

AN ANALYSIS OF THE DETERMINING FACTORS AND INFLUENCE OF OPEC ON QUOTA ALLOCATION AND PRICE MECHANISMS IN OIL AND GAS PRODUCTION*

Abstract

The Organization of Petroleum Exporting Countries [OPEC] since inception, has been playing a regulatory role in the oil and gas industry especially in the pricing and quota allocation regime. This role does not stop price volatility and quota allocation summersault. Perhaps other determining factors influenced and aided the problem. This research appraised the role played by the Organization in the quota allocation and Pricing regime as well as the challenges faced by the organization in regulating and monitoring the activities of its members as well as non-members. Oil and Gas policies from the perspective of OPEC and the future of the Organization is now at stake from non-members, it is therefore imperative for this research to appraise the future of the Organization with a view to determining the chances of its existence.

Keywords: OPEC, Quota Allocation, Price Mechanisms, Oil and Gas Production, Determining Factors

1. Introduction

OPEC, as an organization, are the largest producer and exporter of crude oil and petroleum products globally, providing 40 percent of the world's oil production and 60 percent of the petroleum market. It further controls 80 percent of the world's proven oil reserves, giving it substantial influence on global energy prices. The impact of this influence is seen whenever OPEC increases supply, oil prices drop, on the other hand when it cuts production, prices rise. The Organization has been in the forefront for regulating and advising member States on the challenges of oil and gas and production by her member States, the various challenges in the oil and gas industry and possible threats from non- members who see the existence of OPEC as a restriction of free enterprises and an unnecessary regulatory body who should have allowed each oil and gas producing country to determine how it wants to operate her oil production, sale and distribution mechanism. The United States of America is leading this advocacy. Being one of the biggest producers of crude oil, America is advocating for free enterprises of OPEC member States to free themselves from the regulatory control of OPEC. This is a threat to the existence of OPEC which controls forty percent of the world's oil reserve as at 2022. Determination of Quota allocation by OPEC is done to regulate the oil and gas market and prevent undesirous competition and saturation of the market which has the dangerous effect of affecting market price. No matter the large quantity of oil reserve by a member State, quota allocation is done taken certain factors into consideration especially the ability to tap the oil reserve. OPEC also takes steps to ensure that pricing of oil is moderate and even so that no Member State will be put on a weak position. It tries to be equitable to all members. Since 1982 members of OPEC have frequently agreed upon an overall oil production ceiling and individual production quotas. When situation arises and where necessary, OPEC invites some non-member States on a joint cooperation. They are called OPEC+. Russia is one example. It is one of the largest countries with proven oil reserve and a top producer of oil and gas in the world.

2. History and Formation of OPEC

As a prelude to the formation of OPEC, as far back as 1945, the United Nations General Assembly passed Resolutions 523[iv] adopted at its 6th Session in January, 1952. The UNGA adopted Resolution 626[vii] at its seventh Session same year. Resolution 1314[xiii] at the 13th Session, 1958, Resolution 1515[xv] at the 15th session, 1960, Resolution 1803[xvii] at the 17th Session, 1962. All these resolutions firmly affirm the Principles of States in the enjoyment of sovereignty over their natural resources. The UNGA Resolution of 1962 resolution affirms the sovereign right of States over their natural Resources as a basic principle and component of the right to self-determination over their natural resources. The implication of these resolutions is that the developing States key in to a new international Economic Order to exercise free franchise and control over the sovereign rights of their natural resources. This led to further expansion of the UNGA Resolution when OPEC came on board. OPEC was established in Baghdad, Iraq, in 1960 when some countries came together to find solutions to their oil and gas production that were handled by multinational oil and gas companies in such questionable manners. Iran, Iraq, Kuwait, Saudi Arabia and Venezuela initiated the establishment of OPEC to coordinate and unify petroleum policies of the member States. Membership of the Organization is now 13 Oil and Gas producing States from Africa, the Middle East and South America. They were later joined by Qatar, in 1961, Indonesia and Libya in 1962 United Arab Emirates 1967, Algeria, 1969, Federal Republic of Nigeria, 1971, Ecuador, 1973, Gabon, 1975, Angola[2007], Equatorial Guinea[2017], Republic of Congo¹ Member States were not benefiting from crude sales despite the 400 percent increase in global oil output at the end of 1960 and the realization that oil has overtaken coal as a source of energy by the year 1968 accounting for 60 percent of global energy consumption.² because they don't determine the number of crude barrels produced neither do they have any input on the distribution outlet. The major worry again is the pricing mechanism which they don't determine. All these were handled and determined by the IOCS. Naturally, dissatisfaction and suspicion set in. OPEC has to come up with

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¹ [2018.* OPEC' https://www.opec.org/opec_web/en/about.us/25.htm

² Garavini G.[2019] *The Rise and Fall of OPEC in the twentieth century*, First Edition, Oxford University Press.

policies and objectives defining their aim. The mission objectives are to ensure the stabilization of the oil markets, secure a steady income for member countries and ensure also a regular supply of petroleum to consumers. Other objectives are to control their own production, determine who to sell and distribute to, freely, and determine crude prices in accordance with its policy and circumstances at a given time. It provides data and statistics based on its access to some of the largest global petroleum resources. OPEC realizes that data update is the bases for successful monitoring of global markets Data transparency is fundamental in the monitoring of markets and provide the bases of data driven decision making among market players. This is because energy markets are by nature dependent on an accurate, timely and high-quality data particularly during the period of downturn or structural changes.³

3. African Petroleum Producers Organization

This organization, formally known as African Petroleum Producers Association [APPA]⁴ to serve as a platform for cooperation and harmonization of collaboration and efforts in the sharing of knowledge and skills among African oil producing countries. It has the aim and objective of mitigating the Continent's over dependence on foreign technology and markets for their crude oil and gas.⁵ The move for the establishment of APPA was muted in 1980 through informal meetings of African OPEC member countries in response to the spiral rise of international oil prices during the 1973 oil crises which seriously affected the balance of payments of most developing countries. Although in response to that development, OPEC established the OPEC fund for international Development [OFID] with a mandate to assist developing countries with balance of payment challenges to secure oil supplies for the effective operation of their economies. The problem however is that African member countries discover that the funds allocated is grossly inadequate to cater for the needs of those affected countries whose balance of payment has been seriously affected by the rising cost of energy and therefore could offer little help in balancing their economies. To compliment OPEC's effort in establishing the fund, the APPO agreed to provide oil to those counties that are hard hit and are affected by distorted balance of payment which consequently disable their capacity to pay for oil imports. The organization reserves 4 percent of their production to meet these needs and compliment OPEC's fund.

4. Importance of OPEC's Quota Allocation

Quota is the limits set on the quantity or limits which a member country can produce at a given period. The purpose of this is to control supply, stabilize prices and ensure fair distribution of oil revenues among member countries. OPEC's policy decision on quota allocation and production are influenced by two broad factors. Primary and Secondary. The Primary factor is influenced by internally predicted demand. From 2019-2022, internally predicted demand is the sole determining factor for OPEC's overall production quota allocation and price regimes

The secondary factors include

- Sanctions on OPEC and OPEC+ Members.
Sanctions are restrictive measures imposed by one State to change another States foreign or domestic policy therefore when targeting OPEC and OPEC+ members' oil sector, sanctions aimed to reduce the affected States income by preventing oil export and trade. This can result in OPEC's reduction of oil production. A clear example of the effect of sanction can be seen in the sanctions on maritime sectors. The Cosco shipping tanker for transporting Iranian oil disrupted oil transportation affecting supply. In 2019, USA sanction on Cosco reduced available shipping containers impacting oil supply until lifted in January, 2020. Additional sanctions were imposed in 2020 also in March, 2023 aligning with USA and G7 foreign policies, potentially forcing OPEC to reduce production.
- The discovery of Shale oil.
The discovery and rise of Shale oil is a determining factor in shaping OPEC quota policy. The United States of America and Canada who are not OPEC member States neither are they OPEC+ Members possess large quantity of shale oil reserves. Shale oil extraction involves fracturing rocks with pressurized liquid and can be easily halted and restarted unlike the conventional drilling by OPEC members. The USA has the largest global shale oil reserves with less complex refining capabilities and processes. It became the net petroleum exporter for the first time as a result of increased shale oil production⁶
- Global economic Crisis
- Global cold war, strife and conflicts

³ Hussain H. and Christdoulides P. [2021 OPEC'Sefforts on energy data transparency; Evidence from the organization's 60-year history; OPEC Energy Review 45[1] pp, 44-51 available at <https://doi.org/10.1111/opec.12202>.

⁴ created in January, 27th, 1987

⁵ The headquarters of the organization is in the Republic of Congo Brazaville

⁶ in the year 2019

5. Mechanisms for Quota Allocation

OPEC's Quota allocation to member countries is based on certain important considerations such as-

- *Production capacity of each member*: This includes an evaluation of each member's maximum sustainable production level and each member's adjustment ability in balancing quotas to prevent market over supply or shortfalls. Therefore, differences in production costs among member States due perhaps to geology, technology and infrastructure play a major role.
- Economic needs of each member country are a factor and this involves the financial health of that member in relation to its economic stability and fiscal needs. Ensuring that members receive sufficient revenue to support their economy and ensuring that quotas aligned with the cost structures of different producers.
- *Geo-political factors*: This is another factor in quota allocation to member countries. Political stability of member countries determines whether they will be able to meet up with their quota allocation or not. Influence of both internal and external or regional political stability and dynamics affects production decisions. Member countries like Libya, Sudan to mention a few are examples of political instability.
- *Strategic Alliances help determine quota allocation*: Member countries that have difficulty in meeting up with their allocation can impact on international relations and alliances on quota negotiations.
- *Consensus*: An in-depth discussion and negotiation at OPEC meetings by member countries can alter quota allocation. It is better to lay bare at the meeting for any obstacles that affect the ability of a member country so that OPEC will look into the matter and embark on consensus building with a view to achieving the necessary agreement among diverse member countries.
- Proven oil reserves on their production capacity determine how member States deal with their quota allocation. Member States with high volume of oil reserves are not necessarily top producers. This can be seen in the United States of America leading the top oil producers in the world while the kingdom of Saudi Arabia ranks third. Therefore, the ability of member States to sustain quota allocation largely depends on their ability to tap from as well as manage their oil reserves. OPEC takes into consideration member States long term reserve management and utilization as bases for quota allocation.
- Another important factor or consideration taken by OPEC into account the process of quota allocation is the influence of external intervention most especially by Non-OPEC oil producers in shaping global oil supply. Russia is an example of a non-member of OPEC brought into the fold as OPEC+ because of its large oil reserve and top production which cannot be ignored as a stabilizing State. In response to falling oil prices ⁷ caused by increases in US Shale oil output, OPEC signed an agreement with 10 other oil producing countries to create OPEC+. Among these 10 countries was the world's largest oil producer⁸ Russia alone produced 13 percent of the world total [10.3 million barrels per day.
- International Organizations such as the International Energy Agency [IEA] which came on board in 1974 following the 1973-1974 oil price shocks. It was established to ensure and secure affordable energy supplies by conducting analysis on current and future forecast on risk oil supply, emerging gas challenges, flexibility and security. One of the IEAs activities is ensuring the security of oil supplies. It focuses on the ability of the Agency's ability to react to unforeseen and sudden changes in the demand and supply transaction. Its data gathering and sharing are adopted to foster planning security with the aim of lowering transaction costs.
- *Gas Exporting Countries Forum*: The Organization came on board in 2021. This was initiated by Iran, Algeria, Brunei, Indonesia, Malaysia, Oman, Qatar, Russia, Norway and Turkmenistan, Trinidad and Tobago, Qatar, Venezuela and Angola, Iraq, UAE and Peru who agreed to come together with the aim of fostering the concept of mutuality of interest between producers and consumers of energy, providing a platform for research and exchange of views and data on the gas market. As well as establishing transparent energy market. The forum adopted strategies to expand the role of natural gas for sustainable development for economic, social and environmental progress. Most importantly promote fair price value for natural gas. These can be done through modern technology in the natural gas industry.
- *Global treaties and Agreement*: Influence of international treaties and agreements on pricing and production strategies play a major role in shaping quota and pricing regimes.

6. Pricing Regimes in oil and Gas Production

One of the objectives of establishing OPEC is to ensure a fair deal for member States not only on production quotas but pricing regime of crude oil. It is one of the reasons for agitation by the oil producing States. They had no input in the determination of crude oil price. It has always been the prerogative of the IOCS. Naturally, disaffection as well as dissatisfaction on the meager price fixed by the IOCS need to be addressed. OPEC was quick to identify and come up with what it believes is a pricing strategy as the way out. The pricing strategy includes Price targets which mean fixing price range with the aim of stabilizing the market. Secondly, market

⁷ in the year 2016

⁸ in the year 2022, Russia topped the lead in the world production of oil.

intervention which OPEC adopts by adjusting production levels to influence crude oil prices. The question is what determines oil pricing? These are factors OPEC considers on oil pricing strategies. They are Demand and Supply dynamics. Demand forecast is done to predict future consumption trend to guide production level as this will balance supply with global demand to maintain price stability. Market Speculation is another factor for determining price. Based on trader influence which has an impact of market speculation on short term price movements. Price volatility, effects of speculative trading on market stability. Geo-political events such as conflicts and tension, sanctions and political instability determine oil prices. Policy changes of member States affects price regime. Sometimes this policy shift destabilizes sustainable pricing regime because of the uncertainty created by policy summersaults by the oil producing regions. Technological advances are a determining factor for oil pricing. High-tech equipment leads greatly to improvement in extraction and production of oil in the required quota and lack of it has an adverse effect in determining price.

Alternative Energy drive is a factor that determines oil price regime. The development and transition of oil producing States from non-renewable energy to renewable energy is capable of reducing the demand of oil. Consequently, this will affect pricing especially where supply has become less and less because oil producing countries are searching for alternative way of energy use. Environmental policies are factors to be taken into consideration in oil pricing regimes. Oil producing States have different regulatory regimes that are environment friendly. These States enforces the laws and regulations on oil production strictly to prevent environmental pollution even where doing this will impact on the quantity of oil produced by them. Sustainability Initiatives are necessary. The need for energy security is a consideration on crude oil pricing. The oil producing member States' success in the oil field depends on how far they can sustain production and sale without disruptions. Whenever OPEC is forced to cut production quotas, revenues from oil prices falls considerably. Example of this can be seen in June, 2022 when OPEC cuts production quota when world output/ supply of crude oil exceeded the benchmark of 99million barrels of oil per day. Importance of OPEC'S intervention in the global oil markets is seen in the 1973 embargo when the organization used oil as a political tool and its impact on global markets. Another instance was the 1980's price wars when it responded to market over supply and competition. Its intervention regulated supply through its policy on equity and fairness to member countries. This was repeated in the year 2000 when it reviews its efforts to stabilize oil prices amid fluctuating world demand. The Covid-19 pandemic was another trying period in the oil and gas industry which seriously witnessed an unprecedented drop in global oil demand.

7. Challenges of OPEC's Quota Allocation System

This is viewed from two perspectives. There are internal challenges which consist of Compliance Issues as a result of difficulty in monitoring and ensuring that member States adhere to agreed allocated quotas and producing according to allocated slots. There are also the diverging interests of member States especially in managing divergent and conflicting economic and political interests among member States. The second perspective are External Criticisms, this is seen from critiques from oil producing countries regarding price manipulations by the powerful producers for political and economic gains. The other concern comes from Environmental Advocates who are campaigning against global dependence on fossil fuel without paying attention for transition to renewable energy. Opposition from Non-member Countries such as USA, China and Canada who believe that OPEC is restrictive and making subtle moves to ensure the disbandment of OPEC members to abandon the membership of the organization. The USA Anti- trust laws aim to promote competition and prevent monopolistic practices [a subtle criticism of OPEC]. Another challenge is the NOPEC Legislation which proposes applying US Antitrust laws against OPEC to combat price fixing. All these are done with a purpose to increase and promote competition and lower oil prices. However, the antitrust laws may not have much impact because of the legal challenges bordering on issues of jurisdiction and sovereign immunity which will complicate enforcement against OPEC and OPEC+ member States. These anti-OPEC membership moves is a source for concern for OPEC as an organization especially with the current declining oil demand, competitive energy sources and different economies of member countries and development.

8. Conclusion

The saying that two heads are better than one captures the importance of OPEC in the Stabilization of quota allocation and pricing regimes. Member countries now enjoy energy security through group cooperation in the form of agreements and even treaties. The significance of this cooperation leads to a healthy global oil market regulated supply to meet demands. The advantage of this cooperation enables OPEC to control the production of 40 percent of world oil production with the production of 28.7 million barrels of oil per day while Non-OPEC members produce 16.5 million barrels per day.