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Review Article

The World Economy at COVID-19 Quarantine: Contemporary Review

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Abstract: Like the previous pandemics, Coronavirus (COVID-19) pandemic is first and foremost a public health threat, but it is also, and increasingly, an economic threat. On the other hand, the economic impact of a pandemic may not be long- lasting if the underlying cause is contained quickly. Currently the world is seriously affected by COVID-19 outbreak. Considering the evolving nature of the situation, it is too early to estimate the full impact of COVID-19 on the world economy, but many articles have been published and made available to the public on the actual and potential economic consequences of COVID-19. Most of them consider the partial economic effects of COVID-19 on different economic perspectives. Therefore, the general objective of this contemporary review is to prepare the bases for future solution by collecting and analyzing the results of previous articles and contextualization's of their needs. The result of the review depicts the significant actual and projected impacts of COVID-19 on major macro-economic variables like: economic growth, unemployment and poverty level. Besides, the review also reflects the sectoral impacts of COVID-19 on manufacturing, service, trade, tourism & aviation and education sectors of the world economy.

Keywords: COVID-19, Pandemics, Economic Impact, Contraction; Health, Quarantine

1. Introduction

Coronavirus (COVID-19) is a respiratory illness that can spread from person to person. It was caused by the SARS-CoV-2 virus and it belongs to the same family of coronaviruses that caused the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 and the Middle East Respiratory Syndrome (MERS) outbreak in 2012. This pandemic was triggered in in early January 2020 in Wuhan city in Hubei province of People's Republic of China (PRC). Even though it emerged from animal hosts, currently COVID-19 continues to spread across the world through human-to-human contact [1, 2, 3, 4].

In addition to the adverse effects on health and human life's, pandemics will also affect the economic activity. But, the economic impact of a pandemic may not be long- lasting if the underlying cause is contained quickly. For example, one of the biggest pandemic in the modern history was the Spanish Flu of 1918-1919. At the time, the world could not easily control the

pandemics. Thus, in addition to the deep health crisis and deaths of human being, the world economy also collapsed. Many service based businesses suffered double -digit losses [5].

Like the previous pandemics, coronavirus crisis is first and foremost a public health threat, but it is also, and increasingly, an economic threat. Besides its worrying effects on human life, the novel strain of coronavirus (COVID-19) has the potential to significantly slowdown not only the Chinese economy but also the global economy [6]. When it comes to the economic shocks, it is important to distinguish three sources – two of which are tangible. First are the purely medical shocks – workers in their sickbeds aren't producing GDP. Second is the economic impact of public and private containment measures – things like school and factory closures, travel restrictions, and quarantines. The third is literally 'all in our heads' [3]. The total cost of COVID-19 in terms of human lives is yet to unfold. Alongside the cost of lives and deep health crisis, the world is witnessing an economic recession that will severely

impact the wellbeing of large parts of the population in the years to come [7].

“The world is at acute risk for devastating regional or global disease pandemics or pandemics that not only cause loss of life but upend economies and create social chaos.” GPMB, 2019

To date, many articles have been published and made available to the public on the actual and potential economic consequences of COVID-19. Most of these articles, which have been published by various researchers, government and non-government (International) institution, shows the devastating effects of the pandemic at the national and global level, while the rest reflects the potential impact of COVID 19 on different economic sectors. As a result, a single article is needed that illustrate the potential impacted of COVID-19 pandemic in the world economy, and that can analyze it in relation to the major economic sectors like: manufacturing, service, trade, tourism and aviation sector of the world economy. Therefore, the general objective of this contemporary review is to prepare the bases for future solution by collecting and analyzing the results of previous articles and contextualization's of their needs.

2. Background Literature (Back Story)

In the last 1800 years, more than two dozen major pandemics have occurred in human history, as humans have spread across the world, so have infectious diseases, even in a modern era, outbreaks are nearly constant, though not every outbreak reaches pandemic level as the coronavirus has. The more civilized humans became – on one hand due to health knowledge and technological advancement, the capacity to

easily control diseases is also being built. On the other hand, with larger cities, more exotic trade routes, and increased contact with different populations, animals, and ecosystems – the more likely pandemics would occur [8].

The evidence reported in various studies indicates that pandemic disease impacts on a country's economy through several channels, including the health, transportation, agricultural and tourism sectors. At the same time, trade with other countries may also be impacted, while the interconnectedness of modern economies means that pandemic can also implicate international supply chains and the cumulative effect of pandemic led to a significant increase in poverty rates. There is also relatively strong evidence that capital returns were negatively affected by the pandemic [9, 10, 11]. The research findings of [12] indicate that global economic activity will be more strongly affected by a pandemic with high infection rates rather than high virulence rates, all else being equal. At the regional level, regions with more economic integration with the world economy will be affected more strongly than less integrated regions [9].

While there are so many pandemics in the world so far, most of the information shows nothing more than the death toll from the pandemics. Black Death is the leading causes of death in the world and it is represented by: a change in the functional distribution of income due to the change in relative factor prices; growth of per capita GDP, while gross product falls. In this case, in contrast to what ordinarily happens in modern economies, per capita product grows because of the decline in population; a probable rise in inequality because of the rising surplus, that is the share of total income exceeding the level of subsistence [13].

Table 1. The major pandemics that have occurred over time.

No.	Name	Period	Type / Pre-human host	Death toll
1	Antonina Plague	165-180 AD	smallpox or measles	5,000,000
2	Japanese smallpox	735-737	Variola major virus	1000,000
3	Plague of Justinian	541-542	Yersinia pestis bacteria / Rats, fleas	30.000,000-50.000,000
4	Black Death	1347-1351	Yersinia pestis bacteria / Rats, fleas	200,000,000
5	New World Smallpox	1520 onwards	Variola major virus	56,000,000
6	Great Plague of London	1665	Yersinia pestis bacteria / Rats, fleas	100,000
7	Italian plague	629-1631	Yersinia pestis bacteria / Rats, fleas	1000,000
8	Cholera Pandemics 1-6	1817-1923	V. cholerae bacteria	More than 1000,000
9	Third Plague	1885	Yersinia pestis bacteria / Rats, fleas	12,000,000
10	Yellow Fever	Late 1800s	Virus / Mosquitoes	100,000-150,000U.S.)
11	Russian Flu	1889-1890	Believed to be H2N2 (avian origin)	1,000,000
12	Spanish Flu	1918-1919	H1N1 virus / Pigs	40.000,000-50.000,000
13	Asian Flu	1957-1958	H2N2 virus	1,100,000
14	Hong Kong Flu	1968-1970	H3N2 virus	1, 000,000
15	HIV/AIDS	1981-present	Virus / Chimpanzees	25.000,000-35.000,000
16	Swine Flu	2009-2010	H1N1 virus / Pigs	200,000
17	SARS	2002-2003	Coronavirus / Bats, Civets	770
18	Ebola	2014-2016	Ebolavirus / Wild animals	11,000
19	MERS	2015-Present	Coronavirus / Bats, camels	850
20	COVID-19	2019-Present	Coronavirus	Ongoing (as of May 2020)

Source: Visual Capitalist (2020) [14].

There were three influenza pandemics in the last century occurring in 1918 (A/H1N1), 1957 (A/H2N2) and 1968/69 (A/H3N2) (HPA 2006) and the clinical attack rates for these

pandemics ranged from (approximately) 25% to 35%. The most serious of these pandemics was A/H1N1, known as “Spanish flu”, which occurred in 1918/19 causing serious

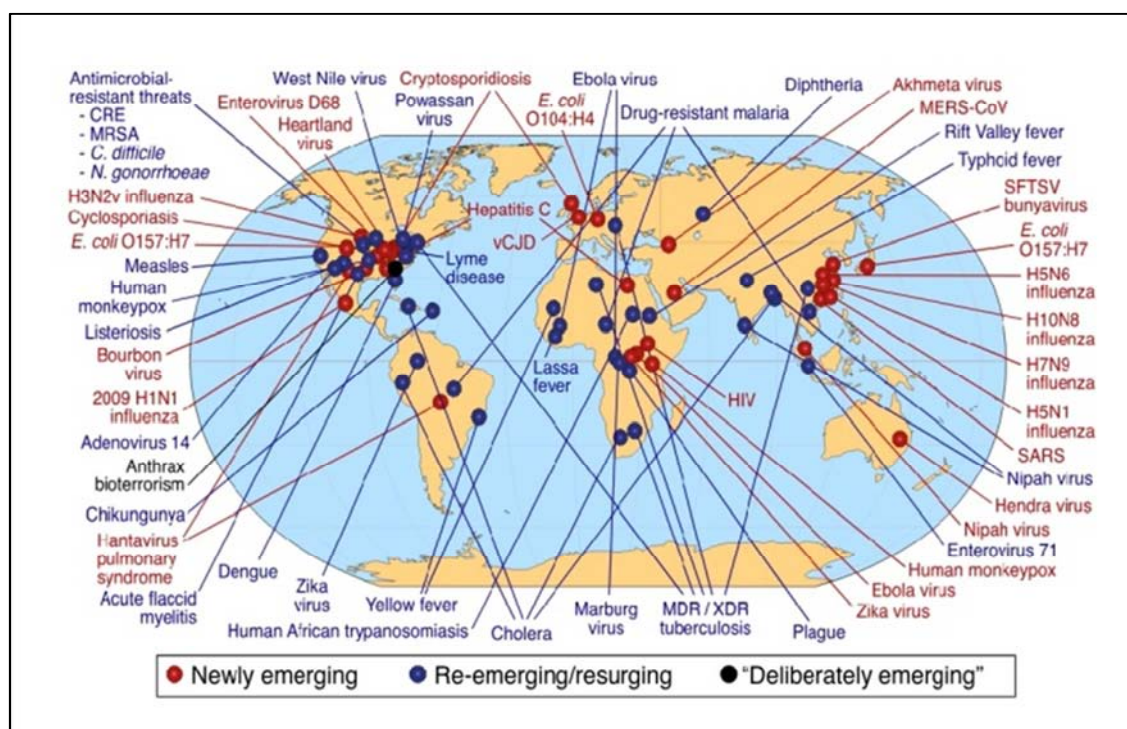
illness and a high number of deaths: 20-40 million worldwide [15]. According [16], Without large scale immunization, the estimates of the total economic impact in the united states of an influenza pandemic ranged from \$71.3billion to \$166.5 billion. A recent article estimates that the total value of incurred by a severe global influenza pandemic (such as the 1918 pandemic), could reach about US\$500 billion per year, i.e. about 0.6% of global income. The estimated proportion of annual national income represented by these losses varies according to income groupings, with lower-middle-income countries being more severely impacted (1.6%) than high-income countries (0.3%) [9].

After the three influenza outbreaks, it is the pandemic of AIDS that has plagued the world, and specially the developing continents, such as Africa. AIDS is different from most other diseases because it strikes people in the most productive age groups and is essentially 100 percent fatal. The effects will vary according to the severity of the pandemic and the structure of the national economies. The two major economic effects are a reduction in the labor supply and increased in the direct and indirect cost and if costs are financed out of savings, then the reduction in investment could lead to a significant reduction in economic growth [17]. Infectious disease outbreaks can exact a high human and economic cost through illness and death. But, as with severe acute respiratory syndrome (SARS) in East Asia in 2003, or the plague outbreak in Surat, India, in 1994, they can also create severe economic

disruptions even when there is, ultimately, relatively little illness or death [11].

Among the recent killer pandemics Ebola is the major one. The virus has killed over 11,000 lives in West Africa and is thought to have caused extensive economic damage in multiple ways and to varying degrees. Like previous outbreaks, the Ebola induced shocks to the labor force, public finance, investment and savings may cause a sharp fall in GDP, retarding development. According to the research conducted on the three epicenter west African countries, the loss ranges an annual average of 4.9 percent (low Ebola scenario) to 9.6 percent (high Ebola scenario) for Guinea, 13.7 to 18.7 percent for Liberia, 6.0 to 8.0 percent for Sierra Leone.

The actual loss in GDP for the low Ebola scenario is highest in Sierra Leone (US\$219 million), followed by Liberia (US\$188 million) and Guinea (US\$184 million). For the high scenario, it ranges from US\$315 million (Guinea) to US\$245 million (Liberia), while Sierra Leone could lose as much as an annual average of around 7.1 percent between 2014 and 2017. At purchasing power parity, this GDP loss comes to around \$716 million for the three economies [18, 19, 20]. At the west Africa level, on annual average during 2014-2017 for the low scenario, the loss ranges from US\$81.6 million (Mali) to US\$145.2 million (Senegal) and US\$1.4 billion (Nigeria). For the remaining West African countries that are EVD-free, the loss in the GDP growth varies from 0.1 to 4 percentage points [18].



Sources: Global Preparedness Monitoring Board (2019).

Figure 1. Global examples of emerging and re-emerging diseases.

So far, human being is challenged by various infectious disease outbreaks. Between 2011 and 2018, WHO tracked 1483 epidemic and pandemic events in 172 countries.

Pandemic-prone diseases such as influenza, Sever the economic impact of a pandemic may not be long-lasting if the underlying cause is contained quickly. Acute Respiratory

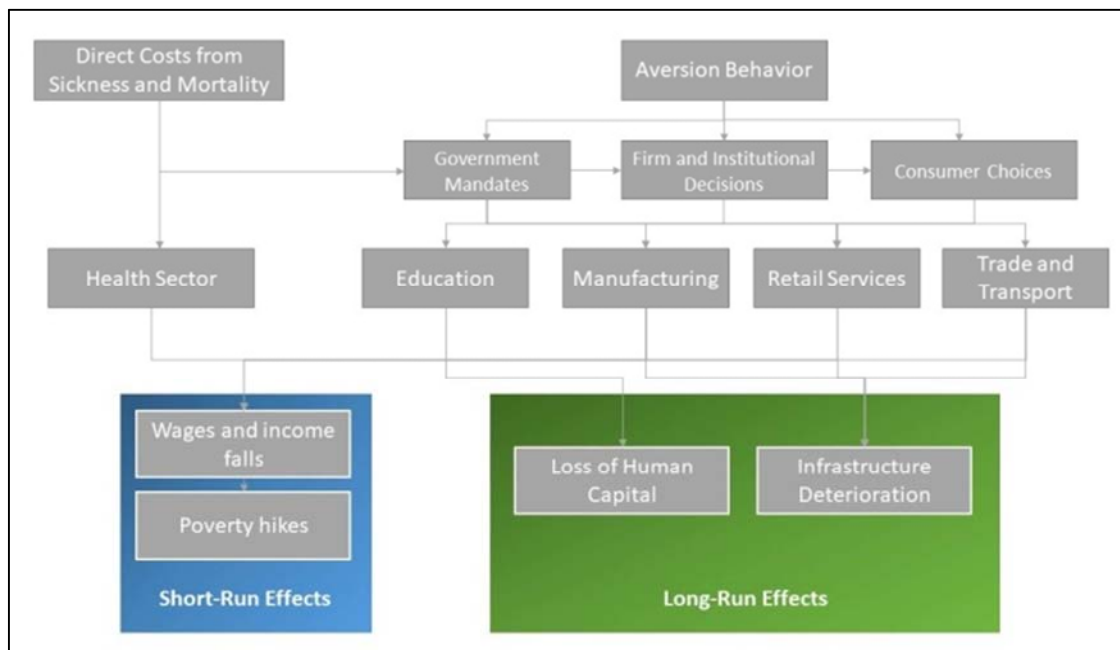
Syndrome (SARS), Middle East Respiratory Syndrome (MERS), Ebola, Zika, plague, Yellow Fever and others, are harbingers of a new era of high-impact, potentially fast-spreading outbreaks that are more frequently detected and increasingly difficult to manage [21].

3. Materials and Methods of the Review

This review mainly uses descriptive analysis. The primary data were systematically collected from 53 documents conducted on the economic and related cost of COVID-19 and on other previous outbreaks. Besides, the major documents which was used for quantitative analysis, the review also employ many additional researches, report, blogs and press release on the introduction, background (back story) parts of the review. The study used descriptive statistics to analyze the economic impact of COVID 19 at national and global level. The review also analyzes the economic cost of COVID-19 on different sectors of the world economy. This review employed two-stage screening process, which is the title and abstract or structured summary screening stage and full-text screening

stage. The researcher used the hand-searching method with key search terms from the internet. Many papers identified with the same and related title. Out of the identified researches, blogs, repost and press release, only 53 of them were considered as an important to the review and were included in the review process.

There are several channels through which the COVID-19 outbreak will affect economic activity. Most of the economic impacts of COVID-19 will be from “non-pharmaceutical interventions (NPIs)” or “infection aversion behaviors” taken to avoid infections. This aversion behaviors comes from three sources: Government impose bans on certain types of activities, Firms and institution take proactive measures to avoid infection, and Individuals reduce trips to the market and other social activities. This significantly reduce the labor supply and prevent a large sector of the economy from having any activity at all (travel, entertainment and some retail), have significant output costs. They could lead to an output decline that exceeds that of the great depression. This intern translated into reduced income both through the supply side and demand side [22, 23].



Source: Center of Global Development (March 2020).

Figure 2. Channels of the Potential Economic Impact of COVID-19.

4. Result and Discussion

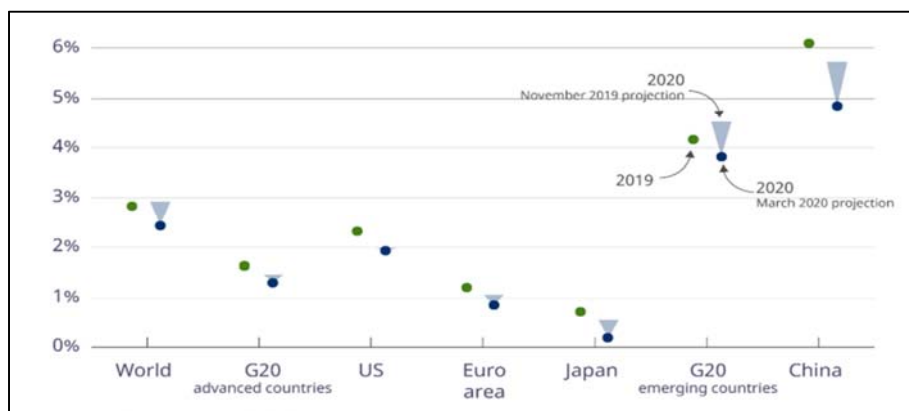
The economic impact of a pandemic may not be long-lasting if the underlying cause is contained quickly. Currently our world is under the control of COVID-19 and this virus is transformed from epidemic to pandemic because of the unusually fast rate in which the virus is spreading. As of May 11-2020 (15:07GMT), more than 4,219,273 peoples are infected, and the virus presented in more than 178 countries. The virus also killed more than 284,798 peoples. Besides, The COVID-19 health crisis has already transformed into an

economic and labor market shock, impacting not only supply (production of goods and services) but also demand (consumption and investment). Disruptions to production, initially in Asia, have now spread to supply chains across the world [30]. The persistence of universal non-pharmaceutical interventions (NPIs), like social distancing will have direct and indirect economic costs. UNDP argue that the direct cost of NPIs could be significant: over 20% of GDP over the period in which NPIs are in place [23].

In 2019, The World Bank estimates that a global influenza pandemic akin to the scale and virulence of the one in 1918

would cost the modern economy US\$ 3 trillion, or up to 4.8% of gross domestic product (GDP); the cost would be 2.2% of GDP for even a moderately virulent influenza pandemic. The report further notes that, in such an event, South Asia's GDP could potentially fall by 2% (US\$53 billion), and sub-Saharan

Africa's GDP by 1.7% (US\$28 billion) [21, 9]. Accordingly, because of the current COVID-19 pandemic annual global GDP growth is projected to drop to 2.4% in 2020, from an already weak 2.9% in 2019, with growth possibly even being negative in the first quarter of 2020 [24, 25].



Source: OECD Economic Outlook Report (March 2020).

Figure 3. OECD downgraded its 2020 real GDP growth projections for almost all economies (Global Economic growth slowdown because of COVID-19 outbreak).

On the other hand, the International Monetary Fund (IMF) projection depict that the global economy is projected to contract sharply by –3% in 2020, much worse than during the 2008–09 financial crisis. In a baseline scenario, which assumes that the pandemic fades in the second half of 2020 and containment efforts can be gradually unwound, the global economy is projected to grow by 5.8 percent in 2021 as economic activity normalizes, helped by policy support [26].

Table 2. Overview of the World Economic Outlook (WEO) Projections (Percent change of Economic Growth).

Economic growth	Actual	Projections	
	2019	2020	2021
World Output	2.9	-3.0	5.8
Advanced Economies	1.7	-6.1	4.5
United States	2.3	-5.9	4.7
Euro Area	1.2	-7.5	4.7
Germany	0.6	-7.0	5.2
France	1.3	-7.2	4.5
Italy	0.3	-9.1	4.8
Spain	2.0	-8.0	4.2
Japan	0.7	-5.2	3.0
United Kingdom	1.4	-6.5	4.0
Canada	1.6	-6.2	4.2
Other advanced economies	1.7	-4.6	4.5
Emerging Market and Developing Economies	3.7	-1.0	6.6
Emerging and Developing Asia	5.5	1.0	8.5
China	6.1	1.2	9.2
India	4.2	1.9	7.4
ASEAN-5	4.8	-0.6	7.8
Emerging and Developing Europe	2.1	-5.2	4.2
Russia	1.3	-5.5	3.5
Latin America and Caribbean	0.1	-5.2	3.4
Brazil	1.1	-5.3	2.9
Mexico	-0.1	-6.6	3.0
Middle East and Central Asia	1.2	-2.8	4.0
Saudi Arabia	0.3	-2.3	2.9

Economic growth	Actual	Projections	
	2019	2020	2021
Sub-Saharan Africa	3.1	-1.6	4.1
Nigeria	2.2	-3.4	2.4
South Africa	0.2	-5.8	4.0
Memorandum			
European Union	1.7	-7.1	4.8
Low Income developing Countries	5.1	0.4	5.6
Middle East and North Africa	0.3	-3.3	4.2
World Growth Based on Market Exchange Rates	2.4	-4.2	5.4

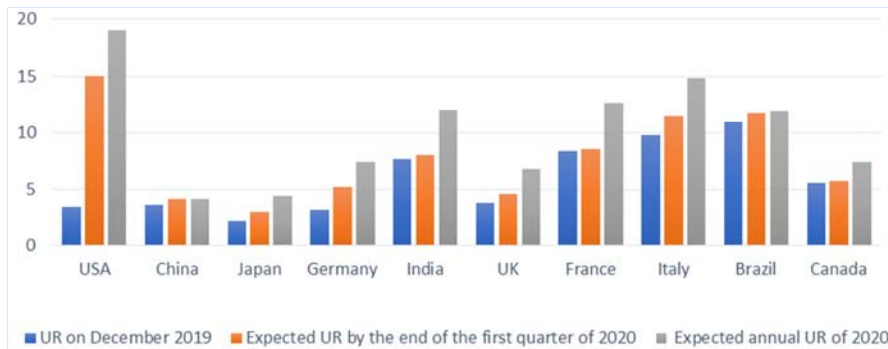
Source: International Monetary Fund (IMF) (2020)

Vulnerable populations for such pandemics, particularly the poor, are likely to suffer disproportionately from an outbreak, as they may have less access to health care and lower savings to protect against financial catastrophe [9]. In Africa, it is already disrupting millions of people's livelihoods, with disproportionate impact on poor households and small and informal businesses. According to the initial analysis on the economic impact of COVID-19 in Africa, which finds that Africa's GDP growth in 2020 could be cut by 3%–8%. In the worst case, Africa's average GDP growth in 2020 would be cut by about eight percentage points, resulting in a negative growth rate of -3.9% [27]. On the other hand, the United Nations Economic Commission for Africa (UNECA) has estimated that the continent will observe a 1.4 percentage point GDP decline and its monetary value is estimated to be \$29 billion (i.e., from US\$ 66 billion in 2019 to US\$ 37 billion in 2020) [28]. At national level, for example it is estimated that COVID-19 will shave 2.9 percentage points off this fiscal year's economic growth in Ethiopia [29]. Similarly, the impact of COVID-19 in Asia-Pacific is tremendous due to the concentration of economic activities, demographics (more than two-thirds of global population), urbanization, and

difficult progress on Sustainable Development Goals (SDGs) the crisis has shown how tightly the Asia-Pacific region is woven into the economic and social fabric [2].

Besides its health and human capital related impacts of COVID-19, the virus and the subsequent economic shocks will impact the world of work across three key channels. First, through the quantity of jobs (both unemployment and underemployment); Second, the quality of work (e.g. wages and access to social protection); and third, effects on specific groups who are more vulnerable to adverse labor market outcomes like the temporary employees [30].

If we consider the impact of COVID-19 on the unemployment rate of the world top ten economy, its significant. According to the data of the U.S. Bureau of Labor Statistics as of March total nonfarm payroll employment fell by 701,000 in March, and the unemployment rate rose to 4.4 percent. Employment in leisure and hospitality fell by 459,000, mainly in food services and drinking places. Notable declines also occurred in health care and social assistance, professional and business services, retail trade, and construction [31].



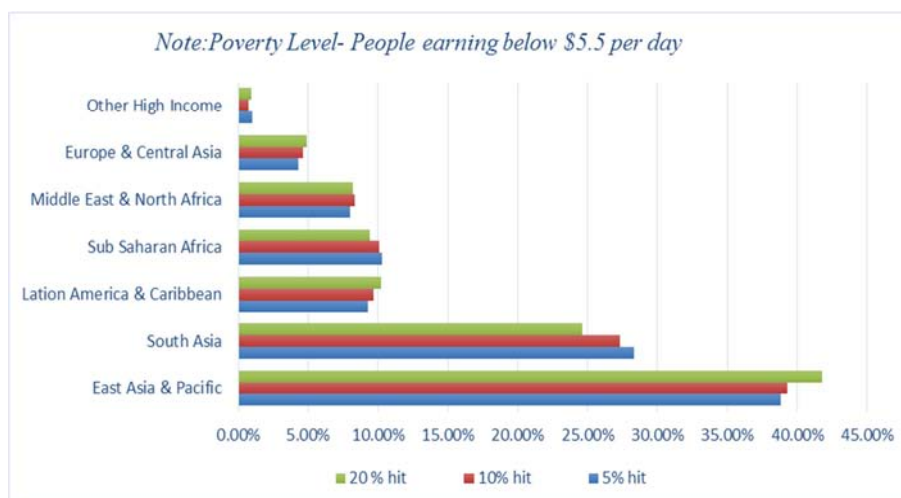
Source: own computation based on the forecasts of Trade Economics global macro models and analysis [32].

Figure 4. Unemployment before and after COVID-19 outbreak.

According to the international labor organization (ILO) estimates, in the low scenario where the global GDP growth drops by around 2%: Global unemployment would increase by 5.3 million. “Mid” scenario where GDP growth drop by 4% Global unemployment would increase by 13 million. “High” scenario where COVID-19 has serious disruptive effects, reducing GDP growth by around 8%: Global unemployment would increase by 24.7 million, with an uncertainty ranging from 13 million to 36 million from a base level of 188 million in 2019. The estimated level of unemployment is above the total increase in unemployment at the time of global financial crisis of 2008-2009 [30].

This pandemic has slowed economic activities, increased

unemployment and significantly reduced the economic growth of almost all countries. If the non-pharmaceutical interventions persist, it is an undeniable fact that, so many people will suffer by hunger and absolute poverty. According to UNU-WIDER estimates, under a contraction of 10 per cent, while keeping everything else equal, the increases in poverty headcount at US\$1.90, US\$3.20 and US\$5.50 is respectively, about 180, 280, and 250 million people, but if the contraction is 20 per cent, then the increases could be about 420, 580, and 520 million people, respectively. In regions such as the Middle East and North Africa and Sub-Saharan Africa, the adverse impacts could result in poverty levels like those recorded 30 years ago, in 1990 [33].



Source: UNU-WIDER (March 2020) and Own Computation.

Figure 5. Distribution of additional number of poor by region and contraction scenario (5%, 10% and 20% contraction hit).

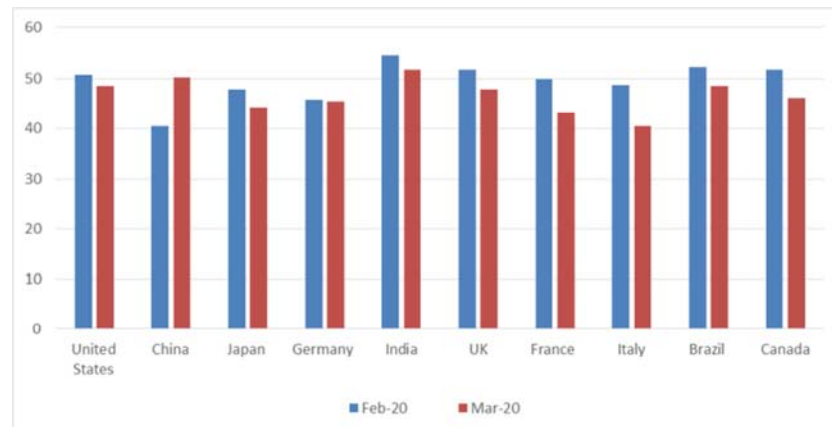
As its already presented on the methodological parts of this review, COVID-19 will affect the global economy through different channels; including the manufacturing, service, trade and education sector. In the following sections of the review, we will see the economic impact of COVID-19 on manufacturing, service, trade, tourism & aviation, and education sector of the economy.

4.1. The Economic Impact of COVID 19 on the Manufacturing Sector

Manufacturing has traditionally played a key role in the economic growth of developing countries [34]. From better and cheaper products to increased economic opportunities, lower unemployment and a better quality of life, manufacturing can be a tool to support national development goals. The link between successful manufacturing sector and

economic growth is a direct and significant one, particularly regarding employment and industries that themselves are linked [35]. According to the 2017 estimate, the manufacturing sector account 25.44% of the global economy [36].

Manufacturing will be among the major economic sectors to be negatively affected by evolving humanitarian crisis caused by COVID-19 [37]. The nominal GDP of the top ten economies adds up to about 66% of the world's economy, while the top 20 economies contribute almost 79%. The remaining 173 countries together constitute less than one-fourth to world's economy [38, 39]. As of April 8- 2020 the top ten economies adds up to about 65% to the total world COVID-19 cases and 64% total deaths. According to the data of united nation statistics division among the top ten world economy eight of them are also among the top ten manufacturing countries in the world.



Source: Own computation based on the data of Trading Economics and Statista.

Figure 6. The manufacturing purchasing managers index (PMI) after COVID-19.

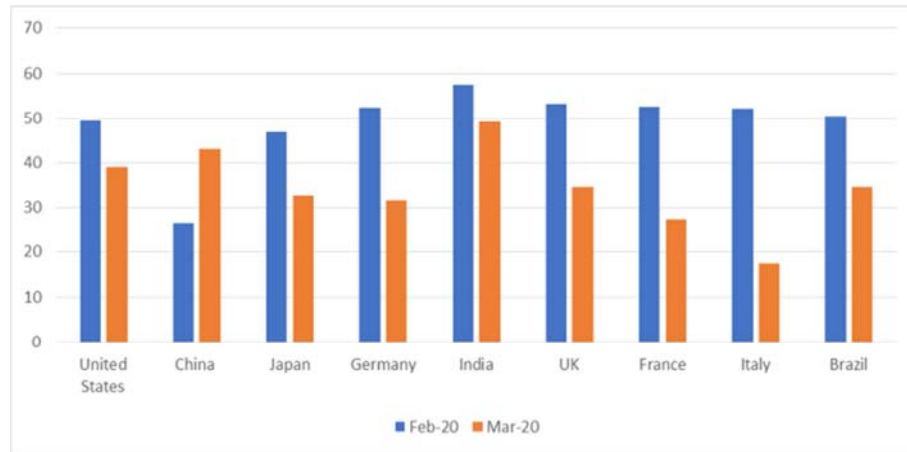
The manufacturing purchasing managers index (PMI) is measure of prevailing direction of economic trends in manufacturing or it is an indicator of economic health of the manufacturing sector. The headline PMI is a number from 0 to 100. A PMI above 50 percent represents an expansion when compared with the previous month. A PMI reading under 50 represents a contraction, and a reading at 50 indicates no change. The further away from 50 the grater the level of change. In our case because of COVID-19 specially in March almost all countries except for China and India has a reading below 50 and in the case of china there is also an improvement compared to the previous months.

4.2. The Economic Impact of COVID 19 on the Service Sector

The services sector has emerged as the largest segment in and driving force of the economy, contributing a growing share to gross domestic product (GDP), trade and employment. Many services activities with important social functions – in health, finance, energy, transport and telecommunications – are indispensable to achieving the Sustainable Development

Goals [40]. According to 2017 estimates, the service sector contributes 65.03% of the global economy. Currently because of the aversion actions of the world against COVID-19, the service sector jobs that depend on customer-provider interactions are likely to take a huge contraction. Workers in industries such as restaurants, hotels, child care service, retail trade and transportation service are at high risk of losing their jobs [41].

The services purchasing managers index (PMI) is measure of prevailing direction of economic trends in the services sector or an indicator of economic health of the service sector. The headline PMI is a number from 0 to 100. A PMI above 50 percent represents an expansion when compared with the previous month. A PMI reading under 50 represents a contraction, and a reading at 50 indicates no change. The further away from 50 the grater the level of change. In our case because of COVID-19 specially in March 2020 almost all countries except for China has a reading below 50. When we see the following chart, we can understand that the economic activity of service sector is slowing down on the shoulder of the world top nine economies but in china it is improving modestly.



Source: Own computation based on the data of Trading Economics and Statista.

Figure 7. The service sector purchasing managers index (PMI) after COVID-19.

4.3. The Economic Impact of COVID-19 on Trade

International trade plays an important role in the economy of each individual country. It allows to satisfy the needs of the population; stimulates the internal development of the country [42]. Besides, trade contribute the lion share for the global economy. Trade and tourism combined, they made up about 18% of the global economy.

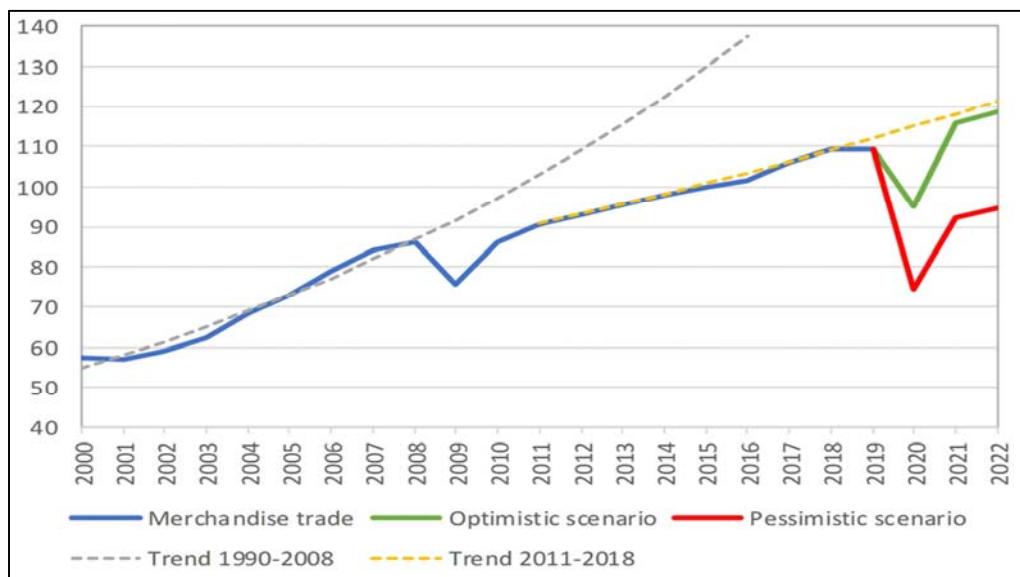
Even though trade has given COVID-19 the opportunity to grow from epidemic to pandemic and attack more peoples of the world it could not escape from the economic damage of COVID-19. The unavoidable declines in trade and output will have painful consequences for households and businesses, on top of the human suffering caused by the disease itself. Since COVID-19 pandemic disrupts normal economic activity and life around the world, the world trade activity is expected to

fall by between 13% and 32% in 2020. The WTO economists believe the decline will likely exceed the trade slump brought on by the global financial crisis of 2008-09 [43].

Table 3. Overview of the World Economic Outlook (WEO) Projections (Percent change of Trade Volume).

Trade Volume	Actual	Projections	
	2019	2020	2021
World Trade Volume (good and Service)	0.9	-11.0	8.4
Import			
Advanced Economies	1.5	-11.5	7.5
Emerging Market and Developing Economies	-0.8	-8.2	9.1
Export			
Advanced Economies	1.2	-12.8	7.4
Emerging Market and Developing Economies	0.8	-9.6	11.0

Source: International Monetary Fund (IMF) (2020)



Source: WTO Secretariat (2020).

Figure 8. World merchandise trade volume, 2000-2022.

4.4. The Economic Impact of COVID-19 on Tourism and Aviation Industry

The World Travel & Tourism Council's (WTTC) research which was conducted based on the data of 185 country and 25 regions, reveals that the tourism and travel sector accounted for 10.4% of global GDP and 319 million jobs, or 10% of total employment in 2018 and the direct contribution of Travel & Tourism to GDP in 2018 was USD 2,750.7bn (3.2% of GDP) [44]. At regional level, Tourism is an important source of revenue for many economies in developing Asia—international tourism receipts account for more than 40% of the gross domestic product (GDP) in economies like Palau and Maldives, and total travel and tourism (including domestic tourism) exceeds 10% of GDP in almost half of Asian Development Bank (ABD) member countries [2].

The tourism sector is more vulnerable to the COVID-19 epidemic and it is associated economic pressures than any other economic sector. Because it is based on interaction among people. Currently the tourism sector is one of the hardest-hit by the outbreak of COVID-19, with impacts both on travel supply and demand. As of April 7- 2020, UNWTO estimates that in 2020 global international tourist arrivals could decline between 20-30%, down from an estimated growth of 3%-4% forecast in the early January 2020. This could translate into a loss of US\$ 30 to 50billion in spending by international visitors [45].

At the same time, the aviation industry, which has a significant link with tourism and other sectors economic activity, is also affected by COVID-19. The preliminary estimates indicate the impact COVID-19 on scheduled international passenger traffic during first half of 2020, compared to baseline (originally-planned): Overall reduction of 41 to 51% of seats offered by airlines. This could translate into the reduction of 443 to 561 million passengers. The

monetary value of the potential loss of gross operating revenues of airlines is expected to be USD\$ 98 to 124 billion and if the current-level of contraction continues to September 2020, airlines would lose over USD 35 billion gross operating revenues every month in the 3rd quarter 2020 [46].

4.5. The Economic Impact of COVID-19 on Education Sector

Education contributes significantly to economic growth and welfare through various channels and in many ways [47]. Education as a critical component of a country's human capital, increases the efficiency of each individual worker and help economies to move up the value chain beyond manual tasks or simple production processes [48].

As the world comes to term with the scale and severity of the COVID-19 pandemic, the health of the global population is rightly taking priority over education through non-pharmaceutical interventions (NPIs) like school closures [49]. At the beginning of march-2020, 120 countries have close schools impacting almost a billion students across the globe that have seen their schools closed for varied lengths of time [50]. Most government around the world have temporarily closed educational institutions to contain the spread of the COVID-19 pandemic. This worldwide school closures forced over 91% of the world's student population to stay at home with different probability levels of E-learning opportunity. Several other countries have implemented localized closures impacting millions of additional learners [51].

According to IIEP specialists, COVID-19 will have significant economic impact on the educational sector through two channels: the loss of education spending for the duration of the crisis, as well as the resulting additional cost and the expected downturn in the future financial resources available to the educational sector [49].



Source: World Bank; Education COVID-19 Monitoring (as of March 18th, 2020).

Figure 9. COVID-19 school closures worldwide.

In most developed countries, school closures will not have a significant impact than disturbing the teaching and learning process and the academic calendar that comes out earlier. Yet dispiriting as this all it is not a vital threat. In the case of developing world countries, the closure of school also leads

students to be vulnerable for hunger. For many children in the global south (85 million in Latin America and Caribbean alone) – school closures mean no more school meals. Which in turn (in some African households in particular) means an end to the only hot meal anyone among family members

would get in a day [52, 53].

The socioeconomic crisis due to such pandemics is significant. However, the culture of proper hygiene and other prevention mechanisms that the society will accustom because of the awareness developed by such a killer pandemic is likely to reduce the risks of other poor hygiene related health problems. For example, because of the Spanish Flu of 1918-1919, Ethiopians began cleaning their village once a year under the theme of “*Hidar Sitaten*” and after the pandemic, the yearly village cleanup continued as a tradition.

5. Conclusion and Policy Recommendation

In the aftermath of the COVID-19 pandemic, the world has come to conclusion that, human being must do a lot on the health sector (invest more and more on health-related researches) and the development of few countries cannot safeguard the world and even them from such pandemics. Most pandemics by their nature are “democratic” (even if they are for destruction) because they attack all human beings regardless of race, color, sex and age. If a killer virus stands against human, why not human against virus. COVID-19 teaches us one and one thing, which is unity: to stand together, work together and live together. The following recommendations are presented in-line of the previous research results, the available evidence, as well as the nature of COVID-19 pandemic.

1. First thing first, there is no economy without the healthy health sector. The world should pay attention to their health facilities in the right way. There are possible costs that can be avoided through global cooperative investment in public health and health related research and development activities.
2. Global multilateral cooperative approach to contain the pandemic will achieve better outcomes faster. There is an urgent need for immediate and concerted actions at sub-regional, regional and global level to increase mutual trust, share information and experience, ensure the supply and delivery of medical materials and equipment, with a view to building confidence of all countries to fight the virus.
3. Proactive measures at the workplace and across communities should be introduced and strengthened and this should include the reeducation of temporarily non-critical government programs.
4. If the world is going to face outbreaks, epidemics and pandemics in the future; then governments should reduce the death rate and the degree of subsequent economic shock by allocating the major portion of health-related budget for prevention of the outbreaks than the post-infection health treatment services. And finally
5. The world is confronted by increasing infectious disease outbreaks, the world should be prepared to take proactive measures on emerging and re-emerging

diseases.

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