THE ECONOMIC JOURNAL OF NEPAL, VOL. 44, No. 3 & 4, July-Dec. 2021, (Issue No. 156) © CEDECON-TU
DOI: https://doi.org/10.3126/ejon.v44i3-4.55070

A South Korean Experience in COVID-19 Management: Impact and Policy Responses

Uma Shankar Prasad[1], Krishna Raj Panta[2]

Abstract

COVID-19 pandemic has created the greatest economic crisis since the second world war. The main objective of this article is to analyse the impact of COVID-19 in the economy of South Korea. The article also looks at the various economic packages introduced by the government of South Korea to protect the people particularly low-income families, informal-sector employees, part-timers, women, and the disabled. The article concludes that the country's response tools and strategies in containing COVID-19 have been exemplary in the global community. The economic packages have been successful in creating jobs, boosting consumption, and promoting investment. The modality of proper and effective cooperation and coordination among the levels of government and between the public and private sector played the vital role.

Keywords: *Pandemic, Fiscal Policy, Trade, ICT, Employment.*
JEL Classification: *I18, E62, F13, L86, E24.*

Introduction

The spread of the COVID-19 outbreak has emerged as a great and unprecedented health as well as aneconomic crisisin the world, leading to the greatest economic recession since World War - II. Since the first case identified in Wuhan China, it has expanded its span worldwide with economic, social, and political impacts. As of 31st August, 2020, about 25.6 million people worldwide got infected by the outbreak leading to the death of more than 859 thousands. About 6.9 million are under observation and treatment[3]. Till date, 69.8 percent infected persons have recovered, 26.9 are under treatment and 3.3 percent have deceased. Among the currently infected patients, about 0.9 percent are in critical condition.

[1]**Dr. Prasad** is an Associate Professor at the Central Department of Economics, Tribhuvan University, Kathmandu, Nepal. Email: umashankarceda@gmail.com; ORCID: https://orcid.org/0009-0006-9069-5599

[2]**Dr. Panta** is a Chairperson at the National Institute for Research and Development (NIRAD), Kathmandu, Nepal. Email: pantakmr@gmail.com; ORCID: https://orcid.org/0009-0003-2807-698X

[3]https://www.worldometers.info/coronavirus.

According to the World Bank, due to the demand and supply shocks created by pandemic, the global GDP will contract by 5.2 percent in 2020 (World Bank, 2020). There will bea steep contraction of GDP of developed countries, emerging market and developing economies (in the optimistic scenario). However, the global growth could shrink almost 8 percent, if the pandemic persists in the second half of the year with the crisis deepening further (in the downside scenario) (World Bank, 2020). According to OECD, the global GDP will decline by 4.5 percent in 2020 (OECD, 2020), with loss of US $ 4 trillion (upside scenareo) and US $ 11 trillion (downside scenareo). The restriction of travel and disruption of value chains is leading to the sharp contraction in global trade, unprecedented capital outflows from the emerging market and developing economies, depreciation of their currencies, and increasing credit-risk spreads. Likewise, decreasing demand has resulted ina sharp fall in most of the commodity prices (for example in oil prices).

The Republic of Korea, an advanced economy was one of the first countries to beaffected by the COVID-19 outbreak. However, the country has tactfully contained the outbreak and flattened the outbreak curve quickly in the first half of the year. As of 31st August, 2020, more than 1.9 million tests havebeen performed. Out of those testedonly,1.03 percent were found to be positive[4]. Likewise, among the 20,182 confirmed cases, there were 324 cases of death, 4,660 patients were in isolation and 15,198 patients were released from isolation. As of 15th September, The Republic of Korea is in 77th rank regarding the confirmed cases of COVID-19.

The secret of prompt containment of the outbreak in Korea remains the early, speedy and transparent activities of the public-private sector and national organization (CSIS, 2020). The wide use of ICT in each containment activity was the most important reason for the successful control of the pandemic. Though the economic activity continuedamidst the outbreak, the country was also hard hit by the economic impact of the COVID-19 outbreak leading to the contraction in the GDP, drop in trade, loss of employment, etc. The recession in the global market aggravated the situation. To address the impact and to revive the economy, the Korean government introduced six categories of support packages with 30 plus schemes focussing more on the low income families, informal-sector employees, part-timers, women, and the disabled (MoEF, 2020).

Methodology

This study is an analytical study based on secondary data. Data published from various government and non-government organizations are used to analyze the situation. Reports published by the Ministry of Health and Welfare, and the Ministry of Economy and Finance, Republic of Korea are the major sources of statistical information. Apart from this, reports published by the Organization for

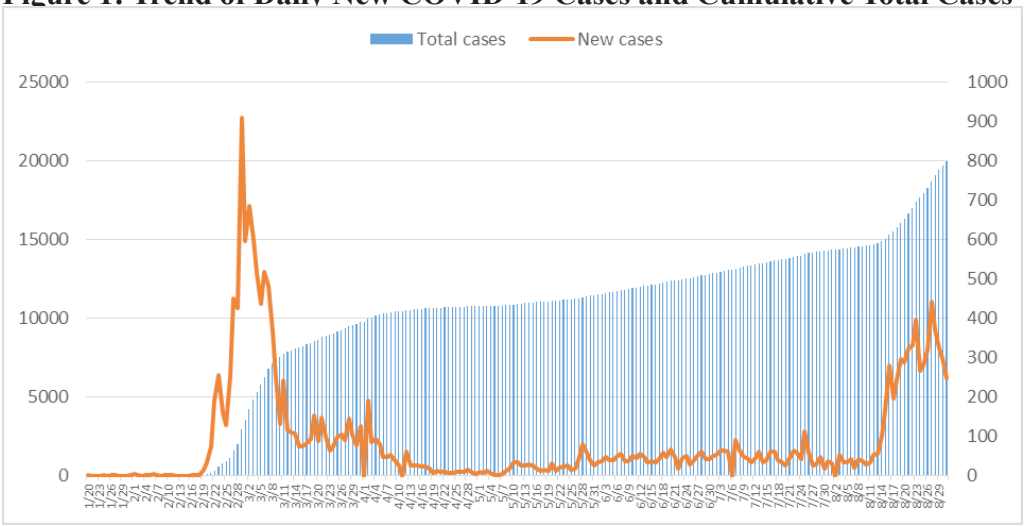
[4]http://ncov.mohw.go.kr/en

Economic Cooperation and Development, the World Bank and UNDP are also taken under consideration.

Spread and Peak of Outbreak

The first COVID-19 case was identified in South Korea on 20th January, 2020. The curve of the outbreak began to mount sharply since the beginning of February and increased exponentially during the last 10 days of the month resulting in the peak (New cases, 909) on the 29th of February (Fig. 1). By early March, it became the second most infected country in the world after China. However, Korea,flattened the curve of the spread of COVID -19 outbreak within three weeks without enforcing harsh and restrictive measuressuch as lockdown. The curve flattened to the extent that since 2nd April, the daily new cases of outbreak remained below 100 and remained at 33 on average for a period of three months (1th April–30th June) and 44 cases on varage for the period of next six weeks. However, as the result of second wave of pandemic, the curve again rose up steaply since the second week of August. Regarding the health care workers, the rate of infection reached 4.42 per 1000 healthcare workers (as of 24th March, 2020) in the most affected Daegu City (Kim, et al, 2020). Dramatically, the country not only contained the virus outbreak but continued economic activities by maintaining quarantine, social distancing, and other health measures simultaneously.

Figure 1: Trend of Daily New COVID-19 Cases and Cumulative Total Cases



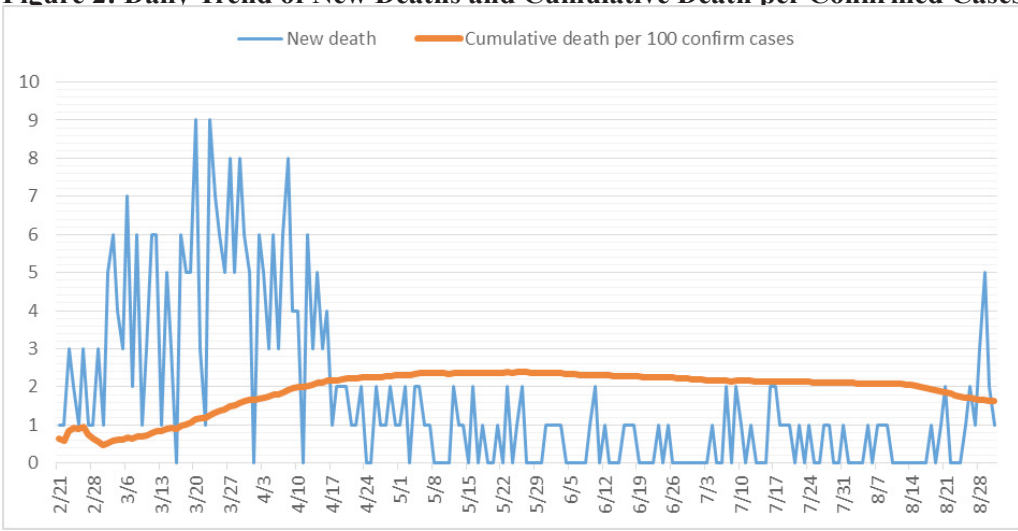
Source: Our World in Data, COVID-19

The first death case was observed in 21th February. The death toll increased sharply from the last week of February, and reached a peak in the 20th and 23rd March leading to the daily death of the 9 persons due to the outbreak. Then,

because of the massive public and private sector efforts to contain the outbreak, the death curve steeply declined in April and flattened since the second week of April leading to a number of days with zero death during the period of June, July and first half of the August. However, the second wave of the pandemic led to rise the death toll in last week of August again.

Among the confirmed cases, about 55 percent were females while the fatality rate was more in male patients (1.91 %) compared to females (1.39 %). Regarding the age-specific infection, though senior citizens (age above 70) had a low share of confirmed cases (about 11 %), the fatality rate was extremely high among them (about 21 percent for age > = 80 and 6.6 percent in age group 70-79)[5]. However, the incidence rate is high (634.7 per million population) in the age of 20-29[6].

Figure 2: Daily Trend of New Deaths and Cumulative Death per Confirmed Cases



Source: MoHW, Republic of Korea http://ncov.mohw.go.kr/en/bdBoardList.do?brdId = 16.

5 Fatality Rate = Number of deceased/ number of confirmed cases X 100. (Data as of 12 a.m. April 27, 2020.

Source: Updates on Covid-19 in Republic of Korea, Press release (1st September, 2020), Korea Center for Disease Control & prevention, Republic of Korea.

6 Incidence rate=Total (cumulative) number of cases reported since January 2020 by sex and age / Population by sex and age (based on resident registration data of the Ministry of the Interior as of January 2020). Source: *ibid*.

Policy Responses to Contain the Virus

South Korean government and people used their capacity, readiness, and knowledge gained from the experience/lessons learned from the previous epidemics, i.e. Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). The key to success to contain the coronavirus outbreak in the country was three-phased preparedness and the rapid response framework: detection, containment, and treatment. Regarding the detection, Korean government established approx. 600 testing centres with the capacity to perform 15000 to 20000 tests[7]. For the containment, government deployed hundreds of epidemiological intelligence officers. The government built temporary hospitals and recruited additional health workers to ramp up the health system as per the demand.

The advanced medical systems and services and the willing compliance of the public with the quick measures arranged by the government led to exemplary achievements in the mission. According to Dr. Jong-Dae Park, the Korean Ambassador to South Africa, 'speed, intensity, transparency, and cooperation' were the four major factors responsible for producing better result in flattening the curve of the COVID-19 outbreak (Investec, 2020). Here, speed indicates the immediate response and information sharing about the pandemic. Intensity specifies the comprehensive and careful actions of the responsible stakeholders, and extensive use of the resources and means. Transparency signifies the openness and credibility of the government, and proactive information sharing mechanism. Lastly, cooperation meant the active public compliance and volunteerism in government actions against the outbreak. In other words, timely development and authorization of an effective diagnostic test, regular dissemination of information, and the necessary flow of public resources, intensified border control and punctilious contact tracing through GPS based mobile apps and the patient questionnaires were the effective policies towards 'flattening the curve' on COVID-19 pandemic (CSIS, 2020).

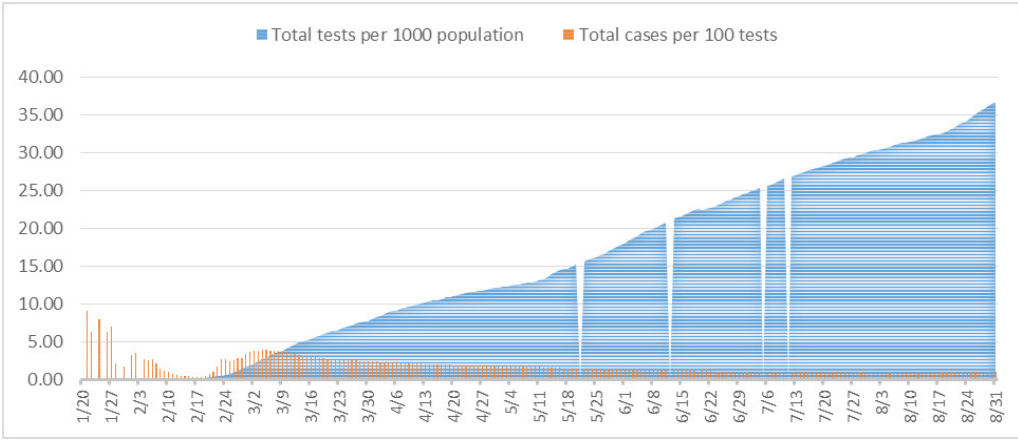
Government used two test measures- 'drive through testing,' and 'walk through testing' to speed up the rapid testing procedure against Coronavirus infection. The spread of tests was steadily increased, since the last week of February and reached more than 36 tests per 1000 population on 31th August (Figure 3). As the tests increased rapidly, the rate of confirmed cases identified declined gradually and remained on single confirmed case per 100 tests (approx.).

The physical distancing with a clear rules and guidelines was another policy effective to flatten the curve of the COVID-19 outbreak in South Korea. The government generated massive awareness to adopt the rules of distancing using posters, ICT and the media broadcastings etc. instead of using the tools of lock down, and ask to conduct their activities as per the rules,. After the second wave

[7]https://ourworldindata.org/covid-exemplar-south-korea.

of the outbreak, the government used the 'Level-2 Social Distancing' in which the people are asked to avoid the non-essential outing and gatherings, use of virtual meetings, work from home, online shopping etc. and focussed on proper use of mask outside the home.

Figure 3: Daily Trend of Total Tests and Total Confirmed Cases Per Test



Source: Our World in Data COVID-19 dataset (https://github.com/owid/covid-19-ata/tree/master/public/)

Coordination of COVID-19 Response

Government of South Korea focused more on the coordinated efforts in containing the spread of COVID-19, i.e. coordination among the levels of government and coordination between the public and private sector. Regarding the health care resource management, the government divided its task as management of health care resources (facilities, staffs, and devices), COVID-19 medicine distribution, and public mask distribution.

The containment policy designed four types of treatment locations for COVID-19 cases: home quarantine, COVID-19 community facilities, COVID-19 protection hospitals, and other primary, secondary, and tertiary hospitals. Identified the treatment locations as per the patient triage: critical, severe, moderate or mild. There were 67 dedicated COVID-19 hospitals (with 7000 beds), more than 600 dedicated COVID-19 emergency centre, and approx. 343 reshaped respiratory care split hospitals (Public relief hospitals) for taking care of COVID-19 patients, especially (Her, 2020). The healthcare units including dedicated hospitals and screening centres were supplied with the necessary facilities, skilled staffs and the devices such as respirator, ECMO, PCR, Facial masks, etc.

There is proper and effective cooperation and coordination among the Central Disease Control Headquarter, Central Disaster and Safety Countermeasure Headquarters, and Local Disaster, and Safety Countermeasure Headquarters in

strengthening the infection control system. The infection control system consists of the functional assignments as entry prevention, response to confirmed cases, early patient detection, treatment of COVID-19 patients, treatment of Non-COVID-19 patients, and resource securing and supports (Ko, 2020). Central Disaster and Safety Countermeasure Headquarter plans and directs the overall responses. Korea Centre for Disease Control and Prevention coordinates the subnational governments, and the specialized hospital on behalf of the central government agencies. The Local Disaster and Safety Countermeasure Headquarters and Local Quarantine Task Force at subnational level governments (City and Province) supports for the response to infectious diseases (Chart-1). The local governments and the private sectors play the vital role with coordinated manner in four-pronged response: testing, tracking, tracing and treating against the COVID -19 infections.

ICT: The Most Powerful Response Tool

The secret of Korea's successful response to COVID-19 pandemic is the use of Information and Communication Technology (ICT) in containing the virus. In combating with COVID-19 outbreak, Korean government used mass of conjunction technologies in dissemination of information about the current scenario and preventive measures, diagnosis and management of the infected persons classifying the health status, and discovery and development of treatments (RoK, 2020). Korean NHI system has adopted high end ICT as 99.9 percent claims are interchanged and 89 percent claims are processed electronically (Ko, 2020). The government extremely used ICT through mobile devices and apps to support early testing and contract tracing. Likewise, the government provided information on the testing results and other latest information on the outbreak through national and local government websites and through the text alerts via smartphone apps flagged infection hotspots.

ICT: Major Tool for Social Distancing

Social distancing was a key factor in controlling the spread of COVID-19 pandemic in South Korea. According to an analysis by Korea Institute of Science and Technology (KIST), the daily new confirmed cases would have mounted up to maximum 4000, if the social distancing measure has not adopted. The government used ICT to enhance social distancing through the dissemination of emergency alerts via emergency broadcasting services such as Cellular Broadcasting Service (CBS) informing the public to keep distance from the confirmed patients. Likewise, applied ICT education through online classes, and remote Medicare such as telemedicine services to confirmed COVID-19 patients, telemedicine using apps, etc., has been proved more effective for conducting the service activities by following the social distancing measures.

Application of the ICT in predictive research on the spread of outbreak, i.e. forecast of macroscopic spread and the effectiveness of the response measures

has been observed as an effective means to maintain social distancing and for other measures of containment of the outbreak. In addition, creation and use of the apps on COVID-19, such as, 'Coronavirus Map' app, 'Now and Here' app, Cobaek app etc. to trace the path of coronavirus patient, to check the availability of the masks, to locate the nearer treatment centres, etc. was also observed significant.

ICT: Key Facilitator of the Speedy Test

In South Korea, ICT has been used along with Artificial Intelligence (AI) and high –performance computer technology to develop a COVID-19 diagnostic kit, RT-PCR reagents, etc. which are applied for COVID-19 testing. The government authorized the five different diagnostic companies to develop and produce kits quickly in mass-scale leading to the adequate supply of such diagnostic tools in the country since the early stages of the outbreak. The application of AI-based patient examination method through a quick and large-scale data based analysis enabled the quick and more accurate investigation and decision-making regarding the diagnosis and screening of the patients. Similarly, it also eased the appropriate response measures as per the spread of the outbreak, taking a few seconds or minutes time in some cases (RoK, 2020).

ICT: Vital Means for Quick Tracing of COVID - 19

The Korean government has developed and used extensively user-friendly self-diagnostic mobile apps to monitor the symptoms of inbound travellers as well as to provide them necessary advices that prevented the spread of the pandemic effectively (RoK, 2020). Likewise, developing and using self–quarantine Safety App eased the monitoring of the person under the self-quarantine. The Korean government has developed a data based Epidemiological Investigation (contact tracing) consisting of the stages: investigation, exposure risk assessment, contact classification, and contact management.

ICT: Effective Device to Ease the COVID-19 Treatment

AI can analyse the large data set and make presumptions regarding the virus and other medical issues. Hence, it is expected to minimize the time to develop the necessary medicines. Through this ICT made the COVID-19 treatment easier in the South Korean context.

ICT: Crucial Player for Flattening the Curve

As summarized above, ICT through the role in social distancing, speedy testing, quick tracing, and facilitation of medical treatments against the COVID -19 has eased to 'flatten the curve' on the outbreak in South Korea. Comprehensive data and key information on the tests performed, confirmed cases, quarantined and isolated cases, and the regular government briefings and instructions are

made available for the public on the government website on COVID -19[8]. Online sales of agricultural and marine products enabled to link both demand and supply chain through a regular distribution network and freed the Korean people from panic buying. It was possible through the transparent and accurate delivery of information, well-developed online delivery system, and high-level and trustworthy medical and testing environment through the extensive use of the ICT.

Economic Impact

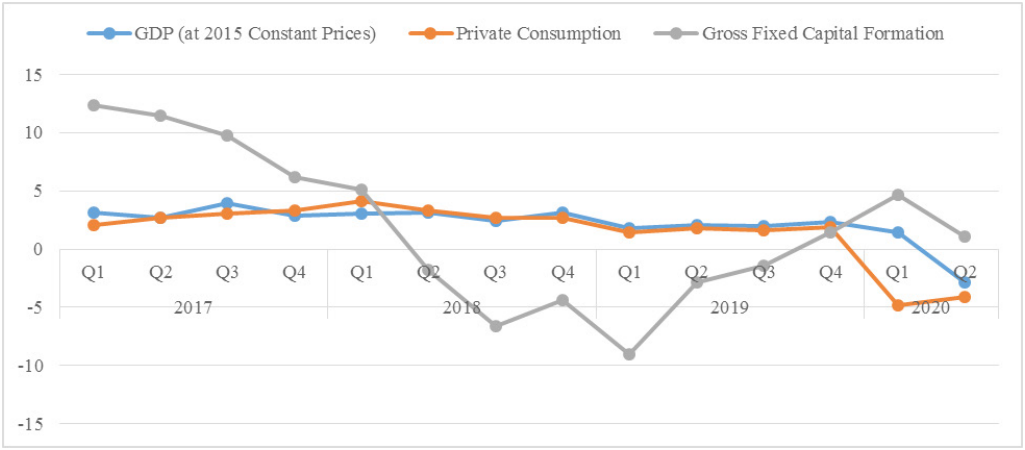
The Republic of Korea is the 12th largest economy in the world with the nominal GDP of 1,642.40 billion US $ (World Bank, 2020). As a highly developed country, it is the 11th largest worldwide in terms of gross national income (GNI) valued at 1,743.71 billion US $ and 26th largest regarding GNI per capita ($ 33720). The contribution of the service and industrial sector in output in 2019 was around 89 percent, i.e., 56 percent and 33 percent of service and industry, respectively. However, the economy of the country fall to the lowest since the Asian Financial Crisis-1998. As like as other countries of the globe, the economy struggled hard with the COVID-19 shocks in the first half of the year 2020. The global economic crisis led by both demand and supply shocks hard hit the Korean economy as well. The output declined sharply along with the sharp drop in both retail and international trade, loss of employment, etc. However, due to the effective fiscal stimulus packages and reconciling monetary policy, the country is expected to recover in the rest half period of the year through flattening the curve on the outbreak. This section summarises the major economic trends and economic outlook of the Republic of Korea with the lens of COVID -19 impact.

Major Economic Trend

Republic of Korea has experienced slowed down in both external and internal sectors of the economy due to the COVID-19 crisis. Figure 4 shows that Korea's real gross domestic product (GDP) fell to 1.4 percent and - 2.9 percent in the first and second quarter respectively in 2020 as compared to the same period of the previous year. The private consumption in the first quarter of 2020 fell 6.5 percent from the previous quarter and 4.8 percent compared with a year ago. However, the increasing trend of gross fixed capital formation as compared to the previous year (4.7 percent in the first quarter of 2020) has dropped in the second quarter to 1.1 percent. On the expenditure side, private consumption dropped to - 4.8 percent (year-on-year) in the first quarter of 2020. Government spending rose 1.4 percent (MoEF, 2020).

[8]https://ncov.mohw.go.kr/en.

Figure 4: Impact on GDP, Consumption, and Capital Formation *(y-o-y change, %)*



Source: Economic Bulletin. Vol. 42 No. 6, MoEF, EIECe, the RoK, June 2020.

The impact of COVID-19 can be observed in key other economic variables as well due to low confidence and weak global market. External trade has decreased significantly, i.e., export dropped sharply by 25.5 percent and 23.7 percent in April and May respectively as compared to the same period of the previous year (Table 1). Current account balance turned to deficit in April but retained to surplus in May of 2020. Industrial production fell both in April and May 2020. The industrial production dropped sharply by 9.6 percent in the month comprised by the sharp decline in manufacturing (- 9.8%) and service (- 4.0%) output. Retail trade index turned to negative in the first quarter and April of the current year. Consumer price inflation increased in the first quarter and decreased in April and May. The unemployment rate rose in all age groups by 0.5 percent point in May to 4.5 percent. The number of workers on the payroll in May 2020 dropped by 392,000 in comparison of the previous year and the employment rate (aged 15-64) declined by 1.3 percent in the same period (MoEF, 2020). By industry, manufacturing jobs continued to decline. Service job losses dropped somewhat. By employment status, temporary and day labour jobs and self-employed businesses hard-hit possessing the continuous fall (MoEF, 2020).

Regarding the financial markets, the stock market hard hit in March with the sharp drop in stock prices has been bouncing back slowly from April with a continuous increasing trend period (MoEF, 2020). The exchange rate rose in since February amidst the COVID -19 outbreak and the drop in the international oil prices and is continuously growing in the months later. Bond market is continuously falling in these periods due to base rate cut by the FED and BoK. Real estate market is soaring up due to the rise in both land and housing prices.

The scenario signifies the continued adverse impact in the economy amidst the response measures taken by the government. However, the situation in some sectors possess slight improvement in the situation in the later period. This reflects

that the Korean economy is still in the effect of global economic shocks, though the government has adopted certain effective policy to revive its economy.

Table 1: Impact on Key Economic Sectors / Variables

Indicator	Unit	2019					2020		
		Annual	Q1	Q2	Apr	May	Q1	Apr[1]	May[1]
Exports	Year-on-Year % change)	- 10.4	- 8.5	- 8.7	-2.1	- 9.8	-1.7	-25.5	- 23.7
Imports	Year-on-Year % change)	-6.0	-6.5	-3.3	3.1	-1.9	-1.4	-15.8	- 21.1
Current Account Balance	Billion US $	59.97	12.19	10.45	- 0.4	5.18	13.33	-3.33	2.29
Financial Account Balance	Billion US $	60.95	121.1	115.2	0.67	4.91	13.82	- 6.32	3.24
Industrial Production	Year-on-Year % change)	- 0.1	- 2.4	- 0.3	0.4	0.7	5.1	- 5.1	- 9.6
Manufacturing Output	Year-on-Year % change)	0.1	- 2.2		0.1	0.5	5.5	- 5.1	- 9.8
Service Output	Year-on-Year % change)	1.4	0.9	0.3	1.5	2.2	-1.1	- 6.1	- 4.0
Retail Sales Index	Year-on-Year % change)	2.4	1.6	2.0	1.4	3.4	- 2.9	- 2.2	1.7
Consumer Price Inflation	Year-on-Year % change)	0.4	0.6	0.7	0.6	0.7	1.2	0.1	- 0.3
Core Inflation	Year-on-Year % change)	0.9	1.1	0.9	0.9	0.8	0.8	0.3	0.5
Average Wage Rate	Year-on-Year % change)	3.4	2.9	3.8	4.1	4.0	- 0.1	1.6	
Employment Rate	Percent	60.9	59.6	61.3	68.8	61.5	59.9	59.3	60.2
Unemployment Rate	Percent	3.8	3.9	4.1	4.4	4.0	3.6	4.2	4.5
Employment Growth	(y-o-y, Thousand)	301.0	177	237	171	259	288	- 476	- 392
Business Sentiment Index		N/A	N/A	N/A	72.0	73.0	N/A	49.0	46.0

1. Preliminary

Source: Economic Bulletin Vol. 42 No. 6, MoEF, EIEC, the RoK, June 2020. & Monthly Economic Trends, KDI, School of Public Policy and Management, the RoK, July 2020.

Economic Outlook - 2020

The COVID-19 impact is expected to minimize highly in the second half of the 2020 that will prevent the economy to contract further sharply throughout the year. Table 2 provides a comparative forecast of the major macroeconomic indicators for the years 2020 and 2021. For the year 2020, the government has estimated the lowest economic growth rate of 0.1 percent, creating no new jobs and containing 0.4 percent of inflation (Table 2). However, it is projected to reach 3.6 percent in 2021 as assumed that the impact of the outbreak will be over. Export is expected to decrease by 8 percent in 2020 but it is expected to increase by 8.5 percent in 2021. Current account balance is estimated to drop in 2020 and 2021.

Table 2: Selected Macro Economic Outlook of Republic of Korea - 2020

Indicators	2019	2020	2021
GDP Growth	2.0	0.1	3.6
Employment growth (Thousand)	301	0	250
Employment rate (%, aged 15-64)	66.8	66.4	66.8
Consumer price inflation	0.4	0.4	1.2
Current account (US $ billion)	60	58	56
Exports (y-0-y, %)	- 10.4	- 8.0	8.5
Imports (y-o-y, %)	- 6	- 8.7	9.2

Source: Economic Bulletin Vol. 42 No. 6, MoEF, EIECe, the RoK, June 2020.

Economic Packages

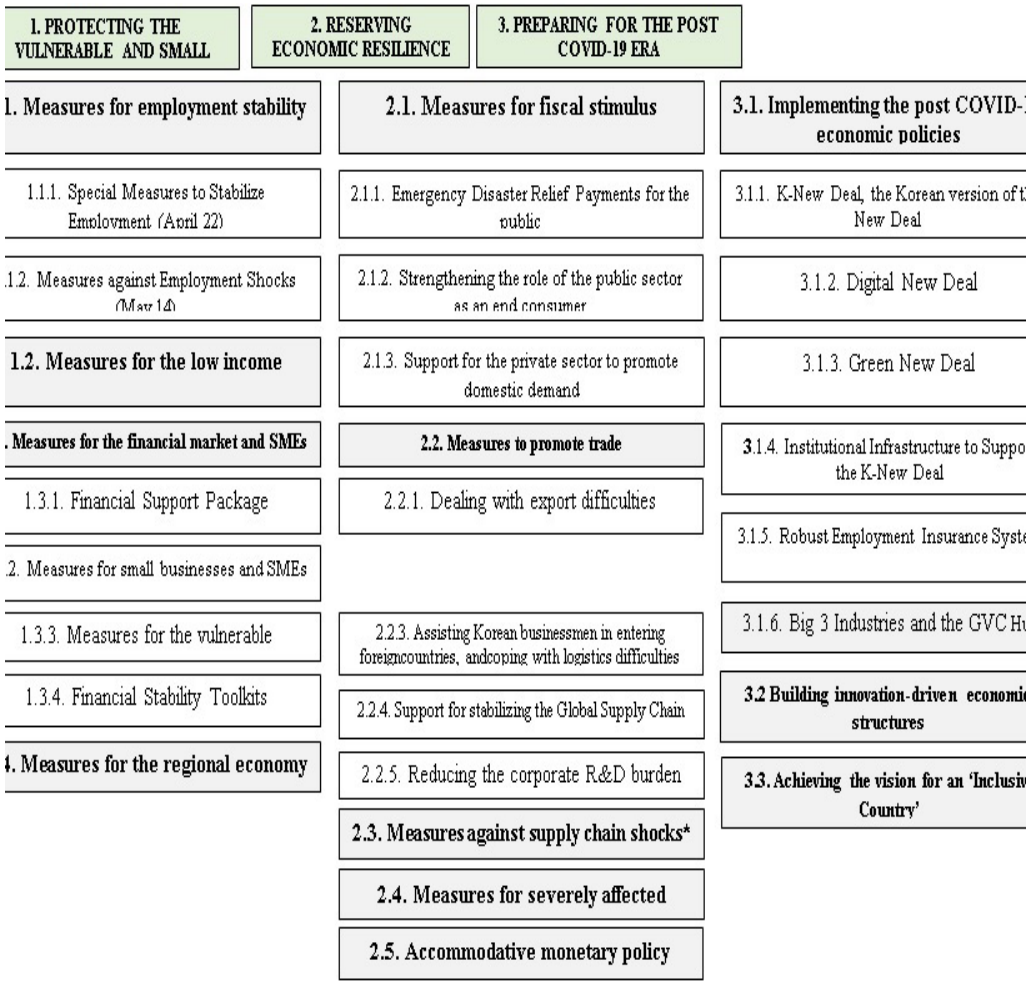
The government of the Republic of Korea has introduced various economic packages to protect the public, and particularly those most vulnerable to economic contractions low-income families, informal-sector employees, part-timers, women, and the disabled. The economy is anticipated to be sustained up by expansionary fiscal policies, including supplementary budget spending. The economic packages focus on economic stimulus to create jobs, boost consumption, and promote investment. In safeguarding the resilience, the government adopted the policies and measures to protect the vulnerable and small businesses, reserving the economic resilience and preparing for the post COVID - 19 situation (Chart 2). The first measure intends to maintain employment stability, to relieve for low-income segments of the population, to save the financial markets and small and medium enterprises (SMEs), and regional economy.

However, the next measure was taken for providing the financial incentive to the severely affected people, public sector, and private sector, to promote the trade and corporate sector, acting against the global supply chain shocks, to protect the severely affected industrial sector and to finance the accommodative monetary policy. The third measure has the objective to implement the post COVID economic policies including the supports for various new deals, insurance schemes, and to promote three big industries: bio, system semiconductors and future cars. Besides, this measure also includes the schemes that will be used to build the innovation-driven economic structure and ultimately to achieve the vision of the government to develop an 'Inclusive country'. Korea's COVID-19 response tools and strategy have been widely recognized in the global community.

To get rid of the severe financial crisis, South Korean government has spent a total of 250 trillion won, around 13.1 percent of GDP, including two rounds of extra budget spending, on disease control and emergency reliefs, ranging from job retention support and household relief to business and financial market support funds (MEF, 2020). Chart 1 and Table 2 shows that there are six categories of support packages incorporating 30 plus schemes announced by the Republic of

Korea in responding to the negative impacts COVID -19. Among these, the largest amount of 135 trillion won has been announced in 30th March, 2020 to deal with the stability of the financial sector to ensure the financial market stability and the basic livelihood of the people. The government has made efforts to channelling liquidity into markets, offering super-low interest rate funds to micro-enterprises / SMEs and medium-sized enterprises, and granting full/special guarantees. The Key Industry Stabilization Fund valued at 40 trillion won was mobilized to put liquidity into markets and build more capital. The government has operated the Bond Market Stabilization Fund and Securities Market Stabilization Fund to stabilize the securities and bond markets.

Chart 2: Safeguarding Economic Resilience in Responding to the Economic Impact of COVID-19



On 30 April, the government decided to provide Emergency Disaster Relief Payments to all households for a total amount of 14.3 trillion won. The programme aims to increase domestic demand. It is targeted to people staying home and fewer foreign tourists since the start of pandemic. Specifically, 400,000 won, 600,000 won, 800,000 won, and 1 million won are provided to single-person, two-person, three-person, and over four-or-more-person households, respectively. To achieve the goal of revitalizing local economies by promoting consumption, those who receive disaster subsidies must consume the total amount by August 31, 2020.

Table 3: Major Support Measures in Responding to COVID-19 in the RoK

S. N.	Date	Support Package	Amount KRW	Aim
1.	13th May	Employment stability	10 Trillion	To create over 550,000 jobs to protect the general public and reduce social security insurance fees and to support the income preservation of the low-income families.
2.	30th March	Relief package programme	135 Trillion	To ensure financial stability and the basic the livelihood of the people and to support financing for companies and stabilize the financial market.
3.	30th March	Operation of Bond and Securities Market Stabilization Fund		To stabilize the securities and bond markets.
4.	30th March	Key Industry Stabilization Fund	40 Trillion	Mobilized to put liquidity into markets and build more capital.
5.	30th March	Aviation industry	300 Billion	to inject emergency liquidity into Low-Cost Carriers (LCCs), reduce a wide range of airport usage fees and suspend the retrieval of non-use traffic rights.
6.	30th April	Emergency Disaster Relief Payments	14.3 Trillion	To increase domestic demand with people staying home and fewer foreign tourists. Specifically, 400,000 won, 600,000 won, 800,000 won, and 1 million won are provided to single-person, two-person, three-person, and over four-or-more-person households, respectively.

Source: MoEF, Republic of Korea, 11th June, 2020.

Moreover, the government is putting programmes of enhancing global demand and supply chains through the Export-Import Bank of Korea (KEXIM) and the Korea Trade Investment Promotion Agency (KOTRA), the Korea Trade Insurance Corporation (K-SURE), etc. Particularly, exporting companies located in Special Disaster Zones (SDZs) will benefit from the programme.

To help the economy, the government supported the small businesses and self-employed by providing liquidity to increase small business loans by 1 trillion won and guarantees by 6.9 trillion won, including 200 billion won to encourage small businesses to go online. To protect the marginal companies, key industry support fund worth 40 trillion won has been created. A total of 103.4 trillion won worth of SME products and services are purchased through the government procurement system. Work on job retention and employment security scheme provided monthly payment of 500,000 won to temporary workers, freelancers and self-employed for three months.

Four schemes have been launched to stimulate the economy. First, to boost consumption and tourism, the government issued discount coupons worth 168.4 billion won to stimulate extra consumption worth 0.9 trillion won. A total of 9 trillion won worth of online and offline gift certificates are issued by local governments, up 3 trillion won compared with the original plan. The auto sales tax is temporarily lowered by 30 percent. Tourism infrastructures have been developed like ports and marine sports facilities, an island-hopping tour package, etc.

Second, to promote investment, the government deducted the tax for corporate investment. The government promoted the corporate investment in logistics centres and manufacturing facilities, construction projects worth of 6.2 trillion won, developed 10 trillion won worth of public projects for private investment, where the investment was made in public construction projects.

Third, to support exports, the government promoted online exporting, provided support for remote marketing, such as tele-consulting and online exhibition. Likewise, provided export financing worth of 118 trillion won including loan extensions and interest payment suspensions given by Exim Bank of Korea, promoted service exports focusing on content industries and post COVID-19 new growth engines, and worked on bilateral and multilateral cooperation to ease travel restrictions for business people during the lockdown. Four, to revive local economies, the government promoted private investment in public projects, promoted investment in infrastructure construction, including port construction, and developed national properties and carry out urban renewal.

Conclusions

The RoK has tactfully contained the outbreak and flattened the curve quickly. The government used its capacity, readiness, and knowledge gained from the lessons learned from the previous epidemics. The economy of the country fall to the lowest since the 1998 Asian Financial Crisis. The industrial production dropped sharply. External trade has decreased significantly. GDP growth and private consumption is expected to contractmassively and there will surge in government spending.

The key to success to contain the coronavirus outbreak is three-phased preparedness and the rapid response framework: detection, containment, and treatment. Regarding this, the government of South Korea focused on coordination among the levels of government and coordination between the public and private sector. There is proper and effective cooperation and coordination among the Central Disease Control Headquarter, Central Disaster and Safety Countermeasure Headquarters, and Local Disaster and Safety Countermeasure Headquarters in strengthening the infection control system.

Korea's COVID-19 response tools and strategies have been exemplary in the global community. To address the situation, the Korean government introduced six economic support packages focussing more on the low-income families, informal-sector employees, part-timers, women, and the disabled. The packages focus on economic stimulus to create jobs, boost consumption and promote investment. The government has spent a total of 250 trillion won, around 13.1 percent of GDP on disease control and emergency reliefs. Korea's next successful response to the outbreak is the use of Information and Communication Technology (ICT) through its role in social distancing, speedy testing, quick tracing, and facilitation of medical treatments. Thus eased to "flatten the curve" on the outbreak.

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