




# The Impact of COVID-19 on the Economies of Petroleum-Exporting Middle Eastern Countries

Vladimir Z. Chaplyuk, Fakhraddin N. Akhmedov, Mhd Shaker Zeitoun, and Ahmad S. Al Humssi 

## Abstract

The paper investigates the impact of the COVID-19 pandemic on the petroleum-exporting countries in the Middle East region. This region mainly includes Saudi Arabia (KSA), United Arab Emirates (UAE), Bahrain, Qatar, Yemen, Oman, Jordan, Iraq, Syria, Lebanon, Turkey, and Egypt. This research quantifies the impact of the COVID-19 pandemic on each country in the Middle East separately. The research divides the countries of the Middle East into four main groups: countries with strong financial reserves, countries with medium financial reserves, countries with weak financial reserves, and countries with weak financial reserves and unstable situations. The research found that the economies of the Middle East countries differ in terms of the impact of the COVID-19 pandemic on each country, mainly due to the variation in the preventive measures taken in each country to reduce the impact of the pandemic.

## Keywords

Middle eastern countries · COVID 19 · Gross domestic product · Foreign trade · Foreign direct investment

## JEL Codes

Q40 · Q41 · Q43 · F40 · E32 · E62

V. Z. Chaplyuk (✉) · F. N. Akhmedov · M. S. Zeitoun  
Peoples' Friendship University of Russia (RUDN University), Moscow,  
Russia  
e-mail: [akhmedov\\_fn@pfur.ru](mailto:akhmedov_fn@pfur.ru)

A. S. Al Humssi  
Peoples' Friendship University of Russia (RUDN University), Moscow,  
Russia

Financial University under the Government of the Russian Federation,  
Moscow, Russia

## 1 Introduction

The Middle East (Near East) (Middle East, 2021) is a geographical region located at the junction of Europe, Asia, and Africa (Zulfqar, 2018). The Middle East region includes the territories of countries such as Lebanon, Syria, Jordan, Iraq, Iran, Turkey, Egypt, Yemen, Saudi Arabia, and Sudan.

The eastern region is characterized by several economic, geographical, and political advantages. The Middle East is economically important because it contains large oil and natural gas reserves (O'Sullivan et al., 2011). The most important industries of the Middle Eastern countries include oil production and oil refining (IEA, 2020), agriculture, etc.

The characteristics of the sectoral structure of the economy of the Middle Eastern countries significantly differ from each other. Some countries largely depend on exporting products from the oil and oil refining industry (e.g., Saudi Arabia, Iraq, etc.). Others have a fairly diversified economic base (e.g., Egypt, Syria, and Turkey). The Middle East region is geographically located within the three continents of Europe, Africa, and Asia. Therefore, the region is the only land corridor connecting these continents (Easley & Cox, 2007). Politically, the Middle East region is important to the military aspect of Western countries. Thus, the Middle East is seen as a geopolitical region (Aras & Kardaş, 2021; Kausch, 2015; Rahman, 2008). The Middle East is a region affected by chronic ongoing conflicts and serious inequalities in health and welfare provision (Fawcett, 2021).

The Middle East is considered unstable, for example, Iraq, Syria, Lebanon, Palestine, and Yemen. Most of these countries currently experience armed conflicts.

The Middle East region has suffered economic challenges, including low GDP growth. The region is also characterized by limited economic opportunities and high unemployment levels (O'Sullivan et al., 2011), as well as weak foreign direct investment inflows and rising levels of debt (Hoogeveen & Lopez-Acevedo, 2021). Furthermore, some Middle Eastern

countries have middle-and low-income (Dabrowski & Domínguez-Jiménez, 2021).

Nowadays, the world experiences the consequences of the spread of the COVID-19 pandemic, which affected various economic sectors, led to a great shock to the global economy (Chaplyuk et al., 2021; Petrovskaya et al., 2022), and a sharp shift in global growth rates to negative rates in 2020 and 2021.

The Middle East was affected by the COVID-19 pandemic (Alabdulkarim et al., 2021; Hinojosa & Acosta, 2021; Sawaya et al., 2020; SeyyedHosseini & BasirianJahromi, 2021). Strict preventive measures have affected the economies of the Middle East countries. Factories stopped working, transportation stopped, the unemployment rate increased, and poverty increased dramatically, especially in war-torn countries in the East, such as Syria, Iraq, Yemen, etc.

## 2 Methodology

The spread of the COVID-19 pandemic has negatively affected the economies of countries, whether they are developing or developed. The oil-exporting countries of the Middle East were also affected. In this research, the authors seek to address the impact of COVID-19 on the economic indicators of the Middle East oil-exporting countries: Saudi Arabia, Qatar, UAE, Iraq, Oman, and Kuwait.

During the research, the authors conducted economic analysis and forecasting to determine the economic losses of the oil-exporting Middle Eastern countries under COVID-19. The research uses data issued by international and regional organizations such as the World Bank Group, the International Monetary Fund, the Arab Monetary Fund, and others.

Eastern oil-exporting countries (MEOE countries) with large oil reserves under the COVID-19 pandemic.

In 2020, the WHO declared COVID-19 a global pandemic (World Health Organization (WHO), 2020) because it spread in the city of Wuhan and from there to other countries, including the Middle East countries (Worldometer, 2022).

The COVID-19 pandemic has impacted all aspects of life, whether economic or social, in all countries, including MEOE countries. One of the most important economic indicators that have been negatively affected by the spread of the COVID-19 pandemic is economic growth. In 2020, there was a downturn in the economic growth of the Middle East region due to the impact of the global pandemic (Arab Monetary Fund, 2022; The Arab Investment & Export Credit Guarantee Corporation, 2021). However, most of these countries achieved positive growth in 2021. To rank the countries of the Middle East according to the rate of economic development, the authors use the following indicator:

$$Rg = \left( \frac{Rgn}{Rgmax} \right)^2 \quad (1)$$

where:

Rg—the relative weight of the economic growth of the selected country;

Rgn—economic growth of a chosen country;

Rgmax—highest economic growth of a country in the sample.

Considering the time factor ( $n$ ) and the number of time-series ( $k$ ) in the test, the authors get the following mathematical equation:

$$AARgrOrF = \sqrt[k]{\left( \frac{Rg1}{Rgmax_{y1}} \right)^2 \times \left( \frac{Rg2}{Rgmax_{y2}} \right)^2 \times \left( \frac{Rg3}{Rgmax_{y3}} \right)^2 \cdots \left( \frac{Rgn}{Rgmax_{yn}} \right)^2} \quad (2)$$

## 3 Experimental Analysis and Results

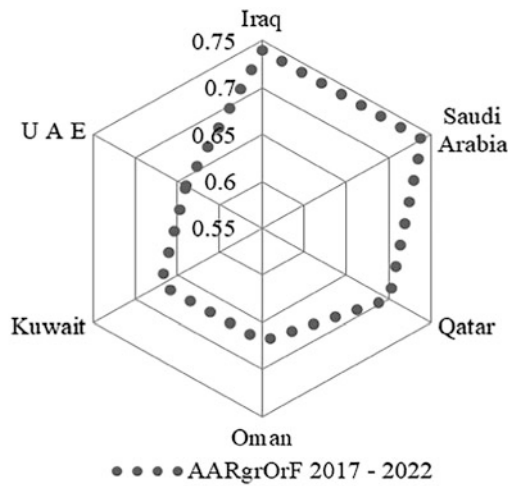
Although the Middle East region contains large oil reserves, the Middle East countries differ in terms of oil reserves (World Population Review, 2022). There are countries with huge reserves (KSA, Iraq, Kuwait, UAE, and Qatar) and countries with small reserves (Oman, Egypt, Yemen, Syria). Therefore, in this research, the authors focus on the Middle

where:

AARgrOrF—the average relative weight of the economic growth of the selected country in the studied period.

Figure 1 shows AARgrOrF for Iraq, KSA, Oman, UAE, Qatar, and Kuwait.

Analyzing the data from Fig. 1, the authors note that all MEOE countries achieved negative growth as a result of the impact of the COVID-19 pandemic.



Economic growth ranking MEOE countries 2017 - 2022

Iraq	1	Oman	4
KSA	2	Kuwait	5
Qatar	3	U A E	6

**Fig. 1** The average relative weight of the economic growth for MEOE countries from 2017 to 2022. *Source:* Compiled and calculated by the authors based on (Arab Monetary Fund, 2022; The Arab Investment & Export Credit Guarantee Corporation, 2021)

In 2021, these countries achieved positive growth, which can be explained by the fact that all MEOE countries began the economic recovery phase and achieved positive growth. Moreover, GDP is a measure of the country’s economic capacity in a specific period. Saudi Arabia ranks first in terms of GDP, UAE ranks second, and Oman occupies the last place (World Bank, 2022c).

To classify these countries according to economic strength, the authors use the following model:

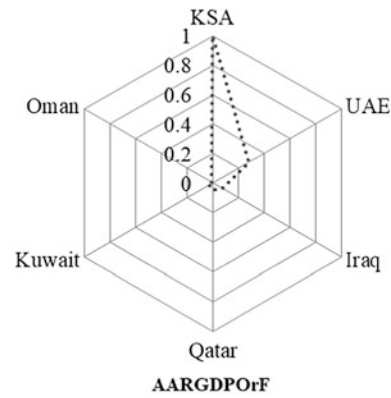
$$RGDP = \left( \frac{GDP_n}{RGDP_{max}} \right)^2 \tag{3}$$

where:

- $R_{GDP}$ —the relative weight of the GDP of the selected country;
- $R_{gn}$ —GDP of a chosen country;
- $R_{gmax}$ —the highest GDP of a country in the sample.

Considering the time factor ( $n$ ) and the number of time series ( $k$ ) in the test, we get the following mathematical equation:

$$AARGDPOrF = \sqrt[k]{\left( \frac{GDP1}{GDP_{max_{y1}}} \right)^2 \times \left( \frac{GDP2}{GDP_{max_{y2}}} \right)^2 \times \left( \frac{GDP3}{GDP_{max_{y3}}} \right)^2 \dots \left( \frac{GDPn}{GDP_{max_{yn}}} \right)^2} \tag{4}$$



Ranking of MEOE countries by GDP 2017 - 2022

KSA	1	Qatar	4
UAE	2	Kuwait	5
Iraq	3	Oman	6

**Fig. 2** The average relative weight of the GDP for MEOE countries in the period from 2017 to 2022. *Source:* Compiled by the author

where:

AARGDPOrF—the average relative weight of the GDP of the selected country in the studied period.

Using the previous Eq. (4), the authors get the following results (Fig. 2).

To determine the size of the losses to the GDP in the period of the COVID-19 pandemic, the authors made a forecast, considering the time factor while holding other variables constant. The result is shown in Table 1:

According to Table 1, the relationship between the GDP and time factor for the MEOE countries is a strong direct linear relationship. Based on this relationship, it is possible to predict the size of the GDP of these countries (assuming there is no COVID-19), as shown in the following Table 2.

Data from Table 2 shows that the selected countries faced losses in 2020 as a result of the spread of the COVID-19 pandemic. The losses of the KSA amounted to \$89.90 billion, Kuwait—\$33.62 billion, and the UAE—\$12.76 billion.

Considering the volume of the GDP of each country separately, the authors can calculate the relative weight of the losses to the volume of the GDP (Eqs. 5 and 6).



COVID-19 had a negative impact on FDI in most countries (World Bank, 2022b). With the exception of the UAE and the KSA, the COVID-19 pandemic negatively affected the flow of incoming foreign direct investment to the countries of the Middle Eastern region.

The foreign trade of countries is one of the most affected economic activities under the influence of the COVID-19 pandemic (World Bank, 2022a; World Bank, 2022d) because the pandemic has had negative effects on exports and imports at the international level. The countries affected by the restriction of foreign trade include the MEOE countries due to several reasons:

1. The decrease in the volume of imports caused by the decrease in the volume of internal demand and the volume of global supply as a result of the outbreak of the COVID-19 pandemic;
2. The decrease in the volume of exports caused by the decrease in the volume of global fossil fuel consumption, which occupies the main proportion of exports of energy-exporting countries (British Petroleum (BP), 2022).

The COVID-19 pandemic also affected the unemployment rate in the considered countries (World Bank, 2022e). Comparing the impact of COVID-19 on the unemployment rate in the UAE, Iraq, Kuwait, Oman, Qatar, and the KSA with the pre-pandemic period, the authors found that there was an increase in the unemployment rate in these countries as a result of preventive measures to reduce the pandemic and stop economic and productive activities in these countries.

## 4 Conclusion

Although the Middle East oil-exporting countries have crude oil and natural gas reserves, the COVID-19 pandemic has negatively affected the global economic indicators of these countries, including GDP, foreign trade, movement of capital between countries, employment, poverty rate, etc. The gross domestic product in the Middle Eastern region was negatively affected by the COVID-19 pandemic because the oil-exporting countries of the region were exposed to large losses in the GDP. The most affected countries in the region by the loss are Saudi Arabia, followed by Kuwait, UAE, and others.

The conducted research also shows that the foreign trade of the oil-exporting countries of the Middle East has shrunk for several reasons, including the following:

- The decline in global consumption of fossil fuels;
- The decrease in aggregate internal demand caused by the decrease in the internal and external supply of goods and services due to the preventive measures and the

suspension of transportation due to the fear of the pandemic outbreak.

## References

- Alabdulkarim, N., Altwajri, N., Alsultan, F., Albaradie, R. S., & Bashir, S. (2021). Perspective of COVID-19 pandemic in Middle East countries. *Journal of Family Medicine and Primary Care*, 10(4), 1534–1539. [https://doi.org/10.4103/jfmpc.jfmpc\\_2025\\_20](https://doi.org/10.4103/jfmpc.jfmpc_2025_20)
- Arab Monetary Fund. (2022). *Annual report, 2018–2020*. Accessed May 2, 2022, from <https://www.amf.org.ae/ar/publications/altqryr-alsnwy>.
- Aras, B., & Kardaş, Ş. (2021). Geopolitics of the new Middle East: Perspectives from inside and outside. *Journal of Balkan and Near Eastern Studies*, 23, 397–402. <https://doi.org/10.1080/19448953.2021.1888251>
- British Petroleum (BP). (2022). *Statistical review of world energy the shift project*. Accessed May 3, 2022, from <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>.
- Chaplyuk, V. Z., Alam, R. M. K., Abueva, M. M.-S., Hossain, M. N., & Humssi, A. S. A. (2021). COVID-19 and its impacts on global economic spheres. In E. G. Popkova & B. S. Sergi (Eds.), *Modern global economic system: Evolutional development vs. revolutionary leap* (pp. 824–833). Springer. [https://doi.org/10.1007/978-3-030-69415-9\\_94](https://doi.org/10.1007/978-3-030-69415-9_94)
- Dabrowski, M., & Domínguez-Jiménez, M. (2021, June 14). *The socio-economic consequences of COVID-19 in the Middle East and North Africa*. Bruegel Blog. Accessed May 9, 2022, from <https://www.bruegel.org/2021/06/the-socio-economic-consequences-of-covid-19-in-the-middle-east-and-north-africa/>.
- Easley, K., & Cox, S. (2007). *HCSB harmony of the gospels*. [edition missing]. B&H Publishing Group. Accessed May 2, 2022, from <https://www.perlego.com/book/2694042/hcsb-harmony-of-the-gospels-pdf>.
- Fawcett, L. (2021). The Middle East and COVID-19: Time for collective action. *Globalization and Health*, 17, 133. <https://doi.org/10.1186/s12992-021-00786-1>
- Hinojosa, N., & Acosta, L. (2021). Economic impact of COVID-19 in Asia, Europe, North Africa and the Middle East. *Open Journal of Business and Management*, 9, 2640–2651. <https://doi.org/10.4236/ojbm.2021.95145>
- Hoogeveen, J. G., & Lopez-Acevedo, G. (Eds.). (2021). *Distributional impacts of COVID-19 in MENA. MENA development report*. World Bank. Accessed May 9, 2022, from <https://openknowledge.worldbank.org/bitstream/handle/10986/36618/9781464817762.pdf?sequence=2&isAllowed=y>.
- IEA. (2020). *Oil 2020: Analysis and forecast to 2025*. : IEA. Accessed May 9, 2022, from <https://doi.org/10.1787/cf9397c0-en>.
- IMF. (2022). *GDP by countries*. Accessed May 2, 2022, from <https://www.imf.org/external/datamapper/export/excel.php?indicator=NGDPD>.
- Kausch, K. (Ed.). (2015). *Geopolitics and democracy in the Middle East*. FRIDE. Accessed May 9, 2022, from <https://www.files.ethz.ch/isn/192421/Geopolitics%20and%20democracy%20in%20the%20Middle%20East.pdf>.
- Middle East. (2021, February 9). In *Encyclopedia Britannica online*. Accessed May 9, 2022, from <https://www.britannica.com/place/Middle-East>.
- O'Sullivan, A., Rey, M. E., & Mendez, J. G. (2011). *Opportunities and Challenges in the MENA Region. The Arab world competitiveness report, 2011–2012*. Working paper. Accessed May 9, 2022, from <http://www.oecd.org/mena/49036903.pdf>.

- Petrovskaya, M. V., Chaplyuk, V. Z., Alam, R. M. K., Hossain, M. N., & Al Humssi, A. S. (2022). COVID-19 and global economic outlook. Current problems of the world economy and international trade. *Research in Economic Anthropology*, 42, 127–139. <https://doi.org/10.1108/S0190-12812022000042013>
- Rahman, K. (2008). Internal factors affecting the Middle East: Trends and implications. *Policy Perspectives*, 5(1), 1–22. Accessed May 2, 2022, from <http://www.jstor.org/stable/42909183>.
- Sawaya, T., Ballouz, T., Zaraket, H., & Rizk, N. (2020). Coronavirus disease (COVID-19) in the Middle East: A call for a unified response. *Frontiers in Public Health*, 8, 209. <https://doi.org/10.3389/fpubh.2020.00209>
- SeyyedHosseini, S., & BasirianJahromi, R. (2021). COVID-19 pandemic in the Middle East countries: Coronavirus-seeking behavior versus coronavirus-related publications. *Scientometrics*, 126, 7503–7523. <https://doi.org/10.1007/s11192-021-04066-y>
- The Arab Investment & Export Credit Guarantee Corporation. (2021). *Most important economic indicators in Arab countries view*. Accessed May 2, 2022, from <https://www.dhaman.net/wp-content/uploads/2021/05/EconomicIndicators-ar.xlsx>.
- World Bank. (2022a). *Exports of goods and services*. Accessed May 1, 2022, from <https://data.worldbank.org/indicator/NE.EXP.GNFS.CD>.
- World Bank. (2022b). *FDI, net inflows 2016–2021*. Accessed May 2, 2022, from <https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD>.
- World Bank. (2022c). *GDP, 2016–2021 (current US\$)*. Accessed May 2, 2022, from <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>.
- World Bank. (2022d). *Import of goods and services*. Accessed May 6, 2022, from <https://data.worldbank.org/indicator/NE.IMP.GNFS.CD>.
- World Bank. (2022e). *Unemployment, total (% of the total labor force), 2016–2021*. Accessed May 7, 2022, from <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS>.
- World Health Organization (WHO). (2020, March 11). *WHO Director-General's opening remarks at the media briefing on COVID-19*. Accessed May 2, 2022, from <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-COVID-19%2D%2D-11-march-2020>.
- World Population Review. (2022). *Oil reserves by country, 2022*. Accessed May 2, 2022, from <https://worldpopulationreview.com/country-rankings/oil-reserves-by-country>.
- Worldometer. (2022). *COVID-19 pandemic. Coronavirus cases*. Accessed May 2, 2022, from <https://www.worldometers.info/coronavirus/coronavirus-cases/>.
- Zulfqar, S. (2018). Competing interests of major powers in the Middle East: The case study of Syria and its implications for regional stability. *Perceptions*, XXIII(1), 121–148. Accessed May 9, 2022, from <https://dergipark.org.tr/tr/download/article-file/815459>.