The impact of the COVID-19 pandemic on socio-economic and sustainability

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Pumping elephant

The COVID-19 pandemic has adversely affected the lives of people around the world in millions of ways . Due to this severe epidemic, all countries in the world have been affected by all aspects, mainly economic. It is widely discussed that the COVID-19 outbreak has affected the world economy. When considering this dimension, this study aims to examine the impact of the COVID-19 pandemic on the world economy, socio-economics, and sustainability. In addition, the research focuses on multiple aspects of social well-being during the pandemic, such as employment, poverty, the status of women, food security, and global trade. To this end, the study used time series and cross-sectional analysis of the data. The second-hand data used in this study comes from the websites of major international organizations. From the analysis of secondary data, the conclusion of this article is that the impact of the pandemic is huge. The main finding of the thesis is that the social economy is affected by the pandemic, causing huge losses in terms of economic well-being and social capital.

Introduction

As the new coronavirus rages and affects people on all continents exponentially, the entire world is in a state of panic and pain. It is difficult to point out that a country has not been affected by this deadly virus. Few single epidemics have a serious and lasting impact on the world economy, global health, and human life as a whole.

The Great Influenza Pandemic broke out from 1918 to 1920, which was considered as the fourth-largest macroeconomic shock that affected the economy adversely after the two World Wars and The Great Depression (Barro and Weng 2020). It has been found using geographic mortality variation that during the pandemic of 1918, the areas of the USA which were exposed to the pandemic experienced a persistent and steep decline in the economic activities (Sergio et al. 2020;

Sundararaj et al. (2018) Rejeesh 2019; Sundararaj et al. 2018; Vinu 2019; Sundararaj 2016; Tiwari et al. 2021; Sundararaj and Rejeesh 2021).

The world is expected to face a severe recession even if the spread of the virus is controlled. The effects of this pandemic will haunt mankind for several years in terms of employment, health care systems, income, and human development.

Even though not many people are dying due to the infection of the deadly virus, the number of people that are being affected in a region are causing health systems to break down resulting in more deaths. To deal with the COVID-19 outbreak, strong prevention measures such as strengthening the immune system and improving the proper sanitary conditions which are often lacking in most middle- and low-income countries should be stressed. Thus, the people at the lowest rung of the economy are more vulnerable to the virus. Developing countries were already facing shortage of funds to undertake developmental and infrastructure projects. Due to the pandemic, more funds are now being allotted to emergency health care systems making these projects all the more difficult to undertake. Generally, 3–4% of the gross domestic product of a country is spent on costs related to illnesses resulting from high fatality scenarios, especially during the pandemic times. It is found that the percentage is higher for extreme pandemics (Smith et al. 2009).

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To contain the spread of the virus, most countries have implemented lockdown measures. However, lockdown measures have severely affected the economy and a large number of people. Several people lost their jobs while several others are undergoing pay-cuts, which is affecting the income of their respective families. Essential services such as logistics have been halted due to the strict measures implemented in the pandemic times. Even education is being compromised, and, as a result, schools, colleges, and universities are closed. If widespread behavioral changes take place due to the lockdown and large-scale absence from work is persistent, the economic damage will be far greater than the health benefits (Smith et al. 2009).

Economic conditions across the world are also in a state of destitution. Global production has suffered, along with various service industries primarily including tourism and airlines, due to strict lockdown measures. Since the future is uncertain, investment rates will remain low. However, private investments will be extremely important, especially in developing countries because governments are already running out of funds, as they are dealing with the pandemic and will thus be unable to take up investment projects.

Social and humanitarian aspects of the pandemic are also causing stress and anxiety in the public. Women, children, and the elderly are highly exposed to the virus, as they are among the weaker sections of the society and thus are more vulnerable. The lockdown has also compromised the safety of women, and increased cases of domestic violence have been reported. Refugees, informal sector workers, and the unemployed often find it hard to access government-provided health care schemes and other benefits. It is noted that the above listed people were the most affected by the pandemic.

Therefore, the COVID-19 situation has left its mark on every part of our society and has changed our way of life forever.

Materials and methods

Data description

a.   Quarterly GDP

Gross domestic product (GDP) is the standard measure of the value-added created through the production of goods and services in a country. As such, it also measures the income earned from the production or the total amount spent on final goods and services (fewer imports). While GDP is the most important indicator to capture economic activity, it falls short of providing a suitable measure of people's material well-being for which alternative indicators may be more appropriate. This indicator is based on real GDP (also called GDP at constant prices or GDP in volume), i.e., the developments over time are adjusted for price changes. The numbers are also adjusted based on seasonal influences. The indicator is available in different measures: percentage change from the previous quarter, percentage change from the same quarter of the previous year, and volume index. All OECD countries compile their data according to the 2008 System of National Accounts (SNA).

b.   Unemployment rate

Unemployment rate forecast is defined as the projected value for the number of unemployed people as a percentage of the labor force, where the latter consists of the unemployed plus those in paid or self-employment. Unemployed people are those who report that they are without work, that they are available for work, and that they have taken active steps to find work in the last 4 weeks. When unemployment is high, some people get discouraged and stop looking for work; they are then excluded from the labor force.

c.   Global activity indicator

Air pollution is the change in NO_2 emissions from January 1 to May 28 in 2019 and 2020.

Retail and recreation mobility is the change in percent from May 21, 2020, from baseline, which is the median value for the corresponding day of the week during the 5-week period January 3–February 6, 2020, based on data from Google.

Flight cancellations show the cancellations relative to total planned flights based on comparing currently operating flights in 2020 with flights that were operating 52 weeks ago in 2019 as of May 27, 2020.

OpenTable reservations show the change in seated dinners at restaurants on the OpenTable network on May 27 in 2019 and 2020.

Method

This study employs out both time series and cross-sectional analysis of data. The data used in this study are secondary and have been sourced from the websites of major international organizations.

Results

Let us look at the effects of the COVID-19 pandemic on various aspects of sustainability and social economy.

Poverty

Global poverty is defined as the share of the population of the world earning less than 1.9 dollars a day.

The World Bank estimates that the COVID-19 pandemic will push about 40 to 60 million people into extreme poverty (Gerzon Mahler et al. 2020). The Global Economic Prospects (World Bank 2020) forecast two scenarios of the effect that the pandemic might have on poverty. One in which the outbreak remains at the current expected level and economic activities recover during the latter part of this year and another in which the outbreak continues for a longer period of time to force the introduction and furthering of lockdown measures. The former will contract global growth by about 5% in 2020 while the latter will lead to a growth contraction of 8%.

Figure 1 shows the quarterly GDP for the first quarter of 2020 for 41 countries based on the availability of data (see Table 1 in the Appendix for tabulated values) (OECD 2020a).

Figure 2 shows the aggregate OECD GDP for a period of 21 years (2000–2020) (see Table 2 in the Appendix for tabulated values) (OECD 2020a).

If the outbreak persists, vulnerable households will reduce consumption by a great margin and firms in critical conditions will exit markets. Increased financial stress will be experienced by middle- and low-income countries.

For the first time, global poverty is forecasted to increase, since 1998. It is forecasted that it will increase to 8.6% in 2020 from 8.2% in 2019. In absolute terms, the number will rise to 655 million people from 632 million (Sumner et al. 2020).

Global growth is also forecasted to fall by the World Bank.

Figure 3 shows the aggregate growth rates calculated using GDP weights at 2010 prices and market exchange rates for 12 years (2010–2021) (data for 2019 are estimates) (see Table 3 in the Appendix for tabulated values) (Global Economic Prospects 2020).

OECD Economic Outlook projects the global GDP to fall in 2020 by more than 7%. In OECD countries, the situation is worse. OECD GDP is forecasted to fall by more than 9% in 2020. Under the single hit scenario, global GDP is anticipated to drop by 6% and OECD GDP by more than 7% in 2020. In the second quarter of 2020, world output is forecasted to be more than 12% lower than in the previous quarter (OECD 2020b).

Unemployment

Employment is a primary aspect of sustainable development in any society. It is essential for people to have respectable jobs for them to enjoy the growth of the economy (Osmani 2003; Monia and Rim 2018; Kabanda 2016;Messkoub 2018; Alauddin 2016; Padovan et al. 2019).

The coronavirus pandemic has exposed the world to the biggest decline in employment since the Second World War. Since all activities came to a halt due to the global pandemic, employment experienced a massive and halting blow. Most people working in the informal sector have a little or no savings at all. Due to the recent COVID-19 crisis, they lost almost 60% of their income (World Bank Predicts Sharpest Decline of Remittances in Recent History 2020).

Figure 4 shows the unemployment rate for the first quarter of 2020 for 31 countries based on the availability of data (see Table 4 in the Appendix for tabulated values) (OECD 2020b).

Figure 5 shows the aggregate unemployment rate in OECD countries for a period of 21 years (2000–2020) (see Table 5 in the Appendix for tabulated values) (OECD 2020c).
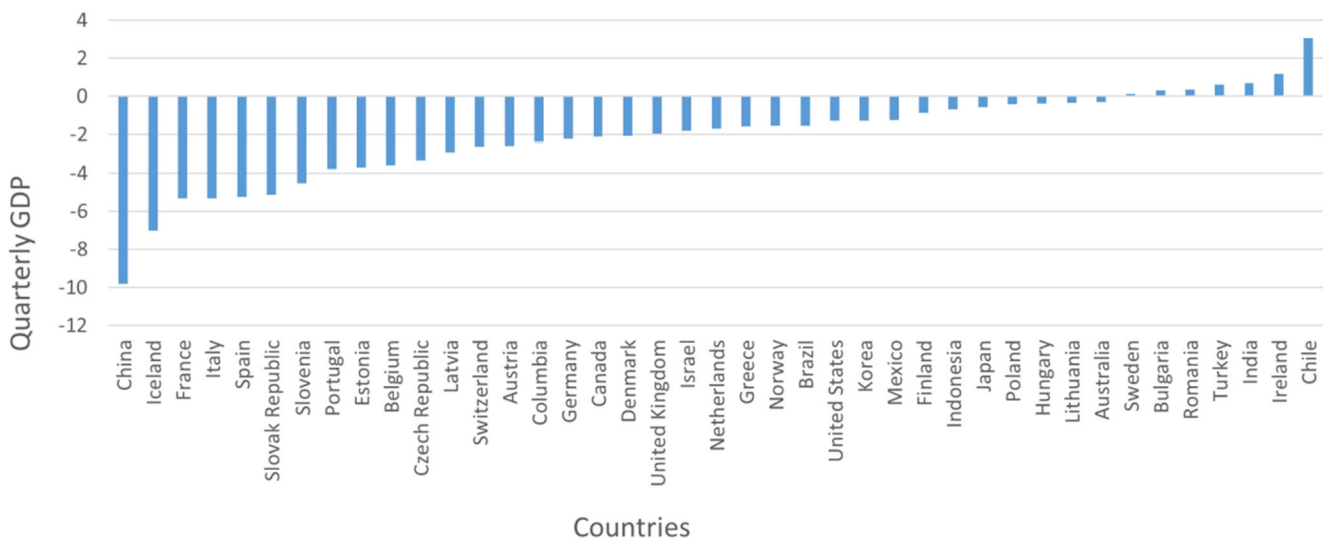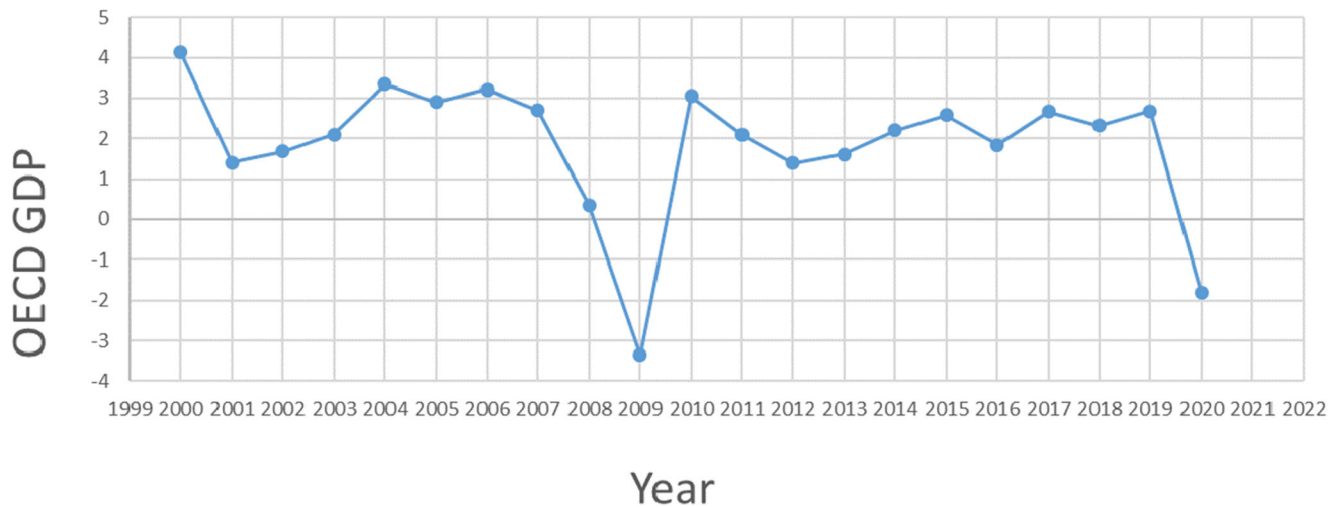

Fig. 1 Quarterly GDP for 2020

Fig. 2 Aggregate OECD GDP

The lockdown has been in effect in several countries along with school and workplace closures, travel restrictions, and social distancing policies. By the beginning of April, almost 81% of the total workforce in the world experienced workplace closures. Even though these measures were necessary, they adversely affected firms and workers.

Figure 6 shows the percentage change in global activities indicators around the world, namely, air pollution retail and recreation mobility, flight cancellations, and OpenTable reservations (see Table 6 in the Appendix for tabulated values) (Global Economic Prospects 2020).

The ILO (International Labour Organization) has projected the global work hours around the world to decrease by 4.5% in the first quarter of 2020 and 10.5% in the second amounting to 305 million workers working 48 h a week. This outpaces the fall in employment during the Global Financial Crisis of 2008–09 (ILO 2020).

The impact on women

Seventy percent of the people working in the health care and social sector are women (United Nations 2020). Front-line health workers including nurses and midwives are mostly women. They also form a majority of the service staff in the health care sector like laundry, catering, and cleaning. Thus, they are more vulnerably exposed to the virus.

Women undertake thrice as much unpaid work as men. The situation is projected to get worse under the COVID-19 pandemic because children will remain out of school, older persons will require attentive care, and the health service will collapse under severe conditions of the pandemic (UN Women Headquarters 2020).

Women generally live close to poverty and hold insecure jobs. They earn less and save less. The compounded economic
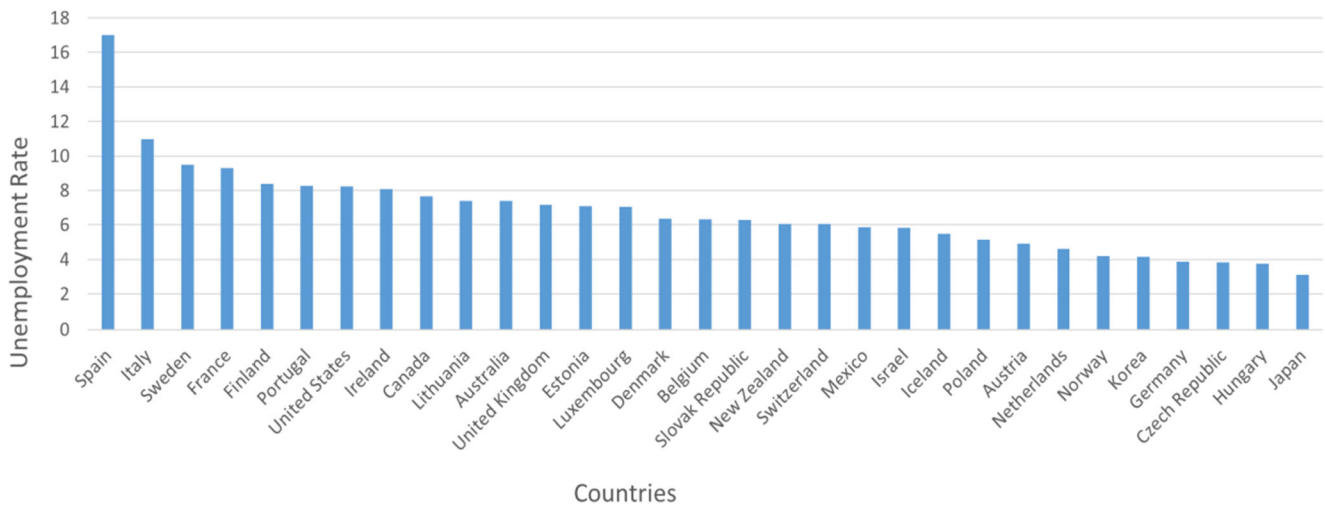
Fig. 3 Global growth rates
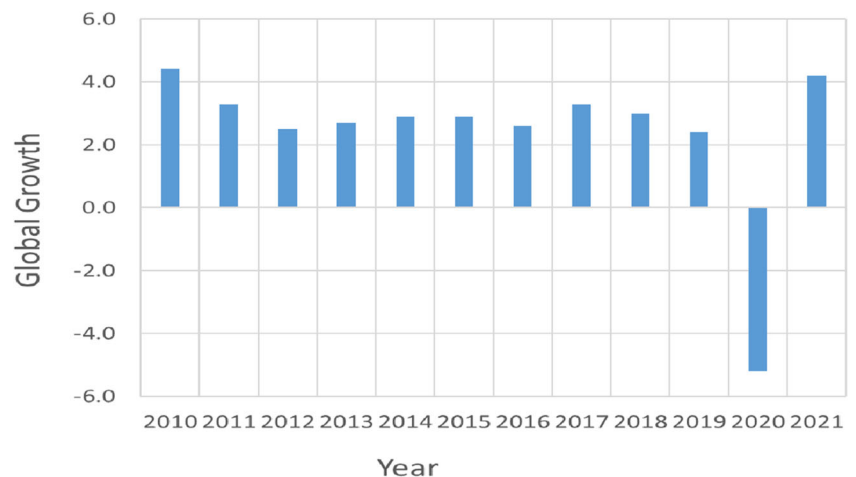
Fig. 4 Unemployment rate for countries

hardships resulting from the pandemic will thus have severe effects on women.

Gender-based violence is increasing exponentially with social isolation measures and restrictions in movement. Due to the lockdown effect, women are being forced to stay at home with their abusers. Also, services to offer assistance to the survivors are also being disrupted, in these pandemic times. Various countries around the world have reported an increase in the number of complaints related to domestic violence.

Women have unique health needs. However, they have lost access to quality health services, reproductive and maternal health care, and essential vaccines and medications. Gender stereotypes and restrictive social norms can also adversely affect the accessibility of health services to women.

Global trade

Because of the coronavirus pandemic, global trade is also experiencing a halting effect. It is estimated that within the first quarter of 2020 the volume of goods and services traded have suffered a fall of 3%. This is because international travel has been restricted to contain the spread of the virus.

Demand has collapsed and supplies disrupted due to the cessation of international travel. International freight traffic in 2020 has been 30% lower than that of the previous year and international passenger traffic is 98% lower than the previous year.

Global export figures reached an all-time low in April 2020 and remained weak throughout May. Almost all the countries reported significant declines in trade values. Countries with relatively light containment measures are also suffering because of reduced external demand due to the pandemic.

UNCTAD nowcasts for global trade values in the first quarter of 2020 fell by 3% with respect to the previous quarter.

UNCTAD's Free Market Commodity Price Index (FMCPI) lost 1.2% of its value in January, 8.5% in February, and 20.4% in March. The FMCPI never fell by
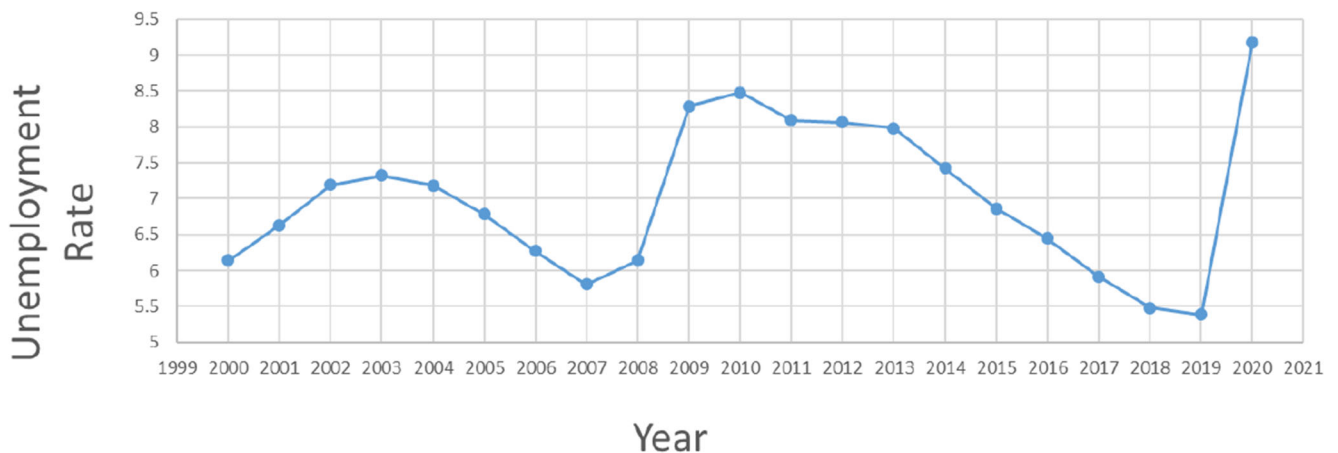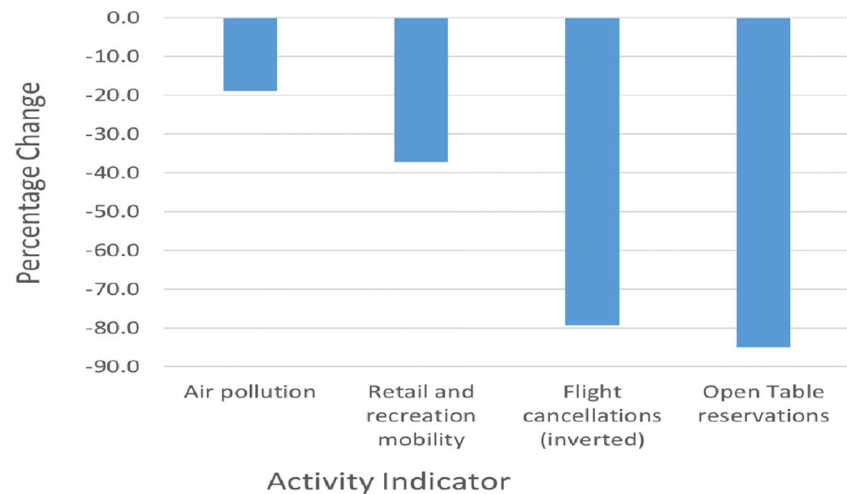

Fig. 5 OECD employment rates

Fig. 6 Percentage change in global activity indicators

20% in a single month before this. The closest case was during the time of the Global Financial Crisis of 2008–09 when it decreased by 18.6% (Back-of-the-Envelope Estimates of Next Quarter's Unemployment Rate 2020; COVID-19 and the St. Louis Fed 2020; Possible Fiscal Policies for Rare, Unanticipated, and Severe Viral Outbreaks 2020; COVID-19 2020b; Inanc 2020; St-Denis 2020; Social Distancing and Contact-Intensive Occupations 2020; Adams-Prassl et al. 2020; Dasgupta and Murali 2020).

Food security

Under the present circumstances, the COVID-19 pandemic will double the number of people facing food crisis. UN forecasts that 265 million people in middle- and low-income countries are at the risk of facing acute food insecurity by the end of 2020. At present, 135 million people are acutely facing food security. They are spread across 55 countries across the world and are in urgent need of humanitarian food and nutrition assistance (UNWTO reports 2020; Unwto Reports 2020; COVID-19 2020a). They are the most vulnerable to the virus as they have little or no capacity to deal with the socio-economic and health aspects of the pandemic (FSIN. Global Report on Food Crises 2020; Global Report on Food Crises 2020; HLPE 2020).

Countries suffering from acute food security are facing a terrible trade-off between saving people from the virus and to have them die from hunger. The health systems in these countries are already overstretched with an acute shortage of equipment, doctors, and medicines. The poorer sections of the society often lack sufficient financial means to access health care and/or live in remote areas where these services never reach.

Food insecure people generally have higher rates of underlying health problems including malnutrition and other noncommunicable diseases which weaken the immune system and make these people more vulnerable to the coronavirus. Movement restrictions, strained health systems, and falling incomes have increased rates of malnutrition especially among lactating and pregnant women, children, and the elderly. Families which entirely rely on the feeding programs of schools to fill food gaps are also on the verge of facing acute food insecurity.

Even though the 2020 harvest has been good and the outlook for stable crops is quite promising, movement restrictions have disrupted the transport and processing of food crops along with other essential items. The availability of basic food items has also been compromised due to increased delivery times.

Conclusion

We can thus conclude that the most severe effects of the COVID-19 pandemic have been felt by the weaker sections of the society including women, the unemployed, and the poor. The virus has left its mark on all aspects of social well-being and has adversely affected the sustainability of the earth. Keeping in mind the huge amount of losses different sectors had to incur due to the pandemic, careful measures must be taken to fight the current pandemic and prevent future pandemics. The worst affected areas of the social economy include poverty, employment, women's well-being, and global trade. These are perhaps the most important aspects of human development and the pandemic undid most advancement made in these sectors.

Declarations

Human and animal rights

This article does not contain any studies with human or animal subjects performed by any of the authors.

Informed consent

Informed consent does not apply as this was a retrospective review with no identifying patient information.

Consent for participate

Not applicable.

Consent for publication

Not applicable.

Conflict of interest

The authors declare no competing interests.

Appendix

Table 1 Quarterly GDP for 2020

Country	GDP
China	−9.8
Iceland	−7.01243
France	−5.3432
Italy	−5.30942
Spain	−5.23722
Slovak Republic	−5.15558
Slovenia	−4.53152
Portugal	−3.76245
Estonia	−3.69071
Belgium	−3.59499
Czech Republic	−3.33146
Latvia	−2.90032
Switzerland	−2.60701
Austria	−2.56337
Columbia	−2.38534
Germany	−2.2218
Canada	−2.10899
Denmark	−2.07292
UK	−1.97549
Israel	−1.83293
Netherlands	−1.71629
Greece	−1.59793
Norway	−1.5473
Brazil	−1.53942
USA	−1.28638
Korea	−1.2817
Mexico	−1.24098
Finland	−0.85926
Indonesia	−0.68672
Japan	−0.56517
Poland	−0.40394
Hungary	−0.39062
Lithuania	−0.34324
Australia	−0.30586
Sweden	0.121829
Bulgaria	0.288235
Romania	0.314825
Turkey	0.615463
India	0.65894
Ireland	1.166176
Chile	3.034375

Table 2 Aggregate OECD GDP

Year	OECD GDP
2000	4.120418
2001	1.402737
2002	1.678441
2003	2.107335
2004	3.340186
2005	2.907985
2006	3.206121
2007	2.691061
2008	0.359443
2009	−3.35533
2010	3.050615
2011	2.08932
2012	1.384969
2013	1.611147
2014	2.207396
2015	2.575601
2016	1.841686
2017	2.666721
2018	2.31723
2019	2.68
2020	−1.8

Table 4 Unemployment rate for countries

Country	Unemployment rate
Spain	17.0
Italy	11.0
Sweden	9.5
France	9.3
Finland	8.4
Portugal	8.3
USA	8.2
Ireland	8.1
Canada	7.7
Lithuania	7.4
Australia	7.4
UK	7.2
Estonia	7.1
Luxembourg	7.1
Denmark	6.4
Belgium	6.3
Slovak Republic	6.3
New Zealand	6.0
Switzerland	6.0
Mexico	5.9
Israel	5.8
Iceland	5.5
Poland	5.1
Austria	4.9
Netherlands	4.6
Norway	4.2
Korea	4.1
Germany	3.9
Czech Republic	3.8
Hungary	3.8
Japan	3.1

Table 3 Global growth rates

Year	Global growth rate
2010	4.4
2011	3.3
2012	2.5
2013	2.7
2014	2.9
2015	2.9
2016	2.6
2017	3.3
2018	3.0
2019	2.4
2020	−5.2
2021	4.2

Table 5 OECD employment rates

Year	OECD employment rate
2000	6.144492
2001	6.630343
2002	7.191543
2003	7.325176
2004	7.184701
2005	6.783474
2006	6.274324
2007	5.808896
2008	6.139248
2009	8.292264
2010	8.477786
2011	8.091829
2012	8.065573
2013	7.984239
2014	7.427004
2015	6.861839
2016	6.447021
2017	5.920082
2018	5.478733
2019	5.386595
2020	9.181022

Table 6 Percentage change in global activity indicators

Indicators	Percent change
Air pollution	−19.0
Retail and recreation mobility	−37.2
Flight cancellations (inverted)	−79.4
OpenTable reservations	−85.0

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