Economic consequences of the COVID-19 outbreak: the need for epidemic preparedness

Anton Pak1,†, Oyelola A Adegboye1,‡*, Adeshina I Adekunle1, Kazi M Rahman2,3, Emma S McBryde1, Damon P Eisen1

1Australian Institute of Tropical Health and Medicine, James Cook University, Townsville, Australia
2North Coast Public Health Unit, New South Wales Health, Lismore, NSW 2480, Australia
3The University of Sydney, University Centre for Rural Health, Lismore, NSW 2480, Australia
†First authors
‡Corresponding author: Oyelola A. Adegboye (oyelola.adegboye@jcu.edu.au)

Keywords: SARS-CoV-2; Global markets; Economy

Abstract
COVID-19 has not only become global pandemic and a public health crisis but also affected the global economy and financial markets. Significant reductions in income, rise of unemployment and disruptions in transportation, service and manufacturing industries are among the consequences of governments’ disease mitigation measures. It has become clear that most governments in the world has underestimated the risks of rapid COVID-19 spread and were mostly reactive in their crisis response. As the disease outbreaks are not likely to disappear in the near future, proactive international actions are required to not only save lives but also protect economic prosperity.

COVID-19 and the economy
On March 11th, 2020 the World Health Organization (WHO) characterised COVID-19 as a pandemic, pointing to over 118,000 cases in 114 countries [1]. The infection has become not only a public health crisis but also affected the global economy. Significant economic impact has already occurred across the world due to the productivity and life losses, business closures, disruptions in trade, transportation and tourism industries. COVID-19 may be that “wake-up call” for the global leaders to intensify cooperation on epidemic preparedness and provide necessary financing for its international collective action. There has been no lack of knowledge
of the expected economic and health costs of infectious disease outbreaks [2; 3], but the world has not been adequately investing in preventive measures to mitigate the risks of the large epidemics. What we observe now with COVID-19 is the crisis-response management in many countries with implemented measures, such as quarantine, travel restrictions, and lockdown of cities and regions, imposing significant economic burden and diminishing the wellbeing of people.

In this short communication, we review some facts of the economic impact of COVID-19 to illustrate the importance of investment in prevention and preparedness activities.

**Consequences**

Although the situation is still evolving and the number of cases growing, with 372,757 confirmed cases as of March 24th, 2020 (Figure 1) [4], it is evident that COVID-19 has already had significant direct impact on income arising from premature deaths, workplace absenteeism, and reduction in productivity. The COVID-19 pandemic has caused the negative supply shock with manufacturing productive activity slowing down due to the global supply chain disruptions and closures of factories. For example, in China the production index in February declined by more than 54% from the last month value [5]. In addition to the impact on productive economic activities, consumers also change their spending behavior mainly due to 1) the changes in income and potentially financial wealth; 2) the fear and panic that accompany the epidemic. Service industries such as tourism, hospitality and transportation have already been suffering significant losses due to reduction in travel. The International Air Transport Association projects the revenue loss for airlines only from the passenger business of up to $252 billion. [6]

Global financial markets have not been immune from the effects of COVID-19 spread. As the numbers of cases started to increase globally mainly through Italy and a few other
countries in Europe including Spain, Germany and France, Iran in the Middle East, and South Korea in South-East Asia, the world financial and oil markets have significantly declined. During the week of February 24th, 2020 to February 28th, 2020, the leading stock market indices in the U.S. and Europe (S&P500, FTSE 100, CAC 40, and DAX) declined by over 8% accounting for the disruptive potential of COVID-19 (Figure 2). Since the start of the year, the main financial markets have already lost a quarter of their value with oil prices declined by 60% as of March 24th, 2020. Larger economic problems are associated with the current and potential future demand for oil translating into the fluctuations in oil prices due to the reduced economic activities driven by the COVID-19. Expected excess supply was also responsible for significant price reductions. Declines in the financial and commodity markets have been particularly extreme, as COVID-19 has been spreading to larger economies in Europe and the US. If the situation with lower than expected oil prices continues, the economies of Gulf countries, where oil and gas sector accounts for 30-50% according to Organisation of the Petroleum Exporting Countries (www.opec.org), may contract following the reduction in trade and investment. As the spread of the virus is likely to continue disrupting economic activity and making an impact on manufacturing and service industries, especially in the developed countries, we expect that the markets continue to be volatile.

Conclusion

There is still a question whether this unfolding crisis will have a lasting structural impact on the economy or will it largely have short-term economic consequences. In either case, it is evident communicable diseases and infections such as COVID-19 have potential to inflict severe economic and financial costs on regional and global economies. Because of high transportation connectivity, globalisation and economic interconnectedness between countries and regions, it is extremely difficult and costly to contain the virus and mitigate the importation risks once the disease started to spread in multiple locations. This warrants the international
collective actions and global investments in preventive measures, including capacity building and development of capabilities at the national and international levels.

As the disease outbreaks are not likely to disappear in the near future, proactive international actions are required to not only save lives but also protect economic prosperity.

Figure 1 Cumulative number of confirmed cases in emerging epicentres. Data sources: WHO Coronavirus disease (COVID-2019) situation reports [4].
Figure 2. Dynamics of value of stock indices and oil futures relative to January 2\textsuperscript{nd}, 2020.

Data sources: historical data for stock indices and Brent oil futures were extracted from Yahoo Finance (www.finance.yahoo.com). Closing prices are used in the calculations. Daily values are calculated relative to an index value (100) on January 2\textsuperscript{nd}, 2020.

Authors' contributions

AP and OAA conceived and designed the study. AP and OAA analyse the data. AP, OAA, AIA, KMR, ESB and DPE contributed to the writing of the manuscript.

Conflict of interest statements

None declared

Funding source

None
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