COVID-19 and the Politics of Russia and Saudi Arabia: Oil Prices and Security

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Abstract

The aim of the study is an attempt to examine the impact of oil prices on the politics of Russia and Saudi Arabia in terms of economic security. This research covers the period from February 1, 2000 to March 10, 2020. This study uses qualitative and quantitative methods to measure the effectiveness of Russia's influence in Saudi Arabia. The research began with a multidimensional comparative analysis and evaluation of data on the price of one barrel of crude oil in the world on a daily basis in the period 2000-2020 in terms of the impact of the COVID-19 pandemic and the politics of Russia and Saudi Arabia. The considered data obtained from the website www.eia.gov was grouped and specified in order to discover the regularities governing them. Then, advanced research tools were used to analyze and evaluate them dynamically in the form of categorized box-plot charts. The conclusion of the research is that low prices of crude oil per barrel over a long period of time may be a reason for the emergence of the global financial crisis. As a result, Russia suffers financial losses. Overcoming the crisis requires signing international agreements which are hampered due to the own interests of the leaders of world economies: the United States, China and Russia.

Keywords

COVID-19, oil prices, Russia's policy, safety, Saudi Arabia

1. Introduction

The direct effect of the COVID-19 pandemic is the weakening of individual sectors of global economies, mainly: transport, tourism, gastronomy and others directly related to them. This, in turn, has had an impact on the politics and situation of countries such as Russia and Saudi Arabia.

The justification for undertaking this research was the observation that there is a lack of multidimensional comparative analyzes in the literature on the geopolitical situation of Saudi Arabia and Russia in terms of the level of oil prices and their fluctuations caused by the COVID-19 pandemic.

The research problem of this study focuses on multidimensional comparative analyzes of oil prices dynamically in terms of the impact of the COVID-19 pandemic, the politics of Russia, Saudi Arabia and security.

This study used research methods that allowed us to solve the research problem adopted in the introduction. Theoretical and empirical methods were used to achieve this goal. This article reviews the literature on Russia and Saudi Arabia's politics, oil prices and the COVID-19 pandemic. A comparison method was also applied to evaluate the grouped dependent variables of the oil prices in dynamic terms. The method of time series analysis was used which made it possible to detect regularities in the form of trend and seasonality on a monthly basis in crude oil prices in the considered retrospective data.

2. Literature analysis of the research subject

In order to present the entirety of the considerations in the article, it was necessary to refer to literature on the subject. It began with issues related to the infectious disease COVID-19.

At the end of 2019, the world faced a new virus strain called the coronavirus (2019-nCoV) which tends to spread rapidly and poses a threat to humans. Its first links were observed in Wuhan, China (Grochot, 2020; Zhu, et al., 2020). On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic (Satomi, et al., 2020). Currently, thousands of people in different parts of the world have been infected with the new strain of the virus.

The situation that has arisen gradually leads to a slowdown in the economies of many countries in various aspects and raises concerns in the broad sense (Matuka, 2020). Even the president of the world's largest economy, Donald Trump, announced government aid for various sectors of the economy, including the hotel and air transport industry and others (Mohamed, 2020). The governments of respective countries introduced restrictions in the form of: canceling flights, introducing the obligation to wear face masks, maintaining safe distances and frequent use of hygiene products including hand disinfection (https://www.gov.pl/web/rosja/covid-19-na-terenie-federacji-rosyjskiej). The pandemic has led to an increase in state spending on health care and medical products around the world which in turn had an impact on restrictions in other budget items (Wnukowski & Wąsiński, 2020).

One of the effects of the coronavirus in March 2020 was the decline in the selling price of natural resources in the form of crude oil. This study uses a multidimensional comparative analysis and qualitative methods (Trocki, 2013) to study the impact of the COVID-19

pandemic on oil prices in terms of the politics of Russia (Bielawski et al., 2020) and Saudi Arabia, and economic security. For this research, the following standards were calculated on the basis of the data contained in the considered time series (Zagdański & Suchwałko, 2016) in the form of an arithmetic mean, standard deviation and median. The multivariate comparative analysis concerns a group of statistical methods by means of which at least two variables describing the dependent variable are compared (Łuniewska, 2006).

This study uses quantitative methods based on the analysis and evaluation of an oil price time series. The methodology of the procedure for the analysis of time series is widely described in various publications (Luszniewicz, 2003; Kozicki, et al., 2019; Rabej, 2018; Makridakis, et al., 1998). The conducted analyzes may indicate the detection of regularities in the form of a trend, seasonality, random factors or cyclicality. The obtained evaluation can be used to select the correct method of forecasting of the considered retrospective data for the future in terms of planning and ensuring safety.

According to W. Pokruszyński, security is a condition, a process of survival and development (Pokruszyński, 2012). On the other hand, S. Koziej interprets security as a theory and practice of ensuring the existence (survival) of a given entity in an uncertain environment while maintaining the freedom to pursue its own interests (Koziej, 2009). From the point of view of the subject of work, security will relate to the state of survival, access to natural resources, financial resources and the armament race.

The observation of the information outlined on the websites shows that there is a tendency to maintain stable, possibly high crude oil prices on the world market by Russia and Saudi Arabia in terms of maintaining of the effectiveness of OPEC + (Bieliszczuk, 2020). In related literature, a price means the value of goods, services, different money (currency) and production factors expressed in money (Owsiak, 2015). Taking into account the purpose of the study, an important point is that the share of oil revenues in both countries is very high, amounting to 97 percent in Saudi Arabia and 57 percent in Russia. Literature sources also show that Russia does not have as large maintained oil reserves as Saudi Arabia, having approximately 80,000,000,000 barrels – 4.85 percent of the world's reserves. Saudi Arabia, on the other hand, has 266,578,000,000 barrels – 16.15 percent of the total stock. It should also be emphasized that the countries of the Middle East, such as Saudi Arabia, Iran, Iraq, Kuwait and the United Arab Emirates, have approximately 766,477,000,000 barrels of oil – about 46.44 percent of the world's resources. The COVID-19 pandemic has led to prolonged drops in oil prices well below $40 a barrel. The information compiled on the websites shows that, according to IHS Markit, the cost of extracting of 1 barrel of crude oil in Russia from onshore deposits is $42 per barrel while production from sea deposits is around $44 per barrel (Marszałkowski, 2020). Thus, it can be concluded that with the current oil prices (the time of the COVID-19 pandemic), Russia suffers huge financial losses related to the extraction, storage and sale of the raw material.

Between the two oil tycoons, Saudi Arabia and Russia, there is a so-called unaccomplished arms policy which results from different issues related to interests in the Middle East. Saudi Arabia is seeking to limit Iran's influence in the Middle East and Gulf region. Russia has been Iran's partner in arms sales for many years. The emergence of the coronavirus pandemic and the political, economic and energy situation in Saudi Arabia may have become a reason to weaken Russia's position in the world by drastically lowering of oil prices which in the long term may lead to a collapse of the Russian economy and, thus, reduce its influence in the Middle East region. It should also be added that one of Russia's goals is to maintain high oil prices and sales continuity as this is the main source of its budget revenues. The current oil price situation is very unfavorable for Russia. The observed tendency became a premise for the application of qualitative methods to the analysis and evaluation of retrospective data on crude oil prices in dynamic terms in order to

confirm the existence of the above-mentioned regularities resulting from the critical analysis of the literature.

3. Multidimensional comparative analysis of crude oil prices

The research began by outlining the raw data for the oil price per barrel in dollars on a daily basis for the period 2000-2020 on a line graph (Figure 1).
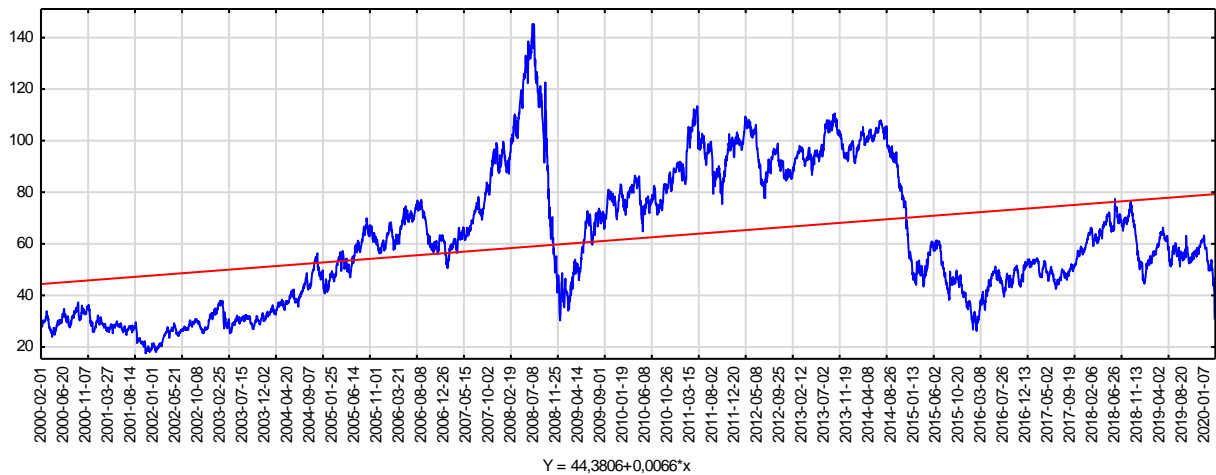

Figure 1. A line chart of data on the price in dollars per barrel of crude oil on a daily basis from February 1, 2000 to March 10, 2020. Author's own work based on the U.S. Energy Information Administration's website (March 5, 2020).

The primary data presented in Figure 1 allows us to observe the financial crisis in 2007-2009. It was triggered by the speculative bubble in the mortgage market that began to burst in the second half of 2007. At that time, banks began to report great losses as well as the threat of bankruptcy. By the end of 2007, several dozen financial institutions had declared insolvency. This led to a decline in the prices of exchange rates, energy commodities and the emergence of other anomalies in the global economy. An important aspect, which is hardly visible in Figure 1, and undoubtedly worth paying attention to, is the price of crude oil from March 2020. The observation of the data presented in Figure 1 shows that the price of crude oil per barrel is very low, and considering the entire analyzed time period, it should present an upward trend which is described in Figure 1 by the formula $Y = 44.30806 + 0.0066 * x$.

The findings obtained became the premise for further research. Grouping and specifying the raw data were performed in order to observe the regularities that govern them. The data was grouped into dependent variables in the form of years, months and quarters.

For the analysis and evaluation, a research tool in the form of a categorized box-plot chart was used with outlined an arithmetic mean and random variables. The first group subjected to the study was the years 2000-2020 (Figure 2).
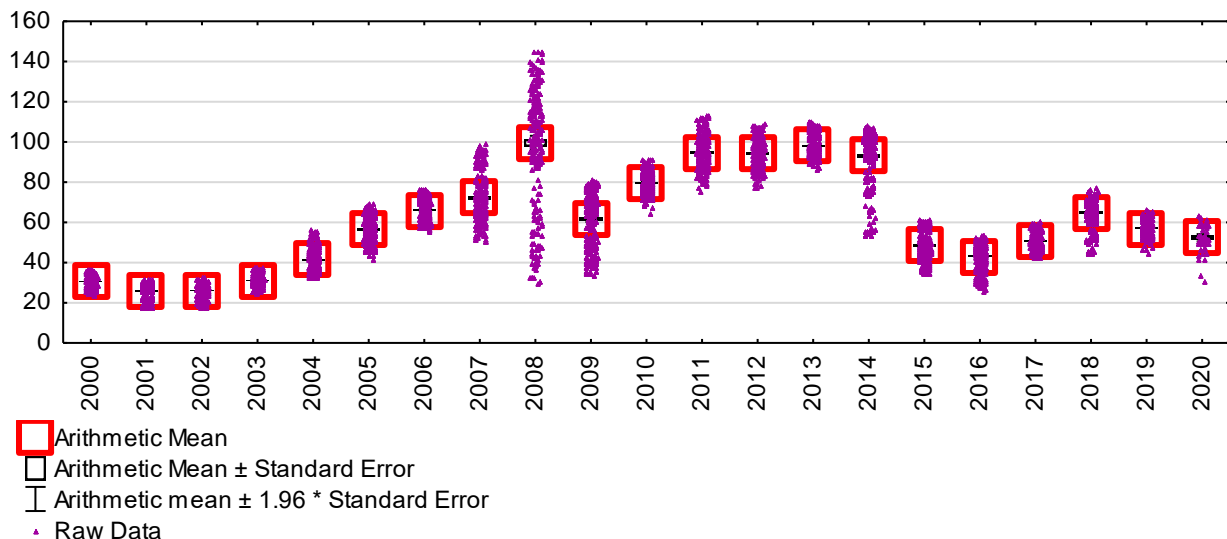
Figure 2. Categorized box-plot chart with outlined arithmetic means of data on the price in dollars per barrel of crude oil in the years group from February 1, 2000 to March 10, 2020. Author's own work based on the U.S. Energy Information Administration's website (March 5, 2020).

The data presented in Figure 2 shows that the largest gap in the primary data occurs in 2008 during the global financial crisis. Large drops in prices per barrel of crude oil were also observed in 2014. They were caused by the sanctions imposed by the US and other international organizations on Russia for the annexation of the Crimea. Moreover, it is worth emphasizing the significant drops in prices per barrel of crude oil in 2020. The price hit below $40.

For illustrative purposes, Table 1 presents an analysis of the crude oil price descriptive statistics in the 2000-2020 group.

Table 1.

Analysis of descriptive statistics of primary data for the years group from February 1, 2000 to March 10, 2020

Years	N	Sum	Standard deviation	Min.	Max.	Median	Arithmetic mean
2000	239	7 323.8	2.9	23.9	37.2	30.5	30.6
2001	261	6 766.9	3.6	17.5	32.2	27.2	25.9
2002	261	6 827.1	3.2	18.0	32.7	26.7	26.2
2003	261	8 119.1	2.6	25.3	38.0	30.8	31.1
2004	262	10 851.3	5.8	32.5	56.4	40.6	41.4
2005	260	14 715.0	6.3	42.2	69.9	57.3	56.6
2006	260	17 166.7	5.6	55.9	77.1	65.6	66.0
2007	261	18 869.8	12.9	50.5	99.2	69.6	72.3
2008	262	26 081.1	28.8	30.3	145.3	104.3	99.5

2009	261	16 131.2	13.5	34.0	81.0	66.9	61.8
2010	261	20 738.5	5.3	64.8	91.5	79.7	79.5
2011	260	24 676.0	8.1	75.4	113.4	95.8	94.9
2012	261	24 555.7	7.7	77.7	109.4	92.6	94.1
2013	261	25 566.9	5.4	86.7	110.6	96.3	98.0
2014	261	24 313.2	13.6	53.5	108.0	97.9	93.2
2015	261	12 705.9	6.8	34.6	61.4	48.0	48.7
2016	261	11 285.5	6.8	26.2	54.0	45.0	43.2
2017	260	13 217.9	3.9	42.5	60.5	50.5	50.8
2018	261	16 949.8	6.8	44.5	77.4	66.2	64.9
2019	261	14 869.3	3.8	45.2	66.2	56.7	57.0
2020	52	2 721.7	6.7	30.7	63.3	52.1	52.3
All	5 248	324 452.4	26.1	17.5	145.3	58.4	61.8

According to the analysis of descriptive statistics in Table 1, the arithmetic mean of the price per barrel of crude oil in the years 2000-2020 was USD 61.8 and it was higher than the median $58.4. The standard deviation from the arithmetic mean of the price per barrel of crude oil in the period 2000-2020 was $26.1. The highest recorded price for a barrel of crude oil was $145.3 in 2008. In contrast, the lowest price was $17.5 in 2001. It is also significant that the lowest price per barrel in 2020 which amounted to USD 30.7 and its continued maintenance at such a low level may result in another financial crisis and lead to the collapse of such economic powers such as Russia.

For illustrative purposes, the prices of a barrel of crude oil in 2020 are summarized in Figure 3 using a research tool in the form of a box-plot chart with the arithmetic mean and random variables outlined.
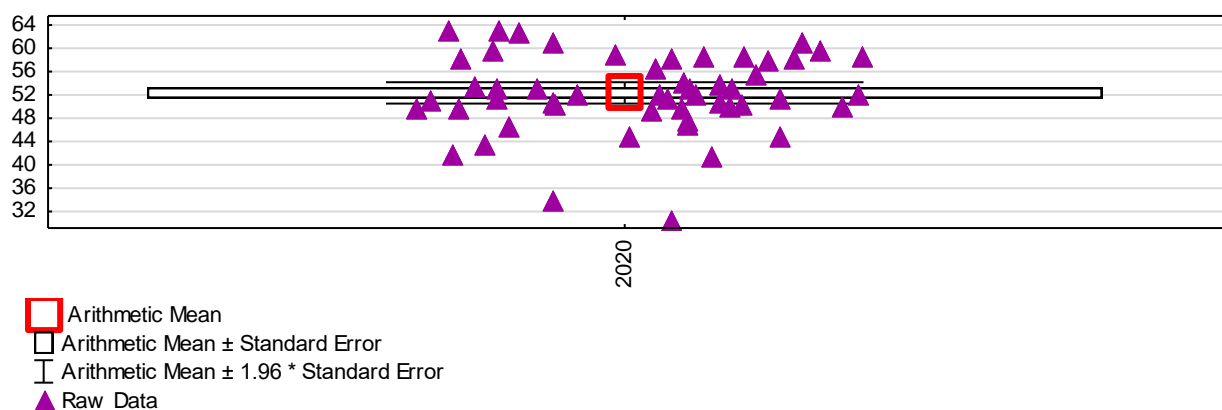

Figure 3. Box-plot chart with the arithmetic mean of the data on the price in dollars per barrel of

crude oil on a daily basis in 2020 (from January 1, 2020 to March 10, 2020)). Author's oown work based on the U.S. Energy Information Administration's website (March 5, 2020).

Observing the primary data presented in Figure 3 allows us to conclude that in the last six variables of the analyzed time series in 2020, prices per barrel of crude oil were below $44, and in the last two elements of the series, they fell below $36. It should be emphasized that in March the average per barrel of crude oil should oscillate around $60 which is clearly illustrated by the data presented in Figure 4.
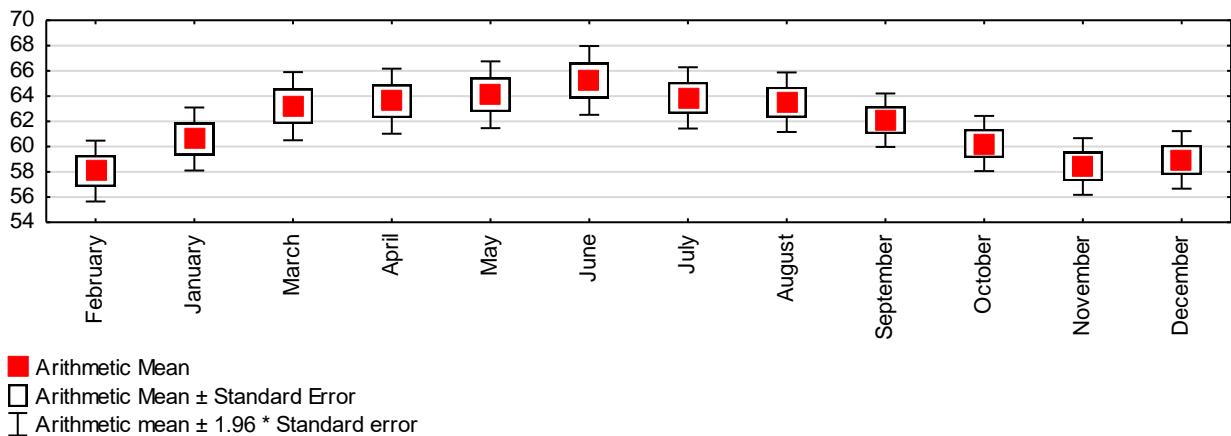

- ■ Arithmetic Mean
- □ Arithmetic Mean ± Standard Error
- ⊥ Arithmetic mean ± 1.96 * Standard error

Figure 4. Categorized box-plot chart with outlined arithmetic means of data on the price in dollars per barrel of crude oil in the months group (from February 1, 2000 to March 3, 2020). Author's own work based on the U.S. Energy Information Administration's website (March 5, 2020).

An observation of the information presented in Figure 4 may indicate the existence of a monthly seasonality in the price per barrel of crude oil in dynamic terms. It should be emphasized that the price per barrel should show a strong upward trend from February to July. The primary data shows, however, that in March 2020 a strong trend, but a decreasing one, is visible which may directly affect the emergence of the financial crisis.

Then, for illustrative purposes, in Table 2, an analysis and evaluation of the descriptive statistics of the primary data on the price per barrel of crude oil in the months group was performed.

Table 2.
Descriptive statistics analysis of the primary data for the months group from February 1, 2000 to March 10, 2020

Months	Arithmetic mean	N	Sum	Standard deviation	Min.	Max.	Median
January	58.9	446	26 288.9	24.6	18.0	103.2	53.3
February	58.1	426	24 735.5	25.4	19.8	109.4	53.4
March	60.6	449	27 209.8	26.9	22.4	110.2	55.3
April	63.2	427	26 985.3	28.5	23.5	119.6	61.5
May	63.6	446	28 363.1	27.7	24.8	133.0	61.2
June	64.1	427	27 374.2	27.9	24.2	140.0	61.4
July	65.2	442	28 835.9	29.2	24.7	145.3	60.4
August	63,9	445	28 417.3	26.1	25.6	125.0	66.7
September	63.5	426	27 056.4	24.8	21.5	122.6	64.7
October	62.1	445	27 632.0	22.8	21.2	104.2	60.7

November	60.2	429	25 845.7	23.1	17.5	102.6	57.3
December	58.4	440	25 708.2	24.0	18.0	101.3	57.2
All	61.8	5 248	324 452.4	26.1	17.5	145.3	58.4

According to the analysis of descriptive statistics, the highest arithmetic mean (in dollars - 2000-2020) visible on a monthly basis is 65.2 in July and the lowest one (in dollars) in February 58.1, December 58.4 and January 58.9. It should be emphasized that the arithmetic mean in March 2020 was much lower than that shown in the descriptive statistics analysis presented in Table 2 and amounted to $40.42, while the median was $41.96. Such a low level of the price per barrel of crude oil as observed in March 2020 on the markets in a longer period of time may lead to another global financial crisis.

4. Conclusion

Based on the research, the following conclusions can be made:

1. As a result of the COVID-19 pandemic, the price of crude oil per barrel fell below $40 while in the corresponding months January - June (2000-2019), the price of crude oil per barrel shows an upward trend. The infectious disease COVID-19 has stopped the rising trend of oil prices in a dynamic perspective.

2. Prolonged maintenance of low oil prices per barrel may lead to a financial crisis. Russia is suffering financial losses at prices below $40 a barrel.

3. The random factor in the form of the appearance of the coronavirus pandemic in the world over a longer period of time is the reason for maintaining unfavorable low oil prices and, thus, may lead to irreversible changes in the Russian economy. As a result, the effectiveness of Russia's foreign policy in Saudi Arabia, with the prevailing coronavirus pandemic in the world and low oil demand, is considered to be low.

4. International cooperation will be of key importance in the reconstruction of economies which have suffered from the effects of the COVID-19 pandemic. However, it is hampered by the observable long-term competition and the individual self-interests interests of such economic powers as the United States, China and Russia.

Declaration of interest – The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

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