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BIMEH MARKAZI
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Impact of COVID-19 on the Global Economy

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Title	Impact of COVID-19 on the Global Economy
Employer	Central Insurance of I.R.Iran
Executor	Insurance Research Center of Iran
Reports' Associates	Leili Niakan (Assistant Professor, Faculty Member and Research Deputy of Insurance Research Center of Iran) Saeedeh Rajaee Harandi (MS in IT Management from Alzahra University; Researcher at Insurance Research Center of Iran)
Scientific Supervisor	Dr. Hamid Kordbacheh (Head of Insurance Research Center of Iran)
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Table of Contents

Abstract	1
1.Introduction.....	1
2.COVID-19 Outbreak Impacts on Economic Sectors	2
Supply Chain.....	2
Transportation and Logistics.....	2
Airline Industry	4
Automotive Industry	5
Financial and Stock Markets	5
Oil Industry	6
3.The Impact of Coronavirus Outbreak on Economic Growth.....	8
3.1.OECD Forecast, March 2, 2020	11
3.2.IMF Outlook, April 14, 2020	14
3.3.McKinsey & Company Forecasts, April 3, 2020	15
4. Coronavirus Impact on Labor Force and Employment.....	16
5.Countries' Measures to Fight against the Economic Outcomes of Coronavirus	18
European Central Bank (ECB)	19
International Monetary Fund (IMF)	19
World Bank Group	19
6. Conclusion	19

Tables

Table 1. The Share of the Big Economies in the Global Economy (Updated in February 29, 2020).....	8
Table 2. GDP of the Selected Countries and Regions and Their Shares of the Global GDP (\$ Trillion)	9
Table 3. GDP Annual Growth Rate (%) in Selected Countries and Regions in 2008-2018....	10
Table 4. GDP of the Selected Countries in 2008-2020.....	Error! Bookmark not defined.
Table 5. Summary of Preventive Measures of Selected Countries against Coronavirus Pandemic.....	20

Figures

Figure 1. Transportation Cost Index Trend.....	3
Figure 2. International Tourism Growth between 2001 and 2020.....	4
Figure 3. Coronavirus Impact on the Share Prices of Major European Airlines	5
Figure 4. Historic Market Fall	6
Figure 5. The 2020 Oil Collapse Trend	7
Figure 6. Global Oil Demand Growth Forecast for 2020	7
Figure 7. The Oil Price Reduction and Financial Markets	7
Figure 8. Percentage of the Electric Goods Imported from China in 2018	8
Figure 9. GDP of the Selected Countries and Regions in 2008-2018	9
Figure 10. GDP Growth Rate in Selected Countries and Regions in 2008-2018.....	10
Figure 11. Coronavirus Outbreak Impact on Global Economy in Base-case Scenario	12
Figure 12. Coronavirus Outbreak Impact on Global Economy in Domino Scenario	13
Figure 13. GDP Growth in Selected Countries and Regions in 2019-2021	14
Figure 14. Economic Forecast in Optimistic Scenario	15
Figure 15. Economic Forecast in Pessimistic Scenario	16
Figure 16. The Number of Labor Forces in Selected Countries and Regions in 2008-2019 (Billion).....	17
Figure 17. Unemployment Rate in 2008-2019 (% of Total Labor Force)	17



Figure 18. Unemployment Trend Forecast By ILO18

Figure 17. Unemployment Rate in 2008-2019 (% of Total Labor Force) 17

Figure 18. Unemployment Trend Forecast By ILO 18



Abstract

The economic losses of COVID-19 pandemic are substantial for the global economy. Yet, the scale of the coronavirus impacts on various economies and their political, economic and security outcomes cannot be equal. As a result, the states have proposed different strategies for fighting against its economic outcomes. Moreover, international institutions such as OECD and International Monetary Fund (IMF) and consulting firms like McKinsey & Company have outlined their outlook for the global economy based on various scenarios that as guidelines could be beneficial for different economies. Nevertheless, if serious and preventive management is not provided, in short term, the turbulences that the novel virus would create over the global economy could be irreversible. In view of these issues, the present study is an attempt to illustrate the impacts of the COVID-19 pandemic on the global economy and the measures that have been taken or should be taken in the face of this crisis. The studies regarding the economic outcomes of the coronavirus pandemic in different countries show that the most significant hurdles that countries are facing with this crisis that could even have negative impacts in the post-coronavirus period are unemployment and job loss that has unfortunately stricken Iran, too. Thus, the states are devising various support programs in order to maintain jobs and keep the economies thriving.

1. Introduction

The financial crisis triggered by the COVID-19 outbreak has caused an unprecedented recession in the global economy. Some economists view the economic crisis caused by the pandemic to be remarkably greater in magnitude than the 2008 financial crisis. While the global economy grew by about 3 percent in 2019, looming fears of the coronavirus are now anticipated to decline the world economic growth to -3 in 2020 (IMF, April 4, 2020). This figure is what International Monetary Fund (IMF) considers as a global recession.

At present, the COVID-19 outbreak has caused both human suffering and greater economic disturbances. In China, the attempts to curb the outbreak have created widespread restrictions in the labor force transportation and travels. These measures caused unexpected delays in reopening of factories after the Chinese New Year holidays, substantial reduction in many activities in the service sector and, consequently, a sharp contraction in production. The next wave of the outbreak in other countries has prompted preventive measures such as quarantine and border closure, albeit on a smaller scale. The negative consequences of these changes are significant for other countries, including disruptions in the global supply chain, reduction in the final demand for products and services, and regional massive reduction in international tourism and travels. Risk aversion in financial markets has increased and this has unsurprisingly led to a decline in the U.S. ten year interest rate, stock price, commodity price, and decreased business and consumer confidence (OECD, March 2, 2020).

Compared to similar cases in the past such as SARS outbreak in 2003, the global economy is significantly interconnected and China plays a much more dominant role in production, trade, tourism, and global commodity markets. This intensifies the scope of China's negative shock to other countries' economies. Even though, the coronavirus outbreak peak is short-lived and the production and demand gradually improve over the next few months, the substantial decline in global growth in 2020 is inevitable (ibid.).



Pertaining to the differences in the impacts of the COVID-19 spread on different economies and their consequences, in this report, the affected sectors, the international economic situation after the outbreak, the measures taken by different governments, and the future outlook based on various scenarios will be delineated.

2. COVID-19 Outbreak Impacts on Economic Sectors

The impact of the coronavirus outbreak crisis on the world economy is severe, but the depth of the damages is not simply measurable. The shock caused by the virus has made the economy face with shocks in both demand and supply sides. While the labor force supply has decreased (demand shock), the raw material supply is disrupted (supply shock). In other words, supply shock leads to demand shock. The business closure followed by labor force layoffs has decreased the household income and this makes the demand decline. Uncertainty about the future also encourages many households to make more savings and to postpone the purchase of the unnecessary items. This will reduce the total demand. In the rest of the report, various pandemic stricken economic sectors that have negative impact on businesses at the macro level and nationwide will be discussed.

- ***Supply Chain***

Every day, the extent of the coronavirus impact on businesses becomes more apparent, causing more concerns in the business supply chain; especially for companies that are more exposed to supply chain disturbances due to their inattention to the maintenance and upgrade of their infrastructure. Therefore, a comprehensive study of the disruption on the entire supply chain, from primary and secondary suppliers to customers and end-use consumers must be reassessed and analyzed (Nimmo, 2020).

Global trade grew from \$6.7 trillion in 2003 to \$19.6 trillion in 2019 (McKinsey, 2020). Considering the essential role of China in the global supply chain as the producer of the intermediate goods especially for computers, electronic, pharmaceutical, and transportation facilities, and as the major demand source for many commodities, the production reduction in this country, was quickly felt by businesses around the world. Although the temporary disruption in demand can be tackled by supplying the present inventory, they are insufficient due to the prompt production processes and also, the alternative suppliers for technical parts cannot be easily found. Bearing in mind the impact of COVID-19 on the production of goods, parts, and logistics, the companies must consider changing their production and business strategies (Briody et al., 2020). Under these circumstances, the companies can reduce the impact of these disruptions both operationally and financially by developing possible scenarios. Yet, in the long run, by attracting investment, they can develop and improve their infrastructures. However, few businesses adapted to this situation and allowed the entire supply chain to be reassessed (Nimmo, 2020).

- ***Transportation and Logistics***

At present, the global dependence and reliance on China is unparalleled to the year 2003 (when SARS virus became widespread in the world). The supporting teams now involved in COVID-19 pandemic are struggling hard to supply the raw material, parts, and protect their supply lines (Choi, et al., 2020). The global logistics market (including transportation, asset management, inventory management, order processing, and other supply chain activities) is



valued \$8 - \$12 trillion, which is equal to the total world's GDP. Various transportation (including road, rail, air, and waterways) accounts for \$4 - \$5 trillion. The Asia-Pacific represents the largest share of the global logistics market (i.e. 45% of the market revenue). Since the initial outbreak of COVID-19, the highest impact on logistics was experienced in China. Demand pressures, along with supply chain challenges, have reduced exports (McKinsey & Company, 2020).

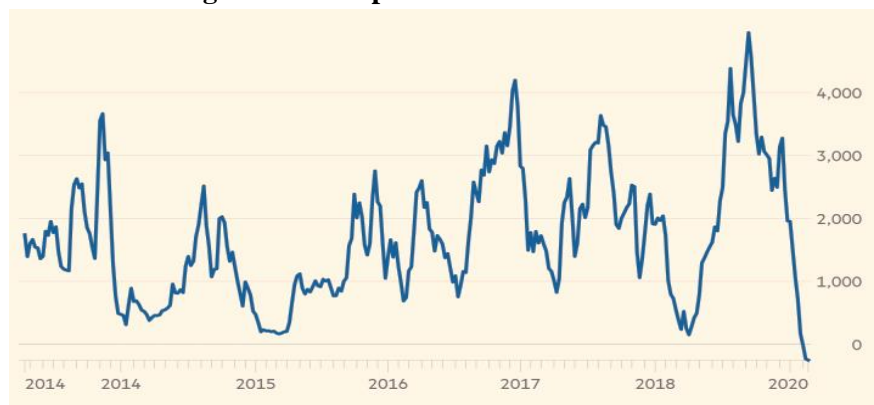
Due to the decline in goods transportation by belly passengers, Covid-19 has reduced the capacity of the air transportation industry and this along with rising demands has increased the tariffs. These airplanes represent 45% of the total capacity required inside and outside China. It is estimated that the COVID-19 reduces the global air transportation up to 5% and more than 70 airlines have already cut their air travels and this further increases the tariffs (ibid.). The demands for the transportation of the emergency goods, such as medical equipment for crisis management, as well as demand from transportation companies to curb delays have increased. Furthermore, because of the replete in inventories and disruption in other transportation means, airways tariffs have drastically increased.

As a result of the reduction in input and output and the shortage of employees, land transportation is also decreased and it is estimated that this reduction will be more evident in the coming weeks and months. Trailers and trucks face more restrictions from different countries, which restrict transportation and reduce the number of drivers. In China's road transport industry, less than 50% of the employees are employed and many of road transportation companies do not accept new contracts due to the labor force decline. The number of trucks in some regions of China has plummeted by 10 to 20%. This reduction in activities has increased the inventories in some ports such as Shanghai, Ningbo, and Zhenguan.

The railway transportation industry has experienced fewer disruptions so far, and dependence on this industry for reaching the farthest regions has increased. Despite the increase in demand for railway transportation, the capacity of this section is not high and there are restrictions due to the lack of drivers.

In waterway transportation, many service lines are closed and fewer ships are sailing now. Furthermore, 46% of the scheduled transports through Asia and Europe have been cancelled (McKinsey & Company, 2020). Figure 1 shows the declining trend of the transportation cost index caused by the coronavirus impact on demand.

Figure 1. Transportation Cost Index Trend



Source: Dempsey and Yu, (April 28, 2020)

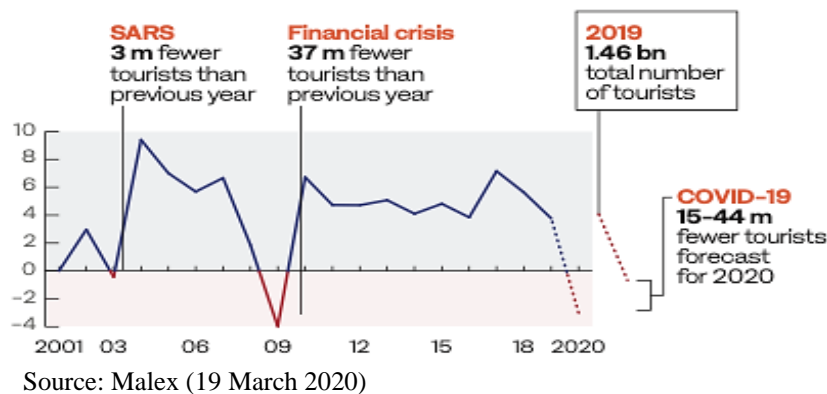


- ***Tourism and Hospitality Industry***

Reduced travel to and from the Asian countries and some European destinations (such as France), along with declining investment in China's tourism industry (amounting to \$ 277 billion in 2019, i.e. 16% of the total investment in global tourism industry) will likely reduce the global demands (up to 40% in 2020) until the major outbreak regions are recovered. Many of the EU, Asian, and Pacific countries are heavily depend on the tourism industry (7 to 20% of their GDP's).

Under these circumstances, hospitality industry must actively prepare and support its labor, anticipate a short-term decline in demand, and prepare itself for a credit management and revision of the annual programs with long term impacts in horizon. As Figure 2 indicates, the world experienced three crises during the years 2001-2020, which shocked the tourism industry. According to chart, in 2003, the global community became involved with the SARS virus, and the spread of the virus caused the tourism industry to shrink by 3 million compared to the previous year. Also, the 2009 financial crisis posed a more serious problem for the tourism industry, reducing the number of tourists by 37 million compared to 2008. Forecasts for 2020 show a decrease of 44 million tourists compared to 2019 (Malex, 2020).

Figure 2. International Tourism Growth between 2001 and 2020



- ***Airline Industry***

The spread of the coronavirus to countries such as Iran and South Korea has caused heavy losses for Asian and Pacific airlines. Travel restrictions have drastically reduced customer confidence and the policies to avoid large gatherings and unnecessary trips have also significantly affected the industry. Yet, the impact rate varies among different airlines; the smaller airlines with lower profit margin and less liquidity are more exposed to risk, though the greater global network is also prone to the risk of experiencing extensive and constant undergrowth. It is predicted that the local tourism industries is recovered much sooner than the international travels (approximately 2 months for the recovery of the local tourism industries and 3-4 months for the international travels). Nevertheless, this prediction can change due to the evolution of the disease (McKinsey & Company, 2020). The shares of the airline companies have dropped dramatically in Europe and the shares of Air France-KLM have experienced a 6% reduction in the past few months. Other large European companies that have direct flights to China are also affected. For instance, the share price of IAG has dropped 5.5% and German Lufthansa, 4%. Even the airlines with no direct flight to China are also affected. For example, the share prices of the EasyJet have plummeted by 5% and



Ryanair by 3%. Figure 3 shows the coronavirus impact on the share prices of Air France-KLM, Lufthansa, and IAG.

Figure 3. Coronavirus Impact on the Share Prices of Major European Airlines



Source: FT reporters (January 27, 2020)

• *Automotive Industry*

Having 9% of the total automobile production in China, Wuhan is one of the major automotive hubs in this country. It hosts factories such as Nissan, PSA, GM, Geely, and Renault, as well as a wide range of auto parts suppliers that serve a wider network of assembly plants. Despite the resumption of operations in China, the outbreak of the virus in Europe (the world's second largest automotive production with 6.1% of the labor force in all the EU countries) may increase the current vulnerabilities in the automotive industry, such as conflicts with unions and poor sales. This condition may restrain the supply chain capacity. Therefore, the global value chain will be disrupted until activities resume completely. China's new automobile markets is estimated to shrink by 2% in 2020, although the uncertainty revolving around the reduction of the profit margins of the automotive companies, will have greater negative impact (McKinsey & Company, 2020).

• *Financial and Stock Markets*

Although after the severe outbreak of the coronavirus in China in early January 2020, the stock markets did not show any sign of being influenced, in late February and with the further outbreak of the virus across Europe and the US, many stock markets throughout the world were affected. European stocks dramatically declined. The Pan European indices dropped by 3.5%. Its main reason was the marked decline of the share prices of the travel and tourism companies' share. The Irish main stock index experienced a 1.2% reduction. The MSCI index, which represents the stock market conditions in 50 countries of the world, fell by 1%, the worst level since 2008. The US stock market experienced a 12% reduction and \$3.5 trillion loss. The industrial index of DOW Jones dipped by 12% and S&P 500 Index lost 0.5% of its value. Stocks plummeted severely in Asia, too: the Chinese Shenzhen Stock dropped by 4.7%, Shanghai Composites by 3.71%, Hang Seng Index by 2.42%, and Japanese Nikkei Index by 3.67% (Obeid, 9 March 2020).

Figure 4, which is based on data of S&P500 index, examines the most significant decline in financial markets during the years 1929-2020. The vertical axis of the chart shows the percentage of weekly changes in corporate stocks and the horizontal axis shows the number of studied years (ibid.). The S&P500 Index measures the stock performance of 500 large companies listed on stock exchanges in the United States. It is one of the most commonly

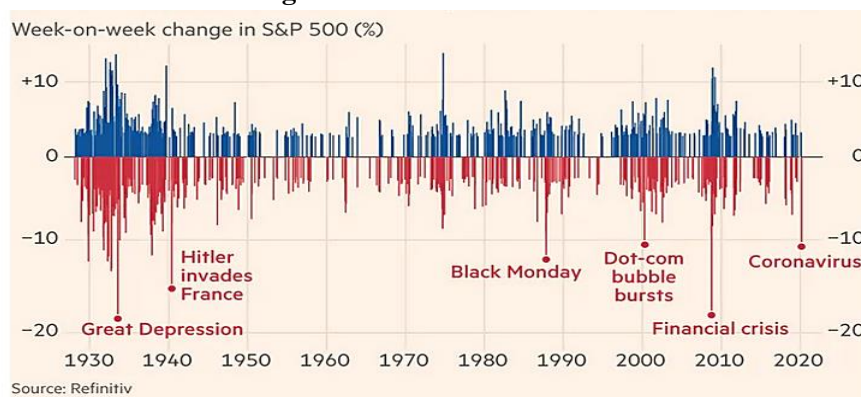


followed equity indices, and many consider it to be one of the best representations of the U.S. stock market. Therefore, a review of the changes in this chart will provide significant results regarding the impact of the corona virus on financial markets and stocks globally.

As it can be seen in the figure, In 91 years, there have been six stock market crashes between 1999 and 2009, including a major recession, Hitler's invasion of France, Black Monday, the bursting of the Internet bubble, the financial crisis and the Corona virus.

Following the outbreak of the coronavirus and its spread to the United States and Europe, the stock index fell sharply, leaving widespread social and economic damage. However, compared to the five crises experienced in the reviewed years, coronavirus stands in the 5th rank after the 2008 great depression, Hitler's invasion of France, and Black Monday crashes (ibid.). Among the reasons why the Corona pandemic has failed to deepen the financial crisis in the US financial markets is the initiative of the US Federal Reserve and the reduction of the 10-year bank interest rate by 0.25%. Central banks in other countries, including Iran, have also reduced bank deposit rates to control the situation and prevent the closure of businesses.

Figure 4. Historic Market Fall

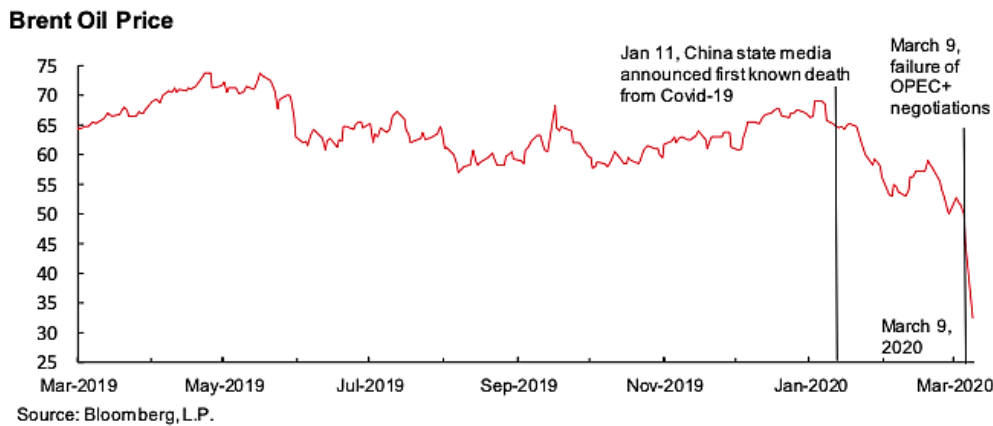


Source: (Obeid, 9 March 2020)

Since the beginning of the coronavirus crisis, central banks have also decreased the interest rates. This strategy was adopted to partially contain further enterprise closures. For example, the ten year interest rate in the US dropped by 25% and that was its lowest figure ever.

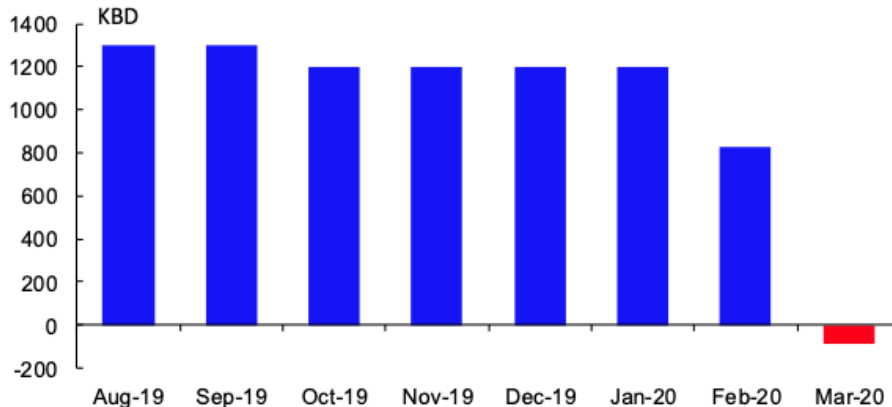
• **Oil Industry**

One of the coronavirus impacts was the price drops in oil and gas. In the first weeks of the initial outbreak of the virus in China, the oil price per barrel was \$20 (Figure 5). Because of the growing role of China in the global economy, it is expected that any economic problem originated in that country spreads throughout the world. The global fear and uncertainty of the coronavirus outbreak have likely had an impact on the investment decisions in China and other countries and this has further blurred the demand outlook and dropped the oil price (IEA, 2020). Uncertainty and industry activity suspensions (20% drops in Chinese demand) along with travel restrictions and the virus outbreak in the Middle East countries has also decreased the prices. Nevertheless, this accounts for 50% of the undergrowth rate in the world (McKinsey & Company, 2020). While as part of their measures to contain the coronavirus outbreak, the Chinese officials have stopped the production facilities, this has largely led to fewer demands for oil from China. China has 14% of the global oil demand and more than 80% of the global demand growth in 2019 (IEA, 2020).

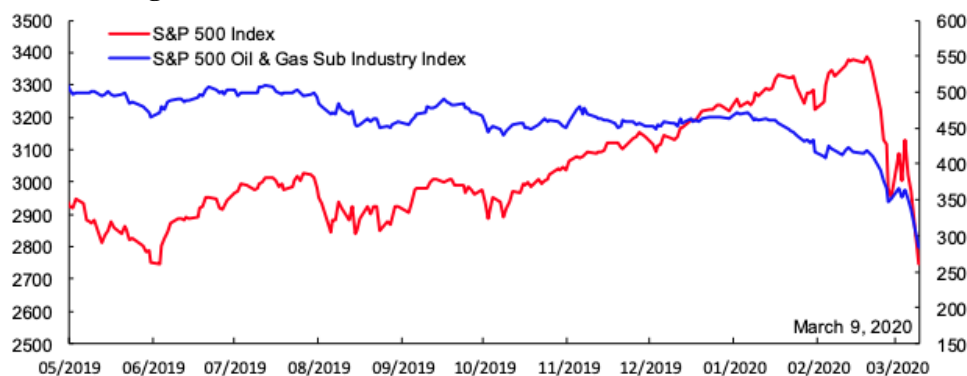
**Figure 5. The 2020 Oil Collapse Trend**

Source: Arezki and Yuting Fan (March 10, 2020)

According to the International Energy Agency (IEA) forecast, the global oil demand will drop in 2020 for the first time since 2009. The demand fall by 0.09 million barrels per day (MBD) in March was less than the projected 1.1 MBD in February which was already less than that of January (Figure 6) (ibid.).

Figure 6. Global Oil Demand Growth Forecast for 2020

Due to the novel virus, oil price fall made the already crashed financial markets worse, and the equities in the US and the rest of the world dipped by 7% (Figure 7).

Figure 7. The Oil Price Reduction and Financial Markets

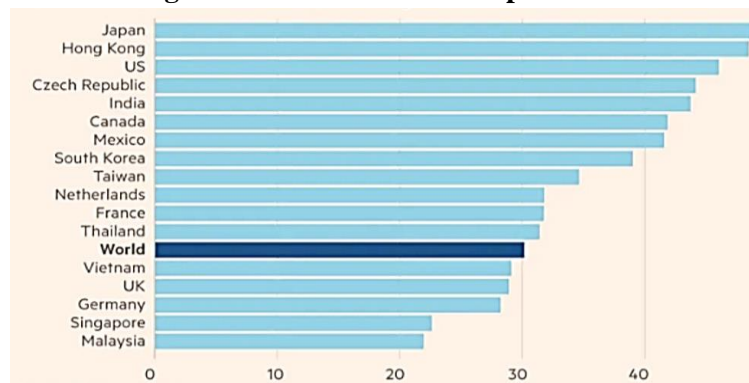


The resumption of oil industry activities largely depends on the improvement of the markets and resumption of Chinese demand. Despite the lower prices in the short term, prices may rise sharply as demand returns to normal and supply shortages. Under these circumstances, companies can prepare themselves for contingency plans (McKinsey & Company, 2020).

- ***Electronics and Semiconductor Tools***

Wuhan is one of the semiconductor and optical cable production centers and one of the key centers in the global supply chain that can affect other parts of the industry. About 38% of South Korea's electronics imports come from China. Thus, if the contagion in South Korea persists, despite resumption of activities in China, there would be still disruption in the supply chain (McKinsey & Company, 2020). Figure 8 shows the imported electric goods percentage by some countries whose supply chain is dependent on China.

Figure 8. Percentage of the Electric Goods Imported from China in 2018



Source: Stanisljevic (February 27, 2020)

3. The Impact of Coronavirus Outbreak on Economic Growth

Many economists believe that the shock wave unleashed by the coronavirus outbreak in the global economy is severe but the depth of the losses is not easily measurable and in order to quantify the scale of the losses, we need to be more patient. In Table 1, the share of the coronavirus stricken countries in global production and trade is demonstrated. Given that these countries represent most of the global economy, any damage to their economy has a tremendous impact on the international economy.

Table 1. The Share of the Big Economies in the Global Economy (Updated in February 29, 2020)

Country	GDP	Production	Export	Export Products
U.S.	24%	16%	8%	8%
China	16%	29%	13%	18%
Japan	6%	8%	4%	5%
Germany	5%	6%	8%	10%
U.K.	3%	2%	2%	3%
France	3%	2%	3%	4%
India	3%	3%	2%	2%
Italy	2%	2%	3%	3%
Brazil	2%	1%	1%	1%
Canada	2%	0%	2%	2%

Source: World Bank Data, 2020



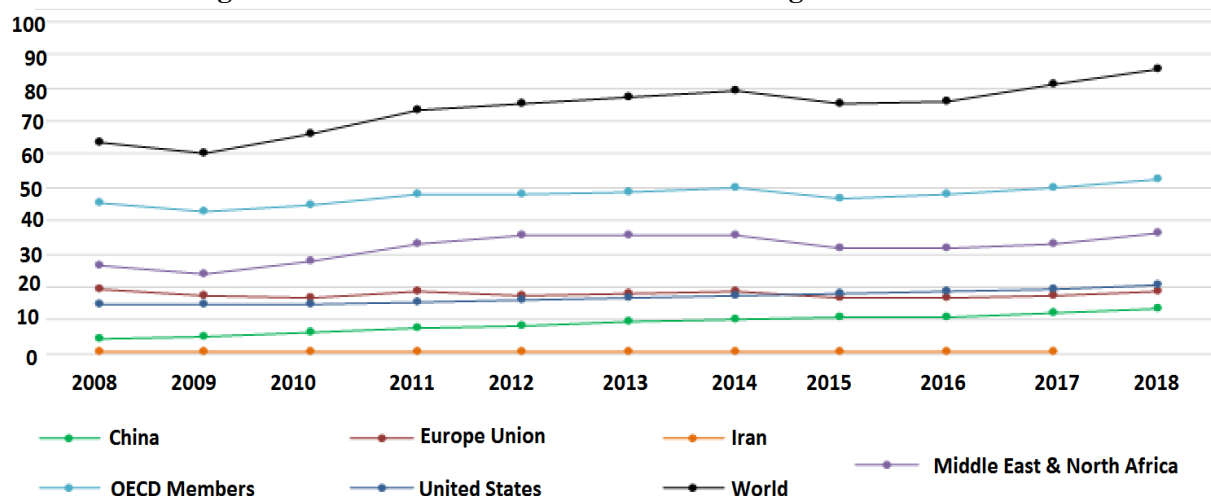
As Table 1 indicates, the share of the US and China's GDP in global GDP is 24% and 16%, respectively. Likewise, these two countries supply 16% and 29% of the global factory products, of which 8% and 13% are exported, respectively. With the coronavirus outbreak throughout the world and the trade and production interruption in many countries, given the 40% share of the US and China, the crisis impact and transmission throughout the global economy becomes quite evident. Table 2 and Figure 9 show GDP's of the selected countries and regions and their share of the global GDP during 2008-2018. The selection of the countries and regions are based on their share in the global economy, the prevalence of coronavirus, appropriate measures and rapid responses taken in order to alleviate the impacts of the pandemic on their economy, trade partnership with China and the U.S., and their regional situation relative to Iran.

Table 2. GDP of the Selected Countries and Regions and Their Shares of the Global GDP (\$ Trillion)

Country Year	China		EU		Iran		Middle East		OECD Member Countries		U.S.		World
	GDP	% of the World	GDP	% of the World	GDP	% of the World	GDP	% of the World	GDP	% of the World	GDP	% of the World	
2008	4.59	7.22	19.15	0.11	0.40	0.63	26.48	4.1	45.57	7.16	14.71	23.12	63.61
2009	5.10	8.45	17.12	28.37	0.41	0.68	23.68	3.9	42.66	7.07	14.45	23.94	60.33
2010	6.08	9.21	17.01	25.76	0.49	0.73	27.68	4.2	44.70	6.76	14.99	22.69	66.05
2011	7.55	10.29	18.40	25.07	0.58	0.79	32.82	4.4	48.05	6.54	15.54	21.17	73.40
2012	8.532	11.36	17.34	23.09	0.60	0.79	35.75	4.7	47.98	6.40	16.20	21.57	75.08
2013	9.57	12.39	18	23.40	0.47	0.60	35.53	4.6	48.60	6.30	14.76	21.69	77.24
2014	10.44	12.16	18.69	23.56	0.43	0.55	35.69	4.5	49.64	6.26	17.52	22.08	79.33
2015	11.01	14.68	16.47	21.95	0.38	0.51	31.46	4.2	46.89	6.25	18.22	24.27	75.08
2016	11.14	14.62	16.57	21.76	0.42	0.55	31.54	4.1	47.79	6.28	18.71	24.56	16.16
2017	12.14	15	17.37	21.45	0.45	0.56	32.73	4.01	49.80	6.15	19.48	24.07	80.95
2018	13.60	16	18.77	22	-	-	36.10	4.2	53	6.13	20.54	24	85.91

Source: World Bank Data, 2020

Figure 9. GDP of the Selected Countries and Regions in 2008-2018



Source: World Bank Data, 2020



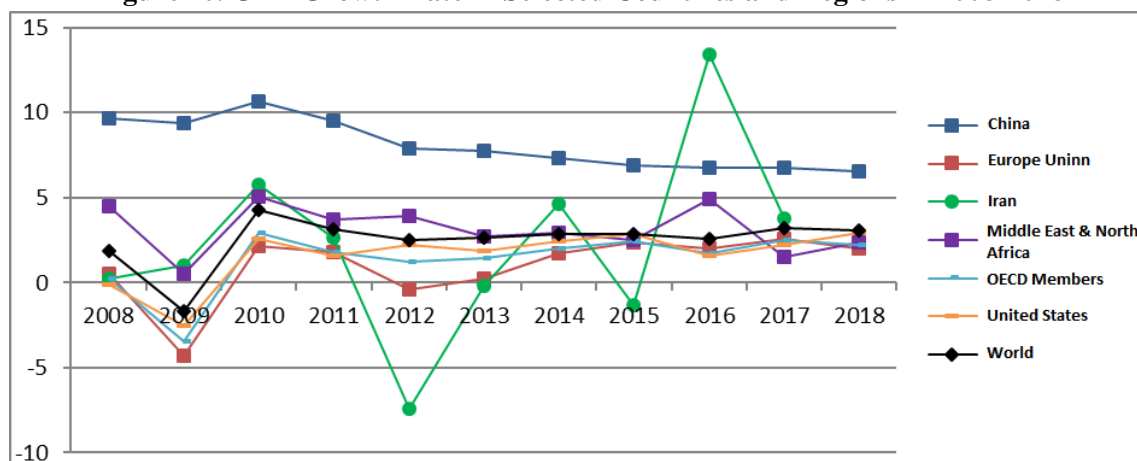
Table 3 and Figure 10 show the GDP annual growth rate of the selected countries and regions during 2008-2018. According to Table 3, in 2017, the global economy experienced the highest growth rate since 2010. The impressive growth of the global production and trade in 2017 led the world economy to a good start in 2018. Yet, the confidence decline among the investors for the future outlook of the global economy and the increasing conflicts such as the trade wars between two grand economies (namely China and the US), and the growth rate reduction in many emerging economics, caused the decline of the economic indicators worldwide (IMF, 2018).

Table 3. GDP Annual Growth Rate (%) in Selected Countries and Regions in 2008-2018

Year Country/Region	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
China	9.65	9.4	10.63	9.5	7.9	7.77	7.3	6.9	6.73	6.75	6.56
Iran	0.25	1	5.8	2.6	-7.4	-0.19	4.6	-1.32	13.39	3.75	-5.4
Middle East	4.5	0.5	5.05	3.67	3.9	2.7	2.9	2.5	4.2	1.48	2.34
OECD Member Countries	0.25	-3.47	2.92	1.82	1.26	1.47	2.04	2.42	1.74	2.47	2.25
U.S.	-0.1	-2.5	2.56	1.55	2.25	1.84	2.45	2.9	1.6	2.22	2.92
EU	0.51	-4.3	2.17	1.8	-0.42	0.026	1.74	2.35	2.04	2.6	2.01
World	1.85	-1.68	4.3	3.1	2.5	2.65	2.83	2.86	3.12	3.9	3.05

Source: World Bank Data, 2020

Figure 10. GDP Growth Rate in Selected Countries and Regions in 2008-2018



Source: World Bank Data, 2020

In Table 4, the economic growth of the selected countries and the growth forecast for 2019 and 2020 are illustrated. According to the World Bank statistics, about two-third of the countries experienced stronger economic growth in 2017 than in 2016; however, the world economies witnessed a negative shock in 2018. The imposition of heavy import tariffs by the US and the reactionary responses by other countries (especially China) are some of the factors affecting the decline of the global economic growth acceleration after the end of the first quarter of 2018.

Table 4. GDP of the Selected Countries in 2008-2020

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
UAE	3.19	-5.24	6.10	6.93	4.48	0.05	4.28	5.10	6.06	0.49	1.73	1.3	-3.5
Australia	3.66	1.94	2.061	2.46	3.91	2.58	2.53	2.19	2.77	2.37	2.94	1.8	-6.7



Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Austria	1.46	-3.76	1.84	2.92	0.68	0.025	0.66	1.01	2.07	2.47	2.42	1.6	-7
Switzerland	2.15	-2.22	3.002	1.69	1.006	1.85	2.45	1.33	1.72	1.80	2.75	6.1	1.2
China	9.65	9.4	10.63	9.5	7.9	7.77	7.3	6.9	6.73	6.75	6.56	5.6	2
Germany	0.96	-5.69	4.18	3.92	0.42	0.43	2.22	1.74	2.23	2.46	1.53	1.30	-3.5
Egypt	7.15	4.67	1.5	1.76	2.22	2.18	2.91	4.30	4.34	2.18	5.31	1.8	-6.7
France	0.89	-3.76	0.16	-0.81	-2.96	-1.43	1.38	3.85	3.03	2.89	2.35	1.3	-7.2
U.K.	0.25	-2.87	1.95	2.19	0.31	0.57	0.95	1.11	1.09	2.26	1.72	1.4	-6.5
Hong Kong	-0.28	-4.25	1.95	1.54	1.48	2.14	2.61	2.35	1.92	1.89	1.38	-1.2	-4.8
India	2.13	-2.46	6.77	4.18	1.70	3.10	2.76	2.39	2.18	3.85	3.002	0.6	-7
Iran	3.00	7.86	8.50	5.24	5.45	6.38	7.41	7.99	8.17	7.17	6.81	4.2	1.9
Italy	0.25	1.007	5.80	2.64	-7.44	-0.19	4.60	-1.32	13.40	3.75	-7	-7.6	-6
Japan	-0.96	-5.28	1.71	0.71	-2.98	-1.84	-0.004	0.78	1.28	1.71	0.77	0.3	-1.9
Korea	-1.09	-5.41	4.19	-0.11	1.49	2.00	0.37	1.22	0.61	1.93	0.78	0.7	-5.2
Kuwait	2.83	0.70	6.49	3.68	2.29	2.89	3.34	2.79	2.9.3	3.06	2.67	2	-1.2
Pakistan	2.48	-7.07	-2.37	9.62	6.6.2	1.15	0.5	0.59	2.92	-4.71	1.24	0.7	-0.1
Saudi Arabia	1.70	2.83	1.60	2.75	3.50	4.39	4.67	4.73	5.52	5.55	5.83	3.3	-1.5
Sweden	6.25	-2.06	5.04	9.99	5.41	2.70	3.62	4.10	1.67	-0.74	2.43	0.3	-2.3
Turkey	-0.24	-4.23	6.19	3.05	-0.63	1.08	2.74	4.42	2.41	2.4	2.22	1.2	-6.8
U.S.	0.84	-4.7	8.48	1.11	4.79	5.89	5.16	6.08	3.18	7.47	2.82	0.9	-6

Source: IMF (April 14, 2020); World Bank Data, 2020

Nevertheless, the forecasts for the global economic growth rate vary in different countries based on the time of the analysis and the coronavirus contagion and pandemic stages. In the next section, the analysis and forecast of the three reliable international organizations that have been published in one month interval is presented.

3.1. OECD Forecast, March 2, 2020

The potential economic impacts of the coronavirus outbreak centered in China and its expansion to other economies can be assessed in two scenarios. In this report, initially the outbreak in China is illustrated. Then, its potential impact is assessed through a downturn scenario that demonstrates how the virus outbreak in Asia-Pacific and developed economies such as South Korea could be much worse when it spreads in other countries (OECD, 2020).

• *Base-case Scenario: The Present Outbreak*

In the base-case scenario, it is assumed that the impact of the downturn in China is momentary but severe and gradually disappears until the early 2021. The impact of the coronavirus is like 'adverse supply-side shock' with a forced reduction in the working hours that its effects can be felt in poor demand. Confidence decline, reduction of the dismissed workers' income, and the falling demand in tourism and travel services lead to the reduction of the consumer expenditure, reduction in cash-flow, and further uncertainty and delay in corporate investments, and the reduction of the accessible inventory levels due to the disruption in supply chains (ibid.).

The shocks considered in this scenario are as follows:

- Reduction of the domestic demand in China and Hong Kong by 4% in the first quarter and by 2% in the second quarter of 2020; a further fall of the demands for finished goods



and services (including travel-related services) and the production intermediate institutes and a severe reduction of importing demands by 6% that are finally reflected in the investment spending and private consumption.

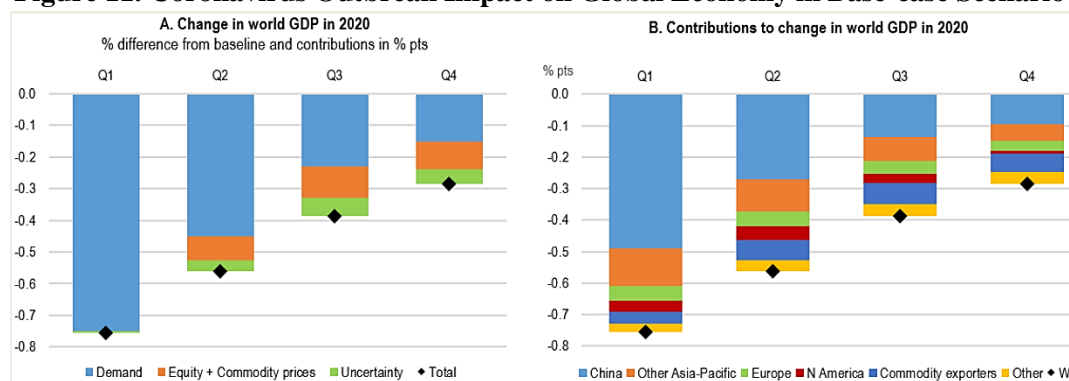
- Reduction in share prices and non-food items in the world by 10% in 2020.
- 10% increase in the investment risk premiums in all the countries in the first half of 2020 and the subsequent higher uncertainty, lower consumer expenditure, and more capital costs and less investments; yet, given the different behavior of businesses and households in uncertain circumstances, the option for spending instead of having expectations for the future highly depends on the current situation.

The net effects of the combined shocks due to the reduction in consumer price inflation which is 25% in OECD member states in 2020 and a little more in other economies, is price drops. Although the commodity exporters will encounter a reduction in the export incomes, the importing economies will benefit the lower prices.

The monetary policies must be enforced internally and the policy interest rates can be reduced against the baseline (complying with a zero lower bound or applying no changes in the case of a negative interest rate as in Japan). Automatic fiscal stabilizers can also be completely implemented in all the countries and in these conditions, there is no need to comply with the budget plan announced by the governments. If the monetary policies outside China had not responded effectively and the automatic budgetary stabilizers were not allowed, the shock could be huge. The interest rates in big OECD economies have been cut by 25% and in the more exposed economies are a little bit more. This issue helps restrict the negative impacts on domestic activities and will support the economic recovery in 2021. As a result of the effect of the automatic stabilizers, lower tax base, lower nominal final expenditure, and lower borrowing costs, the government budget deficit in developed economies will be diminutive, approximately 0.1% of the GDP in 2020 (Figure 11).

In this scenario, it is projected that following the initial demand fall in China, the global GDP level at the peak point of the shock could decrease by 75% (relative to the baseline) and by about 5% in year-round. The global trade crashed tremendously by the shock, will decrease 1.4% in the first half of the year 2020 and 0.9% in all of the year. The impacts of this shock on other countries depend on their border links with China. In short term, the negative effects on economies such as Japan and Korea and other smaller Southeast Asian countries that have strong relations with China in supply chain, tourism, and other travel-related services are comparatively much severe.

Figure 11. Coronavirus Outbreak Impact on Global Economy in Base-case Scenario



Source: OECD Interim Economic Assessment



The economic policy choices in China will have a significant impact on the speed the economy will adjust and finally recover after the virus outbreak. In the short term, the provision of adequate liquidity with the purpose of tackling the corporate cash-flow challenges and ensuring that the enterprises do not go bankrupt is a key policy measure.

If the virus outbreak lasts for several months and gradually fades away, stronger macroeconomic support policies are required in order to stabilize the economy. Thus and based on this scenario, the policy interest rate is reduced by 0.3% and will increase the automatic fiscal stabilizer of the budget deficits by 4.4% of the GDP in 2020. In general, such measures will reduce the GDP growth in China by 0.2% in 2020. The other option is prompt, temporary, and purposeful fiscal stimulus measures such as stronger investment costs in order to directly strengthen the final demand in 2020 as the economic recovery persists (ibid.).

• ***Domino Scenario: Wider Contagion***

In this scenario, it is assumed that in 2020, the virus outbreak in China is much wider and will have broader spread in Asia-Pacific region and big advanced economies in the northern hemisphere. The affected countries in this scenario represent 70% of the global GDP. Thus, the global demand will decrease more intensively and for a longer period of time.

The shocks considered in this scenario are as follows:

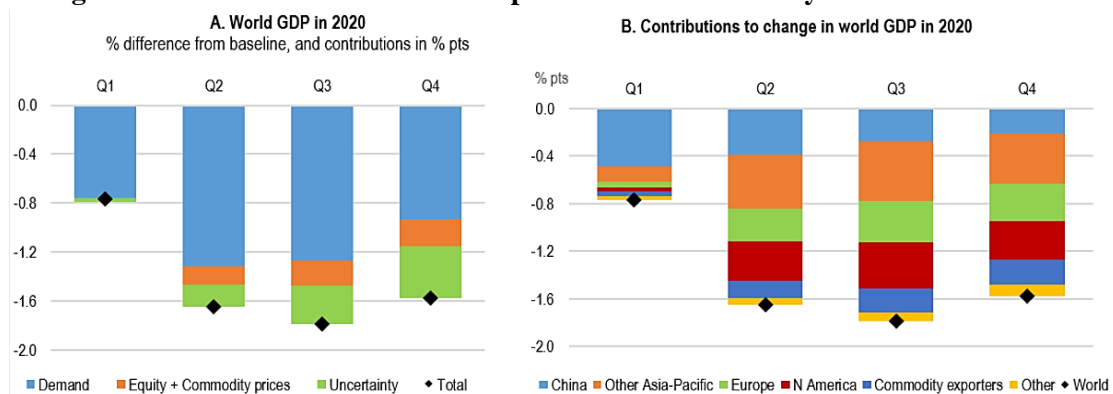
- 2% reduction (relative to baseline) in domestic demands in most of the Asia-Pacific economies including Japan and Korea and private consumptions in advanced economies of the northern hemisphere in second and third quarters of 2020.
- 20% drop in global stock price and non-food commodities in the first 9 months of 2020.
- 5% increase in risk premiums in all the countries in 2020 leading to more uncertainty.

In this scenario, it is forecasted that the global GDP to decrease by 1.75% (relative to baseline) at the peak of the shock in the second half of 2020 and global GDP growth by about 1.5% in 2020 year-round. Global trade is also forecasted to decline by 3.75% that will crash the exports of all the economies around the world (Figure 12).

The combined effects of the deflationary declines are larger than the base-case scenario and the consumer price inflation in OECD economies has dropped by 0.6%.

Using automatic stabilizers in the face of GDP undergrowth will essentially lead to budget deficit. Thus, given the increasing monetary policy restrictions and with the outlook of this scenario occurring, a prompt and substantial discretionary response is required that further highlights the necessity of a stronger global political cooperation.

Figure 12. Coronavirus Outbreak Impact on Global Economy in Domino Scenario



Source: OECD Interim Economic Assessment



3.2. IMF Outlook, April 14, 2020

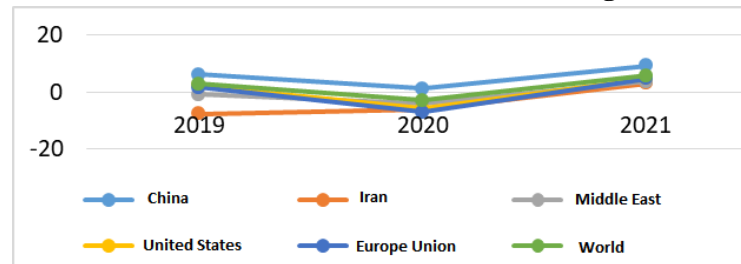
Due to the coronavirus outbreak, global economies have experienced their worst condition since the Great Depression in 1930's. In case of coronavirus persistence, the global economy recession would be greater in magnitude and its recovery would be much slower. The forecasts assume that the pandemic peak in China was in the first quarter of 2020 and with the implementation of the domestic policies, the recovery will be achieved in the second quarter of the year. Given the recent deterioration in global financial conditions and the growing uncertainty, the global GDP growth declined in early 2020 and it may go down to zero in the first quarter of the year. Even assuming that the impact of the virus gradually fades throughout the year, the simulations indicate the global growth can fall by 0.5% in 2020. Nevertheless, if new cases are diagnosed in various countries, the global growth will experience a severe downturn. Figure 13 shows the GDP of the selected countries and regions that implies an uncertain outlook. It is quite evident that the countries' GDP growth is declining and it is forecasted that the growth rate before its gradual recovery in 2021 and its estimated boost by 3.25%, will drop from 2.9% to -3% in 2020. The implementation of the political stimuli especially the ones targeting enterprises and households, will require income support in short term. The low interest rate will help recover the demand. However, the impacts of the recent forecasted changes on the interest rate in advanced economies will be likely moderate. Although the implementation of financial policies in Asian economies is helpful, given the modest growth forecast and low borrowing rates, compared to the European economies, it will be restraining. Economic growth of the U.S. will be -6 and this indicates the shaping of a deep downturn in this country. In contrast, it seems that the virus outbreak is almost contained in China and its economy is gradually stabilizing.

The growth outlook of China in 2020 is undergone a drastic revision. It is forecasted that the GDP of China drops by 5% in 2020. Assuming the forecasted level of production in 2021 without coronavirus crisis, the growth will be expected to increase by 6.25%-6.5% in 2021 (Figure 13). It is projected that the impact of the virus on the economies having little connection with China, especially the U.S. will be diminutive¹. Nevertheless, the confidence decline, supply chain disruption, and decrease in external demand will diminish the growth outlooks. It is estimated that growth in the Euro zone will persists on average by 1% in 2020 and 2021. Yet, the impact of the coronavirus outbreak will weaken the results in the first half of 2020. Though slight, the gradual recovery is predictable for the emerging economies but the rate of the recovery is unknown. The growth improvement requires reformations and monetary policies in India and Brazil, focused political measures in Turkey for sustainable growth, and a gradual recovery in Chinese commodity exporters.

¹ It is notable that in the early forecasts of both OECD and IMF, the impact of the coronavirus outbreak in the U.S. and Europe is less than the real growth rate.



Figure 13. GDP Growth in Selected Countries and Regions in 2019-2021



Source: IMF, 14 April 2020

3.3. McKinsey & Company Forecasts, April 3, 2020

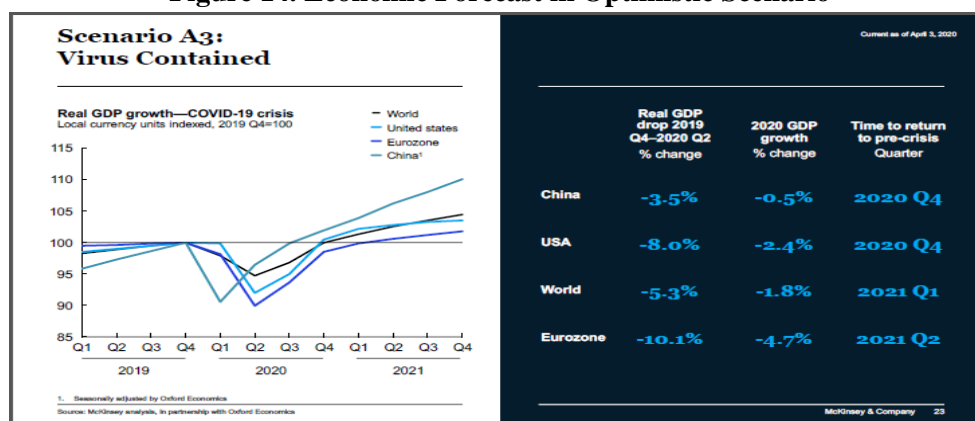
Estimates show that the aviation, oil, gas, banking, automotive industries will incur the highest economic losses respectively following the coronavirus outbreak throughout the world. In this analysis, the economic situation of the world is forecasted based on optimistic and pessimistic scenarios of the coronavirus spread. The facts and insights on the current condition of COVID-19 are also presented for better understanding of the strategies to be adopted by decision-makers (McKinsey & Company, 2020).

• *Optimistic Scenario*

In this scenario, it is assumed that the severe outbreak of the coronavirus will persist in the Middle East, Europe, and the U.S. until the mid-second quarter of 2020 (May) and with effective public health measures, it will gradually decrease. According to this scenario, the persistence of the coronavirus spread in the world and its contagion to new nations will finally lead to a 0.3% to 0.7% reduction in global GDP in 2020. If this scenario is unfolded, the global GDP growth will tumble down to -1.8% in this year and it is predicted that in the first quarter of 2021, it will return to the pre-coronavirus economic state.

In 2020, the U.S. economic growth will also plummet to -2.4 but in the fourth quarter, this growth will rebound to pre-pandemic crisis level. However, the member states in the Euro zone will face a severe downturn and will suffer a -4.7% decline in 2020. This condition will persist until second quarter of 2021 when the economic situation will rebound to its pre-crisis level. Opposite to the U.S. and Europe, China will experience a less negative impact. In 2020, China's economic growth will drop to -0.5% and the country's economy will rebound to pre-crisis level in the fourth quarter of the same year (Figure 14).

Figure 14. Economic Forecast in Optimistic Scenario



Source: McKinsey Analysis, in partnership with Oxford Economics (April 3, 2020)

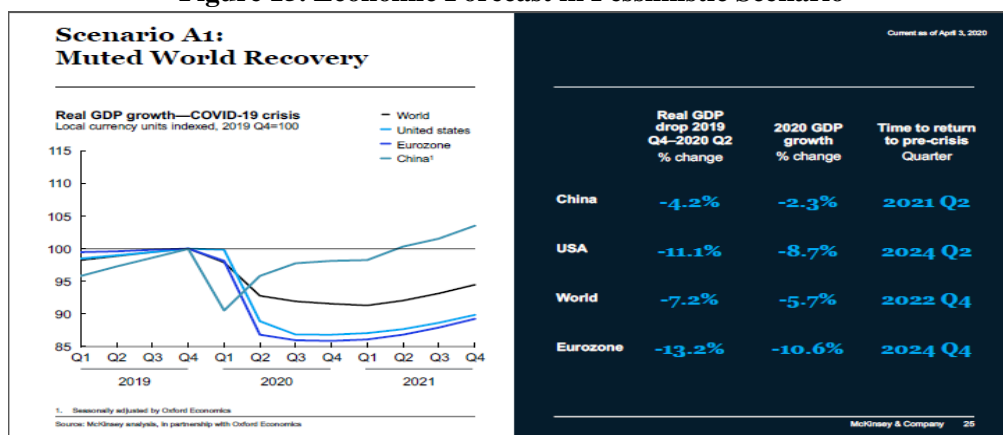


• *Pessimistic Scenario*

In this scenario, it is assumed that the coronavirus spread throughout the world will continue in the second quarter and the public health systems in many countries especially low income and developing countries will face with large scale human casualties and the economic losses will be experienced across all countries. It is forecasted that the global economic recession in 2020 reaches -5.7% and a rebound to the pre-crisis level will linger up to fourth quarter of 2022. The U.S. economic growth in 2020 will fall to -8.7% which is the most massive decline in its history since World War II. It is expected that the U.S. macro-economic rebound to pre-crisis level will linger up to 2024.

The Euro zone economic growth in 2020 will plummet to 10.6% and for a rebound to pre-crisis level, we need to wait until 2024. In this scenario, the economic condition of China will be better than the U.S. and the Europe. It is forecasted that the economic decline in the former country will reach -2.3% in 2020 and its economic condition will return to pre-crisis level in the second quarter of 2021 (Figure 15).

Figure 15. Economic Forecast in Pessimistic Scenario



Source: McKinsey Analysis, in partnership with Oxford Economics (April 3, 2020)

Both scenarios imply a fair amount of consumer demand reduction and commodity supply chain disruption in the production section. At present, most of the firms that supply their parts and commodities from Chinese factories, instead of deciding to withdraw China from their supply chains have adopted stabilizing measures until the coronavirus is totally contained. In fact, COVID-19 acts as a facilitator for firms in anticipation of long-term and strategic changes to be analyzed and applied in their supply chain in future.

4. Coronavirus Impact on Labor Force and Employment

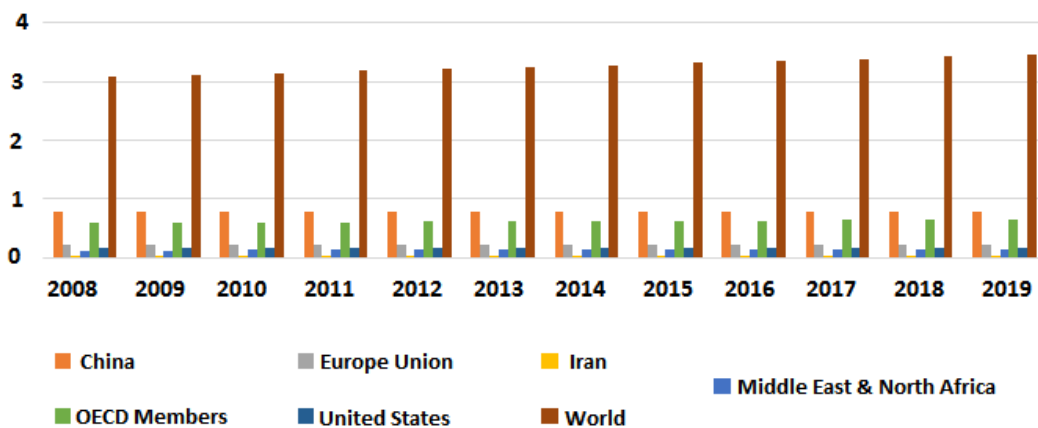
One of the immediate effects of coronavirus outbreak on countries is a reduction in employment rate that based on the World Bank forecasts in April 10, 2020 it may reach to 3% below the global average rate. With falling level of employment and labor forces being laid off from companies, the remaining labors are forced to work harder and longer shifts that in turn, lead to higher wages. It is expected that for a period of several month, the working capital balance of companies to be altered and this will result in factory closures and make the labors stay home.

Figure 16 shows the ascending employment curve in selected countries and regions in 2008-2018; yet, given the high rate of disproportionate virus spread impact across the entire



economy and from sector to sector, it is anticipated that more businesses will be exposed to closure. Although there is a significant uncertainty revolving around the 3% reduction in global employment average rate, this assumption is heavily contingent upon factors such as duration and intensity of the disease, containment measures, self-control healthy behaviors of the individuals, job market resilience, and etc. Nevertheless, the employment disruption is inevitable (Maliszewska et al., 2020). Coronavirus outbreak followed with the closures may have an impact on 5 million jobs throughout the world. According to analyses, more than 90% of the jobs have a direct connection with the global trade networks. About half of these jobs (49%) are subsidiary companies based in Hong Kong, 19% in the U.S., 12% in Japan, and 5% in Germany (CNBC, 2020).

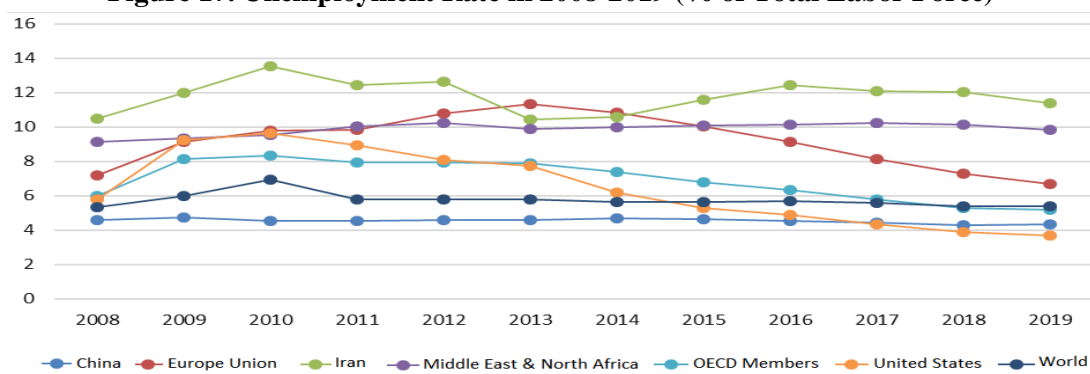
Figure 16. The Number of Labor Forces in Selected Countries and Regions in 2008-2019 (Billion)



Source: World Bank Data, 2020

COVID-19 pandemic is more than a concern about labors and their families' health, the virus and the following economic shocks will have an impact on the global job market from three perspectives: 1) Job Quantity (employment and unemployment rates); 2) Job Quality (e.g. wages and social support); 3) Impact on Special Groups who are highly vulnerable to undesirable outcomes of the job market. In the virus spread regions, the retail companies with lower profit margins will face with a severe reduction in demands, labor force restrictions, and liquidity challenges. This leads them (especially SME's) to be more apt to lay off forces or reduce their wages. Figure 17 shows the unemployment rate in the selected countries and regions in 2008-2019.

Figure 17. Unemployment Rate in 2008-2019 (% of Total Labor Force)



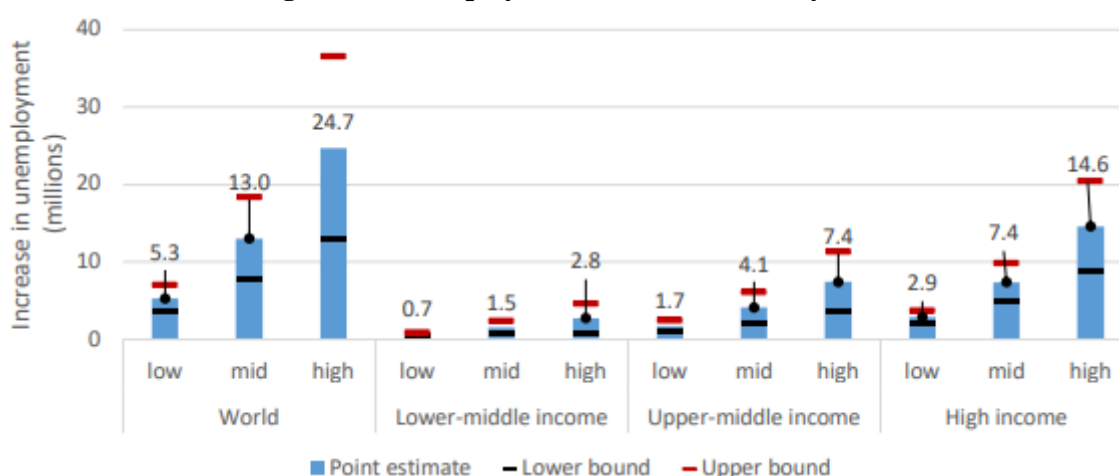
Source: World Bank Data, 2020



Based on the initial assessment by International Labor Organization (ILO) on March 18, 2020, the pandemic COVID-19 would have significant impact on labor markets around the world. Depending on the scale of the impact on the global economic activity, unemployment is expected to rise from 188 million unemployed in 2019 to 24.7 million. Assuming a 2% decline in global GDP in 2020, global unemployment is predicted to rise to 5.3 million, including 0.7 million unemployed in lower-middle-income countries, 1.7 Millions in upper-middle income countries and 9.2 million in high income countries. Meanwhile, a 4% decline in global GDP will lead to 13 million unemployed persons, including 1.5 million in lower-middle-income countries, 4.1 million in upper-middle income countries and 7.4 million in high income countries. The worst scenario that will tremendously disrupt the global economic activity is an 8% decline in GDP that will leave 24.7 million unemployed worldwide. Unemployment will be 8.2 million in low- and middle-income countries, 4.7 million in high-income countries, and 6.14 million in high-income countries this unemployment rate will be 2.8 million in lower-middle-income countries, 7.4 million in upper-middle income countries, and 14.6 million in high-income countries (Figure 18).

While these figures per se are very alarming, it is significant to consider the possible consequences of the widespread unemployment across the world. If people lose their jobs, they lose their main income source. This will lead to less consumption of goods and services adding up to already weakened economy.

Figure 18. Unemployment Trend Forecast By ILO



Source: ILO (18 March, 2020)

5. Countries' Measures to Fight against the Economic Outcomes of Coronavirus

Resulting pervasive damage to the economic sectors due to the coronavirus outbreak, the economy of all the countries of the world will be affected. The impact scale of the virus spread in the world economies cannot be equal. Given the coronavirus pandemic condition, the states adopt various strategies to fight against the resulting economic outcomes. European Union introduced a €200 billion spending program coordinated by Brussels and EU member states equal to 1.5% of the bloc's GDP. Furthermore, liquidity facilities of at least 13% of the GDP including public guarantee schemes and deferred tax payments. Other countries have distributed money among people such as Hong Kong government that have paid HK\$10,000 to every citizen. The major preventive measures of some of the countries are summed up in Table 6.



Beside different countries' measures to reduce the impact of the virus spread on their economy, international institutions have come to support these countries and have offered many health services or financial facilities to their member states or the countries in need of such aids.

- ***European Central Bank (ECB)***

European Central Bank (ECB), through its Pandemic Emergency Purchase Program (PEPP), is set out to purchase up to €750 billion in additional bonds in order to help its member states fight against the downturn (Masters, 2020).

- ***International Monetary Fund (IMF)***

International Monetary Fund (IMF) has allocated \$50 billion to lend to its member countries exposed to financial crisis with a special priority given to emerging economies. Some of the IMF's measures in its fight against the economic impacts of the coronavirus are as follows: emergency financing through Revolving Credit Facility (RCF); technical supports for the implementation of the comprehensive macroeconomic policies; creation and organization of monetary, financial, and exchange institutions and providing technical and training support to developing countries (ibid.).

- ***World Bank Group***

World Bank has announced that it will finance the developing countries exposed to the pandemic with a \$12 billion bailout. Some of the World Bank measures in fighting against the economic impact of coronavirus outbreak are as follows: utilizing monetary, financial, trade, and investment policies; preventing security policies that lead to deteriorating already disrupted global value chain; not deterring the export of the necessary goods, food, and pharmaceutical products; increasing health-related budgets and payments to the developing countries; reinforcing health networks of the developing countries; supporting the private sector and implementing countermeasures in the financial markets of the developing countries (ibid.).

6. Conclusion

The world is facing an unprecedented trial and this is an accepted fact. Millions of people have been infected with the acute conditions of COVID-19, nations are plunged into turmoil and economies are collapsing. With the virus spread across the world, many countries have adopted several measures to restrict the outbreak of the virus by setting social distancing policies, reducing educational institutes' activities, restraining jobs, and restricting people's mobility. The analyses pertaining to the economic impact of the coronavirus crisis in different countries show that the most significant obstacle that countries face and will still have negative impacts in the post-coronavirus period is unemployment and job losses. This is evident in Iran, too. Thus, states are making attempts to protect businesses by providing support packages so as to maintain economy and protect jobs. The most important precautionary measures in some countries are summarized in Table 5.



Table 5. Summary of Preventive Measures of Selected Countries against Coronavirus Pandemic

Support Country	Interest Rate Reduction	Purchasing Shares and Securities by the Governments	Postponing bank loan repayments	Giving out Loans to Businesses	Guaranteed Mutual Funds	Tax Exemptions	Unemployment Insurance	Supporting Households	Supporting the medical staff and the health sector	Capital Market Support	Direct Financial Support for Business and Startups	Telecommuting and Working Hour Reduction	Increase the salaries of workers Infected with Coronavirus and the Quarantined people	Employer's Premium Exemption	Temporary Wage Subsidy for Employees	Postponement of Rent and Service Bills	Payment of a Portion of the Salary of the Unemployed due to Coronavirus	Public Health System Coverage
China			*				*		*		*	*		*		*		
Japan		*						*		*		*						
South Korea	*			*				*										
Hong Kong								*										
India	*			*		*		*										
Pakistan			*	*							*				*	*		
Turkey	*		*	*		*		*						*				
Germany		*		*	*			*	*		*				*	*	*	*
Italy			*	*		*		*	*		*	*			*	*		
U.K.	*			*		*				*								
Sweden			*	*		*		*	*									
Switzerland	*			*	*													
Austria				*	*													
Australia	*	*		*	*	*												
France			*		*	*	*	*	*	*	*			*		*		
Spain			*	*			*	*	*		*		*	*	*	*		
U.S.	*	*	-	*	*	*	*	*	*	*								
UAE	*			*						*								
Saudi Arabia			*	*						*								
Kuwait	*			*						*								
Egypt				*	*			*	*	*								
Iran			*	*		*	*	*	*			*				*		



In general, in order to suppress the virus and restore its socio-economic devastation in different regions, responses must be robust, innovative, and collective. In the national level, the responses must be coordinated, comprehensive, and fit the crisis scale and in the international level, they must be led by World Health Organization (WHO). In more vulnerable countries, such responses must be multifaceted and shared responsibility and global solidarity in response to the COVID-19 impacts.

Banks and states have adopted extraordinary measures to secure liquidity in markets and sustain its performance that if internationally coordinated, their effects will be multifold. In order for a large-scale, coordinated and comprehensive multilateral response at least 10 percent of the global GDP is required (Guterres, 2020). Developed countries have the capacity and are capable of eliciting such responses; yet, the resources of the developing countries must be supported through the issuance of IMF asset resources and the injection by other international financial institutions. Debt elimination including immediate waivers on interest payments for 2020 must be a priority. In this regard, the United Nations must mobilize its affiliates and place its supply chain for countries in need.

It is highly recommended that in order for the countries to trigger prompt and coordinated responses to contain the virus contagion and to end its outbreak is to be united. In this respect, developed countries can help the developing countries strengthen their health system and response capacity. Also, with the aim of healing the devastating socioeconomic impacts of the pandemic crisis especially among the most affected groups including women, elders, youth, low-wage workers, small and medium enterprises (SMEs), and the informal sector, formulating financial and monetary policies that address the direct resource supplies for households and workers, supplying health and unemployment insurances for the society, supporting businesses facing bankruptcy, and widespread job losses must be considered.

Finally, after surviving the crisis, the world is faced with a choice: returning to the world as it was in the past or yielding strong responses to issues that make the world more vulnerable to such crises. All the countries' measures during and after the crisis must be focused on creating equal economy and nations and must be widespread and sustainable against any pandemic, climate change, and many other global challenges and this requires global solidarity. Macroeconomic supporting policies can help recover the confidence and boost demands; yet, they cannot compensate for the disruptions incurred due to the forced business interruption and travel restrictions. If all the risks are assumed and economic growth declines for a longer period of time, multifaceted and coordinated measures as the most effective means to revive confidence and support incomes are required to safeguard the effective public health policies, preventive measures, reinforcement of the low income economies, and boosting financial spending.

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CORONAVIRUS

Insurance Research Center. 43, West Sarv Ave., Kaj Sq., Saadat Abad, Tehran, Iran.

Postal Code: 1998758513

Phone: +98-21-22084084- ext. 129

Fax: +98-21-22081088

Email: INTinfo@irc.ac.ir