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The impacts of coronavirus pandemic on global economy and logistics

Sertif Demir

Independent Researcher, Advisor at Ankara Center for Crisis and Policy Studies, Ankara, Turkey

Corresponding Author: Sertif Demir

Abstract

The coronavirus pandemic erupted in China at the end of December 2019 has been the most widespread and lethal one that humanity has faced. It started to impact every field of life including economy, commerce, trade, tourism, logistics, business health etc. The Covid-19 pandemic has led to the constraint economies, declining globalization, limiting international trade and logistics activities. Hence,

the aim of this paper is to scrutinize the impacts of the coronavirus outbreak on the global economy and logistics sector. Hence, the study will focus on how Covid-19 has erupted, how coronavirus affected the global economy and logistics sector; how countries and companies reacted to avoid the undesirable implications of Coronavirus.

Keywords: Coronavirus, Outbreak, Global Economy, Logistics, Supply Chain, Impact

1. Introduction¹

Humanity has encountered a wide variety of many contagious diseases since its existence on the earth. The implications of these pandemic diseases were extremely catastrophic for humanity. The outbreak of pandemic resulting from coronaviruses in China at the end of December 2019 has been the most widespread and dreadful one that humanity confronted in the last century. It is known as a new type of coronaviruses that is part of a large family of viruses which is called a novel coronavirus (COVID-19) which has not been formerly identified in humans. As of April 2022, almost over 500 million people have been affected and over 6 million people died because of coronavirus related illnesses.

Given this fact, a contagious disease can be deemed as pandemic only if it is transmittable among many masses' human beings through any kind of contact. For example, although cancer causes the death of the masses, it is not considered a pandemic because it is not contagious or infectious (Lee, 2014: 1) ^[6]. Key issue here is that pandemic disease should have some permeability features among humans through physical or aerial contact.

During the globalization area, notably since the 1990s, there has been an enormous increase in the frequency of emerging pandemic diseases. Furthermore, in the last 20 years, the increase in the number of virus-less contagious diseases have carried unpredictable features. Of course, there can be several triggering factors that make pandemic diseases widespread around the globe. Globalization, fast economic development, decreasing wildlife for animals all together have a certain degree at the outbreak of this virus which is hardly incurable.

Coronavirus pandemic has unprecedentedly affected all humans in almost every aspect. After the outbreak of this coronavirus pandemic, the impact of its over economy and logistics sector has been quite negative. As outbreaks of virus have quarantined billions of people in their home, it caused the shrinking of economies, decreasing international trade and production. Mainly, logistics supply chains have severely been disrupted because of lockdown of economies and social life.

The virus has mutated several times, currently 'omicron' variant has become quite widespread. Thanks to scholars for inventing vaccines for coronavirus, it has a lesser degree of lethality impact on humans. Although it is still an ongoing pandemic, there is hope for its transformation to seasonal flu.

Considering all these explanations the aim of this paper is to scrutinize the coronavirus outbreak from an economic and logistics perspective. In this perspective, the study will focus on how coronavirus affected the global economy and logistics and how companies reacted to decrease the negative influence of coronavirus disease.

In order to make this analysis the study will be performed as outlined:

¹ Some part of this article has been presented with the 'Globalization and Covid-19 Pandemic', at the Anatolian Congresses, 6th International Social Science Congress, May 21-23, 2021, Van and the second titled 'The Impact of Covid 19 on Turkey's Logistics Sector', presented at the Ankara International Congress on Scientific Research-IV, April 10-11, 2021/Ankara, Turkey.

- The overview of outbreak of Covid-19 pandemic
- The impact of Covid-19 on global economy
- Impact of Covid-19 on logistics
- The way ahead

2. Methodology

Narrative review methodology has been selected as the research means for this paper. So, the purpose of this narrative is to succinctly review the necessary sources in scholarly publications and governmental inputs related to coronavirus.

3. Results and discussion

The overview of outbreak of Covid-19 pandemic disease around globe

Indeed, there has been an increase in the frequency of emerging pandemic diseases at our age. Of course, there are many reasons that account for this phenomenon. To tell the truth, globalization, fast economic development, overpopulation, pollution, deforestation for farming areas, land degradation for urbanization, decreasing wildlife for animals all together have a certain degree of role at the outbreak of Coronavirus pandemic. Notably, the increased speed and volume of international trade and travel, in other words, globalization, were considered major factors in spreading infectious diseases (Fidler, 2004: 14) [3].

Given these facts, humanity has faced many infectious diseases throughout history, and in some cases the impacts of these infectious diseases have been extremely disastrous. Viewing historical developments of pandemic, there were infectious diseases when people started to live together in the hunter-gatherer days of humanity. During the transition to agricultural life that began ten thousand years ago, infectious diseases such as malaria, tuberculosis, leprosy, influenza, and smallpox emerged. (<https://www.history.com/topics/middle-ages/pandemics-timeline>). In the past, empires or states were insufficient to prevent large-scale pandemics, and therefore millions of people died. In later periods, when the earliest empires merged, there were also serious and quite prevalent infectious diseases and they severely affected the health, social and political life. (Drezner, 2020, 5) [2]. The expansion of Roman Empire allowed viruses to transmit without difficulty within its borders. These infectious viruses played a crucial role in the collapse of the Roman empire. Because, these diseases weakened the Roman Empire as they easily transmitted across the Empire through trade or migration. Likewise, the pandemic suppressed Napoleon's attack to Russia in 1812 as much as the Russian army, causing the invasion to fail. (Drezner, 2020, 5) [2].

Similarly, Black Plague or Black death was a reason for the loss of the Holy Roman-Germanic Empire, which had been in power in Europe for nearly a thousand years, and especially the Papal authority stationed in Rome. The Black Death originated in China but, transmitted to Europe through Silk Road trade. Due to the 'Black Plague' pandemic that swept Europe in the 14th century, almost a third of the European population (almost 30 million) died. For example, 80% of the population of the city of Florence died within four months (<https://www.history.com...>). Most recently, the global epidemic caused by the Spanish flu, which emerged in 1918, caused the death of at least 50-100 million people. (Drezner, 2020, 7) [2]. In the past, the number of deaths increased due to the inadequacy of technological

opportunities, the lack of diagnosis and treatment opportunities. In the middle ages, occasionally based on ignorance, magician women or other societies were seen as culprits for the cause of pandemic and therefore these groups were faced with severe reactions, oppressions and atrocities (Demir, 2021, 4-35) [1].

Coronavirus is considered more transmissible than any other contagious diseases as it spreads very fast among people. Furthermore, Covid-19 has the ability of continuous evolution and resistance to antibacterial agents, making it persistent and a repeated threat (Yunfeng, 2021, 1) [17].

There is a striking overlap between the path of today's Covid 19 viral spread and the path that emerged in the 1300s by Black Death caused by plague. Historically, the Chinese were once Mongol victims and Mongols ruled Chinese for a long period with Turkish tribes. Today's China looks like the expansionist Mongol empire. Bear in mind that Mongol empire had decimated through a huge plague pandemic in the 14th century. Some researchers make some comparisons with the influences of Black Death over Mongol Empire with the coronavirus pandemic over today's China (Khanna, 2020) [5].

HIV/AIDS pandemic disease presented a great problem for the twentieth-century. According to figures until the end of 2018, AIDS-related illnesses caused the death of over 32 million people since its outset. (UNAIDS, 2019; Fidler, 2004: 14-15) [14, 3] in the mid-1980s. Except AIDS pandemic disease, there have not been any pandemic diseases that affected the entire globe as such, since the outbreak of Black Death in 14th century and Spanish flu in 1918.

All pandemic diseases have proven that no border is safe to prevent the spread of pandemic to other states. They also have some common characteristics. There is no specific treatment for pandemic related diseases except vaccination, curfew and individual protection such as wearing masks and maintaining social distance. No golden treatment or cure methods have been identified so far.

There are some presumptions about the birth of virus pandemics in China. The fast economic development in China in the last 40 years has had huge side effects on the environment, nature and wildlife. The major factor affecting the evolution of Covid-19 is the decreasing wildlife for animals. According to scientists, animals like bats, snakes or mosquitos, in order to adapt to new life patterns (UNEP, 2020,7) [15] have undergone some mutations. When they are subject to mutation, they can create some viruses that can be transmittable to humans. In fact, the outbreak of Covid-19 has resulted in such evolution of so-called animals.

The effects of Covid-19 on the global economy

Covid-19 seems, more or less, to spread to all countries and all continents. It has influenced all globe without discrimination nations, race, sex, or region. After the outbreak of the Covid-19 it affected every field of life including business, economy, commerce, trade, tourism, health etc. To contain the pandemic, a large number of people have been quarantined. As causing nations to close all borders and decrease economic activities with other countries the coronavirus pandemic had a huge impact on the global economy and logistics.

In order to prevent the spread pandemic almost all nations have put into force a lockdown policy which included long duration curfews, travel and notably flight restrictions, slowing down economies and stopping cross bordering

among states etc. The impacts of pandemic disease, therefore, can be seen in shrinking economies, decreasing globalization, diminishing international trade and business. Globally, all stock exchanges dropped, all currencies fluctuated, oil prices dropped below zero in value which has never seen in history. Commercial flight among states were suspended and tourism sector has faced enormous losses, international trade and business almost stopped, national economies have shrunken.

The global economy shrank in 2020 and 2021 and this national GDPs also decreased in 2020. Moreover, in order to avoid the negativity impacts of pandemic, states allocated additional funds to spur economies. The FED in America and the EU Central Bank poured cash or credits to revive economies. After two year of a spurring economy which caused the inflation, both central banks are now raising the interest rates to curb inflation.

The major sectors affected by the outbreak were aviation, tourism and travel sectors; After the vaccination, customers have preferred to use airways, but the figure of travelling people by airways is still behind the figures of pre-Covid-19. Some airways companies went bankrupt because of heavy losses. Some resisted travel restrictions through state's subsidies or unified with other travel companies.

Bear in mind that some sectors have taken advantage of the coronavirus pandemic. Among them, the pharmaceutical sector dealing with medicine has become very beneficiary while focusing on coronavirus outbreak. Namely the German, American and British pharmaceutical companies have made enormous profits for inventing new active vaccines.

Besides, the outbreak of the coronavirus pandemic has a different impact on countries. For example, developing economies have suffered more than those advanced economies as developing countries have not been able to cope with crises by themselves. Besides, large companies have flexibly adapted themselves to protect from the undesirable impacts of Coronavirus. But automotive industries, electronic and other high-tech industries have also been adversely impacted by the protective measures against Covid-19 pandemic and the disruption of supply chains.

The Covid-19 pandemic disease has dictated that the geopolitical and economic consequences must be taken seriously. As the globalized world accommodates fast spreads of pandemic disease, large companies accelerated shifting supply chains out of China. Looking at the past experiment, Japanese car production firms relocated their production venue. For example, Toyota relocated its production to Thailand and Indonesia. The South Korea smartphone company, Samsung, relocated most of its production to Vietnam (Singh, 2020)^[11]. As China employs all tools to manage all Asian countries for geopolitical motivation, the other regional countries avoid such dependency on China in terms of production venue. (Khanna, 2020)^[5]

The influence of pandemic Covid-19 has also seen at changing consumer's tendencies at venue and methods. During the pandemic situation, customer preferences have shifted from retailing stores to e-commerce as e-commerce is seen as safer and easier. On the other hand, pandemic disease also affected the working style and time. In order to avoid the negative influence of the coronavirus pandemic, working hours were reduced, many workers were laid off,

and employees were allowed to work in their homes (Louie, 2020)^[7].

Given the fact that capitalism generally prioritizes profits rather than actual people's needs, in this context, pharmaceutical companies rarely invested in vaccines or other protection medicine for infectious disease (Shang, 2021, 1) before occurring. Because these items can only be demanded by customers when they catch contagious illnesses. From a capitalist viewpoint, it is logical to act on homo economics, but it is the state's duty to take necessary measures to protect public health. On the other hand, the health sector has also seriously been affected and disrupted by Covid-19 pandemic. Furthermore, governments have encountered new costs of medical treatment to diagnose, treat and protect their citizens from virus-led diseases.

During the pandemic, masks, test tools and vaccines have become three key goods that all countries needed. These three goods were the main element of protection against coronavirus pandemic (OECD, 2022)^[8]. In fact, there is no vaccine-justice in the globalized world as the poor countries have not been able access the vaccines for their citizens. The World Health Organization has recurrently criticized the rich countries for not helping the poor countries in terms of vaccines and other curative medicine.

In summary, from the global economy perspective, the outbreak of coronavirus has serious outcomes such as decreasing globalization, diminishing domestic production (GDP) per capita, slowing economic activities, relocating production venues, lay offing workers, allowing employers to work at homes instead at firms' headquarters, shifting purchasing preferences to e-commerce, changing the habits of spending, delaying demand request at certain time in future.

The impact of Covid-19 on logistics

Logistics is among the key service providers with the transportation sector which connects all globe. Hence, logistics companies are the main component of the economy (Qureshi *et al.*, 2021) which act as mediator between producers and customers. Logistics accounts for up to 25 percent of the GDP in some developing countries while this percentage drops to % 6–8 in OECD countries (Grant, 2012)^[4]. This indicates that logistics is one of the main sectors in national and global economies.

Indeed, the coronavirus pandemic has affected all processes and phases of logistics. In order to prevent Covid 19 pandemic, almost all nations put into force lockdown strategies which included long duration curfews, slowing down economies, flight and travel restrictions, restriction of cross borders etc. These measures deeply impacted logistics activities as a whole. Notably land, air, and maritime transpirations have negatively been affected.

The lockdown policies have led to decreased globalization, lessened global production, labor scarcity, and disrupted supply lines. The disruption of global supply chains has also resulted in higher commodity prices. Logistics companies have also been influenced by new global infections. Those implications of the logistics supply chain have taken place at disruptions of competitiveness, economic growth and job creation (Qureshi *et al.*, 2021). Almost all the world has experienced global supply chain disruption because of chip problems.

The pandemic crisis has led to challenging uncertainty for supply chain management and production management. As

quarantine has suspended all production activities and customers have delayed their demands, the producers faced unpredictable and challenging situations. Viewing the economic lockdowns, China was the first country to apply a lock down policy, based on the implementing a zero-infection policy. Considering its huge global manufacturing role, all together have led to logistics supply chain disruption globally. The lack of goods and items from China affected manufacturing overseas. Major industries around the world, namely automotive and electronics were deeply impacted (Qureshi *et al.*, 2021). For example, due to the isolation of China, there have been critical supply chain disruptions in automotive and high-tech manufacturing (Singh, 2020) ^[11]. Companies have explored alternative production sites, relocation their production center from China to other safe venues, and alternative transportation routes and modes etc.

Logistics firms have embraced new measures to cope with the uncertainties and vulnerabilities aroused from Covid-19 pandemic. These measures are tailored to keep the supply chain system running without interruption. If required listing, a series of new safety rules have been implemented to protect their labors from any contact with virus. Alternative modes of transportation have been searched to find the optimal and applicable one. For example, as passenger flights have abated due to passenger flight restrictions, air cargo firms have utilized charter flights for cargo shipment. Likewise, the railway between Europe and China has also been intensively utilized due to decreasing the air freight capacity among those venues (Qureshi *et al.*, 2021). Besides, there is expectation of higher logistics cost aroused by the tighter cross-border processes to prevent the spread of infectious illnesses. Moreover, logistics service providers are required to adapt themselves to technical progresses in logistics and transportation while heavily involved with Covid-19 pandemic (Qureshi *et al.*, 2021).

There have been many hardships regarding all transportation modes and transportation ports because of labor scarcity, cost increase, lack of demand and restriction on the process of shipment throughout the world. But, to compete with the pandemic, keeping the supply chain running and open has been the global solution as it allows the flow of the essential products to the countries which hardly produce them and mitigating supply shortages (OECD, 2022) ^[8].

The effects of coronavirus pandemic on Turkey's logistics sector

Turkey, like other countries, put very serious measures into force to prevent the spread of the Covid-19 pandemic. Turkey has suffered very much from implementing several lockdowns in its economy several times in the last two years. This has caused a very serious outcome in terms of sharp growth decline, the increase at the unemployment rate, currency fluctuations, increase in bankruptcies. Hence, the pandemic-driven economic decline has resulted in more poorness of masses.

Like other economic sectors, the logistics sector and supply chain system in Turkey were adversely affected by economic lockdowns, travel and cross border restrictions to contain the pandemic. These problems were also intensified because of global pandemic restrictions which precluded international trade and global commerce. Turkey's logistics was deeply impacted by sudden supply chain disruptions at the outset, however, it started to recover from those

restrictions day by day as the logistics supply chain system was urgently needed to overcome the challenges that emerged out.

Indeed, the coronavirus pandemic has impacted the logistics sector from several perspectives. From outset, cross border restrictions among states have enormously restricted the logistics transportation which caused almost the stop of carrier and freight haulages. Being at the center of crossroads of three continents, Turkey had unprecedentedly commercial relations with neighboring states before the pandemic outbreak. Turkey lost most of its trade relations with neighboring countries in the Middle East, Caucasus and Balkans in the beginning. Turkey suffered too much from the border closures among states. On the other hand, logistics service was delayed because of new rules and regulations at the border gates to contain the pandemic. In fact, logistics companies have adapted themselves to new regulations to decrease losses. Logistics sector also suffered from decreasing carriage and freight demand from factories, production centers etc., as economic lockdowns caused less production. In connection with less production, the global supply chain disruptions or challenges at importing the essential production parts, like chips, caused global production to decrease or delayed production processes. These also created challenges and hardship in freight hauling. Last but not the least, global pandemic has led to cost and price increase in logistics services. Firms and logistics service providers need to adjust themselves to pandemic-driven costs.

The positive perspective of the global pandemic has been seen at the rise of e-commerce and e-logistics which have become a new paradigm for the logistics sector. All logistics firms have reshaped themselves for e-logistics and shifted the challenges of pandemic to suitable opportunities, taking advantage of the new paradigm. Turkey's logistics sector has slowly made some progress to overcome the challenges of Covid-19, but it is still far behind its capacity of pre-Covid-19 period.

Given the fact that no nation is capable of overcoming that outbreak, a globalized effort is needed to find an effective treatment and decrease the negative business and other implications of the coronavirus pandemic outbreak. Any slowdown in the Chinese or American or the European Union economy will negatively affect the other countries' business efforts and economies. Therefore, a globalized effort is necessary to overcome those challenges.

4. Conclusion

An outbreak of pandemic resulting from coronaviruses in China at the end of December 2019 has been the most widespread and dreadful one that humanity faced. The main hypothesis sets forth that coronavirus erupted at a live fish market at the Wuhan City of China (Sheikh and Rabin, 2020) ^[9]. Although there are some conspiracy theories about the spread of coronavirus, claiming the production and spread of the virus is part of a biological campaign initiated by China to negatively impact the Western world. This is not a logical explanation. Bear in mind that the fast transmitting and lethality of viruses can be a weapon to hit a producer country like boomerang.

After the outbreak of the Covid-19 it started to influence every field of life including business, economy, commerce, trade, tourism, health and logistics etc. As nations closed all borders and decreased all economic and business activities

with other countries have had a serious impact on the global economy and logistics. The global economy shrank in 2020 and 2021 and the national GDPs also decreased in 2020. The major sectors affected by the outbreak were aviation, tourism and travel sectors, but automotive industries, electronic and other high-tech industries have also been adversely impacted by the protective measures against the coronavirus pandemic and disruption of supply chains. Given the fact that no nation is capable of overcoming that outbreak, a globalized effort is needed to find an effective treatment and decrease the negative business and other implications of the coronavirus pandemic outbreak.

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