PANDEMIC COSTS: COMPARATIVE STUDY BETWEEN COUNTRIES AND SOCIO-ECONOMIC AREAS

Aurora COSMA^{a}, Laura Agata ȚOC^b, Andreea Daniela TUDOR^c,
Alina Georgiana PETRE^d*

a, b, c, d Bucharest University of Economic Studies, Romania

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ABSTRACT

The pandemic outbreak of COVID-19 has generated in many countries across the world times with very challenging socio-economic and living consequences. The goal of this study is to analyze the socio-economic impact of COVID-19 and focus on how the pandemic generates costs. A literature review was conducted to see the economic consequences of the global pandemic crisis in several countries. In this paper, we discuss the variation of the costs caused by SARS CoV-2, the virus that's causing COVID-19. This research also shows the variation of GDP and the evolution of the human resources during the pandemic. The conclusions are focused on measures that might help reduce the negative impact of the pandemic on socio-economic activities and lifestyle, in general. This paper may lead to the opening of future research regarding programs to prevent and eradicate the negative economic consequences caused by the COVID-19 pandemic crisis.

KEYWORDS: *Cost, Pandemic, COVID-19, GDP, Global, Human resource*

1. INTRODUCTION

The costs of a pandemic are made up of all the economic casualties which are a combination of revenue losses and disasters associated with the risk of mortality.

Direct costs are the medical costs and indirect costs are the earnings lost due to the disease and production costs, plus spends with non-fatal diseases or, most commonly, human fear caused by the pandemic.

Despite the economic growth, development and the existence of various healthcare policies, most countries in the world fail to stop the spread of the pandemic caused by the new SARS CoV-2 virus. This leads to high economic costs as the world economy is in decline expecting, more than likely, a global recession if the right measures are not taken to stop the current pandemic.

In this paper we have analyzed over 18 articles and online sources, published in the last 3-4 months capturing the impact of the pandemic on the evolution of the world economy. Therefore, we are finishing this paper with conclusions that might help reduce the impact of the pandemic and avoid negative effects in future.

Despite the persistence of diseases and pandemics throughout history (a number of 18 pandemics, Covid-19 being the 19th), there is only one constant trend over time - a gradual reduction in the death rate. By improving the healthcare system and understanding the factors that incubate viruses we, as humans, can fight and come with solutions that have, as a result the mitigation of a (CHAT, 2020).

* Corresponding author. E-mail address: preda_auro@yahoo.com

2. MANUSCRIPT

2.1 COVID-19 forecast

The COVID-19 crisis is the third major shock of the global system in the 21st century, following the terrorist attacks of 2001 and the financial crisis of 2007-2008.

Analyzing the periodicity and evolution over time of the pandemics, researchers have been very interested over the years in the risk of pandemics and their effects on the economy, trying through studies and forecasts to reduce both economic and human losses.

Therefore, in 2006, McKibben W. and Sidorenko A. published the study "Global Macroeconomic Consequences of Pandemic Influenza" and concluded that in the case of pandemics the average loss of income was estimated at \$ 80 billion per year. About 16% of total pandemic costs (McKibbin & Sidorenko, 2006).

In 2018, the article "Pandemic risk: how large are the expected losses?" was published in the Bull World Health Organ by Victoria Y. Fan and collaborators. The results were that the revenue represents approximately 50% of the economic losses in case of a severe pandemic and 15% in case of a mild pandemic. Also, there is a high possibility of losing nearly 30% of the current workforce (Fan et al., 2017).

2.2 The cost evolution of health care services

A recent PwC (PricewaterhouseCoopers) report shows that the healthcare employer expenses could increase from 4% to 10% next year. Although, 2021 could be a year in which employers insurance costs remain unchanged or even lower. That might happen due to people that consume less preventive medical care assistance because the healthcare facilities are postponing their services. Children were vaccinated less, and cancer screening was discontinued. These things will increase the need for medical assistance in the coming years, because of the postponed immunization and delayed detection of cancer. Also, this will lead to an increase of costs for treating the patients in advanced-stage cancer.

In order to preserve the health care resources that will help reduce the impact of the current coronavirus pandemic, the US healthcare system is thinking about adopting a strategic approach that will diminish wasteful expenses through consumer control and healthy competition (O'Shea, 2020).

USC-Brookings Schaeffer for health policy has released a report showing that insurers have seen a 30% drop in global debt spending because non-urgent care is delayed or cancelled during the pandemic. Hospitals registered decreases in the number of hospitalizations. Decreases has been seen in the emergency department visits (50%) and in the operation rooms (70%) compared to the same period last year (Jett, 2020).

In October, World Health Organization has published a survey, researching the impact of COVID-19 on the healthcare systems based on reports from 105 countries. The following results were revealed: 90% of countries have suffered disruptions of the medical care system, many regular medical services have been suspended, and critical care diagnosis and treatment of cancer have been postponed (WHO, 2020).

In low- and middle-income countries, the effects of the pandemic are harsher due to the lack of protective sanitary materials, especially for medical staff, and the necessary treatment for the patients with serious health issues. In their absence, prevention measures like isolation, social distancing, disinfection and travel bans remain valid (Bong, 2020).

At the same time, in addition to the negative effects of the pandemic, there are several positive effects as reducing carbon dioxide emissions and other pollutants due to the quarantine measures, travel bans and factories that ceased the production (Lenzen et al., 2020).

2.3 The economic impact of the pandemic

The International Monetary Fund changed the previous estimated calculation of total revenue that might be lost because of the impact of COVID-19 on the global economy. IMF warned that the final cost of the pandemic for this year will be around 28 billion dollars due to the ceased production (Anon, 2020).

Table 1. Evolution of the global GDP compared to the previous quarter

No.	Country/Area	2019-Q1	2019-Q2	2019-Q3	2019-Q4	2020-Q1	2020-Q2
1	Australia	0.4	0.8	0.5	0.6	-0.3	-7.0
2	Brazil	0.6	0.5	0.1	0.5	-2.5	-9.7
3	Canada	0.3	0.8	0.3	0.1	-2.1	-11.5
4	China (People's Republic of)	1.9	1.3	1.0	1.6	-10.0	11.7
5	Euro area (19 countries)	0.5	0.1	0.3	0.0	-3.7	-11.8
6	India	1.4	0.9	0.8	0.9	0.7	-25.2
7	Mexico	0.2	-0.2	-0.2	-0.6	-1.2	-17.1
8	Russia	-0.5	2.4	-0.9	-0.7	-0.9	-3.2
9	South Africa	-0.8	0.8	-0.2	-0.4	-0.5	-16.4
10	Turkey	1.7	2.1	0.4	2.0	-0.1	-11.0
11	United Kingdom	0.6	-0.0	0.3	0.1	-2.5	-19.8
12	United States	0.7	0.4	0.6	0.6	-1.3	-9.0
13	OECD (37 countries)	0,6	0,4	0,4	0,2	-1,9	-10,5

Source: OECD (2020)

Both quarters of 2020 are disturbed by the effects of the SARS CoV-2 virus, and the table above shows that India's GDP fell by 25.2%, being the most impacted country. Compared to the previous quarter the slightest GDP decline was recorded in Russia (3.4%). The values are according to data presented by the Organization for Economic Cooperation and Development.

Even if in the first quarter had a decrease of 10%, the only country with a GDP growth of 11.7% in the second quarter of 2020 is China, due to the measures applied early to keep the number of the infected people low.

In the second quarter, the average international decline in OECD countries is 10.5% compared to the previous quarter, with lower values in Australia (7%) followed by the United States of America (9%) and Brazil (9.7%). Higher decline values were registered in the Euro Area (11.8%) followed by Canada (11.5%), Mexico (17.1%) and United Kingdom (19.8%).

Figure 1. GDP evolution over the previous quarter

Source: Authors contribution

2.4. The impact of COVID-19 pandemic crisis on the human resources management

In March 2020, Steve Matthews predicted that the unemployment rate in the US could reach 30% in the second quarter of 2020, due to measures applied to combat the COVID-19 pandemic crisis. He also expected that GDP will register a decline between the 2 quarters (Matthews, 2020).

The measures applied internationally due to the pandemic crisis, have led to an increase in unemployment and a decrease in demand for goods and services. Global goods transactions decreased by 17.7% in May 2020 compared to the same month of the previous year. The most affected areas were America, Asia and Europe (ECLAC, 2020).

Recent research in the field of human resource management has highlighted the outgoing worldwide challenges caused by COVID-19, in terms of recruitment, employee training, workplace safety and security. This pandemic has managed to destabilize overnight the economy, the population and organizations, most of the countries facing multiple lockdowns (Caliguri et. al., 2020).

Following a study conducted in 2019 on a sample of 500 respondents, executive members of various companies, the result was that only 20% of them are prepared to face a massive risk (EY, 2020). The current pandemic has only confirmed the results of this study and all attention is focused on human resource management. In this context it's essential to keep the employees in good physical and mental condition.

Currently, the society is facing a global pandemic that has reached over 42 million cases globally and over 1 million are deaths (WHO, 2020). The pandemic has not only affected organizations, but also all systems in the society. One of the most impacted is the health system causing massive staff disruptions among medical specialists which generates major implications for treating patients especially in such a rough period.

The importance of human resource management was highlighted by a study conducted in a hospital from India where with a performant management over the employees based on their proactivity they succeed to manage about 20,000 cases in four months. With the help of trainings conducted among specialists and workplace safety and security procedures they manage to treat a very large number of patients. All of this, while maintaining a good level of communication with them to ensure a high patient satisfaction (Khichar, 2020).

Another recent study had as a result the fact that the effects of the pandemic, which predict job losses or decrease in employees' salaries led to an increase in their level of job dissatisfaction. In Egypt, as a human resources strategy, the main objective is represented by the retention of the employees. The model resulting from this study is presented in the figure below and highlights the

factors that are influencing the staff retention – a mission that belongs to human resources management (Elsafy & Ragheb, 2020).

Figure 2. Important factors that influence the employee retention during COVID-19

Source: adapted from Elsafty & Ragheb (2020)

2.5 Methodology

The present article includes an analysis of the documentation found in various publications and scientific articles in order to illustrate the potential advantages of our country. Therefore, we conducted a comprehensive research into numerous sources of secondary data, such as articles, reports and books from the following areas: “pandemic costs; COVID-19; GDP decline; evolution of the human resources”. For the research, we also used electronic databases, such as PubMed, Academia. EDU, BRILL and Wiley Online Library. Other sources were the archives of different journals.

The method used is a descriptive and quantitative one, given the fact that the subject is very widely discussed.

2.6 Results

Even if the expenses with the health care services are currently balanced by the redirection of funds allocated to the treatment of certain diseases but postponed due to the pandemic, the COVID-19 pandemic has led to a disruption of health services in a fairly high proportion. This will lead to serious consequences in the following years, increasing the costs with diseases that were not detected during this period and for the lack of vaccination the children.

Table 2. Collateral damage rate of COVID-19 over the health care services

	Health care services	Damage rate
1	Immunization – Information services	70%
2	Diagnosis and treatment of non-communicable diseases	69%
3	Family planning and contraception	68%
4	Treatment for mental illness	61%
5	Diagnosis and treatment of cancer	55%
6	Diagnosis and treatment of malaria	46%
7	Detection and treatment of tuberculosis	42%

	Health care services	Damage rate
8	Antiretroviral therapy	32%
9	Interruption of emergency services	22%
10	Urgent blood transfusions	23%
11	Emergency surgeries	19%
12	Outpatient Care Service	76%

Source: WHO Report disruptions to essential health service (2020)

The crisis in the health system has highlighted the still unconscious shortcomings of the system in terms of the need for specialists. To improve these situations human resources management has the necessary leverage to provide the support for the healthcare system by ensuring the retention of specialists and the necessary procedures for carrying out the activity at work. Extremely important are also the trainings that will help maintain the safety and security during working hours.

3. CONCLUSIONS

Coronavirus is here and might stay for a while.

In 1976, M.F. Weiner wrote an article entitled "Don't waste a crisis", advising doctors to teach their patients how to improve their lifestyle, mental health and personal aspects during crises (Moran, 2020).

Therefore, such crisis as COVID-19 can become an opportunity to improve the healthcare system now and forever.

Salaries decreases have led to job dissatisfaction. Also, job loss plays a very important role in the human life satisfaction and happiness. Thus, it is necessary for human resources management to take concrete measures for staff retention. It is very important to find ways that will help maintain the engagement of the employees high during the pandemic.

The decrease in the value of GDP is obvious, but the initial forecast was much more dramatic, noting that the financial measures to reduce the economic impact to combat the COVID-19 pandemic were fairly effective.

Analyzing the evolution of China's economy, we can conclude that recovery is possible in a relatively short period of time, 6 months, but the measures to stop the COVID-19 pandemic must be serious and drastic at the same time. The big majority of the scientists agree that the dynamic course of COVID -19 is highly dependent on the arrival of a vaccine. Also, a very important factor is for how long the immune system remains protective after the vaccination. To get a clear answer on immunity, researchers will need to follow long-term studies on large groups of people.

REFERENCES

- Anon. (2020). The guardian. Retrieved October 18, 2020, from : <https://www.theguardian.com/business/2020/oct/13/imf-covid-cost-world-economic-outlook>.
- Bong, C.-L., Brasher, C., Chikumba, E., McDougall, R., Mellin-Olsen, J. & Enright A. (2020). The COVID-19 Pandemic: Effects on Low- and Middle-Income Countries. *Global Health*, 86-92.
- Caliguri. (2020, June 02). International HRM insights for navigating the COVID-19 pandemic: Implications for future research and practice. *Journal of International Business Studies*, 697-713. Retrieved September 3, 2020, from <https://link.springer.com/article/10.1057/s41267-020-00335-9>.
- CHAT, M. (2020). *MEDIC CHAT*. Retrieved September 23, 2020, from: <https://www.medic.chat/articles/cronologia-pandemiilor/>.

- ECLAC. (2020). *The effects of the coronavirus disease (COVID-19) pandemic on international trade and logistics*, s.l.: The effects of the coronavirus disease (COVID-19) pandemic on international trade and logistics.
- EY. (2020, April 20). Nearly 80% of Board Members Felt Unprepared for a Major Risk Event Like COVID-19: EY survey. *Press release*. Retrieved September 9, 2020, from: https://www.ey.com/en_us/news/2020/04/nearly-80-percent-of-board-members-felt-unprepared-for-a-major-risk-event-like-covid-19-ey-survey
- Fan, V. Y., Jamison, D. T. & Summers, L. H. (2017). A Century of Pandemics - Counting the Economic Costs. *Bull Worlt Health Organ*, Volume 2, 129-134.
- Jett, L. (2020). *The Harvard Gazette*. Retrieved September 8, 2020, from: <https://news.harvard.edu/gazette/story/2020/06/new-studies-are-estimating-spending-on-covid-19/>.
- Khichar, S., Midha, N., Bohra, G. K., Kumar, D., Gopalakrishanan, M., Kumar, B. et al. (2020). Healthcare Resource Management and Pandemic Preparedness for COVID-19. *International Journal Health Policy Management*, 493-495. doi:10.34172/ijhpm.2020.102
- Lenzen, M., Li, M., Malikid, A., Pomponi, F., Sun, Y., Wiedmann, T. et al. (2020). Global socio-economic losses and environmental gains from the Coronavirus pandemic. *Plos One*, iulie.
- Matthews, S. (2020). *Bloomberg*. Retrieved October 6, 2020, from: <https://www.bloomberg.com/news/articles/2020-03-22/fed-s-bullard-says-u-s-jobless-rate-may-soar-to-30-in-2q>.
- McKibbin, W. & Sidorenco, A. (2006). *Global Macroeconomic Consequences of Pandemic Influenza*. Retrieved October 16, 2020, from: <https://cama.crawford.anu.edu.au/pdf/working-papers/2006/262006.pdf>.
- Moran, J. I. (2020). *Could health insurance costs be flat or even lower during a global pandemic?*. Retrieved September 3, 2020, from: <https://medcitynews.com/2020/07/could-health-insurance-costs-be-flat-or-even-lower-during-a-global-pandemic/>.
- OECD, (2020). Retrieved October 5, 2020, from <https://data.oecd.org/gdp/quarterly-gdp.htm>
- O'Shea, J. (2020). *COVID-19 and the cost of health care: What happens when the pandemic ends?*. Retrieved September 3, 2020, from: <https://thehill.com/opinion/healthcare/501593-covid-19-and-the-cost-of-us-health-care-what-happens-when-the-pandemic>.
- Ragheb, E. & Elsafty, A. (2020). The Role of Human Resource Management Towards Employees Retention During Covid-19 Pandemic in Medical Supplies Sector - Egypt. *Business and Management Studies*, 2-50. Doi: 10.11114/bms.v6i2.4899
- WHO. (2020). WHO Coronavirus Disease (COVID-19) Dashboard. *World Health Organization*, Issue. Retrieved September 22, 2020, from https://covid19.who.int/?gclid=Cj0KCQjw28T8BRDbARIsAEOMBcxpb7UQcfrFedQQ1XI4iOo-MUFlobt1vbuw-sTH6u4EhJT55GInvvsaAhxnEALw_wcB.
- WHO. (2020). *World Health Organizations*. Retrieved September 3, 2020, from: <https://www.who.int/news/item/31-08-2020-in-who-global-pulse-survey-90-of-countries-report-disruptions-to-essential-health-services-since-covid-19-pandemic>.