A SECTOR BASED ANALYSIS OF SUPPLY AND DEMAND SHOCKS DURING COVID-19 PANDEMIC

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Introduction

In the history of the world, the 20th and 21st centuries have witnessed many epidemics which were declared to be pandemics. These pandemics have affected the world in economic, political, and demographic terms and played a leading role in the initiation of various transformations. These transformations have led to permanent changes in working conditions, lifestyles, and management methods, and even climatic improvements have been observed. In December 2019, a new virus, which was identified to have originated from the coronavirus family and therefore was called the new coronavirus (COVID-19), was detected in Wuhan province of China (Baldwin and Mauro, 2020, p. 5). As of March 11, 2020, the World Health Organization announced that due to the virus that affected the whole world in such a short period as three months, 118 thousand cases were confirmed in 114 countries, and 4,291 individuals lost their lives and that this rate was expected to increase, and for that reason, they declared COVID-19 as a pandemic. As of the end of August 2020, the number of those who lost their lives exceeded 817 thousand and the number of infected patients approached 24 million.

This rapid spread of the COVID-19 pandemic manifests its effect in the entire world with increased costs. In order to decrease virus-related costs, countries closed their borders to passengers' arrivals and departures and decided to halt international flights. The USA and many other countries increased the alarm level and declared a national emergency. The whole country in Italy and Spain, and 13 cities including Wuhan in China were put under quarantine. France imposed a partial lockdown, and Bulgaria declared a state of emergency. Schools, universities, and sports activities were suspended all over the world, and the 2020 European Football Championship and the 2020 Eurovision Song Contest were postponed to 2021. Air travel companies such as THY, British Airways, Finnair, Qatar Airways, United Airlines, and Air Canada suspended their flights to China, while the USA suspended flights to Europe. While Starbucks decided to close down more than half of its branches and Ikea decided to close down all of its stores in China, Tesla and Apple temporarily shut down some of their factories in China. Volkswagen stopped its production in its factories for two weeks, while companies such as Airbus, Michelin, Skoda, Brembo, Maserati, Renault Group, Fiat, Lamborghini, and Ferrari interrupted their production for two weeks in their factories in Italy, Spain, France, Serbia, Slovakia, and Poland, as did Toyota in its factory in Sakarya, Turkey.

As can be seen, within the scope of the measures implemented by the private and public sectors, limitations were initially introduced to the supply side of the economy. Stopping production or putting limitations on production capacity in some facilities, and especially the closing of some enterprises operating in the service and retail sector caused productivity to decrease, while restrictions on travel, curfews imposed, decrease in the household income as a result of unpaid leave practices and working hour arrangements, the psychological effects of the pandemic and limitations on supply were naturally reflected on changes in sectoral demand. Thus, the pandemic gained a dimension that affected both production and the demand for production (Deloitte, 2020).

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The supply shock experienced and the resulting demand shock has inevitably affected the global economy, and it has been more likely for countries to go into recession. In fact, it is estimated that the world economy will shrink by at least 2.4% in 2020 (OECD, 2020). Similarly, according to the analyses made by UNCTAD, the global foreign investment flow is expected to decrease by 30-40% (UNCTAD, 2020). Again, ILO estimated that due to the pandemic, 5 to 25 million people will be made redundant on a global scale (ILO, 2020), while UNESCO predicts that 1.5 billion students will physically stay away from their schools all over the world (UNESCO, 2020).

All these developments indicate that the unpreventable effect of the COVID-19 pandemic on the global economic activity is in the form of deterioration in market conditions and rarely seen supply-demand shocks. Therefore, the subject of this book section is the analysis of supply-demand shocks within the framework of the COVID-19 pandemic. In this context, in the first part, theoretical information on supply-demand shocks will be presented and discussed within the framework of COVID-19. In the second part, a literature review involving studies conducted on the subject will be included. Finally, the sectors that are affected the most by the supply-demand shocks created by the pandemic will be examined.

Supply-Demand Shocks: Theoretical Framework

Shocks, which are considered as the source of cyclical fluctuations experienced in the economy, are divided into two as supply shocks and demand shocks. While the Classical, Keynesian, Monetarist, New Classical, and New Keynesian theories argue that demand shocks are responsible for these fluctuations, according to Real Conjuncture Theory, supply shocks are to be held responsible for these fluctuations. Although empirical studies conducted do not support a single economic theory regarding the source of economic fluctuations, there has been a consensus that supply shocks have permanent effects on national income in the long run, while in the short run, supply and demand shocks have significant effects (Koyuncu, 2017; Bjornland, 2009; Shapiro and Watson, 1988).

As a source of shift in the production function, all incidents that change the general level of prices when the data are the amount of real output that can be produced with one unit of labor and capital or when the amount of output is the data are called supply shocks (Yıldırım, Karaman and Taşdemir, 2007, p. 303). In other words, it covers all unexpected changes in the supply of a product or commodity. However, shocks that refer to an increase in the amount of supply are positive shocks, while all unexpected decreases in the amount of supply mean a negative supply shock.

Among these changes, while adverse weather conditions, pest infestation, earthquake, natural disasters, epidemics, and diseases are negative supply shocks that naturally develop (Sachs and Larrain, 1993, p. 444), tax applications, practices related with protection of the environment and consumers, laws and legal regulations are negative supply shocks that may occur as a result of the government's applications (Burda and Wyplosz, 2005, p. 293). A positive supply shock, on the other hand, can be seen with all factors that may cause production costs to decrease. The best examples for this are technological progress and the discovery of new raw material resources.

Sudden incidents that cause a temporary increase or decrease in the products and services in an economy refer to demand shocks. In the functioning process of the economy, the changes that occur in the behaviors and expectations, and the practices of public authorities outside economy policies are named as demand shocks, and these shocks lead to shifts in the total demand curve. In short, it covers all sudden changes in the demand level for a product or a property.

In the light of these explanations on supply and demand shocks, it would not be wrong to claim that the COVID-19 pandemic being experienced today has mainly created a supply shock. In fact, the economic effect of the pandemic firstly started in the real economy with a supply shock of Chinese

origin that has sent shock waves to the global trade and disrupted supply chains and the cessation of air transport. This has been followed by the disintegration in the financial markets. To exemplify, Dow Jones, S&P 500 and Nasdaq Composite indexes experienced dramatic decreases. In financial markets by their nature, significant fluctuations have been experienced in such a short time as 2-3 months. Financial assets have been passed into other hands. Second-pillar pension funds, which are the funds that have been invested in the most reliable money markets, have been affected by this disintegration due to their connection with financial markets, and second-pillar pension funds lost in value by 15% in the first quarter of 2020. Afterwards, the effect of these developments on the incomes and expectations all over the world culminated in a demand shock in which consumption and investment expenses decreased (TürkMetal, 2020, pp. 43-44).

There are many channels by which an infectious pandemic such as COVID-19 affects economy. These channels are mainly additional costs created by direct and indirect expenses to be made on health, increase in government expenditures, deterioration in the labor market, and subsequent changes in the household income. Due to social isolation, the measures taken against the virus and the limitations imposed have decreased the production, employment, and income in the sectors on which the limitations are imposed, and the production, employment, and income have been decreased in the sectors that produce input for the limited sectors. Closing companies, workplaces, and schools in various countries have led to decreases in terms of production and demand. In addition, as a result of large reductions in the consumption of various goods and services, an increase in operational costs resulting from increased risk premiums, and reevaluation of country risks, the pressures on economies have also intensified (McKibbin & Fernando, 2020, p. 5).

All these experiences show that production interrupted by the COVID-19 pandemic has experienced a supply shock, and combined with a demand shock, a twin shock has been created. Nevertheless, the supply shock that has started with the pandemic in the present day and has fed the demand shock has a different characteristic from the previous big shocks experienced in the world. That characteristic is that the spread of the virus does not have any limitations in the current conditions (Baldwin & Mauro, 2020, p. 14).

Literature Review

Though studies on the COVID-19 pandemic that appeared in late 2019 are mainly focused on the field of medicine, due to the social and economic effects of the pandemic, it is important that it be examined in these fields as well. The number of studies conducted on this subject in the field of social sciences is limited, but in order to reveal whether similar studies support this study, current literature on the subject is presented below.

Among the studies conducted on the subject, Andersen et al. (2020) examined the effects of COVID-19 on the consumers in Denmark by analyzing transaction levels in the banks. Accordingly, it was emphasized that total credit card spending decreased by 25%, and that this decrease was attributed to the limited goods and services.

In their study, Maital and Barzani (2020) attempted to explain the global effects of the COVID-19 pandemic and presented the history of the outbreaks experienced at a global scale. They reported that the pandemic mostly affected the total supply in the global economy, but that the measures taken so far were mainly related to the total demand, and that the tools that can be protected for the problems experienced on the demand side are limited, and therefore a global recession was probable.

Baker, Farrokhnia et al. (2020) examined the relationship between household consumption and the pandemic. It was emphasized that as the number of cases increased, spending behaviors showed a structural change, and that in the early periods of the occurrence of the virus, there was an increase in

retail, credit card spending, and food spending. It was also indicated that the general spending level decreased in the ensuing periods. The underlying reason for the shrinking in the general spending tendency was shown to be the social isolation and limitations on the service sector.

In his study, Ozili (2020) investigated the effect of the spread of the COVID-19 pandemic in Nigeria on sharp decreases in oil prices. As a result, he observed that the rapid spread of the COVID-19 pandemic created a new financial crisis in Nigeria in the aftermath of the global financial crisis. In Nigeria, which is one of the leading oil-producing countries, after the decrease in oil prices during the pandemic affected the country's economy, even though the government opted to help businesses rather than households, the economic crisis could not be prevented. The rejection of economic actors to carry out economic activities due to the conditions of the period further aggravated the situation.

Barua (2020) investigated the changes that occurred in economic activity levels, supply and demand, supply chains, trade levels, investment levels, the general level of prices, exchange rates, financial stability, and risk factors. It was determined that the uncertainty periods created by the pandemic led to an erosion in public confidence, and consumer and producer confidence indices were negatively affected. It was emphasized that such effects and resulting supply and demand shocks were likely to produce irreparable macroeconomic consequences.

Botta et al. (2020) emphasized that COVID-19 was a complicated composition of supply and demand shocks, and they referred to the importance of the application of compulsory interventions and bailout plans in order for governments to support companies and households.

Loayza and Pennings analyzed the macroeconomic effects of the COVID-19 pandemic in developing countries, and they indicated that the measures taken to get protected from the pandemic were effective in the labor force, health sector, financial markets and government decisions in the countries. Accordingly, for the developing countries with problems such as an increase in economic costs, lower health capacity, an increase in informal economy, more shallow financial markets, and less financial area, limiting the spread of the pandemic will probably mean decreasing economic activities. For this reason, policymakers should weigh the efficiency of the decision to limit the pandemic and its socioeconomic consequences more carefully. When supply-limiting measures are considered, economic policy in the short run should focus on avoiding mass layoffs and bankruptcies instead of an impossible target such as reviving the economy. In the medium run, bailout measures that involve monetary and fiscal incentives should be considered.

Similarly, in their study, McKibbin and Fernando investigated the global economic effects of the pandemic through the scenario study method. The scenario studies conducted showed that the COVID-19 pandemic would significantly affect the global economy in the short term. It was stated that the greatest effect could be experienced especially in the health sector of underdeveloped and crowded countries.

Del-Rio-Chanona et al. (2020) examined the effects of COVID-19 on the basis of supply and demand shocks. On the basis of a supply shock, classification of industries, and Workforce Index that measures the capability of working from home were included. Estimation results show that 22% of the gross national product and 24% of the workforce are under threat, and the total wage income will shrink by 17%. It was especially emphasized that industry and transportation sectors are faced with demand shock, while manufacturing, mining, and service sectors are faced with a supply shock.

Demetzis et al. (2020) emphasized that COVID-19 has both supply-sided and demand-sided effect, and they made a series of recommendations such as funding of national health spending, financing of households and companies, planning of broad macroeconomic measures, coordination of security network, preparation of sustainable measures packages, and revision of production patterns.

De Vito and Gomez analyzed how the health crisis caused by the COVID-19 pandemic affected the liquidity rate in 26 countries under different scenarios. In the worst-case scenario, an average company will consume its cash assets in about two years, at which point its liabilities will increase eight-fold on average. For this reason, it is evaluated that an average company will apply to the loan market so as to prevent a liquidity crisis. It is envisaged that governments' application of supportive fiscal policies such as tax postponement and bridge credits can have a decreasing effect on this risk, but that bridge credits have a lower cost in preventing a big liquidity crisis.

In their study in which they associated consumption behaviors and output shrinkage with the total number of deaths, Eichenbaum et al. (2020) pointed out that consumption and output shrinkage decreased the severity of the pandemic. In other words, it was concluded that limitations on the social and economic mobility of the society decreased the intensity of the pandemic. Also, the effects of the pandemic were emphasized through supply and demand.

Li, Zhang, Zhang and Zhang (2020) examined the investments to be made in the health sector and industries that produce luxury goods and relevant strategies during the period of the COVID-19 pandemic. As a result of the analysis, they determined that investments to be made in the health sector would be more efficient than the investments to be made in industries producing luxury goods.

In their study, Hoque, Shiskha, Hasanat and Arif (2020) performed a literature review on the effect of the COVID-19 pandemic on tourism in China. As a result of the interview, they concluded that the global impact of the COVID-19 pandemic was quite higher than expected and that the tourism sector in China was deeply shattered starting with the period when the pandemic started.

Supply and Demand Shocks in the Post-COVID-19 Period and Their Sectoral Impacts

Automotive sector

The automotive sector is considered to be one of the important sectors to have been affected by the COVID-19 pandemic. The automotive sector has a significant share in the global economy. To illustrate, the yearly turnover of the automotive sector with its employment of approximately 14 million workers is equal to the sixth largest economy in the world. Although the sector went through serious difficulties in the aftermath of the 2008 global crisis as a result of low supply and demand, it achieved to enter into a process of recovery (ILO, 2020). However, the occurrence of the COVID-19 pandemic in China, which is considered as "the global export base", affected supply negatively. In other words, it led to significant disruptions in the supply of raw materials and other parts. As a result of production interruptions in entire Europe and the closure of assembly factories in the USA, the sector almost came to a halt. The automotive sector, which previously faced a serious decrease in global demand, intensely feels the pressure imposed on it as a result of the COVID-19 pandemic (Vitale, 2020). According to the current research data of the survey company "Counterpoint", the decrease in the demand for global passenger cars as of July 2020 created a decline by 7% in sales. In addition, when the 2019 and 2020 (as of July) data of global passenger cars are examined, it is observed that the automotive sector is faced with a global shrinking in demand, especially in the USA and Europe. In order to demonstrate this change that has taken place in the automotive sector more clearly, the effect of the COVID-19 on global car sales is presented in Table 1.

Table 1

The Effect of the COVID-19 Virus on Global Car Sales

Country	Car Sales		% Change
	2019 (Million)	2020 (Million)	
China	25.7	21.9	-14.80%
USA	17.6	13.4	-23.90%
Europe	18.3	13.6	-25.70%
Entire World	28.4	23	-19%
Total	90	71.9	-20.10%

The table has been created by the author. Source: Madhok, 2020

The automotive sectors' nature that covers the other side and subsectors (textile, steel, chemistry, electronics, etc.) has a direct impact on employment and economic growth. Besides, changing consumer behaviors in the process have brought along structural transformations and innovations in company strategies. The peak in uncertainty in the pandemic period has adversely affected decision-makers, and the biggest demand shock in recent years has been confronted with (Accenture, 2020).

Health Sector

With the COVID-19 pandemic, for the first time in history, a health crisis has halted all economic activities all over the world, and it has bitterly been understood that health services and economic activities are so intertwined (Ducarme, 2020). Starting from the first occurrence of the virus, the demand for health professionals, hospitals, beds, and other medical equipment and materials has increased, but many countries in the category of developed countries (Japan, the USA, Spain, France, etc.) could not meet this demand sufficiently. Even in Japan, which has the highest number of hospital beds per capita, a boom in demand for medical equipment and materials has been experienced, and for that reason, they had to make investments in this direction (Suzuki et al., 2020). Even though some developed countries did not take this situation seriously enough, as of today, the health institutions of countries are both struggling against the pandemic and preparing action plans for the future. Continuously increasing positive cases are increasing the demand for medical products every passing day, and world-famous global companies (Ford, Suzuki) have started to be active in the health sector. The COVID-19 pandemic has also led to significant developments in the field of information-technology. Especially advanced technology applications such as artificial intelligence and big data have come to the fore in the pandemic process. Currently, the latest technology is utilized in the efficient use of humans and other equipment and materials (baslangicnoktasi.org, 2020). Accordingly, the demand for the health services information technologies market is on the rise every passing day. It is estimated that the size of global health information technologies will grow from 227.5 billion dollars in 2020 to 270 billion dollars by 2021 (marketsandmarkets, 2020). Consequently, many entrepreneurs are contributing to the process by creating software and applications that help monitor COVID-19 cases (market research future, 2020).

Food Sector

As a result of uncertainty and lack of information in the early days of the pandemic, there has been a debate on whether the virus is transmitted by way of water and food products. The U.S. Food and Drug Administration (FDA) announced that the virus was not transmitted via food or water. However, it was also stated that the virus could survive on surfaces for days and even weeks, that consumers should

avoid direct contact with food products and packages and apply hygienic practices (disinfectant, wet wipes, gloves, etc.) (magzter.com, 2020). Besides, the transmission of the virus to humans through the mouth and respiratory tract has caused important changes in the consumers' food and social habits, which in turn forced businesses to make structural changes to their production protocols. For example, the closure of many cafes, restaurants, and dining halls directed people towards consumption at home and caused food-producing factories to be more careful and aware of "food safety" (Sgs.com, 2020). This devastating change that occurred in consumer behaviors and demand accelerated the process of transition from the foodservice channel to the retail channel. To put it more clearly, consumers' avoidance of consumption of ready-made foods and adopting a consumption tendency by preparing their consumable products under their own monitoring have led to a significant demand growth in the retail sector (Labs, 2020). As can be seen in Figure 1, in the months when the pandemic peaked (March-May), consumers' demand for the retail food and tendency to stockpile gained momentum.

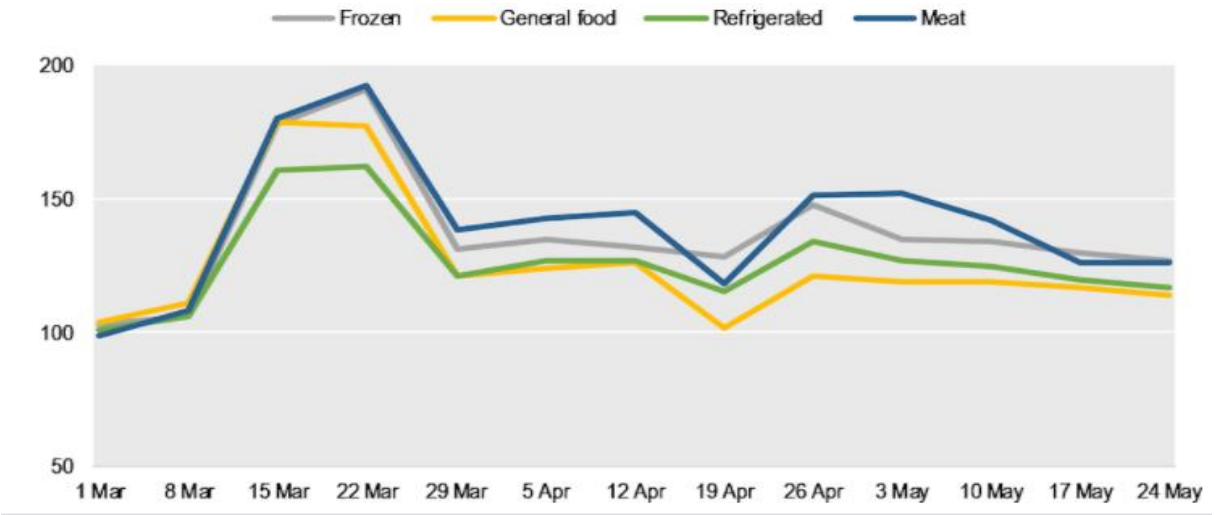

Figure 1: **Retail food demand Source: OECD, 2020**

This increase in the demand also puts the suppliers in a difficult position. "Extreme" consumption tendency based on consumer psychology brings along difficulties in the supply process of the products. To clarify, the amount of materials that the consumer uses in home-made food is quite different from the amount of food they consume outside the home. For example, a consumer who wants to make pizza at home leads to an increase in the demand for mozzarella cheese by using more mozzarella on the pizza. In addition, with the closure of businesses that serve crowded groups such as cafes, restaurants, and hotels, "large volume" purchases have significantly been reduced. This situation has affected all processes from the production stage to logistic activities (OECD, 2020).

Tourism sector

Tourism is a sector that rapidly grows in line with the increasing demand from people and has a great share in the economic growth countries. The tourism sector both affects and is affected by factors such as environment, technology, politics, and society. Also, the tourism sector is affected by unexpected situations such as terror attacks, political incidents, and epidemics. The sector, with its demand dimension, has a dynamic structure which rapidly responds to different situations positively or negatively (Acar, 2020). With its dynamic structure, it is one of the sectors where the effect of the COVID-19 pandemic is deeply felt. After COVID-19 spread quickly all over the world in March 2020, international tourism came to a complete standstill. Measures such as travel restrictions, cancellation of

flights, closure of touristic facilities showed their impact soon, and decreased the supply of and the demand for domestic and international tourism services. As tourism has a multiplying effect on sectors such as agriculture, transportation, handcrafts, and food-beverage services, these sectors also experience great difficulties due to the COVID-19 pandemic (ILO, 2020).

According to the report released by United Nations World Tourism Organization (UNWTO), epidemics and global crises experienced before the COVID-19 pandemic reduced the demand for tourism, but their effects did not reach the level of bringing tourism to a standstill. As can be seen in Figure 2, while there was a decrease by 0.4% in the world during the SARS epidemic of 2003, the total number of tourists all over the world deceased only by 4% in the global economic crisis of 2009. Besides, in 2019, about 1.5 billion people participated in touristic activities in the entire world. Due to the restrictions imposed on tourism on an international scale, World Tourism Organization estimates that international tourist arrivals will decrease by 20-30% in 2020.

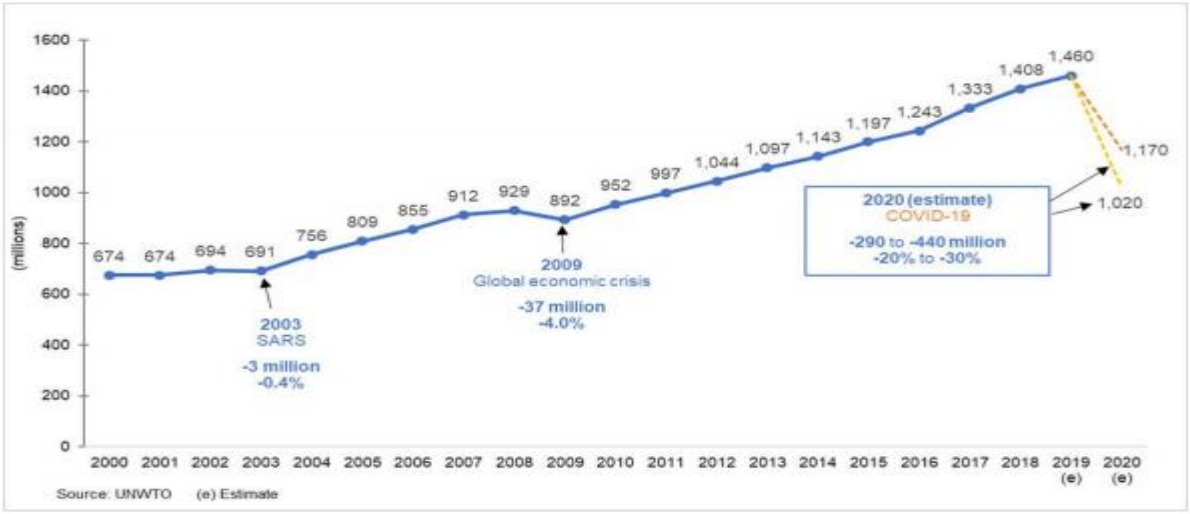

Figure 2. **2020 estimated international tourist arrivals (million) Source: UNWTO, 2020**

In addition, according to UNWTO experts, the demand for domestic tourism will recover more rapidly than the demand for international tourism. When the data in Figure 3 are interpreted, it is estimated that the demand for domestic tourism will increase as of the 3rd quarter, but that the demand for international tourism will start to increase in the 4th quarter and 2021.

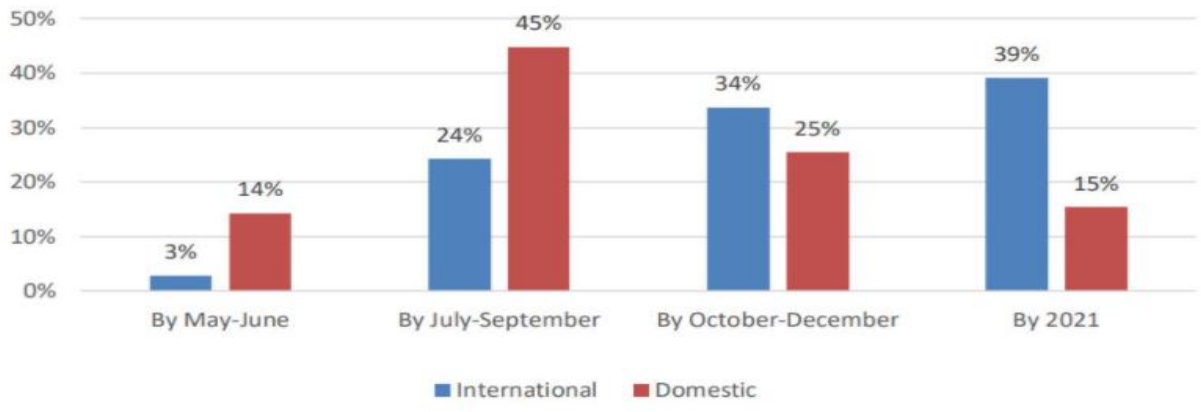

Figure 3. **The change in the demand for tourism destinations by time Source: UNWTO, 2020**

Transportation sector

The lockdown of one-third of the total world population in their homes as a result of the global quarantine is causing great damages to the companies providing transportation services. Particularly, airline companies are being negatively affected by this situation (ULISA12, 2020). The restrictions imposed in Turkey on air travel to China on February 3 and to Iran on 23 February were followed by flight restrictions to South Korea, Iraq, and Italy on February 29. As of 21 March 2020, the number of countries to which flights were restricted reached 68 (SHGM, 2020). Along with Turkey, many countries such as China, the USA, Italy, Spain, Czechia, and Poland stopped their flights to other countries. Since December 2019, when the COVID-19 outbreak started, the passenger income of airline companies per kilometer has dropped by 40%. As a result of the negative effect of the COVID-19 pandemic on the demand for air transportation, American Airlines and Southwest Airlines, which are the two biggest companies of the USA, announced that they incurred losses in the 2nd quarter of the year. Also, as a result of the ongoing effects of the COVID-19 pandemic, at least a 100 billion-dollar decrease is expected in the 2020 revenues of the other airline companies.

With the "new normalization" process implemented in Turkey and other countries, domestic and international travel restrictions have been removed, and a series of measures have been taken in order for the individuals to have confidence in air travel and to revive the demand for air transportation. It is clearly observed in Figure 4 that the decrease in confidence in air travel as of January 2020, when the COVID-19 pandemic started to rapidly spread, has also affected the demand. Yet, countries opened their borders after April 2020, and the increase in demand for air transportation was accompanied by confidence in air travel.

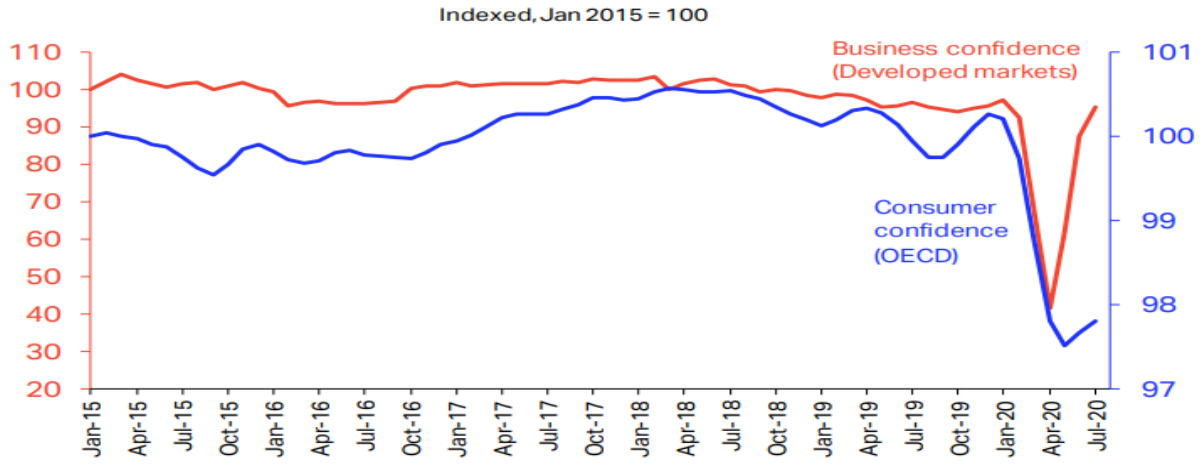

Figure 4. **Confidence index in air travel Source: IATA, 2020**

Energy sector

Energy resources, which are the leading inputs of the modern world, are deeply affected by the COVID-19 pandemic. Along with the COVID-19 pandemic, the demand for oil, natural gas, and other energy resources has considerably decreased. As a result of travel restrictions, the mobility of approximately three billion people has dropped to the minimum level. In addition, flight restrictions in the aviation sector, which accounts for 60% of oil consumption, have negatively affected the demand

for oil. The slowing down in the industry sector and shrinking of trade volume have played a leading role in the decrease in the demand for oil (Deloitte, 2020). All of these situations have led to an imbalance between supply and demand. While the demand for oil was decreasing during the COVID-19 process, Saudi Arabia increased its production capacity of oil and caused an abundance in supply, which was reflected in oil prices as a sharp decrease. The decrease in oil prices can be clearly seen in Figure 5.

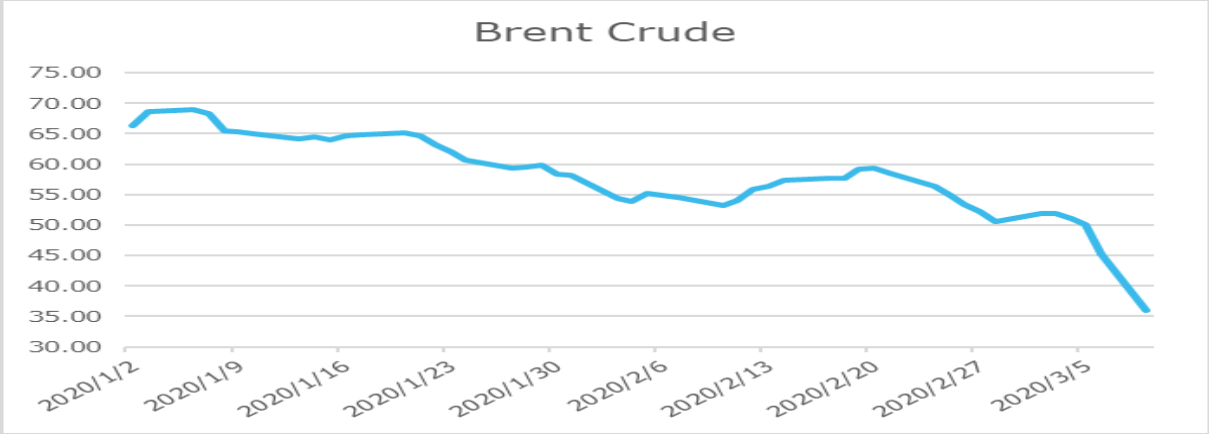

Figure 5. **Brent oil prices Source: Deloitte, 2020**

The report issued by IEA revealed that along with the decrease in production tendency of many oil-dependent industries, the great importing countries such as China and Europe would decrease their oil imports and that this situation would cause a reduction in the global demand for oil. This virus has not only stopped supply chains in China but also decreased industrial production all over the world by increasing the cyclical slowdown on a global scale (Kingsly & Henri, 2020; Duran & Acar, 2020).

Banking and Finance Sector

The banking and finance sector, which suffered heavy damages in the 2018 global crisis, has now been deeply affected by the COVID-19 pandemic (BIS, 2020). COVID-19, which has been declared to be a "global pandemic" by WHO, is escalating the uncertainty environment in overall economies, and this uncertainty brings along risk and fear and is affecting the financial market negatively (TEPAV, 2020). The risk and fear, the effect of which has been felt in the markets, have also affected financial capital movements, direct foreign investments, international banks, and currency exchange rates (Baldwin and Mauro, 2020, p. 17). An investor who wants to invest in a country will provide funding to the country in exchange for the bonds s/he buys, and at the end of the term, s/he will get his/her interest and capital back. However, if s/he believes that the country s/he has invested in may not be able to pay its debts, s/he can guarantee his/her money by insuring it against default risk. This situation brings forth CDS. In the report prepared by TEPAV (2020), it has been demonstrated that the CDS premiums of countries such as China, the USA, and Italy, where the highest number of COVID-19 cases are observed, have gone up rapidly. On the other hand, the problem of the suppression of loans provided to poor segments of the society is also affecting banks and financial institutions negatively. Closure of businesses in many sectors, slowing down or stopping of production, decrease in sales, employees being forced to stay at home inevitably affect the debt rollover negatively and nonperforming loans increase. The need and demand for liquidity are increasing as a result of the shocks created by the COVID-19 pandemic and the measures taken. In order to alleviate the inevitable problems to be experienced in the banking and finance sector, governments and central banks should offer various support packages such as providing liquidity, postponing tax and credit debts of companies, and assisting SMEs (Duran &

Acar, 2020, p. 57). In order to manage this process, the Turkish government announced the “Economic Stability Shield” package on 18 March 2020 and aimed to form a shield against probable supply and demand shocks. The restrictions introduced as a result of the COVID-19 pandemic will result in the closure of some sectors, and restrictions on social activities will bring about the shrinking of many businesses that are operating in the service and manufacturing sectors (Ersoy et al., 2020).

Conclusion

The global spread of the COVID-19 pandemic creates difficult to predict impacts on supply chains, and uncertainties in supply and demand or increasing logistics problems emerge from the combination of supply and demand shocks. With the countries closing their doors to the outside, problems with domestic orders started to occur. China, where the COVID-19 virus was first affected, is an important country in the world where cheap labor is emerging and plays a key role in the supply chain. However disrupted production in China, engaged in exports of intermediate goods to other developing countries such as Turkey, has become incapable of production can not sell goods to China. Thus, a supply crisis arose. On the other hand, social isolation has also changed consumption habits. Demand fell due to loss of income, fear of contagion, and uncertainty, people spent less and this created a demand shock. When the supply and demand shock experienced a lot of information, international trade and virtual connections had greater effects, which further damaged global economic activities. Although the measures that can be taken to get out of this situation are limited, it is vital that governments and policymakers take concrete, comprehensive, and targeted fiscal, monetary, and financial measures and quickly implement these measures to help affected households and companies. Cash support, wage incentives, and tax reductions can be given to damaged households and companies to survive. In addition, supply chains can be diversified and geographic diversity can be created to distribute risk. Where possible, creating local alternatives can be prioritized, digital channels such as marketplaces (e-commerce) can be included in the chains, shortening the chains and increasing their efficiency can be prioritized.

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