

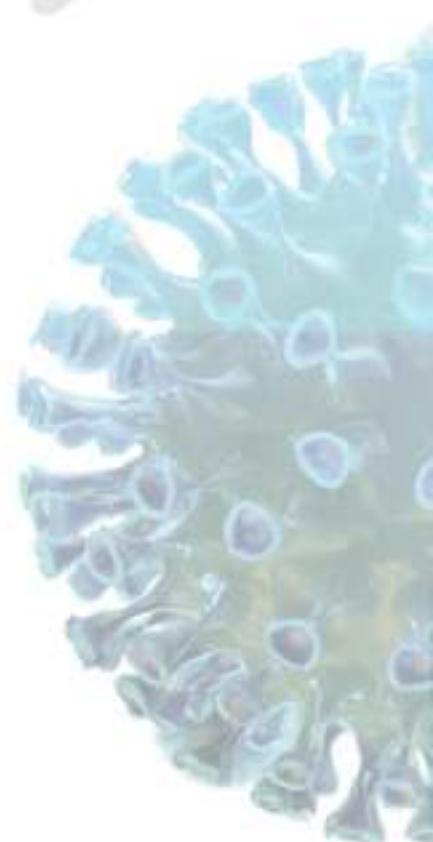


SUMMARY REPORT ON THE IMPACT OF COVID-19 ON THE OIC TRADE AND INVESTMENT



COVID-19
CORONAVIRUS

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Summary Report on the Impact of COVID-19 on the OIC Trade and Investment

Introduction

OIC member states are enduring the onslaught of Covid-19 pandemic and are battling to overcome the ill-effects of the on-going crisis. The number of people infected with the novel Coronavirus in the OIC member nations stood at 7,12 million as of 7th December 2020, which is about 10.62% of the total rate of infection in the world. The death toll of the OIC members is 161,165 accounting to 10.50% of the total deaths in the world. The average rate of infection in OIC countries is 0.4% and among the OIC members, Bahrain has the highest infection rate of 5.09%, followed by Qatar with a rate of 4.98%, Kuwait with a rate of 3.36% and 2.42% of Oman's population is infected by the coronavirus.

Due to issues with intellectual property rights, complexity in production, or in an attempt to reduce the overall costs, firms tend to rely more on a single company or a source. This lack of diversification and lack of flexibility in the existing supply chain and sourcing strategies has worsened the ongoing supply chain crisis. What originated from the lockdown of manufacturing hubs and the demand shock compounded as a ripple to affect the hospitality, the travel sector, and the supply chain to impact manufacturing activities and sectoral output globally, notably in the automotive, textile and electronics industries. Our first objective entails analyzing this aspect.

On an immediate scale, it has duly disrupted the distribution and provision of essential medical supplies, such as ventilators, medical and personal-use face masks, gloves, and other medical consumables that are essentially needed to tackle the ravage. Given that there are no standard medicines or immunization procedures, the only way to safeguard oneself is to carefully prevent themselves by following the precautionary orders of the World Health Organization [washing hands frequently with disinfectants and following sterilization procedures], observing and carefully monitoring for the early symptoms, diagnosing the suspected using test kits and instruments, and supporting the affected with ventilators and other life-saving medicinal supplies. Analyzing this issue is our second objective.

Beyond distorting the medical supply chain, the pandemic has also turned out to be an economic crisis disrupting almost every sector of an economy- food supply chains, transport and logistics, tourism, media & entertainment.

Due to lockdowns, trade has diminished limiting the scope of transport and logistics. Under the threat of a pandemic-like disaster, what is primarily important is ensuring that food distribution and supply is not distorted. A stronger and smarter food

supply chain is necessary to facilitate the distribution of food around the country. Hotel and tourism industry have experienced a massive fall in revenues and profits globally.

We also aim at analyzing these issues. Ensuring an uninterrupted supply of food and essential supplies to the most vulnerable section of the society is of paramount importance especially during these critical times to ensure proper containment of the ongoing pandemic cripple, while also prioritizing health of the workers and other stakeholders involved at various stages of the entire spectrum of the supply chain. Export bans on food products and essential goods imposed by various governments across the globe has turned out to be a massive catastrophe for countries that are majorly dependent on such imports. These are the issues we address in this study with the aid of economic modeling.

I. Methodology

Our analysis framework is based on a multi-country, multi-sector general equilibrium model: GTAP (Global trade Analysis Project), which models world trade and investment, assuming that markets are perfectly competitive, industry technologies are linearly homogeneous, and traded goods are imperfectly substitutable. This captures the interaction of interdependent components: industries, households, investors, governments, importers, and exporters, and the flow-on effects and interactions of each country and/or region (via bilateral trade relations) with detailed inter-industry links.

The GTAP database is calibrated for all the 57 member nations of the OIC using 2018 IMF using short-run closure where unemployment of unskilled labor occurs; skilled labor assumed to be fully employed. Apart from OIC Members, other countries are included and aggregated under the EU, Africa, Asia as regions, all non-EU G20 countries and rest of the world. OIC countries are analyzed as follows- GCC, AMU, ECO, ECOWAS, LAS, WAEMU, CEMAC, MERCOSUR (Guyana and Suriname), ASEAN (Malaysia, Indonesia, and Brunei) and COMESA Member States in order to assess the impact at regional level.

Following developments are considered :

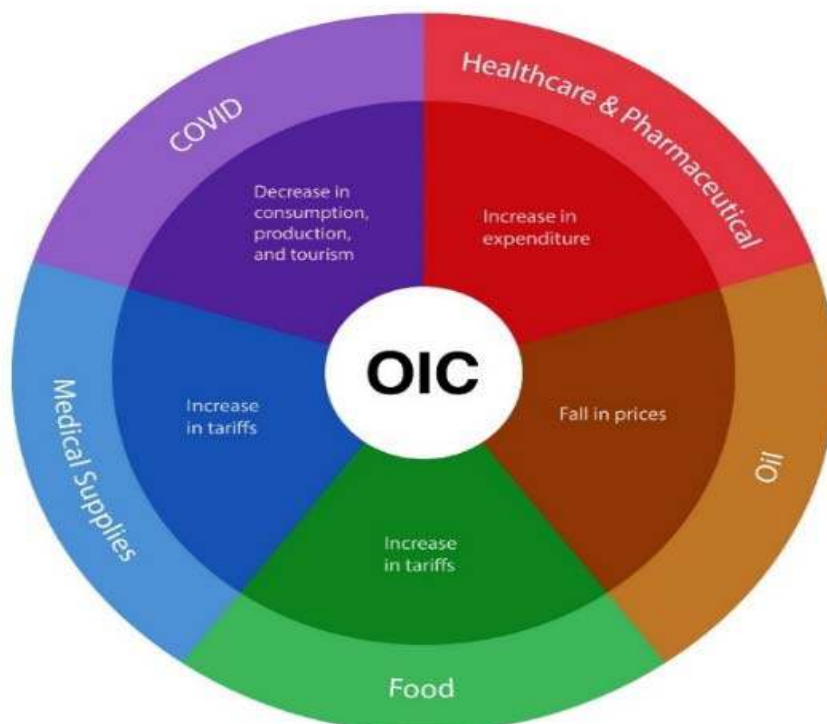
- (i) Increase in trade costs due to restrictions in movement of people across borders that impacts tourism and travel-related expenditures, along with the industrial companies linked to global supply chains, and a negative productivity shock that lowers consumption and investments

- (ii) Expansion in Healthcare and Pharmaceutical Sectors in the endeavor to combat against the deadly virus and thus an increase in Healthcare spending.
- (iii) Increase in tariff on food-related supplies
- (iv) Fall in oil prices
- (v) Increase in tariff of medical supplies.

The below three scenarios are considered for all the above 6 channels, based on the intensity and spread of the Corona virus.

1. A best-case scenario with quick containment and limited decline in consumption (based on current data on the first quarter of this calendar year)
2. A middle-case scenario where consumption takes a bigger hit (1.5 times scenario 1),
3. A worse-case scenario where the outbreak is more protracted and possibly spreads more widely, and where both consumption and investment take a hit (2 times scenario 1).

Figure 1. Methodology Wheel



II. Analysis

1. Decline in production, consumption, and tourism

The first channel that introduces a shock to GDP based on the revised annual percentage change of GDP estimate for 2020, and a shock due to decline in tourism owing to travel and restrictive measures imposed on the movement of people across borders. Turkey, Indonesia, Nigeria, Malaysia and Saudi Arabia are the most impacted countries in terms of total GDP change values estimated. Turkey is estimated to experience an overall decline of 8.90% from the estimated GDP and that of Indonesia is estimated to decrease by 6.78%. Nigeria, Malaysia, and Saudi Arabia are expected to endure a decline of 8.42%, 9.04% and 3.92% from the IMF annual estimate in the average scenario.

The GDP of United Arab Emirates is estimated to decline by 7.17%, that of Iraq and Iran by 12.95% and 5.33% respectively.

For Maldives, the GDP for 2020 is estimated to decline by 13.73% in the best case when there is only a limited decline in consumption and the spread of virus is contained rapidly, by 20.59% given there is a bigger hit in consumption and by 27.46% when the outbreak is severe, uncontained impacting both consumption and investments. This is because Tourism in Maldives accounts for two-thirds of its GDP and a shock to tourism would negatively affect employment and household earnings.

The export of Saudi Arabia, Turkey, UAE, Nigeria, and Indonesia are adversely affected while that of Iran, Malaysia, and Algeria experience an increase in value. Turkey, Malaysia, Oman, Kuwait, and Morocco would experience a decline in imports and Qatar, UAE, Bangladesh and Kazakhstan, an increase in imports.

2. Increase in Healthcare and Pharmaceutical expenditure

The rampaging pandemic has led to an increase in healthcare expenditure and medical consumption of the households increasing the GDP of countries. When the estimated increase in the healthcare expenses and pharmaceutical consumption is fed as input to the model, the GDP of Bangladesh, UAE, Saudi Arabia, Pakistan, and Iran are positively impacted at rates of 0.57%, 0.28%, 0.14%, 0.33%, and 0.14% respectively under the average scenario. The notable increase in healthcare consumption is attributed to the severity of infection in the above countries, where all the above-mentioned countries have registered more than 0.25 million cases, as of 24 July 2020.

3. Increase in tariff on Food-related supplies

Countries across the globe have imposed food tariff and export bans as a cautionary measure in anticipation of the shortage in supply owing to the rapid surge in the pandemic spread. The model is fed with a food tariff of 10% in the best-case and 30% in the worst-case and the results indicate that Indonesia, the UAE, Saudi Arabia, Malaysia, and Bangladesh experience a significant decline in GDP.

Countries that are primarily dependent on the food and agricultural sector are estimated to undergo a major decline in GDP. The Food and Agricultural sector of Indonesia contributes to 12.71% of the total GDP and employs 28.63% of the total population. When food tariffs increase by 10% the GDP of Indonesia is estimated to decline by 0.28%. 7.27% of Malaysia's GDP is dependent of Food and Agriculture and the sector provides employment to 10.36% of the total population. The GDP of Malaysia is estimated to decline by 0.43% when food tariffs are increased by 10%. The food and agricultural sector of Bangladesh makes up to 12.68% of total GDP and employs around 38.57% of the total population. When food tariffs are increased by 10%, Bangladesh experiences a GDP decline of 0.44%.

Other agriculture-dependent countries including Togo, Guinea-Bissau, and Benin to undergo a major decline in GDP viz. 9.98%, 2.32% and 1.21% respectively when food tariffs are increased by 10%.

When food tariffs are increased, several countries including Turkey, Malaysia, Indonesia, and United Arab Emirates is expected endure a decline in exports as well as in imports. This is attributed to the increase in trade costs of food and agriculture-related products due to increased tariff rates and the net effect is a disruption of the entire supply chain of activities.

Togo, Guinea-Bissau, and Tajikistan are forecasted to experience an increase in exports. An increase in tariff on food products and essentials would result in an increase in the export value of the countries that are mainly dependent on agriculture and food-processing sector.

When the model is shocked with increase in food tariffs to about 30%, the output of the following countries experiences a steep decline in aggregate output of trade commodities- United Arab Emirates, Malaysia, Indonesia, Saudi Arabia, and Bangladesh. While on the other hand, there is an increase in the overall output of Togo, Senegal, Chad, Tajikistan and Nigeria.

4.Fall in oil prices

On the whole oil producing and exporting countries are estimated to endure a slump in their GDP when oil prices fall, and oil consuming/ importing countries avail a benefit from the same. The impact is relatively higher for those economies that depend on oil industry.

The GDP of Saudi Arabia is estimated to decline by 10.45%, that of Indonesia by 5%, Iran by 5.81%, Kuwait by 16.77%, Iraq by 9.95%, the UAE by 4.82%, Kazakhstan by 7.91% and that of Azerbaijan by 15.16%.

The major oil-dependent countries including Saudi Arabia, the UAE, Iran, Nigeria, Kuwait, Qatar, Iraq, Kazakhstan, Oman, Algeria, Morocco, Azerbaijan, and Lebanon are estimated to experience a decrease in total exports and an increase in imports when oil prices fall by 50%.

Indonesia, Pakistan, and Turkey are predicted to endure an overall increase in exports and a decrease in import. The model predicts that Malaysia will endure a decrease in both exports and overall imports.

When the model is fed with negative shock due to decrease in oil prices by 50%, the output of Togo declines by 16.44%, that of Azerbaijan by 12.47%, Kuwait by 11.35%, Palestine by 10.94% and that of Yemen by 10.91%. It can be noted that Azerbaijan, Kuwait, and Yemen are top oil producing countries. The output of Iraq is estimated to decrease by 9.24%, Iran by 8.33% and that of Saudi Arabia by 8.14%.

5. Increase in medical tariff

Malaysia, Turkey, UAE, Bangladesh, and Indonesia are the most impacted countries as predicted by the model when there is an increase in medical tariffs. Malaysia is predicted to experience a decline in GDP by 0.52%, Turkey by 0.16%, the UAE by 0.28% and that of Bangladesh decreases by 0.38% when medical tariffs are increased by 30%. This is attributed to the fact that all the impacted countries are major producers of medical supplies and equipment.

Major medical equipment manufacturers including Malaysia, Indonesia, Turkey, UAE, and Saudi Arabia are the most impacted. The export of Malaysia declines by 19.32% and that of imports decline by 27.66%. The export of Indonesia declines by 31.84% and that of imports decrease by 8.32%. The export value of turkey decreases by 25.5% and the imports by 13.91%. The exports of UAE declines by 16.54% and that of imports decrease by 12.58%

An increase in medical tariff, healthcare, and pharmaceutical sectors of the OIC member countries experience a major decline in the output.

III. Regional summary

A region-wise analysis has forecasted that countries in ECO and GCC experience a major decline in GDP when the model is shocked with a change in production, consumption and tourism, reduction in oil prices, increase in food tariff, and increase in medical tariff. Countries in ASEAN region including Malaysia, Indonesia and Brunei endure a decline in GDP when the model is shocked with an increase in food tariff and medical tariff as well as with a change in production, consumption, and tourism. GCC is expected to witness a decline of 8.28% in GDP when oil prices are reduced by 50% and by 5.12% when there is a drop in production, consumption, and tourism.

When the model is shocked with a change in production, consumption and tourism decline and a decrease in oil prices, GCC countries experience a decline in exports and an increase in the value of imports as they are leading producers of oil. ASEAN

countries experience a major decline in the value of exports and imports, and thus a decline in overall trade when the model is shocked with an increase in food tariff and medical tariff, as essentially Malaysia and Indonesia are major hubs for medical supplies and food products. ASEAN countries endure an increase in export when oil prices reduce because they are oil-importing countries.

IV. Analysis detailing COVID medical Supplies and its Supply Chain

We analyze the impact of COVID-19 on the medical supply chains, based on the following:

As identified by the WCO, there are about 60 specific pharmaceutical or medical products that play an essential role in controlling, identifying, and treating the COVID-19 pandemic. These 60 pharmaceutical products and medical equipment are grouped under 8 categories- Covid-19 Test kits/ Instruments & apparatus used in diagnostic tests, Protective garments and the like, Disinfectants/Sterilization products, medical devices, Oxygen therapy and Pulse oximeters, Soaps, medical consumables and Vehicles based on their role of relevance in the COVID19 supply chain.

Germany is the top exporter of all COVID-19 medical supplies in the world and exports around 15% of the total exports. The USA is the second largest exporter contributing to 13% of the total exports and Switzerland contributes to 8% of the total export of COVID-19 medical supplies. China and Ireland make up to 7% and 6% of the total exports, respectively.

USA is the major importer of COVID-19 related medical supplies from the OIC countries importing around 18% of the total supplies from OIC member nations. Germany is the second largest importer followed by Japan, Singapore, and France. The above 5 countries contribute to 41% of the total COVID-19 related medical products imported from OIC member countries.

Germany is the leading exporter of the COVID-19 related medical supplies to the OIC countries. China and The USA make up to 20% of the exports of COVID related medical products and equipment to the OIC members, while Switzerland and France each contribute to 7% of the total exports. On the whole, the USA and Germany are the major trading partners to the OIC countries.

Germany, Switzerland, The USA, Netherlands, and France are the top 5 exporters of COVID-19 Test kits to the OIC countries, contributing to 69% of the total exports of Text Kits from OIC countries. France and Germany are the top exporters of Disinfectants and Sterilization products each contributing to 13% of the total exports. Switzerland, India, and the USA are the other countries in the list of top 5 exporters of Disinfectant products from the OIC countries. China, Germany, The USA, and Netherlands are the notable destinations of medical Consumables and medical Devices from the OIC countries. China is the top exporter of Protective Garments contributing to 35% of the total exports. Germany, Malaysia, Italy and The USA are

the other leading exporters. China, Russian Federation, The USA, Germany, and France make up to 67% of the total exports of vehicles from the OIC countries. Malaysia, Indonesia, The UAE, Turkey, and Germany are the leading exports of Soaps. Overall, The USA and Germany are the leading exporters of COVID-19 related medical supplies from the OIC countries.

Korea is the largest supplier of COVID-19 Test Kits/Instruments contributing to around 44% of the total imports. Poland, Oman, The USA, and Iran are the other major suppliers of the Test Kits/Instruments. The major suppliers of Disinfectants & Sterilization Products are Singapore, The UAE, Oman, Iraq, and Korea. The USA, Germany, Singapore, and Japan are the major suppliers of oxygen therapy and pulse oximeters, medical consumables, and medical devices & equipment. Belgium is one of the top five suppliers of medical Consumables and medical devices. The USA, Germany, Japan, France, and Spain are the top suppliers of Protective garments. Saudi Arabia is the largest supplier of Vehicles to the OIC countries. Singapore, Romania, Iraq and Japan are the other leading suppliers. The UAE, India, China, Turkey, and Russia are the leading suppliers of Soaps to the OIC countries.

Narrowing down the analysis to the OIC countries, our analysis presents that Turkey is the major importer of COVID-19 related medical supplies contributing to 15% of the total imports into OIC countries. The UAE is the second largest importer followed by Malaysia, Saudi Arabia and Indonesia. Malaysia makes upto 9% of the total imports of the OIC countries. The top 5 importers contribute to around 50% of the total imports into the OIC countries.

Malaysia is the leading exporter of COVID-19 related medical supplies among the OIC countries, contributing to a whopping 50% of the total exports. Turkey, and Indonesia are the other leading exporters contributing to 14% and 10% of the total exports from OIC countries. Indonesia and the UAE are the other countries in the list of top 5 exporters. The top 5 exporters contribute to around 86% of the total exports originating from OIC countries.

Analyzing the intra-OIC trade, Saudi Arabia, Iraq, Iran, Brunei, and Azerbaijan are the top importers of COVID-19 Test Kits and Instruments from the OIC member countries. They import about 63% of the total import value of Test Kits and Instruments. Iraq, Saudi Arabia, United Arab Emirates, Afghanistan, and Libya are the top importers of Disinfectants and Sterilization products among the OIC member countries. Iraq is the top importer of Protective Garments among the OIC member countries importing to about approximately 25% of the total values. Iraq, Saudi Arabia, Pakistan, and Indonesia are the other leading importers of medical Consumables and medical Devices & Equipment.

Iraq, Indonesia, Saudi Arabia, Pakistan, and Kuwait are the leading importers of Oxygen Therapy and Pulse Oximeters from the OIC countries. UAE, Iraq, Saudi Arabia, Turkey, and Egypt are the leading importers of Soaps among OIC countries. Saudi Arabia imports to about 38% of the Vehicles from the OIC members. Overall, Iraq and Saudi Arabia are the leading importers of COVID-19 related medical supplies from the OIC countries.

Turkey supplies about 50% of the COVID-19 Test Kits and Instruments; United Arab Emirates and Malaysia supply about 45% of Test kits to the OIC member countries. Jordan, Turkey and United Arab Emirates are the Disinfectants & Sterilization products. UAE, Turkey, Malaysia and Pakistan are the leading exporters of medical Consumables and medical Equipment to the OIC member countries. Iran is also a notable supplier of medical Consumables exporting about 28% of the total consumables to the OIC countries. Turkey, UAE, Malaysia, Iran and Oman are the leading suppliers of Oxygen therapy and Pulse oximeters to the OIC countries. Turkey, UAE, and Indonesia are the leading suppliers of Soaps and Vehicles. Malaysia is also a notable supplier of soap. Turkey and Malaysia are the leading suppliers of COVID-19 related products among the OIC countries. The intra-OIC trade of the COVID-19 related medical supplies is about USD 4 billion.

Turkey is the largest exporter of COVID-19 related medical supplies to the OIC member nations contributing to 20% of the total exports. Malaysia is the second largest exporter followed by the UAE, Iran, and Jordan.

Iraq is the largest importer of COVID-19 related medical supplies from the OIC countries importing about 17% of the total imports made from the OIC countries. Saudi Arabia, the UAE, Turkey and Afghanistan are the other leading importers.

Disinfectants and Sterilization products are the most imported among the member nations of OIC. 35% of import of COVID-19 medical supplies is in the category of Disinfectants and Sterilization products. There is also a significant import [14%] of Protective garments among the OIC members.

v. Tariff on COVID-19 related medical supplies

The WTO report reveals that the average tariff for COVID-19 medical products stood at 4.8 % and 134 WTO members imposed a tariff of 5% or lower on medical products, albeit tariffs on masks are as high as 55% in some countries.

The average tariff imposed on COVID-19 related medical supplies imposed by OIC members is 9.7% which is relatively higher than the global average of 4.8%. The global average tariff imposed on soaps is 17% and on protective supplies it is about 11.5%. Among OIC members, the average tariff imposed on hand soap is 17.6%, for disinfectants/sterilization products is 16.5% and for protective garments, it is 13.4%, which is relatively higher than the global average.

In spite of the repeated warning by IMF and other institutions, several countries have imposed restrictions on the export of COVID-19 related medical supplies and other essentials to other countries and have eased the imports of the same.

United States, the major exporter of COVID-19 related products to OIC countries has restricted exports of exports of respirators, surgical masks and surgical gloves and personal protective equipment. Moreover, Switzerland who contributes 7% to the exports to OIC countries has restricted exports of the same through licensing or permit requirements. Germany is also one of the top 5 major exporters aims to reduce shortage of masks and other protective equipment in their own country by restricting exports to all other countries. France has also banned the exports of hydroxychloroquine medicaments to all countries. Finally, China who contributes 35% percent to the total exports of OIC countries, has also banned exports of test kits and has placed conformity assessments on certain medical supplies. All these restrictive majors on exports by other countries may imply to a shortage of medical equipment in the OIC countries.

VI. Most affected sectors and impacted countries

1. Transportation and Logistics

In the transportation services sector, the intensity of impact and the extent of disruption varies with the modes of transport and the severity of the virus spread in that area. It is also important to note that transportation and logistics sector contributes to approximately 6% of the total GDP in the OIC countries. Due to restrictions in movement, decrease in consumption of oil and thus oil prices, the air transportation in OIC countries is expected to witness a slump of 7.24% and other means of transport by 4.43%. Due to increase in food and water tariff, the water transportation is expected to drop by 0.69%.

Impacted Countries

Comoros, Afghanistan, Azerbaijan, Algeria, and Guinea are estimated to endure a major slump in their transportation services output due to the reduction in production, consumption, and investment. Further Afghanistan, Algeria, Benin, Gabon, and Iran will experience a significant decline in their transportations sector's output with the decrease in oil prices.

2. Agri-Business

Agriculture sector and the dependent businesses, particularly cotton, wood, the production of Vegetable oil, Fruits & nuts, etc. are forecasted to endure a slump with an increase in food tariff. Hotels and restaurants in our analysis are expected to experience a major hit with decreasing oil prices, disruption in transport networks, reduction in tourist arrivals and with an increase in food tariff.

Impacted Countries:

Brunei, Guinea, Suriname, and Togo are among the most impacted countries due to change in food tariff as a result of COVID- 19. These countries are estimated to

experience a significant loss in their overall output specifically in the agriculture and related sectors. Albania, Comoros, Gambia, Guinea, and Kuwait are the five most impacted OIC countries due to change in consumption and production. On the whole some of the most impacted countries in the agriculture and agri-business sectors are countries that are among the least developed, and also highly dependent on agricultural export. Agriculture and related sector face significant challenges in African sub-continent costing most of these OIC nations in that region.

3. Medical Products

With an increase in medical tariff, the OIC member countries are expected to endure a drop in production of disinfectants, COVID test kits, and medical consumables, while an increase in healthcare expenditure. As a direct impact of COVID, with decrease in overall consumption and production, the overall medical products sector is estimated to face a large decrease. Malaysia, Jordan, Egypt, Morocco, Bangladesh, Pakistan, and Indonesia are few of the OIC countries whose medical products sector contribution to GDP is significant.

Impacted Countries:

With the increase in need for the medical products as well as the anticipated impact on their tariffs, countries such as Malaysia, Indonesia, Pakistan are anticipated to endure changes in their production and trade of these products. Other than the Asian region, countries such as Brunei, Chad, Gambia, Lebanon, and Libya are estimated to see a drop in production of medical products due to increase in health care expenditures. Overall, OIC is dependent on other nations for its medical products and therefore is vulnerable to the strain in the supply chain.

4. Finance and Insurance

Senegal, Bahrain, Malaysia, Jordan, Mozambique, and Egypt are among the top OIC nations where finance and insurance contribution is significant to the overall GDP. Most of these countries fall under middle income group where banking plays a major role in the development of the nation while some of them are underdeveloped countries where financial institutions strive bring about growth in the nation

Impacted Countries:

Cameroon, Togo, and Somalia experience a significant decline in financial services due to the reduction in production and consumption. Gabon, Azerbaijan, and Chad show a steep decline in financial services output when there is a decrease in oil prices. Togo's financial sector is adversely affected due to change in food tariff scenario as well as increase in health expenditures. Tajikistan, Togo, Saudi Arabia, and Guinea experience a major drop in insurance output due to production and consumption decline. Gabon, Chad, Qatar, Uganda, and Azerbaijan are to experience a decline in output when there is a decrease in oil prices. Togo, Benin, Guinea-Bissau, Gabon, Libya, and Chad are estimated to experience decline in insurance services due to an

increase in food tariff. Uganda, Tajikistan, Cameroon, and Gabon experience a decline in insurance services due to an increase in medical tariffs.

5. Information Technology and related services

Communication and other business services sectors in GTAP together help understand the economic impact of information technology and related services. Most of the OIC countries are in their nascent stages with respect digital advancements. Bangladesh, Nigeria, Kuwait are some of the OIC countries where IT sector contributions to overall GDP is low. Egypt, Senegal, Benin, Chad, Jordan, and Cote d'Ivoire are top six countries with respect to IT sector contributions to overall GDP.

Impacted Countries

Countries such as Kuwait, Brunei, Oman, Saudi Arabia, and UAE show a positive increase in technology and related services output, with decrease in oil prices. These countries also show a positive increase in the IT sector output with the increase in health and pharmaceutical expenditures. Most of the least developed OIC countries show a negative impact on their IT productivity in all of the scenarios, mainly because these countries do not have the infrastructure and investments necessary to show a positive impact on their technological productivity.

Conclusions

The study has estimated a decline in GDP for OIC member countries amounting USD 0.3 trillion – USD 0.6 trillion (4.8%-9.6%) when there is a decline in consumption, production and tourism, USD 0.2 trillion – USD 0.4 trillion (3.07%-6.67%) with reduction in oil prices, USD 17.2 billion to USD 29 billion (0.26%-0.43%) with an increase in food tariff, USD 6.6 billion – USD 18.5 billion (0.1%-0.28%) with an increase in medical tariff, and USD 2.2 billion – USD 5.7 billion (0.03%-0.08%) with a decline in consumption and employable population triggered by morbidity and hospitalization. With an increase in healthcare and pharmaceutical consumption, the study has estimated an increase in GDP by USD 6.7 billion – USD 22.5 billion (0.10%-0.34%). It has also predicted that ASEAN countries endure a major decline in GDP and trade when there is an increase in medical and food tariff. When there is a decline in oil prices and tourism, GCC countries experience a major decline in GDP and exports.

An analysis of COVID-19 related medical supplies reveal that USA, China and Germany are the major trading partners of OIC countries. Among OIC countries, Turkey, Malaysia, United Arab Emirates, and Indonesia are the leading suppliers of essential medical supplies needed to combat COVID-19.

Our observations from these analyses suggest the following policy implications:

1. Longer containment of Covid-19 may prove expensive for the OIC countries. Therefore, all policies required to quickly contain the further spread of this pandemic may go a long way to reduce the costs.
2. Increase of food or medical tariffs can only aggravate the economic losses in addition to deepening the crisis, though in some cases, they may help develop domestic production capacity for these commodities. Therefore, governments should work together on collaborations and open trade policies in these essential commodities to fight the pandemic.
3. oil production is an important policy variable in normal circumstances; however, in the current situation, it is completely dependent on the demand from countries across the world, which have been heavily damaged due to lack of demand for transportation, tourism, etc., governments may consider converting this challenge into an opportunity to diversify their economies by moving away from oil production to other commodities.
4. The direct healthcare and pharmaceutical sectoral expansions may be significant in some of the smaller countries in OIC. Nevertheless, they are not that notable in many of the countries, despite ignoring the setbacks to the healthcare sector due to the lack of demand for treatment other non-COVID diseases.