible for the economic mismanagement that caused the crisis. The US has intervened by recognizing opposition leader Juan Guaido as head of state. President Trump has threatened sanctions on Venezuela – a move that is not just detrimental for Venezuela but also for the US considering its dependence on Venezuela for oil^{vi}.

Fig 3

Country-wise Distribution of US Oil Imports

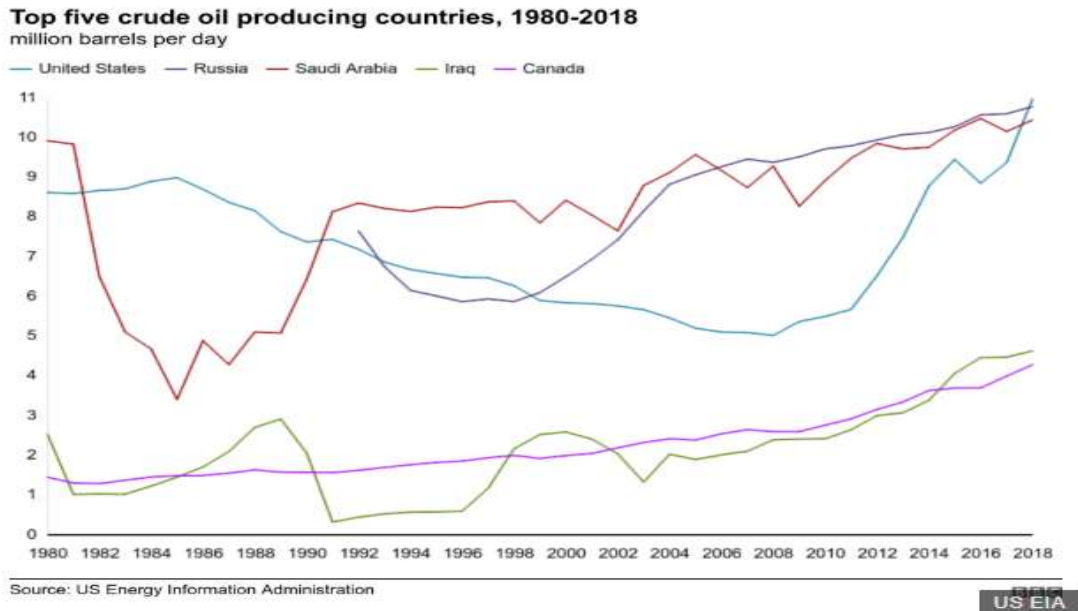


Source: CNN, Energy Information Administration

2019-20: US aggression in the Trump era

US production has surged due to shale discovery, making the US increasingly independent of crude oil imports from Middle East oil powers. This sense of independence led to an increasingly belligerent policy under the Trump administration towards their foes in the Middle East as was evident with the airstrike resulting in the death of top Iranian official, Qasem Soleimani. Coupled with other events of aggression like the alleged Iranian air strikes on 2 Aramco facilities in Saudi Arabia in September 2019, oil prices have steadily increased to close to USD 65 per barrel (brent crude) as of late January 2020^{vii}. The range of USD 50-USD 100 per barrel is regarded as a stable price for oil. As of early March 2020, Brent oil prices took a fall to USD 32 per barrel and WTI to less than USD 30 per barrel due to a deadlock between Saudi Arabi and Russia on failure to reach an agreement on production cuts^{viii}.

Fig 4
Top Five Oil Producing Countries, 1980-2018



Source: Energy Information Administration

2. The Story of OPEC since its Formation

The OPEC has been a dominant force in oil geopolitics since its formation. It was founded at the Baghdad Conference on September 10-14, 1960 by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela and comprises a total of 14 member states today^{ix}. The OPEC today controls ~40% of world oil production^x which gives it the power to function like a cartel. The OPEC often controls production levels to manipulate the market forces of demand and supply, thereby influencing oil prices.

The Age of dominance

The magnitude of OPEC power was unparalleled in the 1970s. In a phase of rapid economic growth, the US was heavily dependent on OPEC states for its oil requirements. In a major policy offensive, the OPEC placed an embargo on the US due to its support of Israel. High oil prices pushed the US into a recession causing GDP growth to fall by 6%. At the same time, the OPEC profits grew six times to USD 140 billion in 1977. This sealed the position of the OPEC as a force to be reckoned with in the world of international political and economic relations. The OPEC was now looked at with caution by Western policy strategists and started receiving close diplomatic attention due to its proven ability to wreak havoc on the economies of countries that crossed it.

Internal conflicts

Cracks within the OPEC have always existed as was evident during the First Gulf War and the Yom Kippur War. Since the 1980s, the OPEC has been divided into two factions – the price ‘doves’ or countries that want to keep output levels high and prices low; and the price ‘hawks’ who prefer the reverse strategy to keep profit margins high (they are typically states with budget constraints and large populations). The doves include countries like UAE, Saudi Arabia that are wealthier while the hawks include Iran, Libya that are politically instable and not as resource rich.

The power balance within the OPEC is inherently skewed as Saudi Arabia produces a third of the OPEC’s output which gives it disproportionate power. Further, it’s partnership with Russia in the form of the OPEC+ has served to widen the divide among the core OPEC members. In 2019, nearly two years after the start of the Qatar diplomatic crisis, Qatar exited from the OPEC alleging that it is operated like a two-member cartel^{xi}. Many analysts believe that Iraq is on the same path towards the exit door due to tightening production quotas imposed by the OPEC^{xii}.

The economic relations amongst the member states are worsened due to the constant political conflict in the Middle East – the OPEC member states have never been on the same side of any issue. A recent case in point is the Syrian Civil War – Iran supported the Syrian Government while Qatar, Saudi Arabia supported the rebels^{xiii}.

The threat of Alternatives to Crude Oil

Development and adoption of non-conventional sources of energy like wind, solar, etc. as well as of technologies like fracking which led to the shale oil boom in the US puts the dominance of the OPEC in the years to come in severe doubt. More governments are paying heed to and acting on environment issues. At the recently concluded World Economic Forum in Davos, Switzerland, there was immense pressure for accountability from Governments and corporations for responsible policymaking. This slow shift to environment consciousness could mark the undoing of the OPEC in the decades to come.

The Current Situation

As signs point towards a weakening in the power of the OPEC, the OPEC entered into a long-term co-operation pact with Russia to form the OPEC+ coalition. While this partnership is targeted at the US oil production surge and co-ordinating production across oil-producing states, the core OPEC members cannot take decisions without securing Russian buy-in.

As of 9 March 2020, oil prices crashed to a 4 year low of ~USD 29 per barrel (WTI crude) and ~USD 32 per barrel (Brent crude) after the two mammoths in the OPEC+, Russia and Saudi Arabia failed to reach an agreement on production cuts^{xiv}. This caused Saudi Arabia to cut prices as it looks set to increase production, creating fears of a price war^{xv}. The situation is

exacerbated by the coronavirus outbreak which has caused a slowdown in global, particularly Chinese demand.

As the threat from US shale production forces other nations to reduce oil prices, the OPEC caught in the midst of internal conflicts seems to be considerably weaker in the geopolitical landscape today.

3. The Shale Oil Revolution: Diversification of the Global Supply Chain

Shale oil production picked up in the US in 2007 and saw exponential growth in the years to come. Some statistics even indicate that the US overtook both Russia and Saudi Arabia in crude oil and natural gas production^{xvi}. Many US policymakers are now aiming for energy independence with 8 states committed to switching to 100% clean energy by 2050^{xvii}. However, as long as the US is a part of the oil market, it remains vulnerable to price shocks^{xviii}.

The increase in the US oil production is attributable to the development of the ‘fracking’ technique. This has enabled the US to tap into reserves such as the Permian Basin, which stretches from Texas to New Mexico.

In Q1 and Q2 of 2019 alone, US crude exports averaged 2.9 million barrels a day, exceeding the average daily 2018 production by nearly 1 million barrels^{xix}.

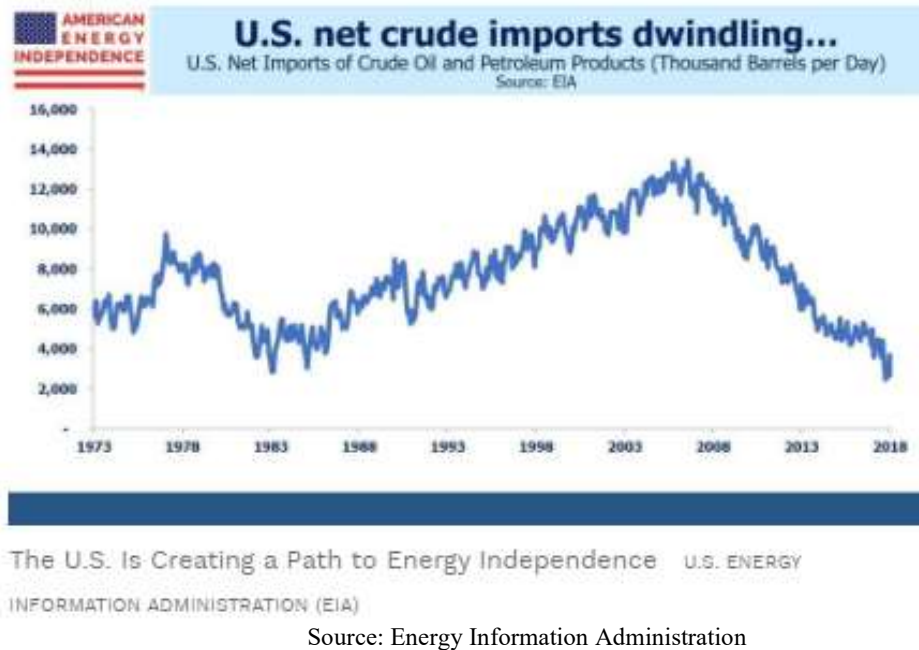
The OPEC threatened by this surge in production attempted to strike a blow to US exporters by increasing crude availability in the market in 2014 causing a crash in oil prices. Many US producers were expected to go under due to the high costs of shale production, but the industry not just survived but flourished due to a renewed focus on technology innovations, cost cutting and increased efficiency through the deployment of data analytics^{xx}.

What makes the US success story difficult to replicate for other countries is regulation. In the US, landowners have privately owned mineral rights which allow them to extract oil discovered in their land. In most other countries, the Government claims ownership of resource-rich land. Further, the US has a first-mover advantage with respect to deployment of the fracking technique. Thus far, only Canada has scaled up the adoption of fracking while the US’ biggest rival, China, is still in an experimentation stage. Some countries like the UK have completely banned fracking due to ambiguity of its environmental impact.

Fracking involves forcing large quantities of water into rock at very high pressure to create fissures in rock surfaces – this mixture of sand and pressure forces out the oil trapped within. While the environmental impact of this technique is still unknown, it has been linked to ground water contamination and earthquakes. Environmental experts are sounding a word of caution about the widespread use of fracking and even certain policymakers are paying heed to the same. Even within the US Government, Democratic party candidates for the upcoming election, Sen. Elizabeth Warren and Sen. Bernie Sanders have promised to ban fracking, a rhetoric that couldn’t be more contrary to Trump’s quest for energy independence. However, US production continues to rise and as oil relations play out on the world stage today, it is evident that shale production has irreversibly changed the dynamics by making energy

independence closer to reality for one of the erstwhile largest importers of crude. The US can now simply turn on the shale oil tap in times of instability in the Middle East or conflict with oil-producing countries like Iran, Venezuela.

Fig 5
US Crude Oil Imports-1973-2018

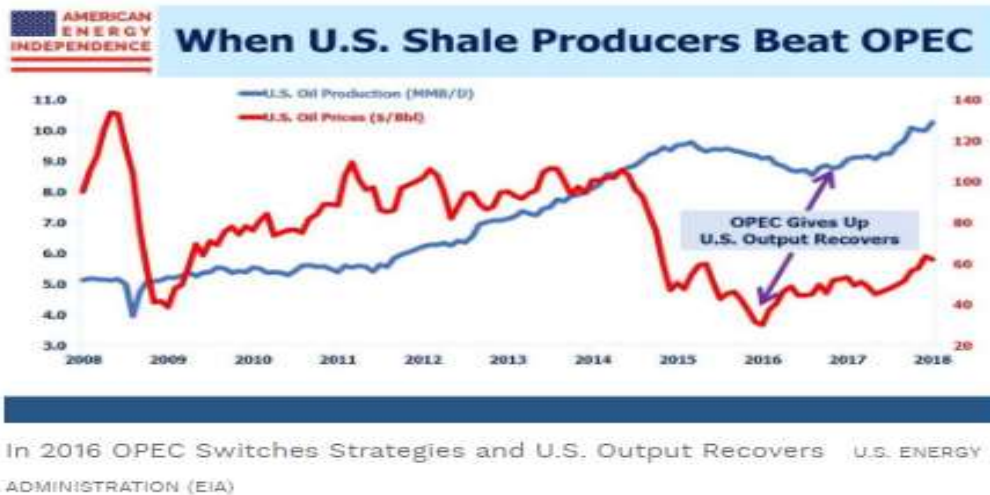


4. The OPEC: Do troubled waters lie ahead?

The countervailing power recently acquired by the US in the global oil markets (aided by shale oil power) vastly weakened the OPEC's ability to manipulate oil prices to cater to the needs of the member states. The US has proved that it is resilient to market interference by the OPEC when it recovered from the price slump in 2014 by undercutting technology costs and efficiency improvements.

The OPEC states could not continue this strategy of undercutting prices for too long as by 2016 many member states were facing severe budget deficits due to falling oil revenues. OPEC again manipulated market forces by imposing production quotas to restrict supplies. This caused the prices to increase but also helped US industry growth as producers earned higher margins on their exports.

Fig 6
How Shale Oil has Boosted World Oil Output



In 2016 OPEC Switches Strategies and U.S. Output Recovers U.S. ENERGY ADMINISTRATION (EIA)

Source: Energy Information Administration

US oil imports are steadily falling, and it is now a net exporter of natural gas. This gives the US the flexibility to reduce dependence on hostile states like Iran and instead shift to imports from allies like Canada.

Fig 7
US Imports from OPEC and non-OPEC Members



America Imports Less Oil From Hostile States U.S. ENERGY INFORMATION ADMINISTRATION (EIA)

Source: Energy Information Administration

As discussed earlier, the original OPEC members attempted to respond to US dominance by forming a super-cartel, OPEC+, with Russia and other oil-producing states. While this increased their control of global supplies from 35% to 55%, internal rifts continue to create

ambiguity. However, this alliance is creating a different set of problems within the OPEC as members feel side-lined by the Saudi-Russia dominance.

While the OPEC was hopeful of a US slowdown attributable to the high costs of shale production, energy consultant Rystad Energy believes that US shale production could surpass Saudi and Russian oil production by 2025^{xxi}. The OPEC-Russia alliance has certainly helped the OPEC regain some power, but this may not sustain in the long-run as US shale production continues to boom and Russia-Saudi tensions continue to mount. The US has the ability to severely damage demand for oil from other countries by imposing sanctions e.g. on hostile states like Iran, Venezuela. The US is already conducting a targeted attack on Russian oil exports in the form of sanctions imposed after the Russian annexation of Crimea in 2014.

It is evident that the bargaining power of the OPEC has weakened as production from non-OPEC states grows and the world turns to unconventional energy sources like shale, renewables, etc. The OPEC is no longer as capable of manipulating prices as it was merely two decades ago.

The way forward for OPEC

There is ambiguity surrounding the future of the OPEC amidst reports that surfaced in late 2018, claiming that Mohammed Bin Salman, the crown prince of Saudi Arabia had commissioned studies with a Riyadh-based think tank on the impact of the dissolution of the OPEC on global oil markets and the Saudi economy^{xxii}.

In an article published in the Forbes magazine, Ariel Cohen, an oil and gas expert says that in the event the OPEC is dissolved, the void would be filled by a new triumvirate – the US, Saudi Arabia and Russia. However, this scenario would be challenging to achieve given the years of animosity between the US and Russia, the contrasting economic needs of the 3 countries^{xxiii} and the newly minted threat of a price war between Russia and Saudi Arabia.

5. Reconfiguration of Power Politics in the Oil World

US-Russia

Relations between US and Russia have been historically volatile, a dynamic that remain unchanged even after the fall of the Soviet Union in the post Cold War era. Most recently, bilateral relations between the 2 countries worsened following US sanctions on Russia due to its military intervention in Ukraine and the annexation of Crimea in 2014.

The EU followed in the heels of the US by imposing sanctions on Russia. These sanctions banned collaboration with Russian energy companies like Gazprom, Rosneft, Lukoil, etc. on deepwater, Arctic offshore and shale projects^{xxiv}, which were considered to be a new avenue of Russian oil growth. Russia's traditional oil reserves are reportedly drying up and the sanctions restrict access to Western capital which many Russian companies are reliant on. These sanctions are said to have cost Russia USD 400 billion in oil and gas revenues between 2014-17^{xxv}. Further, there are no signs of relenting from the US as the Trump administration

despite good personal relations with Putin, denied ExxonMobil permission to drill for oil in Russia in 2017^{xxvi}.

Russia's oil economy, despite the adverse global situation, has proved to be surprisingly resilient to oil price shocks. This can be attributed to the recent diversification of the Russian economy, facilitating liberal tax laws for oil companies, and the floating peg system being followed for the Russian Rouble, which enables Russia to absorb low oil prices. This economic resilience also decreases the extent of Russian dependence on the OPEC giving it bargaining power to determine its terms with Saudi Arabia^{xxvii}.

Another key factor responsible for the economic recovery of Russia is souring of US bilateral relations with other states – particularly in the form the sanctions imposed by the US on Venezuela under the Nicolas Maduro regime and the recent US strikes in Iran. On account of sanctions on Venezuela and Iran, demand for Russian crude has increased, adding close to USD 1 billion of revenues for Russian exporters^{xxviii}. Further, Russian exporters are also benefitting from the increase in oil prices that followed the assassination of Qasem Soleimani due to heightened US-Iran tensions^{xxix}.

Further, Russia under the leadership of Vladimir Putin, has started exercising greater dominance in its relations with the US. This is evident from Russia's possible violation of US sanctions on Venezuela by transporting 70%-80% of Venezuela's oil exports under a deep discount arrangement which yields greater profits for Russia^{xxx}.

To summarise, while US sanctions did impact Russian exports, the oil economy quickly recovered and Russia in the last couple of years has strengthened its strategic alliance with Saudi Arabia, in a pre-emptive measure against future US policy aggression.

US-Saudi Arabia

President Trump, during late 2019 announced that the United States no longer needed to import oil as they were producing enough to be self-sufficient. This indirectly meant that the reliance on the Middle East was over. However, there is data that suggests the contrary. Reports say that the US imports close to 48 million barrels of crude oil per month from the Gulf^{xxxi}.

Another tension emerged after the attack on Aramco's oil processing plant in late 2019. Iran was blamed for these drone attacks and this led to one of the biggest crude oil price hikes in recent times. In addition, the attack could potentially cause a disruption in close to 5% of the world's supplies. Aramco announced that it would use its reserves to fill the deficit. However, this did not seem to be a cause for concern for the US. This could suggest that while dependence on the Middle East was not completely over, the US is no longer as vulnerable to oil shocks as it was in the 1970s. Using its production as a stop gap it could even have used the opportunity to keep oil prices down.

The US- Saudi Arabia power dynamic suggests that Saudi Arabia currently holds a better position although this attack might disrupt this status quo. The US wants to emerge as an important player in global energy markets while at the same time disengaging from the ME.

USA’s latest stance on Saudi is that it is just a partner and not an ally. With Trump, these intentions have constantly been shifting. The US wants to take lead on the Iran attack matter and is not comfortable waiting for directions from Saudi. More evidence of fraying ties between these two nations comes from the Saudi-Russia arms deal. Thus, this relationship could be in troubled waters.

Saudi Arabia is also trying to actively look for other trade partners like China given its increasing consumption. It is giving more importance to exporting crude to China vis a vis the US. It wants to choke up supplies to the US and prop up oil prices. It is also looking at Asian countries outside of China and this is evidenced by its deals with India in the downstream sector so that it can secure a long-term commitment^{xxxii} to purchasing crude. Additionally, it is making use of US’ sanctions on Iran to topple it over and emerge as the biggest exporter of oil.

Shale Oil Pushes US to the Global Oil Stage as a Dominant Producer

The advent of US as a major shale oil producer has been a great gamechanger. Given the high Marginal Costs of Shale Oil and the enormous Sunk Investments, the US today has a stake in higher oil prices than lower oil prices as was the case in the past. Accordingly, the sanctions on Iran, though on security grounds also has a sub-terranean crude oil agenda, By keeping Iran from the global oil market, oil prices have moved up in the upward direction. Russia , on the other hand as an ally of Iran, would like to develop links with Saudi Arabia to use the kingdom to play the game of lower export quotas to bolster OPEC’s oil output, thus obviating the need to tie the noose around Iran to tighten supplies in the global oil market. Saudi Arabia, has stake in a tepid oil price market, that relies on liberal quotas to bring down oil prices. The effort here is to strangle shale oil supplies in the world.

6. Pricing Game: US, Saudi Arabia and Russia:

Potential stakes from price manipulation: Post 2017^{xxxiii}

In the light of preceding discussions, where we have listed the turnaround of US as a major oil producer in the world, we have attempted to determine the stakes of US, Russia and Saudi Arabia respectively in three price regime scenarios. The same is illustrated in Table 1.

Table 1
Matrix representing Stakes in Different Oil Price Regimes for Saudi Arabia, USA and Russia: Post 2017

	Stable	Increase	Decrease
US	3	5	0
Russia	3	4	0
Saudi Arabia	4	2	5

(Note: Stakes are represented on a Likert scale of 0-5)

Preferred Stakes of the three countries: Post Shale Oil world

- The US is in favour of increase in Global oil prices closer to the range at which Shale Oil becomes a ‘no loss option’. This has shades of a strongly dominant strategy
- Russia has stakes in securing increases in crude oil price, though not to the extent of suffocating global oil demand or creating conditions for US shale oil to kick in. Russia is also not with the US when it comes to sanctions on Iran. However Russia is willing to work with Saudi through OPEC + actions and bilateral co-operation ties (Intransitive strategy).
- Saudi Arabia’s strategy is to secure decrease in oil prices by permitting more relaxed oil export quotas for OPEC members. However Saudi Arabia supports sanctions against Iran while also exploring bilateral options of tie ups with China and India for supply of oil to these two major consumers (Intransitive strategy).
- For all the three countries, crude oil price stability is the second best alternative.

Table 2 translates the stakes of the three oil powers to a matrix of pricing regime preferences

Table 2
Matrix representing Probability of Oil Price Regime Preferences by the Three Oil Powers

	Russia/ USA		
	Increase	Stable	Decrease
Saudi Arabia	(2,4,5)	(2,3,3)	(2,0,0)
Increase	(4,3,4)	(4,3,3)	(4,0,0)
Stable	(5,4,5)	(5,3,3)	(5,0,0)
Decrease			

Note: Preferences reckoned in terms of points on a scale of 0-5

The Nash Equilibrium is a stable strategic position whereby each player does the best given a similar outlook on the part of its rivals.

In the oil geopolitics pricing game described above, given the current configuration, a Nash equilibrium may not exist as there is an incentive for the three players to deviate from a given price regime strategy. This is due to the different motives of the countries involved – while US wants to achieve oil independence based on shale oil power, it wants OPEC to practice its conventional play book game viz, work towards reducing export quotas and secure increase in oil prices. Saudi Arabia, as the leader of OPEC, no longer wants to raise oil prices for fear of creating a favorable regime for shale oil to boom, while otherwise sharing excellent political relations with the Trump Administration. Russia, as is the case with US, seeks higher oil price regimes in the past, though not to the extent that it will suffocate demand for oil and promote shale oil. However, as mentioned earlier, with shale oil entering the global oil market, Saudi Arabia desires to lower OPEC prices by increasing export quotas to break the backbone of shale oil business.

7. The Changing Maps of Oil geopolitics

The scenarios discussed above play out as an infinitely repeated competitive game, but in modern day oil geopolitics, countries have aligned themselves in a co-operative cum competitive configuration e.g. through bodies like the OPEC that represent the common interests of oil-producer states.

With internal rifts and the re-emergence of players like Russia, there is increasing uncertainty surrounding the power and role of the OPEC in the future of oil relations.

For the purpose of providing an exhaustive background of how the status quo of oil geopolitical configurations has been arrived at, we need to go back in time and look at the motivations of the key parties to this game.

Pre-World War I era: The Oil Wars^{xxxiv}

In the 1890s, there was a continuous struggle amongst three key oil rivals: Standard Oil, the Nobels and the Rothschilds.

Standard, founded in 1865, has its roots in the Pennsylvania oil boom during which John D. Rockefeller bought his first refinery after winning a private auction. By the 1890s, Standard controlled 85%-90% of American oil production.

The Nobel oil fortune was stumbled upon by Robert Nobel when he impulsively bought a small refinery in Baku, present day Azerbaijan. The Nobels soon dominated Russian oil trade and Russian crude production in only a decade was equivalent to a third of American production.

The Rothschilds came into the oil trade when they rescued two companies that were building a railroad to Batum, Turkey – Bunge and Palashkovsky. The Rothschilds built the Caspian and Black Sea Petroleum Company.

The two Russian groups often discussed an amalgamation but could find little common ground. At the same time, Standard turned its sights on the Central Asian and Russian market.

The 3 groups either battled for market share, indulging in price wars to try and undersell the other or strived to arrive at a co-operative agreement to divide the world market share with little success.

Fig 8
Oil Geopolitical Power: Pre-World War W I Era



The World War II Era: Caspian Sea as the Oil Epicentre

It was in the World War II era that oil was recognized as a strategic commodity for war and critical to a country's power and international dominance. Oil shaped the strategy of the Axis powers and could soon become their Achilles heel as the Allied powers had greater access to oil through the US which fuelled their war effort.

Operation Barbarossa was the Axis code name for the invasion of the Soviet Union which started in June 1941. It was motivated by the ideological goal of repopulating the Western Soviet Union with Germans but also to acquire the Caucasus oil reserves and the agricultural lands of the Soviet Union. The Germans launched Operation Edelweiss in July 1942 in an attempt to gain control over the oilfields in Baku^{xxxv}.

Fig 9
Nazi German attack on USSR during WWII for Access to Soviet Oilfields



Syriana 1- The Pivotal Shift of Oil Geography: Emergence of the Middle East as the Oil Epicentre

The years that followed World War II marked a change in the importance of the Middle East. The Americans were cognizant of the fact that new oil discoveries were no longer being made and their oil supplies were finite.

The Americans adopted the ‘conservation theory’ i.e. to control and develop foreign oil reserves to reduce the drain of domestic supplies. This guided the policy of solidification or direct American involvement in Saudi Arabia. The Arab-American Oil Company or Aramco was formed by a joint venture of two American corporates – Socal and Texaco. It received a concession grant from the Saudi government in exchange for a revenue share to the Saudi government.

However, the British were a step ahead and lacking substantial oil reserves of their own, had set their sights on the Middle East since World War I. The British Government had already acquired a direct 51% in Middle Eastern oil through the Anglo-Iranian Oil Company, almost a decade before the formation of Aramco.

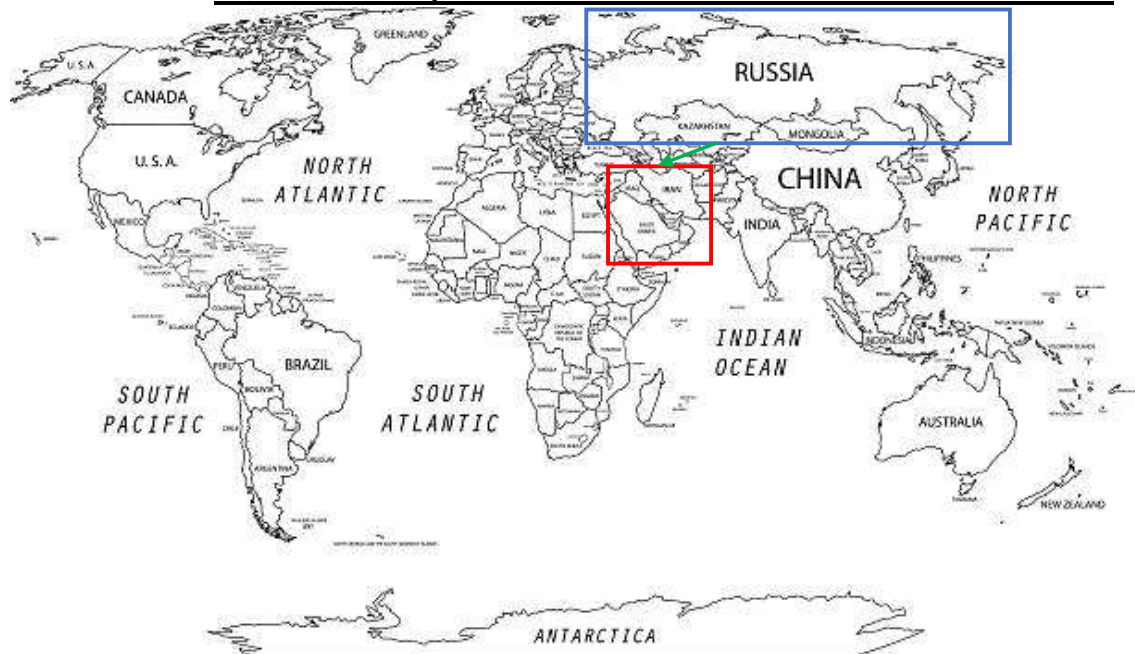
During the 1950s, world oil demand grew rapidly but the oil production grew even more so. The oil companies were forced to offer discounts on the market price of oil while the ‘posted price’ or the price on which royalties and taxes were computed for the exporting countries remained stable. As a result, the oil companies were absorbing the entire discount which was

taking a toll on their bottom line. It was in 1959 that the first cut to the posted price was made by British Petroleum, a move that outraged the leaders of major oil exporting states like Venezuela and Saudi Arabia.

At the same time, the Soviet Union continued its petroleum campaign, a strategy that in the Cold War era was perceived to have the political motivation to create dependence in Western Europe and thereby weaken the unity of the NATO. To compete with Russian suppliers, the Western oil companies continued with the cuts on the posted price. This proved to be a short-sighted strategy as by September 1960, representatives of five major oil producing countries had met in Baghdad to form a united front before the oil companies. A new entity, the OPEC was formed, and oil companies were no longer able to take unilateral decisions about oil prices. By the 1970s, the political power of both the US and Britain had declined – both countries were in recession and the US was embroiled in the war in Viet Nam. American production had peaked at 11.3 million barrels per day and based on the production curve under Hubbert's Law, it would only go downward from there. However, the Hubbert Law did not hold in the case of the Middle East due to scant exploration and oil discovery. In the age of a massive demand surge for oil, the OPEC became even more powerful.

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Fig 10
Shift of the Oil Epicentre to Middle East in the Post-World War 2 Era



The New Syria: Reversal to Caspian Sea as Oil Epicentre Post 2020?

If Caspian Sea comes back as the epicentre it would be the handiwork of Vladimir Putin. He has already moved in this direction by pushing for and successfully getting Iran, Azerbaijan, Kazakhstan, Russia (his country) and Turkmenistan to sign the [Convention on the Legal](#)

[Status of the Caspian Sea](#) with a view to solving the existing disputes that exist amongst the five littoral States of the Caspian Sea Littoral (Kramer,2018). His larger mission would be to win over OPEC to the cause OPEC+. More specifically Putin's diplomacy would aim to wean Saudi Arabia to the OPEC + cause, through bilateral co-operation carrots like defence technologies. However the recent price war between OPEC and OPEC+ formations indicate that Putin has to pursue this with greater patience to achieve success as the game of inter State, bilateral and multilateral negotiations lies in concealing asymmetries in patience that may exist among parties. (Damodaran,2018).

Reimagining the Future Order: Beyond 2020

Given the rise in US shale production and the emergence of US as the world's major oil producer (as well as world's largest consumer) and its economic hostility to China (world's largest oil importer) consumer internal conflicts within the OPEC, the future is uncertain. We have hypothesized three scenarios of the future of the OPEC using the game theory framework. The game is co-operative cum competitive wherein US-Saudi are considered as one party as despite differences regarding pricing strategies, they have always aligned on larger policies. Iran-Russia are the other party to the game – although Russia and Saudi have partnered on the OPEC+ coalition, they have been enemies during the cold war and Russia is restless because of the imposition of production quotas due to its ability to absorb price cuts and its belief that a supply cut will worsen the falling global oil demand^{xxxvi}. As of 9 March 2020, there has been a decline in Russia-Saudi relations on account of failure to reach an agreement on production cuts. Saudi now looks set to launch an all-out price war against Russia and OPEC+ countries.^{xxxvii}

Table 3
Matrix representing Impact on Cartels of Oil Pricing Strategies Exercised by Dominant Producers and Consumers

	Iran-Russia			
		Increase	Stable	Decrease
US-Saudi	Increase	Stronger cartelization that transcends OPEC and OPEC+ (unlikely given serious geopolitical differences between the two blocs)	OPEC+ gains currency amongst non-US Oil Consuming Countries	Gain for OPEC +
	Stable	OPEC Gains	OPEC and OPEC + Status Quo (Nash)	OPEC + Gains Oligopsonistic Contracts for stable oil supplies at stable prices by Saudi Arabia and other OPEC Countries
	Decrease	OPEC Gains	OPEC Gains Oligopsonistic Contracts for stable oil supplies at stable prices by OPEC +	Price War between OPEC and OPEC +

Analysis

The concepts of high, stable and low prices for oil mentioned by us in Tables 1 to 3 has been based on certain numbers. According to Sarah Emerson , leading energy strategist at ESAI Energy , the ideal price is one which is high enough to sustain supply and low enough to sustain demand and perpetuate today's largely balanced global market, it is probably in the neighbourhood of \$65^{xxxviii}. For analytical convenience we have relied on the range of \$59 – to \$71 which was the price range for oil during the period January-March,2018. Going by this range, the ideal median price of oil is \$65/barrel, which we treat as the stable price for oil. It follows that by lower price we mean prices below \$59 and by higher price we mean prices above \$71.

As Table 3 brings out, in the event of both factions seeking increase in price of oil, the tendency will be towards strong cartelisation that will marginalise the relevance of slow-moving price bands of OPEC and OPEC+. The cartel blocs that seek increase (in a situation where the other bloc seeks decreasing prices) would lose its face. Where one of the factions seeks stable prices while the other seeks decreasing prices, the former may seek to survive by entering into

contracts with oligopsonistic (large) buyers (US, China, India) for reliable supplies of oil in return for stable, fixed prices. Such a development would also render cartels redundant.

8. Bretton Woods and the Emergence of Dollar as a Reserve Currency

Forty Four countries met in 1944 to discuss the flaws in the gold standard and to figure out an alternative. The Gold Standard had been extremely volatile in situations like the World War and the Great Depression in 1929. Impact on interest rates had been quite severe. Hence there emerged a system of using the US Dollar as a reserve currency. This was the Bretton Woods agreement under which countries would be required to fix their exchange rates to the US Dollar. In case of a weak currency, the dollar would buy it up. This also ensured that countries wouldn't engage in trade war tactics to boost exports by fluctuating exchange rates. There was a certain leeway given for countries to make adjustments in case of any disruptive action or in case of FDI issues. Thus, there was much better flexibility under this new standard.

The reason the US Dollar was chosen apart from it being a heavily traded currency was that it had three quarters of the world's gold reserves. No other nation could match up to it in terms of reserves so as to replace it as the reserve currency. The US Dollar was pegged to a certain quantum of gold per dollar. Now, the problem arose when demand for dollars began to rise. Even in such a situation, the value of the dollar when compared to gold remained unchanged. This mismatch was why even this system eventually collapsed. It happened in 1971 when due to stagflation, President Nixon began to deflate the value of the dollar from 1/38th of an ounce to 1/42nd of an ounce. There resulted a run for US Gold reserves. In 1973 eventually, the dollar value was unlocked from that of gold and in the free market, price of gold shot up to \$120 per ounce. This was the official end of Bretton Woods.

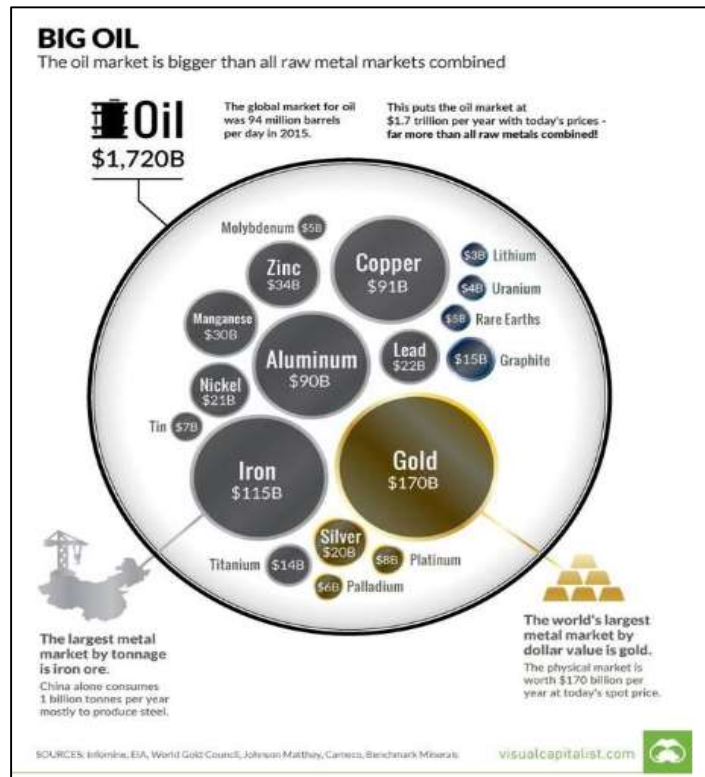
Now, currencies are only pegged to the dollar and there is no gold reserve to back this up^{xxxix}.

9. Petrodollars - Creation, Evolution and Possible Destruction^{xl?}

History of the petrodollar

Having lost its peg to gold, the value of the dollar was in free fall in 1973. There was a threat of the collapse of the dollar. To prevent this, in 1974, the US entered into an agreement with Saudi and the OPEC to denominate the sale of oil in dollars. In return, the US would provide armed assistance to Saudi in case of any international political conflict be it from Israel-Palestine or Russia or Iran. This was the birth of the petrodollar.

Fig 11
Size of Oil Market compared to Global Metals Market



Source: Energy Information Administration, World Gold Council)

Benefits of Petrodollars

The dollar became the most sought-after currency given that the world’s most traded commodity i.e. crude oil was traded in dollars. The US perpetually maintains a state of deficit in its Current Account by issuing dollar denominated assets at low interest rates. It enables it to maintain global hegemony^{xli} as well as maintain a competitive position in the world.

However, this situation also has its drawbacks. Today, the US must maintain a CAD, else the world could face a potential liquidity crunch leading to an economic slowdown. But then, if the deficits continue for too long, there are questions raised on the credibility of the dollar as a reserve currency. This is the Triffin Dilemma.

Recycling of Petrodollars

The US linked all payments for oil in UD Dollars and hence there has been surplus of petrodollars with oil exporting nations. The petrodollars are used for their domestic use, apart from meeting the BoP needs of developing nations and US designated assets bringing the money back home. The US use this to create liquidity in financial markets, promote non-inflationary growth while also try to keep interest rates low. There is a hidden chest of \$400 bn in petrodollars.

The oil producing countries are attempting to make investments in non-oil businesses to bring down dependence on oil-based income.

The Decline of the Petrodollar?

US has always arm-twisted countries to toe the line with respect to foreign policy in view of the strength of petrodollars. It retaliates with sanctions & embargos viz. on Iran for alleged nuclear development, on Russia with respect to Crimea. In a soft attack on US power, Russia & Iran have signed deals not linked to the dollar. Venezuela has started signing contracts in other currencies and even Iraq and Syria are attempting to move away from oil trade in dollars. In 2001, Iraq shifted to the Euro. This was another reason for US military intervention that overthrew Saddam's regime. Libya also attempted to shift to an alternate currency. It is said it is this move that motivated US intervention to overthrow the Gaddafi regime. Due to Libya's vast oil, gold & silver reserves, Gaddafi had exerted considerable bargaining power which motivated France and Britain to be in the game. Gaddafi was assassinated by the new Libyan regime with NATO assistance. This development lowered the power that Libya had exerted in the crude oil industry.

China has one of the largest reserves of dollars but is still aiming to shift away from dollar oil trade. It has signed many Yuan based oil deals and being the largest importer of oil since 2017, the proposed crypto digital currency of the Chinese Government/ Central Bank could pose a significant threat to the dollar.

Europe has resented dollar denominated oil trade and post Brexit, it is surmised that it will attempt a larger quantum of Euro based deals. As reserves in the North Sea decline and with increasing Brexit related foreign exchange risks, countries in the EU could soon shift to the Euro. The EU could follow Russia and China by launching a crude oil benchmark which would dent dollar oil margins. Another strategy is to develop an alternative to SWIFT for cross-border payments. Although these measures are moderate, they could strengthen an Anti-dollar alliance between Europe and China. This relation could be successful with certain concessions on the part of EU countries as has been the case with Russian gas pipelines and Huawei's 5G networks^{xlii}.

Shift to renewables

There is paradigm shift to renewable energy. The advent of the electric vehicles will lead to declining profitability for oil producing countries. The US is losing its competitive edge to EU and China which are more advanced in renewable energy development. Many experts even say that the US has taken a step back by withdrawing from the Paris Agreement on Climate Change. However, with Eurozone crisis a serious threat to USD may not arise in near future.

10. Status of US Dollar as Reserve Currency

As per IMF's latest report there is a slight but perceptible change in the world currency reserve a decline of 0.6% in the third quarter and the US –dollar denominated exchange reserves such

as treasury securities went down by 0.4%. The share of dollar denominated reserves declined from a share of 66% in 2014 to a share of 61.8% in Q3 2019^{xliii}.

Euro was created to have parity with the USD but post Eurozone debt crisis, this goal is not realistic. In 2016 China's Yuan became an official global reserve currency after being included in the basket of special drawing right basket, leaving behind Swiss Franc, Australian Dollar and Canadian Dollar.

The advent of Asian Drawing Rights (ADR) driven by blockchains is an attempt to de-dollarize regional trade. The weightage of ADR is biased towards Gold & Chinese Renminbi as compared to USD (that weighs below 20% in its scheme of things) is a major development. Major oil exporters like Russia are happy to jump in to weaken US Dollar through viable alternatives. Large stockpiles of dollar are available with Saudi Arabia which will be unwound in case the dollar hostile trends intensify. If The Persian Gulf countries were to conduct their deals without the dollar this will cause a major upheaval. Saudi Arabia's arms deal ties with Russia is another unexpected development. All this does not forebode well for the petrodollar.

Advent of digital currencies

The advent of crypto digital currencies has created a major threat to all fiat currencies in the world including USD. In response to this China is developing its own 'fiat' digital currency based on block chain technologies. The digital Yuan is ready for trial. This digital move will eliminate all roadblocks of foreign exchange control by creating a parallel network not dependent on the dollar & could lead to a major disruption in the future. At the same time with its inherent propensity to be supply inelastic on account of its link to the blockchain technology, these state sponsored digital currencies have the potential to be inherently robust in its purchasing/exchange capabilities (Damodaran, 2019).

11. Rise of Renewables

The world needs alternative fuels to end decades of dominance by fossil fuels. There is a projection that the demand for CO₂ emitting oil & coal will peak until 2040 but energy experts are advancing their forecasts, since clean energy, green energy technologies like solar & wind are emerging faster than anticipated^{xliiv}. Recently in the UK renewable energy projects generated more electricity than from fossil fuels. The political establishment in UK want to eliminate greenhouse gas emissions in the next decade. Experts are anticipating a faster than expected roll out of number of clean energy technologies. The economics of clean energy are too strong to be ignored. The economic tipping point will be when new renewable energy projects are built from scratch and old coal fired power plants are closed down. The comparative relationship between oil price and returns on stocks of clean energy technology companies is healthy for the world as the latter has shown major buoyance^{xliv}.

12. Conclusion

While we wait for dust to settle on the fallout between OPEC+ allies and the OPEC before arriving at a firm picture about the future of the crude oil world, what appears to be doubtlessly in question is the relevance of the producer cartel paradigm that has functioned during the past

60 years in the world. The emergence of USA as the world's major producer as well as the world's major oil consumer, opens possibilities of oligopoly-oligopsonistic deals that threatens the old ideal of producer cartels that the OPEC and OPEC+ represents. The geopolitical configuration of crude oil that had existed since the 1950s, looks threatened as the oil consumer powers are themselves seeking a shift of their energy base towards renewable sources of energy. Many OPEC and OPEC+ members have been displaying increasing impatience with the idea of petrodollars. With the recent advent of digital currencies, global oil trade is on the verge of a paradigm shift. It is likely that, with the Caspian Area looking politically buoyant, oil explorations will be enhanced here, given the prospects of striking new oil reserves that promise low marginal costs of production in the region. However there is a paradox here. China and Russia, who are otherwise close allies, are rivals when it comes to Central Asia (and the Caspian Sea) since China's 'One Belt – One Road Policy' affects Russia's interests in controlling oil trade by littoral States of Caspian Sea. The recent Caspian Sea Agreement brokered by Vladimir Putin, is designed to establish Russian supremacy in the region and compel China to hit the negotiating table. It is likely that henceforth China would look to Russia's support for its 'One Belt One Road Policy' in Central Asia. Backed by possible inroads by petro yuan in the region, a Russia- China pact in Central Asia as well as over the Caspian Sea littoral, is likely to undermine the position of Middle East as the fulcrum of Oil power in the world. In such an eventuality, OPEC's geopolitical future would look vastly different from what it is today.

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