

The impact of Oil Prices on the International Economic Arena: The Economic Factors and International Players

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Abstract

Throughout history the new technologies and discoveries revolutionized the way we live. The discovery, the oil, has been critical for society, becoming the world's most profitable and essential industry transforming itself from domestic to international business. The aim of this paper, above all is to analyze the role of oil and its price volatility in world economy. The ongoing changes and transformations in world oil industry tend to have a great effect not only on the oil-importing countries but also on oil-exporting nations. The demand or supply-triggered oil price volatility differ in its effects to world economic activity. Although it may have different effect for the oil importing nations in comparison to oil exporting nations, still inflationary pressure may be a common feature. A number of points relevant to the study are put forward highlighting pros and cons of issues discussed. The paper also elaborates the environmental concerns, deriving from the increase of oil consumption and the necessity (globally) to increase efforts in finding a decent,(environmentally friendly) replacement for oil.

Keywords: Oil, Microeconomics, Macroeconomics, OPEC, Saudi Arabia.

1. Introduction

The nineteenth century political developments shaped, to a large extent the world political map, but the century was very important also to new technological inventions, (photography, telephone, first steam-powered locomotive etc) and the discovery of oil. Emerging economies and their rapid economic development have transformed world's oil flow supply structure. The micro and macroeconomics effects of higher oil prices are creating enormous difficulties to national governments that are often forced to find the painstaking formula in order to decrease the impact.

Yet still, global management of oil price dynamics by players such as world's big powers, oil-producing countries and oil organizations (such as OPEC - the Organization of the Petroleum Exporting Countries) has proven to be rather challenging. Oil has also become a political tool effecting bilateral and multilateral relations worldwide. The developments and transformations occurring in world oil industry are interesting to observe and study, as they will, very likely, shape the economic and political future for many generations to come.

2. Oil reserves, production and demand

As the demand for oil is constantly going up, countries are exploring new potential oil-finding territories to find more oil wells. Explorations for oil are, indeed, proving to be worthy. Due to exploration of oil fields the oil reserves are increasing from one year to another. While at the end of 2011 proved reserves were estimated at 1.52 trillion oil barrels or around 3.3 % up from the year 2010, at the end of 2012 the oil reserve estimates are calculated to have increased enormously, reaching 1.63 trillion oil barrels, an increase of 7.2% (in comparison to the year before). See table below.

Table 1: World Oil Reserves

| Rank | Country | Proved reserves (billion barrels) Jan 1, 2013 | Proved reserves (billion barrels) Jan 1, 2012 | Proved reserves (billion barrels) Jan 1, 2011 | Share of Total (%) Year 2012 |
|--------------------|----------------------|---|---|---|------------------------------|
| 1 | Venezuela | 297.6 | 211.2 | 211.2 | 18.20% |
| 2 | Saudi Arabia | 265.4 | 264.5 | 260.1 | 16.20% |
| 3 | Canada | 173.1 | 173.6 | 175.2 | 10.60% |
| 4 | Iran | 154.6 | 151.2 | 137 | 9.40% |
| 5 | Iraq | 141.4 | 143.1 | 115 | 8.60% |
| 6 | Kuwait | 101.5 | 101.5 | 101.5 | 6.20% |
| 7 | United Arab Emirates | 97.8 | 97.8 | 97.8 | 6.00% |
| 8 | Russia | 80 | 60 | 60 | 5.00% |
| 9 | Libya | 48 | 47.1 | 46.4 | 2.90% |
| 10 | Nigeria | 37.2 | 37.2 | 37.2 | 2.30% |
| World Total | | 1637.9 | 1520.1 | 1469.6 | 100% |
| TOTAL OPEC | | 1204.7 | 1112.9 | 1064.8 | 73.55% |

Source: Worldwide Look at Reserves and Production [Table],¹ *Oil & Gas Journal*, Volume 110, Issue 12, December 3, 2012, pp. 30-31, and Worldwide Look at Reserves and Production [Table], *Oil & Gas Journal*, Volume 109, Issue 49, December 5, 2011, pp. 28-29

From the latest estimates, Venezuela tops the table of world oil reserves with estimates going beyond 297 billion barrels (an increase of 29% in comparison to the year before).¹ Saudi Arabia is second with estimates of around 265 billion barrels followed by Canada with 173 billion barrels, Iran with 154 billion barrels, Iraq with 141 billion barrels and the top-ten table of world oil reserves ends with Nigeria that possesses over 37 billion barrels of oil reserves (see the table above). Since oil is considered today the world's most profitable industry, having rich oil reserves tends to be advantageous both politically and economically for the governments that possess them. Nations' oil wealth may result in improvement in relations in

¹ Calculated from the data presented in the Table 1.

the region and beyond (by making special oil-price contracts²), however, due to direct or indirect competition, and resulting political repercussions, country's oil wealth make cause inconvenience not only in the neighborhood but also further³.

Due to national interests, economic concerns and competition the oil reserve estimates may, at times, not be accurate. This intentionally misleading occurrence derives from political evaluations at a given time. The famous *Oil & Gas Journal* that is concerned with the issue, confirms this by noting that majority of the "...reserves estimates come from governments, which control most reserves. Government reserves estimates frequently are influenced by geopolitical pressures."⁴ In addition, journal remarks that some influential and oil rich countries such USA and Russia for their own interests opt for not updating or disclosing national oil reserves.⁵

Along with oil reserves increase, the world oil production is also increasing year after year. During 2012 the world oil production was estimated and calculated to 75.7 billion barrels, an increase of 2.83% in comparison to the previous year, while during 2011 oil production was estimated to have increased by around 1.3% from the year 2010. See table below.

According to estimates for 2012, Russia is the leading oil production nation with more than 10.4 billion barrels per day. Saudi Arabia is second with 9.9 billion barrels per day, followed by USA with 6.3 billion, China with 4 billion, Canada with 3 billion and list of ten leading oil production nations ends with Mexico that produces 2.5 billion barrels per day of oil. However, according to recent forecast by around 2020, the USA could become world's largest oil producer, but still not likely to become a country that exports oil.⁶

² BBC Homepage (November 23rd, 2005), Venezuela gives US cheap oil deal on <http://news.bbc.co.uk/2/hi/americas/4461946.stm> [Accessed on 4th March 2013]

³ During the summer of the 1990, Iraq accused Kuwait of overproduction of oil, thus lowering price of oil. That in turn meant that Iraq is making less profit and lost \$14billion in oil revenues. See Murdico, S. J. (2004), *War and conflict in the Middle East: The Gulf War*, Rosen Publishing Group: New York, p. 13

⁴ Worldwide Look at Reserves and Production [Table], "*Oil & Gas Journal*, Volume 110, Issue 12, December 3, 2012, p. 28

⁵ Ibid p.29

⁶ Norris, F., (November 24, 2012) *Oil Supply Is Rising, but Demand Keeps Pace and Then Some*, New York Times, p.B3

Table 2: World production of oil

| Rank | Country | Est. Production 2012 (1,000 b/d) | Production 2011 (1,000 b/d) | Production 2010 (1,000 b/d) | Share of Total (%) Year 2012 |
|--------------------|----------------------------|---|-----------------------------------|-----------------------------------|---------------------------------------|
| 1 | Russia | 10,450.0 | 10,330.0 | 10,200.0 | 13.80% |
| 2 | Saudi Arabia | 9,960.0 | 9,342.1 | 8,130.0 | 13.15% |
| 3 | USA | 6,330.0 | 5,658.0 | 5,474.0 | 8.36% |
| 4 | China | 4,080.1 | 4,075.7 | 4,087.8 | 5.39% |
| 5 | Canada | 3,095.3 | 2,903.5 | 2,745.0 | 4.09% |
| 6 | Iran | 3,053.0 | 3,579.2 | 3,700.0 | 4.03% |
| 7 | Iraq | 2,880.0 | 2,656.7 | 2,370.0 | 3.80% |
| 8 | Kuwait | 2,753.0 | 2,499.6 | 2,030.0 | 3.64% |
| 9 | United Arab Emirates | 2,649.0 | 2,504.8 | 2,306.7 | 3.50% |
| 10 | Mexico | 2,535.0 | 2,549.9 | 2,575.9 | 3.35% |
| World Total | | 75,716.6 | 73,575.0 | 72,617.9 | 100% |
| TOTAL OPEC | | 987.6 | 917.6 | 847.7 | 42.38% |

Source: Worldwide Look at Reserves and Production [Table], "Oil & Gas Journal", Volume 110, Issue 12, December 3, 2012, pp. 30-31, and Worldwide Look at Reserves and Production [Table], *Oil & Gas Journal*, Volume 109, Issue 49, December 5, 2011, pp. 28-29

Based on current production scale, today's estimated oil reserves will be sufficient for around 20 years.⁷ However, if one considers the rapid growth of emerging economies such as China and India, then demand for oil may likely increase further. In such a scenario the global oil reserves may be finished earlier than the calculated amount of around two decades, but if rate and amount of significant discoveries of oil wells (that are occurring every year) resumes for many years to come, then, the picture may look more optimistic.

⁷ Calculation based on data from Table 1 and Table 2.

3. The effects of high and volatile oil prices

High and volatile oil prices have micro and macroeconomic impact on all states, however, the oil importing nations and developing nations are the most severely affected due to the increased costs of energy, food articles and transport. Nations with a great share of oil in their primary energy supply are particularly at risk to high and more volatile prices. Even in the developed world the effects of high and volatile prices are apparent but the level of damage in their respective economies may differ. This is confirmed also by a study of three Japanese economists, Fukunaga, Hirakata and Sudo (in their research titled "*Effects of Oil Price Changes on Industry- Level Production and Prices*") comparing Japan and the USA who came to the conclusion that the scale and persistence of the global oil shocks effects varies significantly from one country to another.⁸

The global oil price and market are, however, influenced by a range of structural shocks. Due to unexpected disruption of oil supply, for technical reasons, or due to political instability in the oil production nation, the oil demanding countries may experience sudden oil supply shock that may have severe affect on their economies. Rising demand for more oil (e.g. by the new emerging economies) may also trigger oil demand shocks that impacts the oil price too. This means that there is little oil production in the market while the demand is high, inevitably, in such a scenario the price of product increases. In addition, there are also oil-specific demand shocks deriving from precautionary demand coming up from uncertainty about the future oil supply.

4. The microeconomics and macroeconomics effects

When one analyzes the reflection of oil prices in economy, it is essential to focus at both levels: micro and macro. Once the oil prices go up, very often, so does the cost of electricity production, food articles and transport, that undoubtedly have extensive effects on the country's economy. In such a situation, there is little citizens can do without government intervention. Yet still, in some cases when oil price shocks are too large in scale, even strong governments often have no formula to counter the damage incurred,

⁸ Fukunaga, I. Hirakata, N, &Sudo, N (2011). *Effects of Oil Price Changes on Industry- Level Production and Prices* cited in Takatoshi, I. , & Rose, A., (Ed.) (2011) *Commodity Prices and Markets*: University of Chicago Press: Chicago. p.219

and recession may ensue. The famous economist James Hamilton in his working paper called *Historical Oil Shocks* analyzing the US economy notes that:

“All but one of the 11 postwar recessions were associated with an increase in the price of oil, the single exception being the recession of 1960”.⁹

There is a famous saying that when the US economy sneezes or coughs, the world gets pneumonia. Therefore, the reflection of recession is very often contagious especially when global top economies are affected. At the microeconomics level, citizens experience reduction in salaries due to higher inflation and a substantial proportion of house income is oriented towards meeting the increased fuel costs. In addition, investment insecurity as an outcome, deriving from the high risk of getting involved in new projects and related development, has great effects on short-term strategic decisions and national economic growth. Elaborating the high oil price effects on the economy, the World Bank study remarks that:

“At the microeconomic level, utilities’ energy planning ability and household purchasing power may be affected as higher oil prices are passed on to consumers. Firms’ investment projects may become economically or financially unviable, while households may have less discretionary spending and experience an overall welfare loss.”¹⁰

Micro and Macroeconomics are closely linked and they affect each other. When citizens possess less money to spend, due to high oil prices effects, the macro-level consumption is severely affected, which in turn may weaken businesses’ prospects. In addition, we all witness that salaries don’t increase to counterbalance rising oil prices. Indeed, as oil prices have risen since the 1990s, wage growth is not symmetrical. Therefore, if wages do not increase, and prices of goods and services do, then citizens sense the decrease in living standard. This disparity leads to discomfort, and as a result, many consumers opt for long-term cut in spending.

⁹ Hamilton J., (2011) *Historical Oil Shocks*. University of California, San Diego, p.26

¹⁰ World Bank Report (2012), *Mitigating Vulnerability to High and Volatile Oil Prices: Power Sector Experience in Latin America and the Caribbean*, World Bank: Washington D.C. p.14

In addition, due to deteriorating state of the regulatory framework, the governments are often forced to intervene by offering nonmarket mechanisms, such as energy subsidies, in order to counterbalance the severe effects of high oil prices.¹¹ During 2008 high oil crisis, many governments of severely affected countries were forced to offer associated benefits on household welfare the cost of which reached about 1 % of their total GDP.¹²

High and volatile oil prices have also an enormous effect on macroeconomics dimension. At the macroeconomics level country's trade balance, inflation, unemployment and fiscal deficit is negatively affected. The crucial direct effects at the macroeconomics scale are a worsening trade balance, due to higher import costs, and a worsening fiscal balance caused by increased government transfers and subsidies to protect energy market and overall economic stability.

Therefore, the high oil prices poses a problem for the world economy as the oil price variation very often has the domino effect on nearly all products and services. Volatile oil prices cause risks and instability in the macroeconomic climate, affecting crucial segments such fiscal balance, government spending, inflation, unemployment and economic growth. As mentioned earlier, when oil price rises, slowly the cost of other products and services increases too. This derives from the fact that oil is used in many ways to grow and transport food, thus, the cost of food raises too. In addition the price of transport for goods in all categories rises as well, as oil is used in practically all manners of transports. Also, the price of other products relevant for infrastructure, for instance asphalt and chemical products (that are made from oil) increases too.¹³

What happens next is pretty obvious. Once the oil prices go up, it is hard to imagine that they may go down easily, except in recession. So far no cheaper substitute for oil has been found and, moreover, the price for oil extraction is now increasing gradually. As world oil production costs are

¹¹ Ibid p.129

¹² World Bank, *Global Monitoring Report 2012: Food Prices, Nutrition, and the Millennium Development Goals* : Washington DC: World Bank, p.113

¹³ Tverberg, G., Ten Reasons Why High Oil Prices are a Problem in <http://ourfiniteworld.com/2013/01/17/ten-reasons-why-high-oil-prices-are-a-problem/> [Accessed February 25, 2014]

increasing and expecting to increase further in years to come¹⁴, it is rather naive to think that oil price decrease may be somewhere in the horizon.

4.1 Business decline and unemployment increase

As mentioned above, oil price rise often leads to recessions. This happens because, during financial uncertainty, consumers opt for a cut back, avoiding especially non-essential spending, in order to have enough money for basics, such as food and petrol for travelling. Such cut-backs in spending lead to unemployment in those sectors of the economy that consumers opted for cut back (e.g. going on holidays and restaurants). Indeed, when oil prices are high, people understandably have less financial resources to consider a vacation travel, thus the demand for airline tickets drops, prompting airline management to consider closing down certain destinations. Consequently very likely the reduction of the number of airline staff may ensue. The potential rise in unemployment in such business sectors as airline, hotels and catering industry will further aggravate the spending capacity, which, in turn deepening further crises in other sectors too.

Businesses in general, however, experience drop in profitability. Some companies in certain sectors may have no option but to shut down their business while others may opt for lay off workers in order to survive. While the effect of high oil prices stays, this makes it harder for businesses to recover and find new formulas for continued existence. Many companies that close rarely re-open again, other may consider moving to other countries that offer lower operating costs. As a result, employment levels decrease, until a potential recovery starts and above all, the business map and competitive climate is likely to encounter serious transformation.

4.2 High oil prices vis-à-vis employment effect in rich oil nations

While analyzing the unemployment segment, an important question that may be raised is: do high oil prices, in oil production states, effect positively their employment sector and the economy as a whole? Logically, high oil prices have tendency to lead to more employment in the oil sector, which in turn has the capacity to increase oil production and potential revenues. Consequently, those employees may have more purchasing

¹⁴ Reuters, *Shale oil can't stop crude topping \$150 by 2020-Bernstein* on <http://www.reuters.com/article/2012/09/11/oil-bernstein-idUSL5E8KB7DL20120911> [Accessed on February 21, 2013]

power, but is the increase in oil production and respective rise in employment a cure for the economy?

First, the number of people employed in oil production sector is too little to affect the economy. In the rich oil exporting countries, the rise in oil prices that increases revenues does not necessarily recycle to other citizens well. Oil production effects on employment are marginal too. In Saudi Arabia the percentage of people employed in oil sector is only around 1.1% of the total employment.¹⁵ In Kuwait the number of people employed in oil industry is extremely low, because nearly all Kuwaitis work for the state, mainly in education sector.¹⁶ In the USA, the famous economist Paul Krugman argues that:

*"Employment in oil and gas extraction has risen more than 50 percent since the middle of the last decade, but that amounts to only 70,000 jobs, around one-twentieth of 1 percent of total U.S. employment. So the idea that ...drill can cure our jobs deficit is basically a joke."*¹⁷

Second, the high oil prices means also high food prices, therefore the citizens of oil exporting nations may have to pay much higher prices for food products. The World Bank Report notes that countries in the Middle East and North Africa that rely heavily on food imports and higher international food prices put significant pressure on governments and citizens budget to handle crises.¹⁸ Many believe that widespread poverty in certain oil rich countries (Libya, Egypt and Syria) is considered to be the main cause of Arab spring. Therefore, as the high food prices are strongly related to higher oil prices, the citizens of many oil production countries (e.g. Iran, Iraq, Libya, Nigeria etc) due to unfair share of oil revenues for benefit of the nation as a whole, experience pain and suffering.

¹⁵ IMF Country Report (2012), *Saudi Arabia: Selected Issues*, IMF Publication Services: Washington D.C. p.16

¹⁶ Etheredge, L., (2011), *Middle East Region in Transition: Persian Gulf States: Kuwait, Qatar, Bahrain, Oman, and the United Arab Emirates* Britannica, Educational Publishing: New York p.42

¹⁷ Krugman P. (March 16, 2012) *Natural Born Drillers*, *The New York Times*, p. A27

¹⁸ World Bank, *Global Monitoring Report 2012: Food Prices, Nutrition, and the Millennium Development Goals* : Washington DC: World Bank, p.39

4.3 Government actions

Governments are responsible to stabilize the economy by coordinating Macroeconomic policy instruments. During volatile oil prices governments may intervene by structuring unemployment benefits, invent creative programs encouraging citizens to spend, offering stimulus payments, and finally by lowering interest rates, as measures to battle economic depression.

Furthermore, the governments may also be forced to intervene in order to bail out banks affected by crises. Consequently tax collection rate, due to lower employment, is usually affected severely. The financial commitments to replace physical infrastructure is another problem for the governments. In fact, often high oil prices tend to be among the main reasons why governments (especially large oil importing nations, but also others) face severe financial problems. When the financial turmoil reaches a recession point, then, the intervention of the regional or international financial institution assistance is a necessity.

5. World oil flow- Transformations in worlds supply structure

Due to economic transformations in the emerging economies, oil suppliers are moving to growth area such as China, India and Malaysia. During the last five years the oil demand quantity has been shifted from the West to the East. While oil demand in Europe has grown annually by 2.2 %, in North America by 0.9%, in Asia has increased by 4.7% annually, and as a result of such increase Asia now makes up about 32% of total oil demand, followed by North America (the USA and Canada) with 26% and Europe by 16%.¹⁹

According to recent estimates the United States alone consume about 22 % of the total oil used in the world while the Chinese make up about only 11%. However, by 2030 analysts forecast that the China will overtake the USA as top oil consumer.²⁰ Energy demand worldwide is also likely to grow about 35% by the year 2035, with estimates that China and India playing the major part in that global demand energy increase.²¹

¹⁹ Jacoby, D., (2012) *Optimal Supply Chain Management in Oil, Gas, and Power Generation*, Penn Well Corporation: Oklahoma, p. XX-XXI

²⁰ Norris, F., (November 24, 2012) *Oil Supply Is Rising, but Demand Keeps Pace and Then Some*, New York Times, p.B3

²¹ Ibid

Since oil industry is so important, that plays a fundamental role in driving the economy and moreover it is utilized for a number of products, besides serving as the global primary fuel source, demand for it, therefore, gradually grows. When the demand for oil increases matches the highest limit of production capacities, then the price shock volatility is inevitable. Paul Krugman notes that “Oil prices are up because of rising demand from China and other emerging economies...”²²

There is a tendency that nations in the middle stages of their transition have the highest oil demand, and as a result they spend a higher portion of their income on oil than nations at the beginning or end of transition. The most populated countries, China and India that make up about one-third of total world labor force are case in point. The rationale behind is that oil demand grows as structural transformation progresses.²³

As the agriculture is the backbone of Chinese and Indian economy, this sector’s oil demand increases as structural transformation progresses. Furthermore as Radoslaw Stefanski in his (Oxford University based) research paper titled *Structural Transformation and the Oil Price* explains

*When agriculture dominates the economy in the early stages of structural transformation, the rising oil intensity of the agricultural sector drives rising aggregate oil intensity. When non-agricultural sectors begin to dominate the economy at later stages of structural transformation, the falling intensity in industry and services drives falling aggregate oil intensity.*²⁴

Besides China, India, Malaysia, also big producing countries such as Saudi Arabia and other Middle East countries have increased oil consumption. Saudi Arabia with about 2.8 million b/d is already world’ sixth-largest consumer, in other words it is consuming more than a quarter of its oil daily output.²⁵ The six Middle East OPEC members increased oil consumption by 56 % during the last decade.²⁶ As a result of the increasing

²² Krugman P. (March 16, 2012) Natural Born Drillers , *The New York Times* , p. A27

²³ Stefanski, R., (2013) Structural Transformation and the Oil Price, OxCarre Research Paper 48 on <http://www.oxcarre.ox.ac.uk/files/OxCarreRP201048.pdf> [Accessed on February 25, 2014]

²⁴ Ibid

²⁵ The Economist, (March 31st, 2012), *Keeping it to Themselves: Gulf States not only Pump Oil: They Burn it too*, Vol 402, No.8778, pp.81-82

²⁶ Ibid

oil consumption Saudi Arabia began to think about alternative energy sources and in 2011 it built its first solar power station.²⁷

As the countries continue to grow the need for energy, naturally, increases. The oil reserves are consumed at over 75 million barrels per day²⁸ (or over 27.6 billion barrels annually) and this oil consumption rate has great probability to increase further. With oil reserve limits to finish not in a too distant future, the concern for the way to find substitution for oil energy is reaching a critical stage. At present, the oil is world's crucial energy source (contributing to around 35% energy) and according to estimates it is likely to continue to lead the energy market share at least up to the end of this decade. However, according to latest *World Oil Outlook* report, coal may overtake oil, and become the world's top fuel type contribution for energy, by the year 2035. (See Table 3 below)

Table 3: Fuel type contribution to World energy 2009-2035

| | FUEL SHARES % | | | |
|------------------|---------------|--------------|--------------|--------------|
| | 2009 | 2010 | 2020 | 2035 |
| Oil | 35.0 | 34.7 | 32.1 | 27.2 |
| Coal | 29.3 | 29.5 | 30.1 | 28.6 |
| Gas | 22.6 | 22.8 | 23.8 | 26.0 |
| Nuclear | 6.3 | 6.1 | 5.7 | 6.0 |
| Hydro | 2.5 | 2.5 | 2.6 | 2.9 |
| Biomass | 3.6 | 3.7 | 4.3 | 5.4 |
| Other renewables | 0.7 | 0.8 | 1.4 | 3.5 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

Source: OPEC (2012), *World Oil Outlook 2012*, OPEC Press, Vienna, p.46

²⁷ Al Arabiya News, (October 5, 2011), *Saudi Arabia's first solar power station inaugurated on Farasan Island* in <http://www.alarabiya.net/articles/2011/10/05/170310.html> [Accessed on 26th February 2013]

²⁸ See Table 2, p.4

Coal energy is unpopular and its concerns are widespread due to high environmental pollution. Yet, the research on this field has, however, never stopped. Having a clean energy has become the topic of main debates in main capitals of world. According to a recent report in the USA, the Ohio State University scientists, after 15 years of research, have discovered a process that eliminates the coal pollution by 99 percent (source). This new technique takes the energy from coal but without burning it -- and eliminates practically all of the pollution.²⁹ This discovery and others concerning pollution-free energy (such as biofuels) brings hope for the clean surroundings for future generations, reduces our anxiety regarding global warming.

6. OPEC'S role in oil prices and its limits

The Organization of the Petroleum Exporting Countries (or OPEC as it is commonly known), is created in 1960 with the aim of securing supply of oil to consumers, and later acquired a say in pricing. Its twelve members³⁰ (eight of which are in the list of top ten richest countries with oil reserves), are from three different regions: Middle East, Africa and South America. According to latest estimates, the OPEC nations make up 73.55% of world total reserves of oil,³¹ and during 2012 contributed with 42.38 % from the total world oil production.³²

Since the organization is richest in oil reserves and makes up the bulk of world oil production, an inevitable question that arises is, *can they actually play a major role in controlling the oil prices?*

History has indeed shown that OPEC has rarely been successful at controlling oil prices. One of the main objectives of the OPEC is a mechanism to oblige members on quotas. The only such mechanism in this organization is Saudi Arabia that has spare capacity and therefore the power to manage the crises, but not the OPEC as a whole. Powerful

²⁹ FoxNews, (February 20, 2013) *Coal: the cleanest energy source there is?* <http://www.foxnews.com/science/2013/02/20/coal-cleanest-energy-source-there-is/> [Accessed on February 21, 2014]

³⁰ The OPEC members are: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Its headquarters are in Vienna, Austria.

³¹ See Table 1, p.4

³² See Table 2, p.6

countries such the United States rely on Saudi Arabia not only as a source of oil supply³³ but also to counter pressures within the OPEC regarding higher prices.³⁴ Oil often found itself to be a key political instrument enabling powers to drive their political and/or economic agenda, critically effecting oil flow and/or oil price. Recently, the USA tightened sanctions against Iran, that mainly meant Tehran's ability to sell oil, then in turn asked directly Saudi Arabia, not OPEC, to increase production and ensure that the oil price did not skyrocket. The kingdom agreed to Washington request and consequently prices remained relatively stable.³⁵

It is therefore fair to say that the main player, within the most powerful oil organization, is the kingdom of Saudi Arabia, but *to what extent can the kingdom (or OPEC as a whole) affect the oil price from rising?* There were several attempts to control oil prices during the last two decades but the results were not satisfactory. For instance, at the beginning of the last decade OPEC had a policy of keeping within \$22 and \$28 per barrel, and intervening if price went lower than \$22 per barrel by reducing the production, and opposite reaction (reduces the production) if the price went above \$28 per barrel.³⁶ Although in reality this theory looks implementable, the OPEC did not succeed to maintain this price range plan as price of oil skyrocketed during the period between 2002 and 2008.³⁷ The latest development in world economic and political arena made OPEC uncertain on how to intervene to stabilize the oil prices. Today the OPEC cannot control the oil price because the production is often at the maximum capacity. In other words, once the Saudi Arabian oil production is at maximum scale, there is no other mechanism at disposal (within the OPEC) to stop the oil price going up.

Potential of Venezuela in oil market should not be overlooked. Even though it has the highest oil reserves, Venezuela still requires wise investment in political sector (to develop internal political stability) and financial injections in oil wells in order to become a significant and

³³ Krauss, C., (August 17, 2012) *U.S. Reliance on Oil From Saudi Arabia Is Growing Again*, New York Times, p. A1

³⁴ Niblock, T., (2013), *Saudi Arabia: Power, Legitimacy and Survival*, Routledge: New York, p.170

³⁵ Krauss, C., (August 17, 2012) *U.S. Reliance on Oil From Saudi Arabia Is Growing Again*, New York Times, p. A1

³⁶ Schaller, S., (2011) *Don't Toil - Trade Oil: How to Make Double-digit Profits with the New Oil Price Formula*, Druck und Verlag: Berlin, p.57

³⁷ Ibid p.58

influential player in the oil market map. Once the country reaches the production capacity in line with its potential, then very likely the world powers may change the course of action towards Venezuela's regime overlooking certain western promoted democratic criteria for the elections and administration, just as happens with other big oil producing nations.

Another important concern is price raise forecast. Therefore, along with uncertainty to stabilize the oil prices, comes the uncertainty in predicting when the oil price will go up. In the past, the experts in the field of oil price volatility were, to certain extent, making the right calculations regarding estimation when the price of oil is going to go high or low. However, as Salvatore Carollo, the author of the book *"Understanding Oil Prices: A Guide to What Drives the Price of Oil in Today's Markets,"* notes, the times have changed and it is becoming extremely challenging to know when the oil price changes are going to occur and how they will be shaped. He explains his line of thinking when he says:

"Since the end of 1998 analysts, oil companies and producing countries have mistaken every forecast of the price of oil, clearly showing not only that they no longer control the fundamental market mechanisms, but that they are not even able to comprehend its real dynamics..."³⁸

As the need for the oil and energy is increasing, from one year to another, the world is anxious about the nature of uncertainties regarding oil price developments. With unreliable oil price forecast, and moreover OPEC's inability to decrease potential oil price rise, the world is faced with simple dilemma, how to cope with further oil price increases especially if the demand grows and production is at highest limit.

A short term solution would perhaps be investing in Venezuela's oil wells, in order to increase capacity of production, in line with its top-ranking oil wealth reserves status. This could be achieved if world economic growth concerns precede political interest of influential countries and their respective corporations. However, with current increase in demand for oil, (whose reserves are forecasted to running out in a few more decades) investing in reliable alternative energy research is no longer a wish but a must.

³⁸ Carollo, S. (2012) *Understanding Oil Prices: A Guide to What Drives the Price of Oil in Today's Markets*, John Wiley and Sons: West Sussex , p.1

Finally, unlike oil energy and the related grave concern about greenhouse emissions (especially carbon dioxide from fossil fuels), the future reliable alternative energy inventions must be environmentally friendly so future generations can, at least, breathe cleaner air. Therefore, reducing global oil dependency, focusing on climate change issues, and investing in climate friendly sources is the principal imperative of the twenty-first century. Reaching these objectives may take time, but we are likely to be rewarded.

7. Conclusion

This study addresses the interplay among three segments in the context of the world oil industry - high price volatility, economic challenges, as well as supply and demand equilibrium, vis-à-vis human welfare, national economic security and the necessity for clean energy inventions. This study established that examining the effects of high oil prices and understanding the responsibility it has in determining the outcome in global economy, is imperative in today's challenging and volatile oil market.

The rising oil prices have, however, both direct and indirect effect on citizens' income. The citizens are challenged not only with direct increases of the cost of oil products they use, but also with the indirect consequent rise of prices of other products they consume. The major concern in this regard is how can volatile oil prices be anticipated and studied in order to reduce the potential of negative consequences. Unlike in the past, where rate of prediction was higher, today there are no mechanisms to control or predict oil prices, despite enormous efforts and resources allocated in this direction.

The chain effect of oil price volatility for the world economy is indisputable as trends in oil supply and demand market have consequences not only for oil importing nations but also for the oil exporting economies, effectively resulting in increase of oil extraction cost. This, in turn, makes it almost impossible for the reverse of oil prices to the previous state.

An important lesson learned is that international players no longer can have a constructive effect on the stabilization of the oil price. With the emerging economies at full steam, the demand for oil is increasing rapidly often touching maximum production capacity limits. In the circumstances when the oil production is at maximum, matching the oil demand, then

there is no effective mechanism to productively adjust or stabilize the oil price. In the past, Saudi Arabia was often asked to increase production in order to cover shortages in international oil market, effectively stabilizing the global oil price.

The world main capitals, nowadays, continue with the debates on what can the global big players (the OPEC and other rich oil nations) do to minimize the unpredictable challenges that are to be encountered. At current stage, there is still no solution in the foresight, yet still attempts should be made. In parallel, the world international actors should also commit more efforts and resources to find ways in reducing oil dependency.

Due to limited oil reserves and the growing global concern about greenhouse emissions scientist must, indeed, double their efforts to invent and discover clean energy sources. The future focus on the new inventions should be, after all, creative and all encompassing. With global environmental concerns increasing and moreover with the oil reserves lasting a few more decades, reducing oil dependency is not any longer an alternative, but a necessity.

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