



IMPACTS OF COVID-19 PANDEMIC ON GLOBAL ECONOMY: A META-ANALYSIS APPROACH

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Abstract-This research paper has emphasized on the finding out the crucial impacts of Coronavirus pandemic on the global economy and predicting the scenario which will face the world economy in near future. This paper contains various aspects of Coronavirus and its economic impacts by reviewing existing literature and information. Different studies on COVID-19 are collected from different important and relevant websites, journals, newspapers, magazines etc. Supply chain disruption, Foreign Direct Investment (FDI) falloffs, diminution of Gross Domestic Product (GDP) growth rate, fluctuation of monthly balance of trade and payments, monthly spillover of the unemployment rate and downfall of remittances of the corona affected countries those have at least one thousand affected cases on 22nd March, 2020 has been analyzed. 3.5.1 Version of 'R' is used for analyzing collected data. Line graphs are used to depict the changes or trend of variables over a period of time. Results revealed that balance of trade of the countries is decreasing from the early month of this year, 30% to 40% foreign investment has been decreased and unemployment rate will rose to more than 25% all over the world. Findings also exhibited that this crisis could cost 2.7 Trillion US dollar which is about 3.06% of the global GDP. The result of the research has shown strong evidence for the governments, policy makers, economic organizations and experts for taking preventive measures to tackle the upcoming depressive situation. The only use of secondary data restricts us from getting in-depth insights of the situation. This paper identifies some crucial suggestions that are needed for handling upcoming crisis in the socio-economic life style of the people of the universe.

Keywords: COVID-19, FDI, Global Economy, GDP, Supply Chain, Unemployment.

1. INTRODUCTION

When diseases spread to a large number of people within a short period of time it is called epidemic. According to World Health Organization (WHO), when occurrence of cases of an illness, specific health-related behavior, or other health-related issues in a community or region clearly in excess of normal expectancy it will be considered as epidemic [1]. That time an epidemic will turn into pandemic if it spreads to multiple countries or regions of the world. In the 21st century, the people of the globe has experienced numerous cases such as Severe Acute Respiratory Syndrome (SARS) in 2002, N1H1 (Bird flu) in 2009, Middle East Respiratory Syndrome (MERS) in 2012 and Ebola in 2013/14. Now, the world is facing a different and dangerous pandemic called Covid-19 (Novel Coronavirus). Around three lakhs people from 184 countries, areas and territories of the world have been infected and more than 12 thousands has died from Coronavirus till date. The number of victims and deaths are increasing at geometric rate. Origin of this virus China has dealt with it very well through various strategies and some aggressive measures such as massive lockdowns, electronic surveillance, quarantine restrictions etc. Economic losses and human trauma are going to be severe when the other affected countries of the world are following China to control this outbreak. In this era of globalization, economy of all countries are connected with each other through exports, imports, investments, financial markets, services, technology etc. As the coronavirus is a global crisis, it could take the global economy to a halt. Bloomberg Economics (BE) predicts in this March that the global economy will cost about \$2.7 trillion for this coronavirus outbreak [2]. BE also estimates that GDP growth in the first quarter of 2020 has slowed to 1.2% year on year—the weakest on record [2]. When giant economies like US, China, Japan, Germany, Britain, France, and Italy are affected, the rest of the world will not be spared from the blow as these economies carry almost 60% of world supply and demand in terms of GDP, 65% of world manufacturing and 41% of manufacturing exports, as per a report of the World Trade Organization published in 2020. Asian Development Bank (ADB) suggests a global impact of \$77 billion to \$347 billion, or 0.1 per cent to 0.4 per cent of global GDP, with a moderate case estimate of \$156 billion or 0.2 per cent of global GDP [3]. The main purpose of this paper is to identify the impacts of Coronavirus outbreak on the global economy. This paper contains various aspects of Covid-19, current and near past of the global economy and experts opinions and predictions about the upcoming situations by reviewing existing literature. We acknowledge those experts, organizations, authors and websites from whom we cited in this paper. The contributions of this paper are firstly, it will give a clear picture about the current and near

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pg. 8

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past of the global economy. As a result, the impacts of this pandemic will be presumed easily. Secondly, country-wise trend of change will also be easily understood. Finally, by analyzing the data and predictions of the experts, this paper will show some implications of this research for recovering the upcoming economic crisis.

In this paper, the introduction is followed by the current state of coronavirus and global economy literature. The methodological section leads into the analysis and findings, and the paper closes with a discussion, implications, and recommendations for further research.

2. RESEARCH QUESTIONS

By keeping the law of the situation demand to know about what is going to happen in the global economy, this research demarcates the following three research questions (RQ):

RQ1: What are the impacts of COVID-19 outbreak on the global economy?

RQ2: How country-wise economic trend is changing on account of Coronavirus transmission?

RQ3: What kind of economic condition is the world going to face in the near future?

3. LITERATURE REVIEW

3.1 Coronavirus and COVID-19

The coronavirus was first isolated in 1937, which caused bronchitis in birds [4]. However, human coronaviruses (HCoV-229E and HCoV-OC43) were first characterized in the 1960s, which were associated with diseases in respiratory tracts such as bronchitis and pneumonia and illnesses in the enteric and central nervous system [5]. The virus is named as coronavirus for the crown-like spikes on their surface [6]. Recently, a novel Coronavirus appeared in Wuhan, China, at the end of 2019. While several facts of the development of this virus remain unidentified, an increasing number of cases seem to have caused from human-to-human transmission [7]. According to WHO, Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus [8]. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette. At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments.

Table-3.1 a Short Report on Top Twenty Affected Countries of the World

Country	Total Cases	Total Deaths	Total Recovered	Country	Total Cases	Total Deaths	Total Recovered
China	81,093	3,270	72,703	Netherland	4,204	179	02
Italy	59,138	5,476	7,024	Austria	3,627	16	09
Spain	29,909	1,813	2,575	Belgium	3,401	75	340
Germany	24,873	94	266	Norway	2,385	07	06
Iran	21,638	1,685	7,913	Sweden	1,934	21	16
USA	35,060	457	178	Denmark	1,395	13	01
France	16,018	674	2,200	Canada	1470	20	14
S. Korea	8,961	111	3,166	Malaysia	1,306	11	139
Switzerland	7,724	98	131	Australia	1,709	07	88
UK	5,683	281	135	Japan	1,101	41	235

Source: Worldometer (22/03/2020) [9]



3.2 Global Economy in Outbreak, Epidemic or Pandemic

Epidemics constitute a transverse section through society, reflecting in that cross-sectional perspective a particular configuration of institutional forms and cultural assumptions. Just as a playwright chooses a theme and manages plot development, so a particular society constructs its characteristic response to an epidemic [10]. Infectious diseases outbreak may have a big effect on society as they can harmfully affect illness, and death. The undesirable effects of this deadly illness on the global economy are advancing day by day. The virus is predictable to play a conclusive role in shifting the global GDP as the outbreak continues and has caused limitations on supply chain, traveling, a decline in foreign travel as well as stoppage and decline in economic activity, especially in China [11]. These days there are several news through social media platforms and internet about how the Coronavirus outbreak is disturbing supply chains, manufacturing, and services around the globe. There is an increasing interest from scholars and industries from January 2020 onwards, which is also visualized in the Google trends for Coronavirus outbreak and related keywords. A sizable outbreak can overwhelm the health system, limiting the capacity to deal with routine health issues and compounding the problems. Beyond shocks to the health sector, epidemics force both the ill and their caretakers to miss work or be less effective at their jobs, driving down and disrupting productivity [12]. Fear of infection can result in social distancing or closed schools, enterprises, commercial establishments, transportation, and public services—all of which disrupt economic and other socially valuable activity. Concern over the spread of even a relatively contained outbreak can lead to decreased trade. Travel and tourism to regions affected by outbreaks are also likely to decline. Some long-running epidemics, such as HIV and malaria, deter foreign direct investment as well. The economic risks of epidemics are not trivial. Recently estimated the expected yearly cost of pandemic influenza at roughly \$500 billion (0.6 percent of global income), including both lost income and the intrinsic cost of elevated mortality. Even when the health impact of an outbreak is relatively limited, its economic consequences can quickly become magnified [13]. Liberia, for example, saw GDP growth decline 8 percentage points from 2013 to 2014 during the recent Ebola outbreak in West Africa, even as the country's overall death rate fell over the same period. The consequences of outbreaks and epidemics are not distributed equally throughout the economy. Some sectors may even benefit financially, while others will suffer disproportionately [12]. Pharmaceutical companies that produce vaccines, antibiotics, or other products needed for outbreak response are potential beneficiaries. Health and life insurance companies are likely to bear heavy costs, at least in the short term, as are livestock producers in the event of an outbreak linked to animals. Vulnerable populations, particularly the poor, are likely to suffer disproportionately, as they may have less access to health care and lower savings to protect against financial catastrophe. Economic policymakers are accustomed to managing various forms of risk, such as trade imbalances, exchange rate movements, and changes in market interest rates. There are also risks that are not strictly economic in origin. Armed conflict represents one such example; natural disasters are another. We can think about the economic disruption caused by outbreaks and epidemics along these same lines. As with other forms of risk, the economic risk of health shocks can be managed with policies that reduce their likelihood and that position countries to respond swiftly when they do occur. Although the economic consequences of epidemic outbreaks to affected areas are often well documented, little is known about how these might carry over into the economies of unaffected regions. In the absence of direct pathogen transmission, global trade is one mechanism through which geographically distant epidemics could reverberate to unaffected countries [14]. This study explores the link between global public health events and U.S. economic outcomes by evaluating the role of the 2014 West Africa Ebola outbreak in U.S. exports and exports-supported U.S. jobs, 2005-2016. Estimates were obtained using difference-in-differences models where sub-Saharan Africa countries were assigned to treatment and comparison groups based on their Ebola transmission status, with controls for observed and unobserved time-variant factors that may independently influence trends in trade. Multiple model specification checks were performed to ensure analytic robustness. The year of peak transmission, 2014, was estimated to result in \$1.08 billion relative reduction in U.S. merchandise exports to Ebola-affected countries, whereas estimated losses in exports-supported U.S. jobs exceeded 1,200 in 2014 and 11,000 in 2015. These findings suggest that remote disruptions in health security might play a role in U.S. economic indicators, demonstrating the interconnectedness between global health and aspects of the global economy and informing the relevance of health security efforts. Many analyses compare the current epidemic with the 2002-2003 SARS epidemic, which created just a blip in the global financial markets [15]. This comparison is dangerous because the relative importance of China in the worldwide economic ecosystem has increased tremendously in the past 18 years: China has more than doubled its share of trade with the rest of the world between the SARS epidemic and today, and many more industries are now heavily dependent on China. The SARS epidemic started in the Guangdong province in 2002 and led to 8,000 cases in 2003. During that year, the GDP of China represented 4.31% of the world GDP. By contrast, the number of detected cases of Covid-19 has already passed 80,000 and China represents about 16% of the world GDP, an almost four-fold increase. The ongoing COVID-19 outbreak affects China and other developing Asian economies through numerous channels, including sharp decline in domestic demand, lower tourism and business travel, trade and production linkages, supply disruptions and health effects [16].

In such cases, there will be 2 percentage points decline in China's consumption relative to no-outbreak scenario, China's investment relative to no-outbreak scenario and decline in selected developing economies' domestic consumption. Reports on how the Covid-19 outbreak is affecting supply chains and disrupting manufacturing operations around the world are increasing daily. But the worst is yet to come. We predict that the peak of the impact of Covid-19 on global supply chains will occur in mid-March, forcing thousands of companies to throttle down or temporarily shut assembly and manufacturing plants in the U.S. and Europe [15]. The most vulnerable companies are those which rely heavily or solely on factories in China for parts and materials. The activity of Chinese manufacturing plants has fallen in the past month and is expected to remain depressed for months [15]. The challenge is also significant in the high-tech industry. Indeed, on February 17, Apple announced it expected its quarterly earnings to be lower than previously expected. The company refers to two challenges, a constrained global supply of iPhones and significant drop in demand in Chinese markets. During times of global economic downturn, natural disaster and pandemic, remittances can be an especially important lifeline to people in developing countries to purchase food, services and medical care [17].

Various variables are identified on the impact of Pandemic on global economy has been designed on the basis of the prior research:

Authors/Organizations/Newspapers/Websites	Indicators/Variables/Dimensions
Bloom et al. (2018)	Health System, Unemployment, Productivity, Commercial Establishments, Transportation, and Public Services.
Fan et al. (2018)	GDP Growth and Foreign Direct Investment
Kostova et al. (2019)	Production, GDP, Balance of Trade.
(Ahani & Nilashi, 2020)	Supply Chain, Travelling, Export-Import, Manufacturing and Service Sector.
Haren & Simchi-Levi, 2020	Supply Chain, Manufacturing Operations and High-tech Industry.
Orlik t al., 2020 Organization for Economic Cooperation and Development (OECD), 2020	GDP, Balance of Trade, Foreign Direct Investment, Supply Chain and Financial Markets.
Harvard Business Review [2020]	Supply Chain Disruption, GDP, Manufacturing Disruption, Financial Markets Blipping.
World Economic Forum [WEF], 2020 Trading Economics [TE], 2020 Credit Union National Association (CUNA), 2020	GDP, Unemployment, Foreign Direct Investment and Remittance.
World Trade Organization (WTO), 2020 Asian Development Bank (ADB), 2020	GDP, Manufacturing, Export, Import, Supply, Interest
Trading Economics (TE), 2020	GDP Growth Rate, Interest Rate, Inflation Rate, Unemployment Rate, Balance of Trade, Credit Rating and Remittance.
Daily Star, 8th March, 2020	Domestic Demand, Tourism and Business Travel, Trade and Production Linkages, Supply Disruptions and Health Effects.

From those identified variables some important factors are selected on the basis of current impact, availability of data and priority given by the experts and economists. Those are- Supply chain disruption, Foreign Direct Investment, changes in GDP trends, unemployment rate, balance of trade and remittance.

4. RESEARCH METHODOLOGY

This paper contains various aspects of Coronavirus and its economic impacts by reviewing existing literature and information. The data used for this research is secondary type. Different studies on COVID-19 are collected from different important and relevant websites, journals, newspapers, magazines etc. Both theoretical and empirical articles were taken into concern. Crucial discussions were made on the basis of the results. Supply chain disruption, Foreign Direct Investment, quarterly gross domestic product (GDP) growth rate, monthly balance of trade (in Billion USD), monthly unemployment rate and remittances (in Million USD) of the corona affected countries those have at least one thousand affected cases on 22nd March, 2020 has been analyzed. 'R' is an integrated suite of software facilities for data manipulation, calculation and graphical display. 3.5.1 Version of 'R' is used for analyzing collected data. Line graphs are used to depict the changes or trend of variables over a period of time. The time

period is placed in the X axis (horizontal axis) and the variable value is placed in Y axis (vertical axis). The variable must be quantitative type. The trend is shown by connecting the data points using lines.

5. ANALYSIS AND FINDINGS

5.1 Supply Chain and Foreign Direct Investment (FDI) Disruption

The emergence of global supply chains exposes economies to risks that go beyond their territorial borders. Beyond natural hazards and man-made disasters, the world is unprepared to handle epidemic outbreaks such as the COVID-19 outbreak [18]. Reports on how the Covid-19 outbreak is affecting supply chains and disrupting manufacturing operations around the world are increasing daily. But the worst is yet to come. We predict that the peak of the impact of Covid-19 on global supply chains will occur in mid-March, forcing thousands of companies to throttle down or temporarily shut assembly and manufacturing plants in the U.S. and Europe [15]. The most vulnerable companies are those which rely heavily or solely on factories in China for parts and materials. The activity of Chinese manufacturing plants has fallen in the past month and is expected to remain depressed for months. A new United Nations Conference on Trade and Development (UNCTAD) analysis of how the coronavirus pandemic will affect global foreign direct investment (FDI) prospects shows that the negative impact will be worse than previously projected on 8 March 9 [19]. Updated estimates of COVID-19's economic impact and revisions of earnings of the largest multinational enterprises (MNEs) now suggest that the downward pressure on FDI flows could range from -30% to -40% during 2020-2021, much more than previous projections of -5% to -15%. Since then, 61% of the top 100 MNEs that UNCTAD tracks have issued earnings revisions that confirm the rapid deterioration of global prospects. And 57% have warned of the global demand shock's impact on sales, showing that COVID-19 is causing problems beyond supply chain disruptions after a production slowdown in parts of China. In addition, the top 5,000 MNEs, which account for a significant share of global FDI, have now seen downward revisions of 30% on average for 2020 earnings estimates. And the trend is likely to continue.

5.2 Gross Domestic Product (GDP)

The economic fallout could include recessions in the U.S., euro-area and Japan, the slowest growth on record in China, and a total of \$2.7 trillion in lost output—equivalent to the entire GDP of the U.K. The OECD cut its expectation for global growth to 2.4% from 2.9%, and warned that it could fall as low as 1.5%. Goldman Sachs expects a global contraction in the first half of the year [2]. Recent forecasts for first-quarter GDP growth in China range from 5.8% all the way down to -0.5%, underscoring the high degree of uncertainty. Policy research predating the coronavirus outbreak suggests there's a downside risk to even the most pessimistic of these forecasts. A 2006 paper by the World Bank put the potential cost of a severe flu pandemic at 4.8% of global GDP—a tailspin that would rival that seen in 2009 after the financial crisis.

Table-5.1 Change in GDP Growth Rate (%) of 1000+ Corona Affected Cases Countries

Countries	July-September (2019)	October – December (2019)	January-March (2020)
China	+1.40	+1.50	-1.80
Italy	+0.06	-0.30	-2.80
Spain	+0.41	+0.53	-2.20
Germany	+0.20	+0.03	-0.30
USA	+0.52	+0.52	+0.18
France	+0.26	-0.05	-0.20
S. Korea	+0.41	+1.26	+0.50
Switzerland	+0.42	+0.31	+0.40
UK	+0.49	+0.02	+0.02
Netherland	+0.42	+0.37	+0.03
Austria	+0.16	+0.23	+0.03
Belgium	+0.44	+0.40	+0.02
Norway	+1.58	+0.02	+0.04
Sweden	+0.37	+0.16	+0.04
Denmark	+0.51	+0.19	+0.40
Canada	+0.28	+0.09	+0.02
Malaysia	+0.60	0.60	+1.30
Australia	+0.55	+0.53	-0.30
Japan	+0.03	-1.81	-1.20

Source: OECD [20], Trading Economics [21]

The fig.-5.1 and table-5.1 reveals that, the GDP growth rate is decreasing in most of the countries. In China, Italy, Spain, USA, Netherland, Belgium and Australia, the GDP growth rate is not significantly changed in the July-

September, but start decreasing from October 2019 to March 2020. So for Corona outbreak, the GDP growth rate is decreasing in these countries. In the Germany, France, Sweden and Canada, the GDP growth rate is significantly decreased from the July-September, 2019 to October – December, 2019 and also start to significantly decrease from October – December, 2019 to January-March 2020. So for Corona infection in these countries, the GDP growth rate is decreasing. South Korea, Austria, the GDP growth rate is increased from the July-September, 2019 to October – December, 2019 when the Covid-19 was not global pandemic but start to significantly decrease from October – December, 2019 to January-March 2020. So with the intensity of Covid-19, GDP growth rates are decreased in these countries. In Switzerland, Denmark and Japan, the GDP growth rate is decreased from the July-September, 2019 to October – December, 2019 but very fortunately start to increase significantly from October – December, 2019 to January-March 2020.

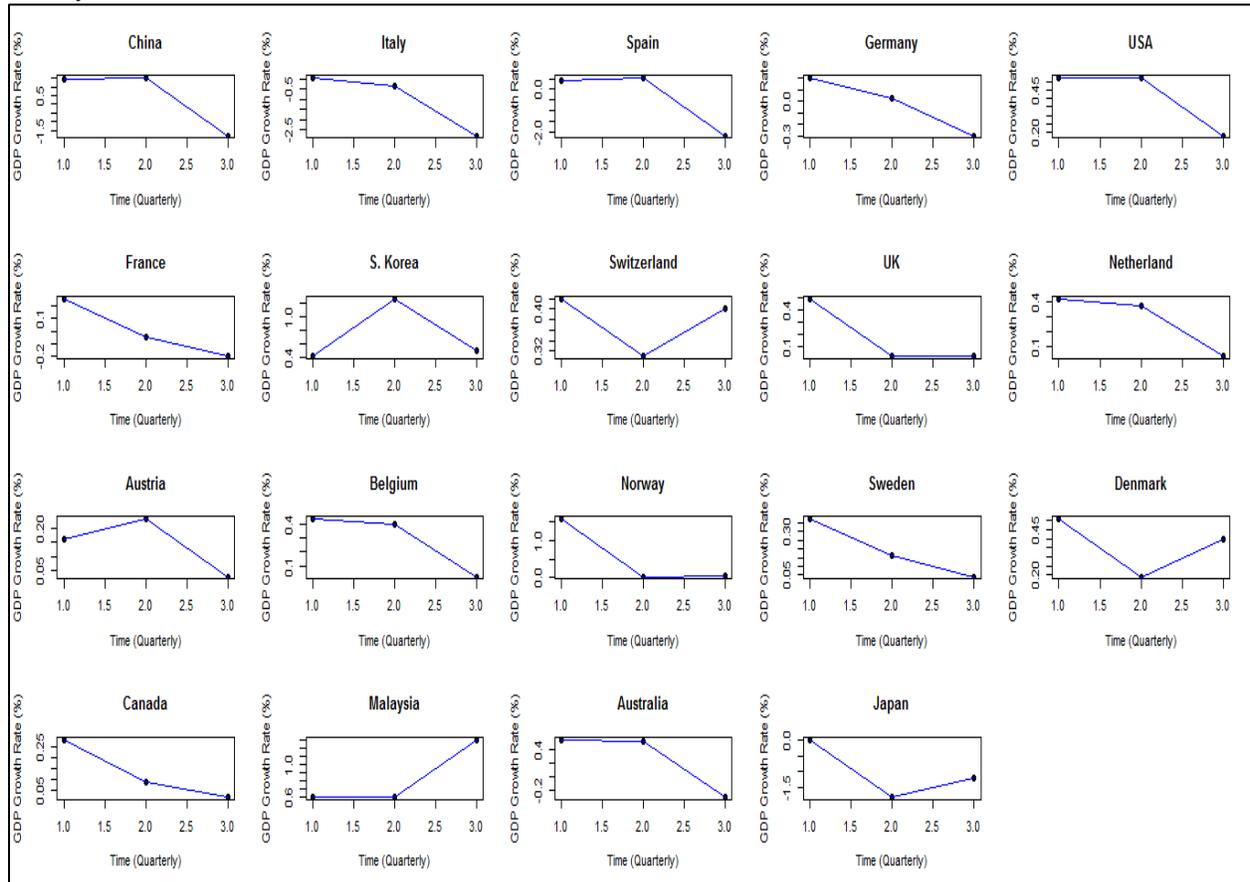


Fig. 5.1 Trend of Change in GDP Growth Rate (%) Quarterly

The GDP growth rates were started to decrease from the July-September, 2019 to October – December, 2019 but remain almost constant from October – December, 2019 to January-March 2020 in the Norway and UK. In Malaysia, the GDP growth rate persisted constant from the July-September, 2019 to October – December, 2019 but very fortunately started to increase from October – December, 2019 to January-March 2020. So Malaysia is the only country which GDP growth rate had not affected by the Covid-19 among the countries where had more than one thousand corona affected cases.

5.3 Balance of Trade

Table-5.2 Balance of Trade (in Billion USD) of 1000+ Corona Affected Cases Countries

Countries	October, 2019	November, 2019	December, 2019	January, 2020
China	+42.50	+37.61	+47.21	-35.48
Italy	+80.57	+48.90	+50.00	+5.42
Spain	-3.25	-2.25	-2.60	-4.37
Germany	+26.56	+23.22	+18.96	+17.37

France	-5.92	-6.61	-4.63	-7.36
S. Korea	+5.25	+3.31	+1.98	+0.53
Switzerland	+2.30	+2.20	+1.90	+2.20
UK	-2.10	+4.06	+7.30	+4.88
Netherland	+6.60	+5.00	+5.06	+4.50
Austria	+0.42	-0.28	-0.27	-0.40
Belgium	+2.30	+1.72	+0.80	+0.77
Norway	+15.90	+23.06	+17.38	+16.28
Sweden	-4.00	+2.4	-2.30	+9.90
Denmark	+8.90	+12.90	+5.30	+9.46
Canada	-1.12	-0.48	-0.51	-1.03
Malaysia	+4.00	+1.50	+2.88	+2.75
Australia	+4.02	+5.66	+5.38	+5.21
Japan	+0.16	-0.77	-1.38	-11.82

Source: Trading Economics [22]

Fig.-5.2 and table-5.2 shows that, trade of balance (in Billion USD) in the Germany, South Korea, Belgium, and Japan are decreasing from October, 2019 to January, 2020 for Covid-19 infections. But in China, Italy, Netherland, France, Malaysia and Austria, trade of balance were started to decrease from October, 2019 to November, 2019 but suddenly started to increase from November, 2019 to December, 2019 then again started to decrease the trade of balance from December, 2019 to January, 2020 for Covid-19 infections. In the Spain, Norway, Canada and Australia, trade of balance were started to increase from October, 2019 to November, 2019 when Covid-19 was not pandemic but started to decrease from November, 2019 to January, 2020 when Covid-19 were getting acute. In the Sweden and Denmark, trade of balance were started to increase from October, 2019 to November, 2019 but started to decrease from November, 2019 to December, 2019 and also started to increase fortunately from December, 2019 to January, 2020. In the Switzerland, the balance trade was started to decrease from October, 2019 to December, 2019 but fortunately started to increase from December, 2019 to January, 2020 when the Covid-19 is getting acute. In the UK, the balance trade was started to surge from October, 2019 to December, 2019 when the Covid-19 was not so acute but started to decline from December, 2019 to January, 2020 when the Covid-19 is getting desperate.

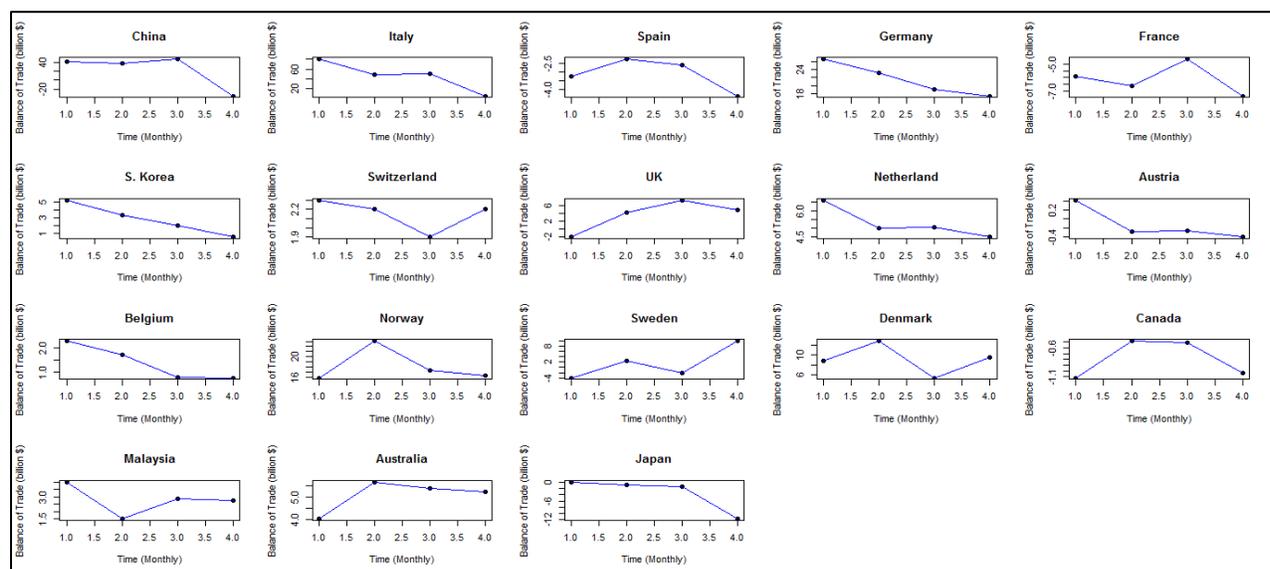


Fig. 5.2 Trend of Trade of balance (in Billion \$) Monthly (October, 2019; November, 2019; December, 2019; January, 2020)

5.4 Unemployment Rate

COVID-19 could see unemployment rise to levels higher than the Great Depression, with GDP falling by 50%. James Bullard, president of the St. Louis branch of the US Federal Reserve Bank predicted the unemployment rate will reach 30% in the second quarter [23]. The Labor Department reported that 281,000 Americans filed for unemployment last week, a sharp increase of 70,000 from the prior week. The unemployment rate in Japan climbed to 2.4 percent in January 2020 from 2.2 percent in the previous month, amid renewed economic weakness and calls for stimulus to combat declining global growth as the coronavirus outbreak intensifies [24].

Table-5.3 Unemployment Rate (%) of 1000+ Corona Affected Cases Countries

Countries	October, 2019	November, 2019	December, 2019	January, 2020	February, 2020
China	3.60	3.60	3.62	3.62	3.65
Italy	9.7	9.7	9.8	9.9	10.0
Spain	14.45	13.92	13.80	13.90	13.90
Germany	3.2	3.2	5.0	5.0	5.5
USA	3.4	3.5	3.5	3.6	3.6
France	8.7	8.5	8.6	8.5	8.5
S. Korea	3.5	3.6	3.8	4.0	4.2
Switzerland	2.2	2.3	2.5	2.6	2.6
UK	3.8	3.8	3.9	3.9	4.0
Netherland	3.5	3.2	3.0	3.0	3.0
Austria	7.0	7.3	8.5	8.7	9.0
Belgium	5.1	5.2	5.3	5.3	5.5
Norway	3.8	3.9	4.0	4.0	4.0
Sweden	6.0	6.8	7.5	8.2	8.3
Denmark	3.7	3.7	3.8	3.8	3.8
Canada	5.5	5.9	5.6	5.6	5.8
Malaysia	3.2	3.3	3.2	3.3	3.3
Australia	5.1	5.2	5.3	5.3	5.4
Japan	2.4	2.2	2.2	2.4	2.4

Source: Trading Economics [24].

Figure-3 and table-4 reveals that, unemployment rate (in percent) in the China, Germany and UK stayed constant from the October, 2019 to November, 2019 but started to increase from November, 2019 to December, 2019 then again stayed constant from December, 2019 to January, 2020 and again started to increase from January, 2020 to February, 2020 when Covid-19 was getting acute. In the South Korea, Austria, Sweden and Italy, unemployment rate were started to increase from October, 2019 to February, 2020 (unemployment rate was fixed in Italy from October, 2019 to November, 2019) when Covid-19 was increasing around the world. In the Spain, France, Netherland and Japan, unemployment rates were started to decrease from October, 2019 to November, 2019 then also start to decrease in Spain and Netherland but started to increase in France and remained constant in Japan from November, 2019 to December, 2019. In the USA, Switzerland, Norway and Malaysia, unemployment rates were started to increase from October, 2019 to November, 2019 then the rate was constant in USA, decreased in Malaysia, increased in Switzerland and Norway from November, 2019 to December, 2019 then in Norway, the rate was constant and started to increase in the others countries from December, 2019 to January, 2020. From January, 2020 to February, 2020, unemployment rate were stayed constant in these countries which is a good sign compare to others when Covid-19 was getting severe. In the Belgium, Canada and Australia, the unemployment rate were increased from October, 2019 to November, 2019 then again started to increase except Canada from November, 2019 to December, 2019 but stayed constant from December, 2019 to January, 2020. From January, 2020 to February, 2020, unemployment rates were started to increase in these countries when Covid-19 were getting serious in these countries. In Denmark, unemployment rates were increasing over the months except from December, 2019 to January, 2020.

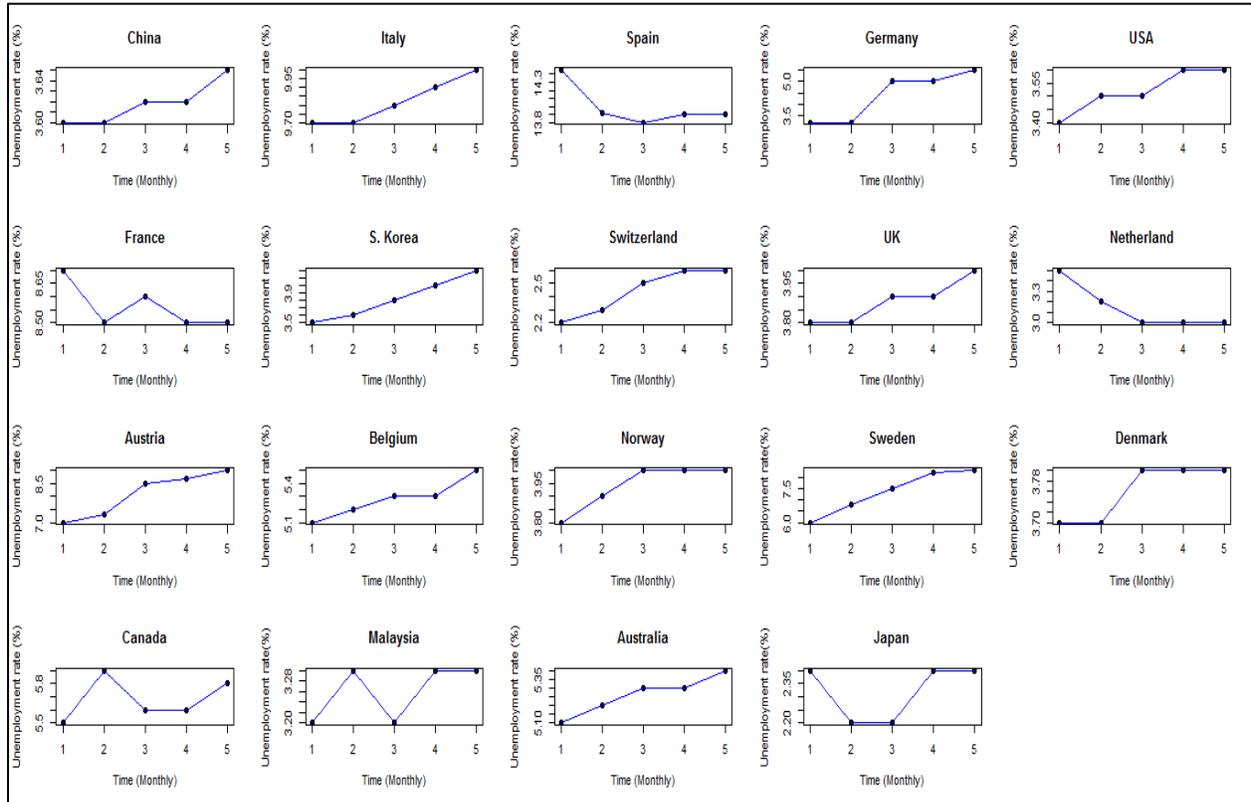


Fig. 5.3 Trend of Unemployment Rate (%) Monthly (October, 2019; November, 2019; December, 2019; January, 2020; February, 2020)

5.5 Remittance

Table-5.4 Remittances (in Million USD) of 1000+ Corona Affected Cases Countries

Countries	October, 2019	November, 2019	December, 2019	January, 2020	February, 2020
China	1.30	1.28	1.71	1.75	1.54
Italy	69.86	70.21	82.78	73.04	56.84
Spain	6.21	4.14	4.98	3.71	3.10
Germany	4.21	4.96	5.53	5.52	3.65
USA	204.84	199.08	207.58	223.18	207.69
France	18.06	14.11	16.38	16.05	12.64
S. Korea	20.74	16.09	21.12	17.37	11.47
UK	141.20	123.11	133.14	140.00	111.49
Netherland	40.93	42.98	41.0	40.06	39.80
Austria	79.09	80.01	61.57	60.48	54.50
Belgium	1.82	1.25	1.46	1.13	0.55
Sweden	2.32	1.80	2.25	1.63	1.36
Canada	8.06	5.11	6.38	5.91	5.61
Malaysia	98.69	111.99	113.34	121.13	105.36
Australia	5.22	5.15	6.42	6.17	3.98
Japan	3.56	3.27	5.53	3.92	3.04

Source: Bangladesh Bank [25]

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Fig-5.3 and Table-5.3 reveals that, remittances (in Million USD) in the Germany, Netherland, Austria and Malaysia were increasing from October, 2019 to December, 2019 except Netherland and Austria where started to decrease from November, 2019 to February, 2020. In the Germany, remittance was stayed constant from December, 2019 to January, 2020 then decreased from January, 2020 to February, 2020 but remittances was increased from December, 2019 to January, 2020 then decreased from January, 2020 to February, 2020 in Malaysia when the Covid-19 were getting pandemic. In the Spain, South Korea, France, Belgium, Sweden, Canada, Italy, Australia and Japan, remittances were decreasing from October, 2019 to November, 2019 then started to increase from November, 2019 to December, 2019 and started decreasing from December, 2019 to February, 2020 when Covid-19 was going to be pandemic. In the China, USA and UK, the remittances were decreasing from October, 2019 to November, 2019 then started increasing from November, 2019 to January, 2020 and then started decreasing from January, 2020 to February, 2020 when Covid-19 was out-breaking around the world.

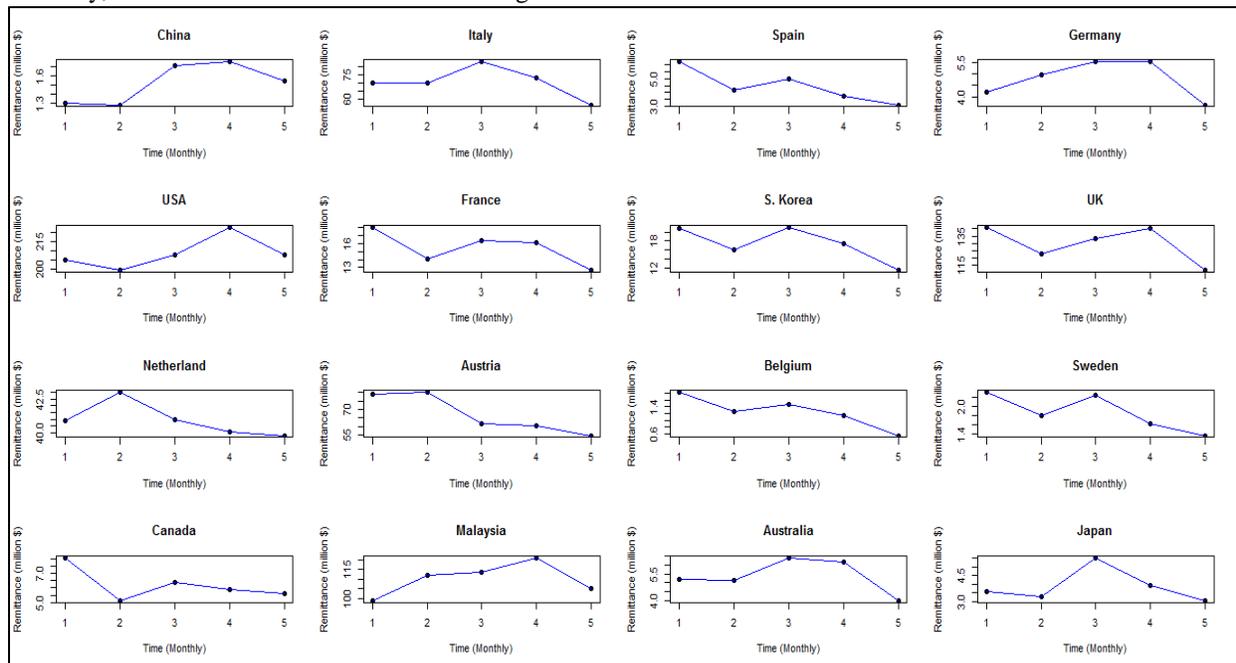


Fig. 5.4 Trend of Remittances (in Million USD) Monthly (October, 2019; November, 2019; December, 2019; January, 2020; February, 2020)

6. DISCUSSION AND IMPLICATIONS

In this study, we try to explore the impact of COVID-19 outbreak in the global economy. The result provides evidence that coronavirus has a great impact in the very special indicators of economy as like GDP growth, supply chain, international business and investment, remittance and employment. That means the measures (Lockdown, Quarantine etc.) taken by the governments of the affected countries are hampering the easy accomplishment of economic activities. Supply chain can cut the operating costs, improve financial positions, maximize customer value, maintain effective coordination, and maximize competitive advantage for the companies. Balance of trade and FDI are most important indicators of economy of a country. They indicate how a country competes in the international market and determines the health of the economy and its relationship with the rest of the world. On the other hand, remittances in the world represent one of major international financial resources, which sometimes they exceed the flows of foreign direct investment (FDI). For centuries, there have been heated debates on the sources of economic growth in developing economies. The findings of this research has shown that as procurement teams struggle to cope with the Covid-19 global pandemic, most have been trying to keep up with the news about global response measures and have been working diligently to secure raw materials and components and protect supply lines. However, vital information is often not available or accessible across their global teams. As a result, their response to the disruption has been reactive and uncoordinated, and the impact of the crisis is hitting many of their companies' full force. Tourism related industries such as transportation and hospitality have been hit particularly hard. Results also revealed that balance of trade of the countries is decreasing from the early month of this year and 30% to 40% foreign investment has been decreased. World Economic Forum predicts that more than 3 million people of the United States are going to lose their job only on account of this outbreak. Table-3 is exhibiting clearly that unemployment rate of the countries is increasing day by day. GDP is important because it gives information about the size of the economy and how an economy is performing. The growth rate of real GDP is often used as an



indicator of the general health of the economy. The findings of this research revealed that the GDP growth of each country is remarkably decreasing from the last quarter of the last year.

The study has some implications. *Firstly*, this study provides existing evidence on the impact of Coronavirus outbreak on the global economy. *Secondly*, this study will help to assume a clear picture about upcoming economic condition of the globe. *Thirdly*, the present study advised the governments of the countries, policy maker, organizations, companies and concerned stakeholders to focus on key variables that are affecting the global economy. Finally, the investigation and findings of this study will help the future researcher in the field of Coronavirus outbreak.

7. RECOMMENDATIONS AND DIRECTION FOR THE FURTHER RESEARCH

It is assuming that this crisis will change the idea of globalization. For example, even two months ago, restrictions on the borders of the Schengen region (EU countries) would not have been considered and now it's a reality. Infectious disease has disrupted production and demand around the world. Countries should adjust their policies to macroeconomics. In order for the global economy to fall into recession, countries must take concerted initiatives on collective policies. Policy makers need to implement strong and effective monetary policies to keep currency exchange rates stable. Every country has to keep global production and supply systems stable. China can increase its supply of pharmaceuticals, essential products, infectious drugs and other supplies to the international market. International business alliances, organizations and forums need to set a working plan and establish a means of rapid communication and institutional structure for coordination with the anti-infective collective policy. As all have to face challenges and everyone should take action fast. Mutual cooperation is mandatory to fight against this dangerous crisis. All affected countries can exchange their experiences regarding all types of clinical data and quarantines to prevent transmission of the disease. They will also assist each other in vaccine production. Besides, they should help those countries whose health systems are weak. At the same time, underdeveloped countries and poor countries need to be linked to financial stability, to reduce the negative impact of this pandemic on the global economy; countries need to continue the necessary economic transactions. Now, we have to cooperate with each other, exchange experiences and experts. The government of every country is doing everything possible to protect their business and employment. So at this moment it is important to keep continue the stock market. National capability must be reduced to reduce dependence on others. Strong reassurance of dependence on supply chain and safe movement of people is also needed. The question of internationalism will come out more realistically. This epidemic gives us evidence of our dependence on one another, not on globalization and it emphasizes cooperation between us.

This study was conducted on only impacts of coronavirus on global economy. Potential researchers can widen the scope of the study firstly, by taking data from every country and can investigate the regional situation. Research can also be conducted by to research for developing countries to take the lessons from developed countries in previous crisis. Moreover Secondly, research can also be done to find out the effective measures to be taken for tackling this depressive situation. Finally, another study is recommended to how economy can prepare themselves for upcoming disasters.

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pg. 18

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