

## Economy or Health, Constant Dilemma in Times of Pandemic: The Case of Coronavirus Disease 2019 (COVID-19)

Jorge A. Sanchez-Duque<sup>1,2,3\*</sup> , Juan Pablo Orozco-Hernandez<sup>3</sup> ,  
Daniel S. Marin-Medina<sup>3,5</sup> , Kovy Arteaga-Livias<sup>6,7</sup> , Samuel Pecho-Silva<sup>6,8</sup> ,  
Alfonso J. Rodriguez-Morales<sup>1,2,4,6</sup>  and Kuldeep Dhama<sup>9</sup> 

<sup>1</sup>Grupo de Investigacion Salud Publica e Infeccion, Faculty of Health Sciences, Universidad Tecnologica de Pereira, Pereira, Risaralda, Colombia. <sup>2</sup>Latin American Network of Coronavirus Disease 2019 (COVID-19) Research (LANCOVID-19), Pereira, Risaralda, Colombia. <sup>3</sup>Grupo de Investigacion Epidemiologia, Salud y Violencia, Faculty of Health Sciences, Universidad Tecnologica de Pereira, Pereira, Risaralda, Colombia. <sup>4</sup>Grupo de Investigacion Biomedicina, Faculty of Medicine, Fundacion Universitaria Autonoma de las Americas, Pereira, Risaralda, Colombia. <sup>5</sup>Grupo de Investigacion NeuroUnal, Neurology Department, Universidad Nacional de Colombia, Bogota, D.C., Colombia. <sup>6</sup>Universidad Cientifica del Sur, Lima, Peru. <sup>7</sup>Facultad de Medicina, Universidad Nacional Hermilio Valdizan, Huanuco, Peru. <sup>8</sup>Hospital Nacional Edgardo Rebagliati Martins, Lima, Peru. <sup>9</sup>Division of Pathology, ICAR-Indian Veterinary Research Institute, Izatnagar 243 122, Bareilly, Uttar Pradesh, India.

### Abstract

The multiple faces of the Coronavirus Disease 2019 (COVID-19), also included the impact on the economy. As a consequence of the significant life and society disruption, multiple implications are derived from the COVID-19 crisis and pandemic, including a significant backward on the economy. In the current mini-review, we discuss some potential considerations about it, including some specific examples of the COVID-19 impact on the economy.

**Keywords:** COVID-19, SARS-CoV-2, Economy, Public Health, Global

\*Correspondence: [arodriguezm@utp.edu.co](mailto:arodriguezm@utp.edu.co); +57 300 8847448

(Received: May 04, 2020; accepted: May 12, 2020)

**Citation:** Sanchez-Duque JA, Orozco-Hernandez JP, Marin-Medina DS, et al. Economy or Health, Constant Dilemma in Times of Pandemic: The Case of Coronavirus Disease 2019 (COVID-19). *J Pure Appl Microbiol.* 2020;14(suppl 1):717-720. doi: 10.22207/JPAM.14.SPL1.07

© The Author(s) 2020. **Open Access.** This article is distributed under the terms of the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) which permits unrestricted use, sharing, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

## INTRODUCTION

The first cases of Coronavirus Disease 2019 (COVID-19), caused by the Syndrome Acute Respiratory Respiratory Syndrome coronavirus 2 (SARS-CoV-2), were reported on December 12, 2019, in Wuhan, China. Despite preventive measures and control implemented, day by day, the number of cases increased exponentially, and that is the reason the World Health Organization (WHO) declared it a public health emergency of global importance and later as a pandemic, on January 30 and March 11, 2020, respectively<sup>1</sup>.

### COVID-19 seen in trillions of dollars lost

Humanity is threatened by an emerging viral outbreak without a specific vaccine or effective treatment already available. This pandemic is already affecting more than 3.86 million people (May 8, 2020), with 269 thousand deaths, but may lead to an estimated number of fatalities around 1 to 2 million people<sup>2,3</sup>. Even more, at an economic level, global losses of 1.0 to 1.1 trillion dollars are estimated,<sup>2,4</sup> far exceeding the impact attributable to the Ebola and SARS-CoV viruses, which had estimated losses of 25.2 and 40 billion dollars, respectively<sup>3</sup>. Furthermore, currently the Organization for Economic Cooperation and Development (OECD) predictions of economic growth according to gross domestic product (GDP) show a significant decrease for 2020 due to SARS-CoV-2 (Fig. 1)<sup>5</sup>.

## The Global Economic Backwards

Despite the wide margin of error of these estimates due to the difficulty of considering direct and indirect factors associated with the outbreak, as well as the responses established by each country<sup>2-4,6,7</sup>, there is no doubt the considerable decrease in economic activities, which ranges from the number of reserves in restaurants, hotels or air travel, up to the incomes to the media<sup>6,7</sup>, and even medical personnel, due to the decrease in surgical procedures by 70%, in the number of non-urgent consultations between 33-60%, and temporary dismissals by 22%, reducing the net income of medical personnel by up to 55%<sup>8</sup>.

A situation that aggravates this scenario is the enormous external debt of low- and middle-income countries, excluding China, which to date have accumulated nearly 6 trillion dollars, which is equivalent to the GDP of the United Kingdom and France. This debt has increased significantly in the last decade, due to the greater accessibility of credits and lower interest rates for some countries.<sup>9</sup> Likewise, another uncertainty in the medium and long term would be the probable increase in taxes for the economic recovery of the states, which could influence their liquidity<sup>6,8,11</sup>.

Since the beginning of the outbreak in many countries, there has been a thorny debate between what should prevail, whether health or the economy, or what is the ideal strategy

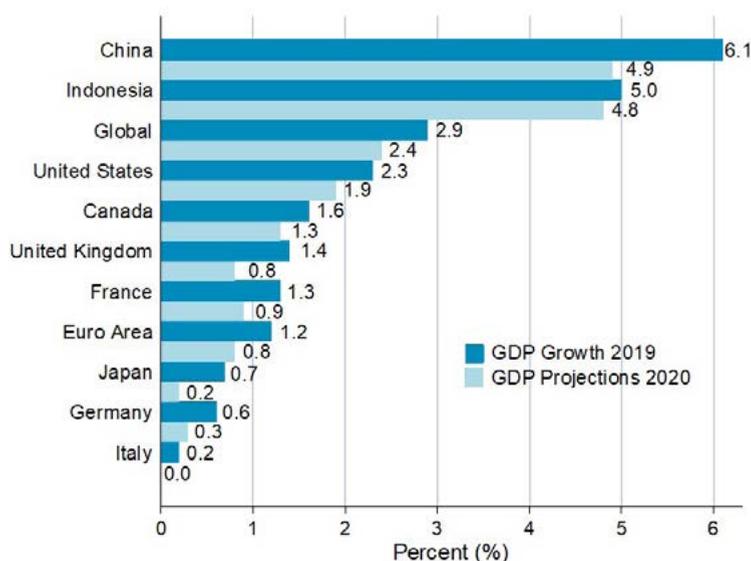


Fig. 1. OCDE predictions of gross domestic product (GDP) growth (2019-2020). Adapted from OCDE

that achieves a balance between both aspects<sup>3,7</sup>. While health professionals have limited training in economic issues, for economists, it is challenging to consider uncertain elements associated with the epidemiology of the outbreak, which hinders the panorama and decision-making by governments<sup>2,4</sup>. There is no doubt the tension generated by the epidemic in multiple health sectors due to the loss of labor productivity, social distancing, decreased investment, among other conditions, which is why it is necessary to invest in financial research in times of pandemics, to identify strategies to reduce expenses and minimize the impact in the post-crisis era<sup>6-10</sup>.

Some countries are making progressive reductions in the number of restrictions to open the market and the economy, so it is recommended that they should be accompanied by aggressive surveillance strategies for probable cases of contagion and abundant screening tests for SARS-CoV-2 in the asymptomatic population, to early isolate and limit the appearance of micro-outbreaks<sup>11</sup>.

### Devaluation of the local currency: the case of Colombia

Concern, even before the arrival of COVID-19 was in the social air in the country, but as was evident, after the Friday, March 6, 2020,<sup>12,13</sup>



Fig. 2. Currency Charts: US\$ to COP\$ (Colombian Pesos) from December 2019 to May 2020. Adapted from XE.com

when the first case arrived and was confirmed by the national health authorities, significantly impacted the society, including a significant change in the cost of US\$ dollars, or equivalent to the devaluation of the local currency, moving 3,242 Colombian pesos (COP\$) per US\$ at January 9, 2020, up to 4,176 COP\$ per US\$ on May 7, 2020, and after that never below 3,827 COP\$ per US\$ (Fig. 2). Colombia is also an oil producer country. On March 6, 2020, the price of the WTI barrel was on US\$ 43.96 but decreased up to US\$ -13.1 on April 20, 2020. The coffee, one of the leading products of the country, on March 25, 2020, was rated at US\$ 129.4, and for April 30, 2020, it decreased to US\$ 106.25. Multiple actions in the stock market in the country suffered devaluation, and many companies are on the risk of default.

### CONCLUSIONS

The history of pandemics such as HIV/AIDS or Ebola,<sup>14</sup> and even the WHO in its report "Global preparedness monitoring board" published in September 2019, have warned us about the imminent risk and inadequate preparation to face a pandemic at all levels<sup>8,15</sup>. The current COVID-19 pandemic is another reminder of the urgent need to design outbreak response protocols, strengthen health systems (especially the number of beds and ventilators in intensive care units), more significant investment in research, implement tools such as telemedicine, as well as having available high-quality scientific evidence that can guide the balance towards health preservation when facing new epidemics<sup>1,3,4</sup>. The economic sector must also be strengthened through the implementation of a

higher number of remote jobs, the diversification of income, the increase in the monetary flow through the introduction of money into the system, and the reduction of interest rates, among other strategies<sup>1,3,7</sup>.

#### ACKNOWLEDGMENTS

None.

#### CONFLICT OF INTEREST

The authors declares that there is no conflict of interest.

#### AUTHORS' CONTRIBUTION

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

#### FUNDING

None.

#### ETHICS STATEMENT

Not applicable.

#### DATA AVAILABILITY

All datasets generated or analyzed during this study are included in the manuscript and/or the Supplementary Files.

#### REFERENCES

1. Rodriguez-Morales AJ, Sanchez-Duque JA, Hernandez-Botero S, et al. Preparacion y Control de la Enfermedad por Coronavirus 2019 (COVID-19) en America Latina. *Acta Med Peru.* 2020;37(1):3-7. <https://doi.org/10.35663/amp.2020.371.909>
2. OECD, OECD Economic Outlook, Interim Report March 2020, OECD Publishing, Paris, 2020. <https://doi.org/10.1787/7969896b-en>
3. Maffioli EM. How Is the World Responding to the 2019 Coronavirus Disease Compared with the 2014 West African Ebola Epidemic? The Importance of China as a Player in the Global Economy. *Am J Trop Med Hyg.* 2020. <https://doi.org/10.4269/ajtmh.20-0135>
4. Hilsenrath PE. Ethics and Economic Growth in the Age of COVID 19: What Is a Just Society to Do?. *J Rural Health.* 2020. <https://doi.org/10.1111/jrh.12434>
5. Nicola M, Alsafi Z, Sohrabi C et al. The Socio-Economic Implications of the Coronavirus and COVID-19 Pandemic: A Review. *Int J Surg.* 2020;S1743-9191(20)30316-2. <https://doi.org/10.1016/j.ijsu.2020.04.018>
6. Goodell JW. COVID-19 and finance: Agendas for future research. *Finance Research Letters.* 2020;101512. <https://doi.org/10.1016/j.frl.2020.101512>
7. Kabir M, Afzal MS, Khan A, Ahmed H. COVID-19 economic cost; impact on forcibly displaced people. *Travel Med Infect Dis.* 2020. <https://doi.org/10.1016/j.tmaid.2020.101661>
8. Sattiani B, Zigrang TA, Bailey-Wheaton JL, COVID-19 Financial Resources for Physicians, *J Vascul Surg.* 2020. <https://doi.org/10.1016/j.jvs.2020.04.482>
9. The World Bank. External debt stocks, total (DOD, current US\$). Enlace Web: <https://data.worldbank.org/indicator/DT.DOD.DECT.CD?view=chart> [Last access 29/04/2020]
10. Kuckertz A, Brandle L, Gaudig A, Hinderer S, Morales-Reyes CA, Prochotta A, et al. Startups in times of crisis - A rapid response to the COVID-19 pandemic. 2020. <https://doi.org/10.1016/j.jbv.2020.e00169>
11. Rubin EJ, Baden LR, Morrissey S. Audio Interview: Loosening Covid-19 Restrictions. *N Engl J Med.* 2020;382(18):e67. <https://doi.org/10.1056/NEJMe2014793>
12. Ortiz-Martinez Y, Garcia-Robledo JE, Vasquez-Castaneda DL, Bonilla-Aldana DK, Rodriguez-Morales AJ. Can Google® Trends predict COVID-19 incidence and help preparedness? The situation in Colombia. *Travel Med Infect Dis.*, 2020 Epub Ahead Apr 28; <https://doi.org/10.1016/j.tmaid.2020.101703>
13. Rodriguez-Morales AJ, Gallego V, Escalera-Antezana JP, et al. COVID-19 in Latin America: the implications of the first confirmed case in Brazil. *Travel Med Infect Dis.* 2020; Epub Ahead Feb. 29; <https://doi.org/10.1016/j.tmaid.2020.101613>
14. Cardona-Ospina JA, Giselle-Badillo A, Calvache-Benavides CE, Rodriguez-Morales AJ. Ebola virus disease: an emerging zoonosis with importance for travel medicine. *Travel Med Infect Dis.* 2014;12(6 Pt A):682-3. <https://doi.org/10.1016/j.tmaid.2014.10.014>
15. Sanchez-Duque JA, Arce-Villalobos LR, Rodriguez-Morales AJ. Enfermedad por Coronavirus 2019 (COVID-19) en America Latina: Papel de la atencion primaria en la Preparacion y respuesta. *Aten Primaria.* 2020; Epub Ahead Apr 17; <https://doi.org/10.1016/j.aprim.2020.04.001>