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ECONOMIC ANALYSIS OF THE PERIOD'S SLOWING
ECONOMIC GROWTH RATES IN THE LIGHT OF THE
PANDEMIC BURDEN(2019-2021)

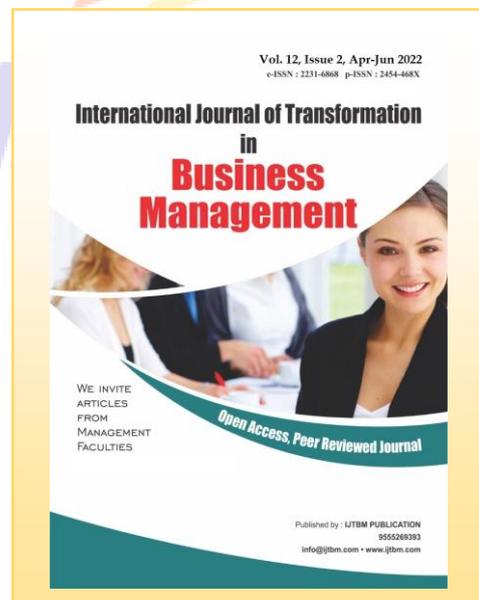
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ABSTRACT

Recently, a severe disease is known as COVID-19 has originated in a developed country with the world's second-highest national income, and has spread globally at the end of the year (2019–2021). The share of countries with very high and very high incomes from the spread of this pandemic was large, and possibly from the most important countries are Italy, Spain, the United States of America, Germany, and so on. Despite significant scientific breakthroughs in medicine and pharmacology, modern engineering technology in the medical field, and advanced medical laboratories, these countries were initially helpless in the face of the spread of this disease, which resulted in a slowdown in economic growth rates for all countries worldwide at the time its prevalence decreased. The global gross domestic product ranges between (87-84) trillion dollars. As a result, the research aims to bring about several objectives, including developing a theoretical and applied method of health economic analysis of pandemics for the World Health Organization to contribute to a group of countries' health protection and maintaining the actual supply of work due to pandemic deaths. That, in turn, contributes to lower productivity and capital accumulation. It is more challenging to keep healthy population groups quickly because healthy labor forces tend to be more productive, incredibly healthy, and educated populations and healthy labor forces tend to control their fertility.

Additionally, the research assumes that spending on fundamental requirements (health, education, and social capital development) is an international obligation in addition to a local one, as it results in a direct correlation between human health and economic growth rates. The research has come out with several conclusions. The most important of which is that the connections between pandemics and the economy are similar to the links between health and wealth in general. Prosperous civilizations have greater health and have a higher level of well-being and resistance to pandemics. At the same time, pandemics, like other health concerns, may hinder economic progress and create vicious cycles in which falling health diminishes wealth and protection against other health dangers, as seen by injury fatality rates.

The research puts forward several recommendations, the most important of which is that the world's countries particularly, those with high and extremely high incomes bear responsibility as most of them believe in economic globalization or a more contemporary concept known as "universal". This is added to the fact that their economies have slowed down due to this dangerous health event.

Keywords: *COVID-19 pandemic, economic growth, health, infectious pandemics.*

THE SIGNIFICANCE OF THE STUDY

The significance of this research arises from the discussion of the economic connections between infectious pandemics and how these connections are affected by changing global conditions and the direct and obvious costs

associated with combating these pandemics, though the long-term expenses are unknown.

Furthermore, when human life is included in the equation, it becomes evident that pandemics are very expensive. It requires prevention and swiftly overcoming all global obstacles because the vulnerability to

pandemics may decrease over time with higher development standards. After all, owning money and living in a prosperous society protect individuals from health setbacks in general and pandemics in particular, where individuals become infected. The more education someone has, the more productive they are in the labor field.

PROBLEM STATEMENT

Despite the significant medical development throughout the ages, extensive scientific development in pharmacology, and the application of modern engineering technologies in the medical sector, infectious illnesses such as influenza and malaria continue to pose significant hazards to modern human communities, many have been successfully combated and eradicated, their impacts are geographically restricted. On the other hand, other illnesses can swiftly move from a localized outbreak to a worldwide pandemic (such as the COVID-19 pandemic). Pandemics will continue to be a source of pain for humankind, owing to the deaths they cause and the constraints they place on the global economy, resulting in a slowing of GDP growth rates.

OBJECTIVES:

1. The World Health Organization (WHO) provides a model of healthy economic analysis of pandemics to contribute to human protection, particularly in medium and low-

income nations, to attain economic growth rates and boost macroeconomics.

2. Preserving the actual supply of employment owing to pandemic-related deaths or, in better circumstances, poor productivity rates and low-income results in a reduction in savings and capital accumulation.
3. Maintaining healthy populations is more cost-effective because a healthy workforce is more productive by having healthy children and providing higher levels of educational attainment and access to more effective machinery, technology, and infrastructure, particularly for healthy and educated populations who are more likely to control their growth.

HYPOTHESIS:

Spending on fundamental necessities, namely health, education, and support policies to provide safe water, sanitation, and attention to social capital are global in addition to local responsibilities because they lead to a direct relationship between human health and economic growth rates; a hypothesis that is supported by the literature of economic theory and health and environment economics.

METHODOLOGY:

1. We will analyze the economic impact of pandemics using economic theory,

health economics, environmental economics, and WHO models and applications because the gross domestic product is a result of total labor supply, capital accumulation, and technological innovation.

2. Work with the World Health Organization, the United Nations, and the World Bank to gather statistics, information, and reports.
3. Some applications are used based on the requirements of the research as determined by the regulations and statistical methodologies used in the study.

INTRODUCTION:

In recent years, the hardship of individuals living with HIV/AIDS, malaria, and TB in low- and some middle-income countries have drawn widespread global attention to the predicament of those affected by the HIV/AIDS, malaria, and tuberculosis pandemics, but what hit them from these pandemics has not received much attention.

Unfortunately not only because of the pressures that these diseases create on the health systems of these overburdened countries, i.e. the enormous cost of the disease burden but also because of the prevalence and cost of addressing. These issues have risen significantly in recent years and the inability of the World Health Organization to fulfill its obligations towards these countries due to the inattention by

countries with high and very high incomes at the health event level. But at the end of 2019 and the start of 2020, the world woke up to the spread of a dangerous disease called COVID-19 from a developing country, whose national income is the second largest in the world, with more than 14 trillion dollars.

The share of countries including Italy, Spain, and the United States of America, etc. with very high incomes from the spread of this disease is greater although these countries have the largest scientific breakthrough in the field of medicine and pharmacology and the use of modern engineering technology in the medical field and advanced medical laboratories: Therefore, the countries of the world, especially those with high and very high incomes, must bear the responsibility, as most of them believe in economic globalization, or instead in a more contemporary concept, which is cosmopolitanism. Additionally, their economy has slowed down due to this dangerous health event. More informed health policies should be developed, and better opportunities should be provided to improve the quality of life of millions of people around the world.

CHAPTER ONE – LITERATURE REVIEW:

First. The Relationship Between Health Safety, Humans, And the Economy

Most research and scientific studies show a link between human health safety and the economy, owing to the presence of a strong interaction between population health and economic growth for a variety of reasons and as follows:

1. High-income people tend to have better health because they have access to more and better nutrition, safe water and sanitation, and quality health care. They also have a high level of psychological comfort and social status, as well as a large share of social capital, amenities, and leisure facilities (Bloom Chen & Govern, 2018, 18-42).
2. Pandemics represent a significant burden on individuals and societies all over the world. In general, the economic situation and low economic growth rates are responsible for a high %age of a healthy life, which leads a person to lose productive effort—especially (between the ages of 30 and 70 years). When individuals are in the most, their lives are economically productive, and in a way that is worrying because the current rates of pandemics are high, as recent trends refer to risk factors.

The global burden is likely to increase, especially with the beginning of the new year with the emergence of new pandemic patterns. While, many countries, especially the developed, indicate a slowdown in economic growth rates, which leads to a rise in poverty rates in the world. The latter is mainly high in developing countries that also suffer from low job opportunities.

(Hyclak & Skeels, 2016, 25-114)

Second: The Pandemic and the Economy

Various research and scientific studies indicate that pandemic diseases directly impact the country's economy through several channels such as health, transport, agriculture, tourism, and trade sectors, all of which have achieved rapid growth under globalization, and the World Trade Organization which encourages interdependence between modern economies. This interdependence helped spread pandemics, which could involve the supply of new pandemic strains, which is actually what happened in many European countries. Added to that, rapid urbanization, international travel increases, and climate change, have all made pandemic outbreaks a global phenomenon, not just a local phenomenon, implying that it is important for all countries to take the necessary measures to confront this threat. This calls for the development of broader solutions

adopted by developing and developed countries alike (Bloom & Canning, 2018, 27-46). In this regard, we must refer to the European Union's measures that aim to complement national policies to help member states face the common challenges of pandemics through support, coordination, and exchange of best practices between them through coordination between health experts, financial support within the framework of joint financing tools and the adoption of relevant legislation. Through decisions of the Special Initiative, the European Parliament has taken the opportunity to highlight the need for further action (Bloom, Chen & Govern, 2018, 22).

The first and the essential aspect of a pandemic will always be human suffering and losing lives. Several studies focusing on this aspect have found out that the impact of pandemics across international economies can be significant. Some recent articles estimate that the total value of the losses could reach about 500 billion US dollars annually, or about (0.6%) of universe income. By reducing workforce size and productivity, increasing absenteeism, and, most importantly, resulting from individual and social measures that stop transmission of infection but disrupt economic activity – and the cost of rising mortality from the global acute influenza pandemic (COVID-19).

(Jamison, & Summers, Pandemic, 2018, 10-40) and according to the researchers, the

estimated %age of the annual national income represented by these losses varies according to different income groups, as middle-income countries are affected more severely by (1.6%) than high-income countries (0.3%). A joint report issued by the World Health Organization and the World Bank in 2019 estimates the impact of this pandemic upward, bringing the total cost from 2.2% to 4.8% of global GDP (3 trillion US dollars). The report further notes that in such a case, the GDP of South Asia could fall by 2% (53 billion US dollars), and Sub-Saharan Africa's GDP by 1.7% (28 billion US dollars). However, another article from the International Monetary Fund found out that vulnerable populations, particularly the poor, are disproportionately likely to suffer from disease outbreaks because they have fewer access to health care and lower savings for disaster protection. (World Bank Group, 2019, 110-240), and regionally, a World Bank report estimates that the recent Ebola pandemic in Guinea, Liberia, and Sierra Leone has reversed many of the economic gains in previous years for these countries that were among the world's fastest-growing economies until then. The report also shows that the outbreak of the disease caused a significant loss in private sector growth. The country was exposed to threats to food security due to the decline in agricultural production. Cross-border trade was burdened with restrictions on movement, goods, and

services. More specifically, the national or regional economy is always affected by pandemics, while some sectors of the economy are more severely affected than others. For example, the high material costs of the health sector, especially if treatment is required for an extended period. Furthermore, the procedures and measures are taken by the country's authorities to contain the pandemic:

- Closing schools or limiting transportation and other services (Kostova, Cassell, et, 2019, 106)
- Residents take proactive precautions, including staying at home to avoid getting sick or caring for a sick family member. This leads to loss of workdays and loss of work productivity
- Stores and companies are temporarily closing their activities to avoid the disease's impact on their workforce.
- Air transportation is another sector that is usually affected by the pandemic.

Third. Importance of Preparedness and Investment:

As it becomes apparent, an outbreak of the disease can affect many sectors of a country's economy and, as a result, cause great harm. Additionally, rapid urbanization, ever-increasing travel between countries, and climate change make pandemic outbreaks global rather than local.

Therefore, there is an urgent need for measures and preparedness for health and non-health capacities at the regional, national, and international levels. The first step for countries to seek to enhance their readiness in joint coordination with the World Health Organization is to determine the realistic situation of the pandemic and the required and potential needs and preparedness to confront, which depends on four means. (Anglos and Scholz, 2020, 14-79).

- a) Prevention, which includes legislation, policies, and financing at the national level.
- b) In terms of food safety, animal disease transmission, biosafety, biosecurity, and immunization, international cooperation is achieved through communication and appeals to health regulation and border crossing control.
- c) In the fight against pandemics, early identification through national laboratory systems, close monitoring, timely reporting, and workforce development are essential. Bloom, Cadarette, and Sevilla (2018, 7–19).
- d) Rapid response to emergencies while coordinating public health, security, and medical countermeasures. To combat this type of epidemic, governments must work together and invest in critical infrastructure. In this

field, we quote from the International Monetary Fund's focus on the following points: Investing in improving sanitation, providing clean water, and improving the urban infrastructure.

1. Building robust health systems and supporting sound nutrition.
2. Investing in endemic disease surveillance institutions*
3. Improving country cooperation and coordination to better assess the economic impact of pandemics.
4. Cooperation and coordination across countries to improve the monitoring of epidemics' economic impact.

Other World Bank studies on system improvements in public health and animal health to meet World Health Organization and World Organization for Animal Health minimum standards. and aside from what has been explained that investment in this area would help alleviate poverty due to pandemic outbreaks, the poor are disproportionately affected, as the theory of basic needs and human development confirms. (10–26) (Cohen and Murray, 2004).

Fourth. Health as A Determinant of Wealth:

There are several ways to raise each individual's average income:

First. Health can affect income through its influence on education.

- a) Healthy kids are less likely to have problems with cognition and development, and they can go to school regularly.
- b) Parents are more willing to invest in their children's education if they believe they will live long enough to reap the benefits.
- c) As they enter working age, children who acquire a better education can contribute to long-term economic development(Anderson, R.M., 2004, p. 9-968).

Second. Good health enhances work productivity.

- a) School students as an example.
- b) Workers are more mentally alert and physically energetic.
- c) In communities that enjoy good health, the members of their institutions take fewer days off to care for ill relatives but instead use their vacations to enjoy psychological and physical comfort.

Third, good health promotes saving and investment, both of which are essential economic growth determinants. Saving for retirement becomes a more caring option for individuals as life expectancy rises.

A healthy and productive workforce is more likely to attract foreign investment than a diseased population.

Fourth, gains in health have both transitory and long-term implications on the age structure of a country's population.

- Progress in the realm of health has been made to lower newborn and child mortality and increase the number of children who survive to adulthood (Bloom and Canning, 2018), pp. 27-46).

Lower fertility rates result from parents' understanding, either quickly or through time, that they need to carry fewer offspring to attain their desired family size. For more information, visit:

* Website of the United States Centers for Disease Control, <http://www.cdc.gov/flu/avian/gen-info/facts.htm>

Female education levels and labor market options that lower intended fecundity are frequently at the root of this effect. Fertility rates decrease as a result of the availability of family planning services. As a result, a generation of babies will be capable of contributing to the nation's economic production once they reach adolescence. In this topic, there are numerous examples.

The relationships between health and wealth can shift over time and vary by region, and the effects of one on the other are not always predictable. Health, on the other hand, is definitely an essential aspect of the development process. The following methods

can typically increase a country's wealth (and thus its health) (Fedson, 2005, 26-429)

- Opening up to trade
- Encouraging exports
- Restructuring or eliminating ineffective state-owned enterprises.
- Improving the infrastructure.
- Investment in education.
- Enhancing investments in the health aspect.
- Altering the country's age structure and enhancing the country's capacity to employ long-term economic consequences help alleviate economic stagnation or poverty.

Fifth. Economic Welfare and The Outbreak of Pandemics:

- a) **Pandemic:** A pandemic is a specific health behavior that causes illness in a community or region, side by side with other health-related events that are clearly beyond the ordinary.
- b) The community or location in which instances occur is explicitly identified. The number of cases that suggest a pandemic varies depending on the size and type of population exposed and whether or not the community has been exposed to this ill-health behavior before in time and place. A pandemic is a disease defined by the spread of rapid and substantial pathological changes that

occur over a year or years (Hyclak, Skeels, 2016, 25-114).

- c) **Pandemic:** "A pandemic is a disease that spreads across a huge area, frequently across continents, and affects a large proportion of the population."
- d) **Endemic disease:** "The presence of a disease or infectious factor in a certain geographic area or demographic group, as well as the normal spread of a disease within that region or population."

The focus of our discussion is pandemics and their impact on economic results. Because pandemics are essentially those that spread over a large area, the two topics naturally overlap. The settlement, on the other hand, is a unique circumstance (Bloom, Chen, and Govern, 2018; Bloom, Chen, and Govern, 2018; Bloom, Chen, and Govern, 2018).

First: Some endemic diseases, such as malaria, cause pandemics to break out in a specific demographic group or spread more widely regularly. In many areas, AIDS and TB are also prevalent. Because of their endemicity, each of these diseases has the potential for long-term economic consequences, studied extensively. Pandemics have a more limited time and geographic reach. Their financial repercussions will most certainly be short-term, but it may potentially have long-term consequences.

Whether the association between pandemics and welfare is similar to the relationship between general health and wealth is difficult to address.

Will money and welfare be a barrier to pandemics and their spread, or will pandemics and their dissemination impact wealth and welfare? It will be addressed at a later time.

The initial analysis, investigations, and a plethora of research confirms that public health progress will be geared toward preventing pandemics and their spread, as seen in high-income industrialized countries. Diseases and pandemics, on the other hand, plague middle and low-income developing countries. Nonetheless, the reality of the COVID-19 and 20 pandemics shows that high-income countries suffer just as much as developing countries. We conclude that public health is an international duty governed by a united global policy rather than local regulations.

Second: filthy conditions encourage the spread of bacteria, viruses, parasites (such as worms and imopai), and vectors.

Third: When a population suffers from malnutrition, or suffers from weakness due to other health setbacks, or has a high %age of very young children or significantly older people; all of whivh have the concept of reproduction expressing strength and prosperity, weak bodies are more easily

infected and less able to fight infection. 1-60 (Busch, Sindelar, et al., 2004).

Fourth: People with wealth can protect themselves or lessen the consequences of a variety of risk factors. The wealthy have more living space than the poor, more access to health care, medicine, immunizations (and can afford private care where government services are lacking), better sanitation, and a better diet. Furthermore, environmental degradation is expected and contributes to disease outbreaks.

Mobility, on the other hand, is a more complicated issue. Although the wealthy are more mobile than the poor, tourism and commercial travel can raise illness risk (trade has been a canal for pandemics since ancient times, and globalization allows disease-causing microbes to spread faster and more often than before). (Busch, Sindelar et al., 2004, pp. 5-17)

On the one hand, poor people's movement is more likely to be risky. Male migrants, for example, tend to remain anonymous in social and monetary terms and may feel lonely while separated from their family, helping to transmit disease. Female migrants are frequently abused, making migration a risk factor for viral transmission.

More broadly, the poor frequently relocate to avoid catastrophic events such as wars or environmental disasters, sometimes ending up in congested or improvised camps or slums with inadequate sanitary conditions

that are ideal for pandemics. They may also relocate to find work. This is a transition from rural to urban settings, mainly when economic activity is centered in large cities(263–272 in Economics and Health Policy, 2005).

The impact of a pandemic disease on the economy is complex and relies on many factors. These factors include the most susceptible group, the natural history of the disease (for example, the period in which the pandemic lasts), and how the disease is transmitted (by airborne pathogens versus blood-borne pathogens).

Thus, it appears that the relationship between pandemics and wealth resembles that between public health and income in many ways. Economic growth is likely to safeguard the population from health setbacks and pandemics, demonstrating that even the wealthiest nations cannot withstand a pandemic. Pandemics and other health issues can also hinder economic progress by triggering vicious cycles in which bad health diminishes wealth and makes improving health more difficult. However, only in circumstances where pandemics last for a long time can the impact on survivors be unfavorable to the macroeconomic situation (although those who die suffer apparent economic losses, along with their families). Short pandemics may harm individual households and companies, but the aggregate financial loss will be minimal.

It is crucial to remember that, like pandemics, endemic diseases can have enormous economic implications at the individual and household levels. For example, the effects of malaria can be devastating both economically and macroeconomically, and a high incidence of malaria in a region can reduce economic growth by more than a percentage point per year, according to the Commission on Macroeconomics and Health's report. 365-389 (Case, Fertig, 2005).

Sixth. Epidemiological Challenges:

Pandemics have been a problem for human societies throughout history. The challenge they posed was not always met, and millions died due to pandemics that swept through a population with no effective defenses. While increased health care, rapid response measures, and specialized medical discoveries have given humanity new weapons to combat pandemics, the forces of "globalization" have incited pandemic spread. Increased international travel, for example, has introduced several viruses to new populations. Increased global trade has been a pathogen for the past two decades. Diseases have spread fast from one place to another, even in areas previously thought to be immune to them. (263-272 in Economics and Health Policy, 2005).

Some have speculated that more competition and freer trade have resulted in exporting pressures inducing infection; this appears to

be the case with bovine spongiform encephalitis, Nipah virus, and avian influenza.

The unpredictability and rapidity with which pandemics spread are causes of panic in some (but not all) people. Different pandemics can have widely diverse economic repercussions based on some of the new characteristics stated (Bloom, Chen, and Govern, 2018, pp. 18-42)

There Are Two Main Challenges for Decision-Makers:

- a) To combat the epidemic, a quick response is required. The global health community's quick response has been critical in decreasing the effects of this severe acute respiratory disease. The economic consequences of a slower response and allowing the infection to spread further would have been far more disastrous. The sluggish reaction to HIV/AIDS in many regions of the world, on the other hand, has substantially exacerbated the virus's impacts.
- b) The response must be adaptable. Pandemics can evolve swiftly, leaving decision-makers with insufficient knowledge to act. Injecting drug users in the West, for example, felt the first consequences of HIV/AIDS. Policymakers were astonished to see that it is fast

spreading in Africa among both genders.

Seventh: Epidemiology Treatment: Even if all these preventative methods are in place, some diseases can still spread out. **First**, it limits the movement of the virus by issuing a global warning about travel to and from affected areas. (Datar and Sturm, 2006, 1440 – 1460). **Second**, the international media is used to convey information about the virus and explain preventive measures. **Third**, mobilizing the international scientific community to implement quarantine measures and identify the source of the virus - it took only one month to find out that a specific coronavirus caused SARS. In contrast, it took two years to find out that HIV caused AIDS. **Fourth**, the World Health Organization has scrambled to bolster its existing global surveillance system by working with immigration departments, airlines, and airports to track the spread of the virus.

The economic effects provide an exciting lesson for future pandemic containment efforts. Extensive media coverage of SARS is “exaggerated in public fear, fueling the growing stigma associated with the disease.”

(Economics and Health Policy, 2005, 263 – 272).

CHAPTER TWO - THE PRACTICAL ASPECT OF THE SLOWDOWN IN ECONOMIC GROWTH RATES IN THE LIGHT OF THE BURDEN OF PANDEMICS:

To begin, we must emphasize that COVID-19 was chosen as a case study to demonstrate the slow in economic growth rates due to the burden of pandemics, given that this pandemic has taken so much attention in the world media that no sickness or pandemic has before. Indeed, the COVID-19 and 20 pandemic deserves this attention because of its adverse effects on the global economy, as the world's GDP in 2019 totaled more than 87¹ trillion dollars. It was known that this pandemic began to spread at the end of this year in the city of Wuhan, China, under terrifying media coverage that the world had never seen before. Then it began to spread over the globe. The sophisticated countries' share was higher at first, but it gradually increased as the world's countries gathered; even the most distant islands were not immune.

This is a clear reflection of technological advancements, scientific progress, and economic globalization principles that have turned the world into a village, resulting in a worldwide economic slowdown.

Despite the occurrence of roughly one million deaths out of 216⁴ million infections, the gross domestic product (GDP) in 2020 will be 84² trillion dollars, a fall of ³1%

compared to a population gain of 1.7 %. This necessitated that we, as researchers, integrate the theoretical and practical aspects. On this basis, 172 countries were examined using two sets of analysis: the seven industrialized countries and the twenty countries and countries of the Organization for Economic Co-operation and Development (OECD), totaling 36 countries, including fourteen repeating countries.

The countries in the first and second groups are categorized into five economic categories based on the World Bank's financial classification criteria. The reason for eliminating the rest of the globe is owing to data inaccuracy, similarity, and, in some cases, contradiction caused by the diversity of data sources.

First. The Main Economic Organizations in The World

First, we will examine the seven industrialized countries in greater depth due to their prominence in economic, political, and technological terms.

1. The Seven Industrialized Countries

The Group of Seven is a group of countries that was created in 1976 when Canada joined France, Germany, Italy, Japan, the United Kingdom, and the United States of America. These countries' finance ministers meet several times a year to debate economic strategies. They have had a distinct role in helping to stop the 2007-2008 worldwide

financial crisis, which differs from the Group of Eight (or seven + 1).

The population of the seven countries accounts for 9.9 % of the people of the research countries. At the same time, its national product is close to 40 trillion, accounting for 45.3 % of the research countries. It is considered one of the wealthy countries, with a simple average per capita income index equal to 456 % of countries' average per capita income. The cost of the search was slightly more than eleven thousand dollars, And that the seven countries spend 2.7 % of their GDP on health, indicating that these countries stand out from the rest of the globe when they have such vast resources. However, their share of the Corona epidemic was the highest, with nearly forty million infections, or 30.8 % of the infected in the selected research countries. This is not commensurate with their high economic, health, and technical capabilities in all scientific fields, as more than one million people died due to the epidemic, accounting for 25.3 % of the deaths in the research countries. Despite its improvements in health, the death rate from its infected has risen to 2.2 %, and the country's economy has shrunk by more than \$7 trillion. The United States of America, whose population accounts for 43.1 % of the population of the seven countries. 4.2% of the population of the countries chosen for research, and whose national product

accounts for 54 % of the output of the seven countries and 24.5 % of the countries' production, has the highest average income in the group. The total amount spent on health in the seven nations is \$64,184, and the rate of expenditure on health is similar to the overall average of the seven countries. Despite its economic and political power, as the world's most powerful country, the infected were the most numerous in the seven countries, accounting for 61.6% of these countries and 19.0% of the research

countries, and deaths accounted for 56.1% of all deaths in the seven countries. Although their population makes up only 4.2% of the overall population of the nations studied, they account for 14.2% of all deaths, followed by France, Italy, and the rest of the countries, except Japan, which has the lowest share of the seven countries studied.

As shown in the table below, wealthy countries are not immune to epidemics and may be infected at higher rates than the rest of the globe.

The seven industrialized countries table (1)

No.	Country	² No. of population Thousand	¹ Local product Billion \$	³ Estimated average per individual income ⁷ X=pn/po *100	⁶ Percentage of spending on health from GDP	⁵ infections, last update 27/8/21 Thousand	Number of deaths Last updated 27/8/21	The death rate from infection in each country
1	USA	334028 4.2%	21440 24.5%	46418 572%	2.2%	39342 19.0%	651959 14.2%	1.7%
2	Japan	578126 1.6%	5154 5.9%	40722 363%	1.8%	1336 0.7%	15737 0.3%	1.2%
3	Germany	83073 1.1%	3863 4.4%	46506 415%	1.2%	3914 1.9%	92597 2.0%	2.4%
4	France	67055 0.9%	2707 3.1%	40370 360%	0.0%	6693 3.2%	113775 2.5%	1.7%
5	US	43666 0.9%	4274 3.1%	29741 368%	2.8%	6629 3.2%	132143 2.9%	2.2%
6	Canada	38017 0.5%	1731 2.0%	45530 406%	4.9%	1483 0.7%	26864 0.6%	1.8%

7	Italy	60279 0.8%	1989 2.3%	32991 294%	3.9%	4510 2.2%	128957 2.8%	2.9%
Total		775466 9.9%	39627 45.3%	51101 456%	2.7%	63934 30.8%	1162029 25.3%	1.8%
The general total of the selected search countries		7807526 100%	87552606 100%	11214 100%		207521 100%	4592195 100%	2.2%

The table is prepared by the researchers based on the following:

1. Local product 2019 according to estimates by the International Monetary Fund.
2. Population estimates for 2019 according to the United Nations.
3. Average income is the division of a country's GDP/population of that country.
4. worldmeters.info, the source is coronavirus statistics in - State Information Service 27/8/2021 (<https://www.sis.gov.eg/story/208943>)
5. Source of data on health expenditure ratios / United Nations / World Health Organization.
6. The simple average individual income index relative to the average income in the selected research countries po.

2. The Twenty Countries

The Group of Twenty is an international group founded on September 26, 1999, by the seven industrialized countries. The goal

of discussing policies aimed at promoting worldwide financial stability. Since 2008, the organization has broadened its purpose by appointing prime ministers or leaders of government and finance and foreign ministers and think tanks.

The twenty countries' population accounts for 59.5% of the total population of the selected research countries. And 79.2% of their national product, with an average per capita income of \$ 14929, a simple record number of 133% when the base figure is the group of selected countries at 100%, and the twenty countries spend approximately 3.5 % of their national product on health. Still, It was infected by 68.5% of the Corona pandemic infections that infected by the selected research countries, which is 0.9 % less than the population of those countries. The fact that these countries are dispersed throughout broad portions of the globe, we believe, is the reason for the relative drop in the number of infections. Another explanation is China's population, which accounts for about 30.3 % of the population of the twenty countries, and its Corona

pandemic infection rate of 0.07 %, which is low compared to some of the countries affected. However, the pandemic started in China. In terms of deaths, they accounted for 67.3 % of the search nations, with deaths in China accounting for only 0.02 % of the

total. In comparison, the death rate from infections in the twenty countries was 2.2 %; also, China's national product increased, while the national product of most of the twenty countries decreased. This is illustrated in the table below.

Table(2) The main economic groups

Industrialized and developed countries	² No. of population Thousand	¹ Local product Billion \$	³ Estimated average per individual income $\frac{7X=pn/po*100}{00}$	⁶ %of spending on health from GDP	⁵ infections, last update 27/8/21 Thousand	Number of deaths Last updated 27/8/21 and its proportion of the world	The death rate from infection in each group
The Seven industrialized	775466 9.9%	39627 45.3%	51101 456%	2.4%	63934 30.8%	1162029 25.3%	1.8%
The Twenty industrialized	4643775 59.5%	69326593 79.2%	14929 133%	3.5%	142337 68.5%	3090711 67.3%	2.2%
Developed (OECD)	1669939 21.4%	56693011 64.7%	33949 3.3%	4.0%	123329 59.4%	2637604 57.4%	2.1%
The general total of the selected search countries	7807526 100%	87552606 100%	11214 100%	3.1%	207521 100%	4592195 100%	2.2%

The table is prepared by the researchers based on the following:

1. Local product 2019 according to estimates by the International Monetary Fund.
2. Population estimates for 2019 according to the United Nations.
3. Average income is the division of a country's GDP/population.

4. worldmeters.info, the source is coronavirus statistics in - State Information Service 27/8/2021 (<https://www.sis.gov.eg/story/208943>)

5. The data source is the United Nations.

6. The simple average individual income index is relative to the average income in the selected research countries $po?????$.

3. Organization for Cooperation and Development (OCED) countries.

It is an international organization that aims to improve economic conditions and expand trade. It comprises 36 industrialized countries that believe in free markets; with fourteen of them being among the twenty countries.

It was founded on September 30, 1961, to replace the Organization of European Economic Cooperation (OEEC), and it was later expanded to include non-European countries. The organization's mission is to provide possibilities for governments to solve problems. We are currently dealing with the issue of the Corona pandemic, which has advised and required its affected countries to follow a set of instructions and suggestions laid out in the theoretical framework.

The OIC countries' population is 21.4 % of the population of the selected research countries. The national product of these countries is 64.7 % of the research countries' national product, with a high average per capita income estimated at 33,949, equivalent to the individual index of the research countries' individual index of 303 % of the base year. These countries spend about 4% of their gross domestic product on health. Despite spending the most on health and being wealthy in economic and technical means, the Corona pandemic accounted for the most significant proportion, accounting

for 59.4 % of illnesses in the research countries. These countries benefit from political advancement and clout.

However, these countries had a high mortality rate, accounting for 57.4 % of deaths of the research countries. The infection-related death rate was 2.1 %, similar to the general rate of infection-related fatalities in the nations studied, as shown in the previous table.

Second. The Economic Group Is Classified According to the Categories of National Income:

The World Bank divides the world's countries into four groups: high-income countries, with average incomes over 12315 dollars, with Luxembourg having the highest average at 129130 dollars. As a result, we have discovered that the difference between the two numbers is enormous. As such, it was divided into two categories, namely wealthy countries with an average per capita income greater than \$ 40000, and rich countries with an average per capita income less than \$ 40000, based on the World Bank's implicit classification for 2019. The other categories were adopted as they lie under with the World Bank classification, and the reason is based on the classification.

First, economic growth, inflation, currency rates, and population increase all impact per capita GNI, as well as the modification of national accounts techniques and statistics on GNI per individual in each country.

Second, the income classification limitations must remain stable in real terms, and the classifications must be updated periodically to keep up with inflation. The following table

will be used to examine each item in terms of what it was exposed to as a result of the Corona epidemic (COVID 19):

Table(3) The second group

No.	category of income for countries	Numbers of countries	² No. of population Thousand	¹ Local product Billion \$	³ Estimated average per individual income ⁷ X=pn/po*100	⁶ % of spending on health from GDP	⁵ infections, last update 27/8/21 Thousand	Number of deaths Last updated 27/8/21	Deaths/ infections %
1	Greater than(40000\$) Very rich countries	26	860575 11.0%	45645716 52.1%	53044731 %	3.5 113%	68258 32.9%	1134081 24.7%	1.7 %
2	39999 – 12375\$ Rich countries	33	376536 4.8%	9228799 10.5%	24510 219%	3.8 123%	23447 11.3%	517280 11.3%	2.2 %
3	\$12374-4046 Average category countries	48	2808490 36.0%	24777090 28.3%	8822 79%	2.8 90%	73646 35.5	2040750 44.4	2.8 %
4	\$ 4045-1036 Average category countries	41	3123522 40.0%	7432739 8.5%	2380 21%	2.9 94%	40098 19.3%	841214 18.3%	2.1 %
5	Less than 1036\$ Low income countries	24	638403 8.2%	468262 0.6%	473 7%	2.4 77%	2072 1.0%	58870 1.3%	2.8 %
6	The general total of the selected search countries	172	7807526 100%	87552606 100%	11214 100%	3.1 100%	207521 100%	4592195 100%	22.1 %

The researchers prepared the table, and the study included only (172 countries) because of the deficiency and contradiction of the data.

1. Local product 2019 according to estimates by the International Monetary Fund.
2. Population estimates for 2019 according to the United Nations.

3. Average income is the division of a national product /number of population.
4. Classification of income levels depended on the World Bank.
5. worldmeters.info, the source is coronavirus statistics in - State Information Service 27/8/2021 (<https://www.sis.gov.eg/story/208943>)
6. The data source is the United Nations.

1. Affluent Countries (Average Per Individual Income Is More Than 40000\$)

This category contains 26 countries with a population of 861 million people, or 11% of the population of the selected research countries, a national product of approximately 55 trillion dollars, or 52.1 % of the national product of the chosen research countries, and a population with an average per capita income of 53,041 dollars per year, or a simple record. It accounts for 473 % of the average research country index.

The %age of spending on health out of the national product of the countries of this category was 3.5%. Yet, what affected these countries was the Corona pandemic, as 32.9% influenced the research countries. The deaths in these countries constituted 24.7% of the deaths of the Corona pandemic in the selected research countries. In comparison, the deaths of the pandemic category have infected it with 1.7%, which is a low %age

compared to the %age of deaths from infections to other groups. This is the high health spending rate of 3.5% of its national product compared to the rest of the groups. Also, there is a decrease in its national product due to the pandemic because of its broad role in trade and tourism with countries of the world. Most of them led the economic globalization in the world. This is what is illustrated by the countries of the Organization for Cooperation and Development (OCED) and the previous table and its explanation.

2. Rich Countries (Average Per Individual Income Is 12375 – 39999\$)

As shown in the preceding table, this group includes 33 countries with a population of 377 million people, or 4.8 % of the overall population of the research countries, and a national product of around 924 billion dollars, or 10.5 % of the total number of research countries. The population of this group has an average per capita income of 24510\$ annually, with a simple record of 219% of the research countries' average annual per capita income. This group also spends on health an estimated 3.8 % of its national product which is equivalent to 123% of what is spent on health in the research countries. Its infections from the Corona pandemic were 23 millions. By 11.3% of the research countries, the infections are relatively lower than the very rich countries, and their deaths have accounted for 11.3% of

the pandemic deaths in the selected research countries. The death rate from infections due to the pandemic was 2.2%, which is parallel to what happened in the deaths of the research countries. We believe that the reason for this is that the population of wealthy countries is spread in population centers with a relatively low number, and health care and its cost are high, whether in rural or urban areas.

3. Middle Income per Individual Countries Class (4046-12374)\$.

According to the previous table, the third category includes 48 countries with a population of 2.8 billion, or 36% of the population of the research countries, a national product of 2.5 trillion, or 28.3% of the research countries' national product, and an average per individual income of \$ 8822, or a figure of simple standard 79 % compared to the research countries' median income in the base year.

But, unlike the previous two categories, characterized by high rates of infection despite high rates of national product, what infected this category of the COVID-19 pandemic amounted to 35.5 % of what affected the research countries, which is a %age close to the number of their population. This evidences that wealth, scientific and technical progress did not prevent this pandemic from happening, and perhaps more severe pandemics will appear in the future. But a death rate has occurred in

these countries, amounting to 44.4%, which is the highest %age in the research countries, yet it is not a high %age compared to the number of their populations. In addition, the death rate in this group amounted to 2.8%, which is the highest %age in the research countries despite the fact that spending on health reached 2.8% of its national product, which is equivalent to 90% of the general average of the research countries.

4. Middle Income per Individual Countries Class (1036-4045)\$.

The fourth category, referred to as the middle-income category, comprises 41 countries, as shown in the previous table. It can be seen that the majority are developing countries from our vantage point. It is worth noting that it contains 3.1 billion people and is the largest group among the others, accounting for 40.0 % of the population of the research countries, even though its national GDP barely exceeds \$7.4 trillions. Because it accounts for 8.5 % of the research countries' national product and has an average annual per capita income of \$2380, a simple individual index equaled 21% of the base year for the research countries' average income, as indicated in the previous table.

However, the rate of Corona pandemic infections is 40 million, or 19.3 % of total infections in the research countries. This is low compared to their population weight. We believe that this is related to their lack of contribution to the globalization of the world

economy. Also, the low national product does not allow its population to trade and practice tourism at a level like the rest of the categories of the research countries. There is another reason represented by the absence of accurate statistics. As for the death rate from infections, it reached 2.1%, which is close to the general average of the research countries despite spending on health, which amounted to 2.9% of the national product of the research countries. This constitutes 94.0% of the overall rate of the expenditure on health in the research countries.

4. Low Income Per Individual Country (Category Less Than 1036)\$

Based on the analysis of the fifth category of the previous table, which includes 24 countries, it is believed that these countries have a high %age of their citizens living in poverty, with a population of approximately 638 million people, which represents 8.2 % of the population of the research countries and a national product of 468 million, which is equivalent to 0.6 % of the national product of the research countries with an average annual per capita income of US\$1,500. As a result, the simple index statistic equals 7% of the researched countries' average per capita income. It spends 2.4 % of its national product on health, comparable to what the other categories spend, but its national product is so low that it does not meet the health sector's safety standards.

The Corona pandemic (COVID 19, 20) caused just two million infections in this group, or 1% of all infections in the nations studied. This relative reason is due to numerous factors, including that the societies of these countries are predominantly rural that occupies large areas of land, as well as the decline in trade exchange between them and the research countries, adding to this their ability to tourism is weak due to the low average income. Another reason behind their limited statistical capabilities could be the lack of precise data on the pandemic that has struck their country. In terms of the 59 thousand deaths, which account for 1.3 % of all deaths in the research countries, they have a higher rate of infections, 2.8 % than the other categories, and this is related to the weakness of health sector in those countries.

CONCLUSIONS

1. High productivity is a critical component of the global competitiveness that has resulted from globalization. However, several variables contribute to the loss of productivity. Pandemics represent one of these variables. They have resulted in a 3 trillion decline in world output in 2020.
2. The relationships between pandemics and the economy are comparable to the ones that exist between health and wealth. Not only do prosperous cultures have more significant health, but they also have better welfare. They are also at

least partially immune to pandemics. Like other health issues, Pandemics can stymie economic development and create vicious cycles in which poor health diminishes wealth and reduces protection against subsequent health dangers. Infection-related mortality rates could explain this.

3. Pandemics caused by severe viruses have had a significant impact on the wealth of households, businesses, and, in some cases, entire economies, as indicated by the decline in energy prices, which is mirrored in the global economy as a whole.
4. Pandemics provide unique challenges in comparison to other health issues. Because of their speed and unpredictability, policymakers must strike a delicate balance between acting quickly (and without complete information) while avoiding undue haste, which may result in a delay in the discovery of vaccines and some vaccines, as well as side effects that have led to the death of some people following the Corona pandemic.
5. Clearly and deliberately presenting the facts, and patiently delaying the start of medication treatment programs until at least correct adherence is tolerable and can, for example, help in containing the pandemic's health and economic implications.

6. It is generally possible to prevent pandemics. Doing so can assist strengthen health systems and the populations they serve by preventing disease outbreaks and limiting the effects of those that have already emerged. Strong quarantine procedures and is ready for a broad mobilization of civil society, business, and community members will lessen the strain on health services caused by current pandemics and enhance society's defenses against future disease outbreaks.

7. The most significant barrier to pandemic prevention is expenditure on pandemic infrastructure, at the time basic health infrastructure must be viewed as an investment. Part of the return is represented by lowering future pandemic costs. Short-term political factors frequently affect policymakers and cause them to pay little attention to vital long-term issues.

8. International cooperation is also essential for pandemic prevention and containment. Pandemics can have far-reaching economic consequences far beyond the borders of their origin countries – and these potential economic consequences are frequently amplified by aspects of modern life that facilitate disease transmission, affect tourism and trade, spread awareness and fear, and exacerbate unproductive forms of

protective behavior, such as isolationism. Indeed, the health and economic consequences of pandemics demonstrate the importance of the international community's support for developing-country health systems so as to strengthen their capacity to prevent and respond to pandemics. This is combined with the effects on health, which makes controlling pandemics a global public profit. Globalization can hasten the development of new diseases, but it also presents chances to treat them. International collaboration in epidemiological surveillance, scientific inquiry, public health, and medical endeavors to treat and cure diseases has already shown success in treating SARS diseases. Its significance is likely to grow when new pandemics emerge, and old ones resurface.

RECOMMENDATIONS:

1. Economic globalization has played an essential role in modern history, particularly in countries with high and very high incomes. This was accompanied by some economic and social aspects, such as active tourist movement, rise in commercial movement, rapid transit development, particularly air transport, etc. All this has negatively affected public health, and the rapid spread of the Corona pandemic has been in all the countries worldwide

in a short period due to globalization that has prevailed in the world. The pandemic was in the past limited to a country or at most in a specific region without affecting all countries of the world, yet the Corona pandemic proved the opposite. Therefore, we recommend that the countries of the world represented by the United Nations and the World Health Organization, which is one of its institutions, adopt that the countries of the world contribute equal %ages of their national product and that the fight against the pandemic is identical for all countries of the world without discrimination.

2. The world countries should adopt a policy of limiting population growth by holding conferences and seminars on the subject, increasing media propaganda, and providing financial and technical assistance to low- and middle-income countries to improve their standard of living and culture, and allow them countries to limit population growth. There should also be restructuring cities, especially those that suffer from overcrowding, and adopting basic designs that reduce the problem of overcrowding, as well as paying attention to small human settlements from villages, towns, and small cities by creating job opportunities and limiting random migration.

3. The processes and instructions be written down. There can be legislations and laws drafted by the UN to complete national policies to aid member states in confronting the common issues of pandemics through support, coordination, and the exchange of effective practices.
4. Providing financial assistance within the scope of applicable laws and legislation, particularly to low- and middle-income countries, at rates greater than their contribution to national output.

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