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IMPACT OF COVID-19 PANDEMIC ON HOUSEHOLD INCOME: RESULTS OF A SURVEY OF THE ECONOMICALLY ACTIVE POPULATION

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Abstract: The aim of the study is to assess the current impact of the Covid-19 pandemic on the level of household income in modern national economies according to data for 2020. The assessment of five indicators that characterize the opinions of adults living in different countries about a strong decrease, a small decrease, preservation, a small increase and a strong increase in their income in 2020 was considered. The initial data were the results of a survey of the economically active population in 43 countries, in the process of implementing the Global Entrepreneurship Monitoring project. The five indicators were evaluated using the density functions of the normal distribution. It is proved that for the majority (53%) of households, due to the pandemic, there was a decrease in household income. It shows the preservation of income in a significant (40%) number of households in the countries under consideration. It is shown that the increase in income in 2020 was observed only in a small number (less than 4%) of households. It is proved that the values of each of the five indicators under consideration had a significant differentiation by country. The results of our work have a certain theoretical and practical significance for governments and the economically active population. The methodological approach presented in the article can be used to assess the impact of the Covid-19 pandemic on household income in 2021.

Keywords: Covid-19 pandemic, income, households, economically active population, adults, functions of normal distribution.

Jel Classification: C31, D14, H31.

1. Introduction

In March 2020, due to the rapid spread of coronavirus infection (Covid-19) in most countries, the World Health Organization declared it a global pandemic (Cucinotta

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and Vanelli, 2020). The pandemic has had a significant impact not only on people's health, but also caused a multifaceted shock in their social and economic life (Negrutiu, 2021). The negative consequences of the pandemic are associated with the loss of many people's jobs, reduced working hours, reduced income levels of enterprises and entrepreneurs, suspension of activities in certain types of activities, transfer to remote work, the need to stay at home with children, increased prices for certain food products, limited access to educational services, etc. All of this has had a significant impact on household income, which is reflected in a number of scientific studies (McKibbin and Fernando, 2020; Siche, 2020; Nicola et al., 2020). The market of available capital has reduced, therefore, as indicated in the article (Nager, 2020), business conditions have worsened. However, there is currently limited information available on how the pandemic and related policy decisions affect the economically active population and their incomes. With this in mind, our article examines the impact of the Covid-19 pandemic on household incomes in various countries. At the same time, we respond to the calls (Morgan and Trinh, 2021; Jordan, Singh, and Taylor, 2020; Deaton, 2021) in order to reduce the existing uncertainty and obtain objective and reliable information about the current situation with household incomes in various countries. The availability of such information is necessary for the development of measures to reduce the negative impacts of the consequences of the pandemic. That is why the problem of studying the impact of Covid-19 on the income of the economically active population is relevant.

The aim of the study is to assess the current impact of the Covid-19 pandemic on the level of household income in modern national economies according to data for 2020. The article makes two contributions to the literature. First, it adds new information on the impact of the pandemic on household incomes across 43 countries located in Europe, Asia, Africa, Latin America and North America. The article provides an assessment of the distribution of this influence across countries for five main options: a strong decrease in income, a small decrease in income, a retention of income, a small increase in income, a strong increase in income. In other words, the article demonstrates how widespread each of these options has become. The second contribution of this article is related to the identification of lists of countries in which each of the options for the impact of the pandemic on household income has developed maximum and minimum.

The article is organized as follows. Section 2 provides an overview of scientific publications on the impact of the pandemic on household income in different countries. Section 3 provides the methodology, baseline data, and design of the study. Section 4 presents the results of a computational experiment, characteristics of indicators of the impact of Covid-19 on the income of respondents in different countries, identifies countries with maximum and minimum values of indicators,

provides ANOVA analysis, as well as a comparison of indicators for Russia and other countries. Section 5 presents the findings of the study.

2. Literature review

Scientific publications on the impact of the Covid-19 pandemic on the income of the economically active population, mainly refer to individual countries. Let's look at the most interesting of them. In the United States, the spread of coronavirus infection has led to a significant decrease in employment and a reduction in the number of vacancies (Montenovo et al., 2020). The study (Cooper et al., 2021) shows the results of a survey of respondents in the United States. They showed that in the first half of 2020, about a third of respondents indicated a reduction in their income. This study presents data on unemployment, which peaked at 14.7% in April 2020, but by March 2021 it had fallen to 6%.

A study of the incomes of about 10,000 households in Germany, France, Italy, Spain, the Netherlands and Belgium (Christelis et al., 2020) showed that in the second and third quarters of 2020, adult incomes decreased by an average of 10% compared to the corresponding period in 2019. The article (Buheji et al., 2020) indicates that in 2020, the unemployment rate in developing countries will double, which will significantly affect the decline in people's incomes. In the ASEAN countries (Morgan and Trinh, 2021), about 75% of households experienced a decrease in people's employment and a decrease in income. At the same time, there was a significant differentiation in the level of income reduction. In some countries, this decline reached 50%. In Myanmar, rural household incomes have fallen particularly sharply (Diao and Mahr, 2020). As a result of the pandemic, in 2020, the number of households below the established poverty level decreased by 200 thousand.

World Bank estimates have shown (Gerszon Mahler et al., 2020) that the negative effects of the pandemic could affect 40 to 60 million people living in Africa. A study (Sumner, Hoy, and Ortiz-Juarez, 2020) suggested that the decline in income and consumption could reach 20% in countries with between 420 and 580 million people. Two studies on the impact of the pandemic in Kenya (Janssens et al., 2021; Zollmann et al., 2020) showed a decline in income for 88% of respondents. At the same time, the urban population was most affected. A number of scientific publications were related to the analysis of measures to reduce the negative impact of the consequences of the pandemic on the income of the population. For example, in the UK (Brewer and Gardiner, 2020), measures were taken to protect household income on the basis of payments to employees who temporarily stopped their work (up to 80% of their wages). Grants were provided to the self-employed whose businesses were affected by the pandemic. In addition, there was an increase in the possibility of receiving social benefits. It should be noted that these events

were unprecedented, both in terms of volume (60 billion pounds in 2020) and the number of people covered by them (Hughes et al., 2020).

In the United States, only at the first stage of compensation for the decline in people's income, payments of $ 1200 were made to people with an income of less than $ 75000. In addition, an additional $ 500 was allocated for each child. Those people who became unemployed were provided with increased benefits of $ 600 per week. Only at the first stage, more than three trillion dollars were allocated. This led to the fact that the poverty rate did not increase in the first months of the pandemic (Han, Meyer, and Sullivan, 2020).

The countries of the European Union have also done a lot of work to compensate for the loss of income caused by the pandemic. A set of relevant measures was established by law, including unemployment insurance payments, subsidies for the payment of wages to employees, as well as the payment of lump-sum benefits (Christelis et al., 2020). In Russia, payments were made to families with children, as well as deferred current payments to enterprises in, particularly affected industries.

Much work on household income support has been done in the ASEAN countries (International Monetary Fund, 2020). In Cambodia, in particular, $ 400 million in aid was provided to poor households, and $ 64 million was paid in wage subsidies. In Indonesia, about $ 50 billion was spent on social assistance, unemployment benefits and tax benefits. In Laos, 60% of the wages of workers affected by the pandemic were paid. In Malaysia, the measures were aimed at compensating for electricity costs, paying for temporary holidays, and subsidies to retain employees. In general, they accounted for about 4.3% of the country's GDP. The Philippines spent about 3.1% of GDP on helping 18 million low-income households. In Thailand, total aid reached 9.6% of GDP. In Vietnam, the assistance was related to the deferred payment of taxes and other payments, as well as the payment of monthly benefits, which covered about 10% of the total population. Support in this country amounted to 3.6% of GDP.

It should be noted that in the context of the pandemic, the number of remote workers who work at home has increased (Bonacini, Gallo, and Scicchitano, 2021). At the same time, they retain their jobs, have the opportunity to care for children and elderly relatives and reduce the likelihood of contracting coronavirus. In a number of activities, the volume of work and, consequently, the remuneration of employees increased due to the pandemic. An example is the information technology sector (Soni, 2020).

3. Methodology and empirical data

Our study looked at the assessment of five indicators that characterize the opinions of adults living in different countries about the change in their income in 2020: (1)

the proportion of respondents who noted a strong decrease in household income by country; (2) the proportion of respondents who noted a slight decrease in household income by country; (3) the proportion of respondents who noted the preservation of household income by country; (4) the proportion of respondents who noted a slight increase in household income by country; (5) the proportion of respondents who noted a strong increase in household income by country.

As the initial information, the study used the results of a survey of the economically active population (adults aged 18-64), conducted in 43 countries, during the implementation of the Global Entrepreneurship Monitoring Project (2021). In total, almost 140 thousand people were interviewed, and at least two thousand respondents answered in each of the countries. Each of them expressed their opinion on whether the pandemic led to a strong decrease in their household income, a small decrease in these incomes, no significant changes in income, a small increase or a strong increase in income.

The research process included five stages. At the first stage, initial data describing the opinion of the economically active population about the impact of the pandemic on the level of household income were formed. At the second stage, we evaluated the values of indicators that characterize the opinions of adults in national economies about the five above-mentioned options for the impact of the pandemic on their incomes. At the third stage, the average values of the indicators for the countries under consideration were determined, as well as the range of changes in the values of the indicators for most countries. At the fourth stage, a comparative analysis was carried out, during which countries were identified in which the maximum and minimum values of indicators were noted. At the fifth stage, a comparative analysis of the values of the corresponding indicators for Russia and other countries was carried out.

The study included testing the following three hypotheses:

- the first hypothesis is that the Covid-19 pandemic caused a decline in household income. The negative impact of the pandemic on household incomes is described in the literature review, as well as in the following scientific studies (How COVID-19 is changing the world, 2020; Vitenu-Sackey and Barfi, 2021; Josephson, Kilic, and Michler, 2021; Sumner, Ortiz-Juarez, and Hoy, 2020);
- the second hypothesis is that an absolute minority of people note the positive impact of the pandemic on their household incomes. Income growth for a small number of entrepreneurs and employees as described in (Estrada, 2020; Han, Meyer, and Sullivan, 2021; Dingel and Neiman, 2020);
- the third hypothesis is that the values of the five indicators under consideration have a significant differentiation across different countries. Assumptions about significant differences in indicators characterizing the impact of the pandemic on household incomes in different countries are reflected in the following scientific

studies (Amory et al., 2020; World Bank 2020; Murakami, Shimizutani, and Yamada, 2021; Sedegah, and Odhiambo, 2021).

These estimates for the five indicators under consideration are based on economic and mathematical modeling of the initial practical information. As such models, we use the density functions of the normal distribution (Pinkovetskaia et al., 2021; Pinkovetskaia and Slepova, 2018).

The number of respondents for each of the countries is quite large. This, as well as the presence of various factors influencing their opinion, suggests the probabilistic (stochastic) nature of the values of indicators describing the impact of the pandemic on household incomes. The study of phenomena and processes whose parameters are formed as a result of the combined influence of many factors acting additively and independently of each other can be carried out using the law of normal distribution.

The probability density is non-negative over the entire range of variation since it is the derivative of a non-decreasing function. The density distribution function describes as all the information about a random variable. The main information that characterizes a certain random variable is characteristics of the parameters of a random variable, that is, the average value, median, mathematical expectation, which for the density functions of the normal distribution are equal to; characteristic, which is called the standard deviation, i.e. the spread of a random variable near the average value; the coefficients of skewness and kurtosis, which are equal to zero for a normal distribution.

The development of mathematical models describing the distribution of indicators using the density functions of the normal distribution is based on the construction of histograms. With a large amount of empirical input data (40 or more), we can group this information into intervals to make working with the data more comfortable. To do this, the source data is divided into a certain number of intervals.

The obtained functions allow us to estimate the average values of each of the five indicators in the countries under consideration, as well as their variations typical for most countries. In addition, the study identifies countries, where the indicators considered, are above the maximum and below the minimum ranges. The limits of the indicator ranges for the majority (68%) of States are calculated based on the average values and the corresponding standard deviations. The lower bound of the range is equal to the difference between the mean and the standard deviation, and their sum corresponds to the upper bound of the range.

4. Research results and discussion

In the course of the computational experiment, economic and mathematical modeling was carried out based on empirical data. The density functions of the

normal distribution (y) of the proportion of respondents (x, %), which describe the distributions of the five indicators across 43 countries, are shown below:

- the proportion of respondents who noted a strong decrease in household income

$$y_1(x_1) = \frac{399.29}{14.04 \times \sqrt{2\pi}} \cdot e^{\frac{-(x_1-21.47)^2}{2 \times 14.04 \times 14.04}} \quad (1)$$

- the proportion of respondents who noted a slight decrease in household income

$$y_2(x_2) = \frac{337.86}{9.75 \times \sqrt{2\pi}} \cdot e^{\frac{-(x_2-31.83)^2}{2 \times 9.75 \times 9.75}} \quad (2)$$

- the proportion of respondents who noted the preservation of household income

$$y_3(x_3) = \frac{522.14}{18.57 \times \sqrt{2\pi}} \cdot e^{\frac{-(x_3-40.39)^2}{2 \times 18.57 \times 18.57}} \quad (3)$$

- the proportion of respondents who noted a slight increase in household income

$$y_4(x_4) = \frac{58.36}{1.99 \times \sqrt{2\pi}} \cdot e^{\frac{-(x_4-2.90)^2}{2 \times 1.99 \times 1.99}} \quad (4)$$

- the proportion of respondents who noted a strong increase in household income

$$y_5(x_5) = \frac{27.23}{0.78 \times \sqrt{2\pi}} \cdot e^{\frac{-(x_5-0.88)^2}{2 \times 0.78 \times 0.78}} \quad (5)$$

The high quality of functions (1)-(5) was confirmed in the testing process according to the Shapiro-Wilk, Pearson, and Kolmogorov-Smirnov criteria.

At the next stage of the study, patterns were identified that characterize the current employment in firms of female and male entrepreneurs in the economies under consideration. Column 2 (Table 1) shows the data describing the average values of the indicators. The ranges in which the values of the indicators for most countries are found are shown in the third column (table 1).

Table 1 Values of indicators describing the impact of the pandemic on household income

Indicator	Mean values	Values for most countries
1	2	3
the proportion of respondents who noted a strong decrease in household income	21.47	7.43-35.51
the proportion of respondents who noted a slight decrease in household income	31.83	22.08-41.58
the proportion of respondents who indicated preservation of household income	40.39	21.82-58.96
the proportion of respondents who noted a slight increase in household income	2.90	0.91-4.89
the proportion of respondents who noted a strong increase in household income	0.88	0.10-1.66

Source: The calculations are carried out by the author on the basis of functions (1)-(5).

The average share of respondents who noted a strong decrease in household income across countries in 2020 is almost 21.5%. That is, almost one in five adults surveyed in most countries believed that their country had experienced a significant decline in household income. Indicators below the average level were observed in 26 countries, and above the average level in 17 countries. The average share of respondents who noted a slight decrease in household income across the countries was almost 1.5 times higher – 31.8%. At the same time, indicators below the average level were observed in 23 countries, and above the average level – in 20 countries. Overall, more than half of all adults surveyed in the countries under review (53.3%) reported a decline in their income, meaning that the pandemic has a negative impact on the income of most households. We can state the confirmation of the first hypothesis. A decrease in income leads to a decrease in people's expenses and investments, which, as indicated in the article (Handriyani et al., 2018), leads to a lack of economic growth.

On average, more than 40% of adults did not see significant changes in household income in the countries where they live. Indicators below the average level were observed in 19 countries, and above the average level-in 24 countries. In our opinion, the relatively high level of the corresponding indicator is due to the following factors: many adults work in fixed-wage industries; measures taken in a number of countries (especially developed ones) to compensate for losses have ensured the preservation of income; a significant number of people continued their activities remotely, while at home.

Slightly less than 4% of adults who answered the question about the impact of the pandemic on household income believed that income had increased. Indicators below the average level of the proportion of respondents who noted a small increase in household income were observed in 24 countries, and a significant increase – in 19 countries. At the same time, a small increase in income was noted by 2.9% of respondents, and a significant increase – about 0.9% of respondents. Thus, an absolute minority of respondents noted the positive impact of the pandemic on household income, that is, the second hypothesis was confirmed. Activities that have been accelerated in the context of the pandemic include, in particular, services for the delivery of goods, especially food, as well as services in the field of information technology.

To test hypothesis 3 on the differentiation of indicators by country, an analysis of the extent of variation of each of the indicators presented in Table 2 was carried out. The variation indices were: for the first indicator - 65%, for the second indicator - 31%, for the third indicator - 46%, for the fourth indicator - 69%, for the fifth indicator - 89%. This analysis showed a significant differentiation of the values of each of the five indicators in the countries under consideration, that is, the third hypothesis was confirmed.

The next step was to identify the countries where the maximum and minimum values of each indicator were noted. At the same time, the maximum and minimum values are those that correspondingly exceed the upper limits of the ranges shown in the third column (Table. 1) and smaller lower bounds of the ranges. The results of this analysis are shown in Table. 2. In addition to the lists of countries, this table also provides a division of the identified countries by their geographical location and income level.

Table 2 provides information on the geographical location of countries with high (column 2) and low (column 3) values for each of the five indicators evaluated in our study. The analysis of this information showed that the maximum values of the specific weights of respondents who reported a decrease (both strong and small) in their income were observed in countries located in Latin America, Asia and Africa. Only one country, the Russian Federation, is located in Europe and Asia. At the same time, the highest values of the indicators were observed in countries with both high and low and middle-income populations. The minimum values of these indicators occurred mainly in countries located in high-income countries.

The maximum values of the proportion of respondents who noted the preservation of their household incomes were observed in European countries with high levels of income. The lowest values of this indicator were in countries located in Asia, Latin America and Africa with different income levels.

The maximum values of the specific weights of respondents who noted an increase in income (both strong and small) households are observed in countries located in different parts of the world, with the exception of Africa. At the same time, a small increase in household income occurred in high–income countries, and a strong increase occurred in countries with different income levels. The minimum values of these indicators occurred mainly in countries of Asia and Africa with different income levels.

Then the so-called ANOVA analysis was carried out. At the same time, for each of the five indicators under consideration, two groups of countries were compared, respectively, with the maximum and minimum values of the indicators, the lists of which were given in table 2. The results of the ANOVA analysis are shown in table 3. It contains statistical estimates for each of these groups of countries, which are described below. At the same time, the first and second rows of the table show, respectively, the average values of the indicators for the groups of countries with the maximum and minimum values. The third and fourth lines show the variances for each of the groups of countries with the maximum and minimum values of the indicators. The following lines show the cross-group estimates for the groups of countries with the maximum and minimum values of the indicators.

Table 2 Countries with maximum and minimum values of indicators

Indicator	Maximum values	Minimum values
1	2	3
the proportion of respondents who noted a strong decrease in household income	Kazakhstan, Burkina Faso, Morocco, Colombia, Chile, India, Egypt, Panama, Angola, Togo. They are located in Latin America (three countries), Asia (two countries), and Africa (five countries). Household income: high (two countries), medium (two countries), low (six countries).	Israel, Republic of Korea, Norway, Sweden, Luxembourg, Netherlands, Austria. Five of these countries are located in Europe, two in Asia. All seven countries have a high income.
the proportion of respondents who noted a slight decrease in household income	Russian Federation, Israel, India, United Arab Emirates, Saudi Arabia, Kazakhstan, Indonesia. Located in Europe (one country), Asia (six countries). The income of the population is high (three countries), medium (three countries), low (one country).	Netherlands, Norway, Togo, Sweden, Luxembourg, Germany. Five countries are located in Europe, one country in Africa. Income of the population: high (five countries), low (one country).
the proportion of respondents who indicated preservation of household income	Austria, Latvia, Germany, Sweden, Luxembourg, Norway, Netherlands. All seven countries have a high income, all of them located in Europe.	Kazakhstan, Togo, India, Angola, Colombia, Egypt, Indonesia, Panama. Three countries are located in Asia, two countries in Latin America, and three countries in Africa. High income of the population occurred in one country, in three countries – middle income, in four countries-low income.
the proportion of respondents who noted a slight increase in household income	Austria, Norway, Canada, United States, Sweden, Croatia, Republic of Korea, Israel. Four countries are located in Europe, two countries in Asia, and two countries in North America. All eight countries have a high income.	Kazakhstan, Morocco, Togo, Burkina Faso, Greece, Qatar. One of these countries is located in Europe, two countries in Asia, and three countries in Africa. The high income of the population occurred in two countries, in one country – average income, low income in three countries.
the proportion of respondents who noted a strong increase in household income	The United Arab Emirates, Guatemala, Croatia, Canada, United States, Israel, Kuwait, Colombia. One country is located in Europe, two countries in Latin America, three countries in Asia, and two countries in North America. Income of the population: high (six countries), medium (two countries).	Italy, Kazakhstan, Morocco, Republic of Korea, Burkina Faso, Iran. One of these countries is located in Europe, three in Asia, and two in Africa. The high income of the population occurred in two countries, in two countries – middle income, in two countries – low income.

Source: Developed by the author on the basis of data from Table 1 and the Global Entrepreneurship Monitoring project.

An analysis of the data presented in table 3 shows that for all groups of countries characterized by maximum and minimum values of indicators, there are relatively small variances within each group. This indicates that each of these groups includes countries with similar values of indicators.

Table 3 Statistical characteristics describing groups of countries with maximum and minimum values of indicators

№	Statistical characteristics	Household income indicators by country				
		Strong decrease	Slight decrease	Saving	Slight increase	Strong increase
1	Average for countries with maximum values of indicators, %	47.11	48.26	66.83	12.64	2.64
2	Average for countries with minimum values of indicators, %	4.36	17.63	13.45	0.43	0.03
3	Variance for countries with maximum values	118.85	42.35	27.73	70.65	0.46
4	Variance by country with minimum values	7.35	8.11	17.97	0.07	0.01
5	Variance between groups of countries with maximum and minimum values	7526.26	3029.87	10637.28	510.66	23.25
6	Fisher criterion	101.36	113.11	473.3	12.38	86.87
7	Critical value according to the Fisher criterion	4.54	4.84	4.67	4.74	4.75
8	Significance level	less 0.01	less 0.01	less 0.01	less 0.01	less 0.01

Source: Calculated by the author on the basis of household income indicators.

However, the average values for groups of countries with maximum values of indicators differ significantly from the average values for groups of countries with minimum values. The variance between the groups of countries with the maximum and minimum values is much greater than the variance typical for each of the groups for all five indicators considered. The data shown in table 3 shows that for each of the five indicators considered in the article, there are significant differences between the groups of countries with maximum values and minimum values.

The statistical characteristics of the ANOVA analysis based on inter-group differences, namely, on the Fisher criteria and the level of significance, showed a high quality of the obtained estimates.

A comparative analysis of the values of the considered indicators for Russia and foreign countries allowed us to draw the following conclusions:

- the share of respondents who noted a strong decrease in household income in Russia was 19.2%, which is 1.1 times less than the average for other countries;
- the share of respondents who noted a slight decrease in household income in Russia was 42%, which is 1.3 times more than the average for other countries;
- the share of respondents who noted the preservation of household income in Russia was 36.3%, which is 1.1 times less than the average for other countries;

- the share of respondents who noted a slight increase in household income in Russia was 2%, which is 1.5 times less than the average for other countries;
- the share of respondents who noted a strong increase in household income in Russia was 0.5%, which is 1.8 times less than the average for other countries.

These data show that in comparison with other countries in Russia, the proportion of respondents who believe that their income has significantly decreased or remained is slightly lower. A significantly smaller proportion of respondents in Russia compared to other countries believe that they have experienced an increase in household income. At the same time, significantly more respondents in Russia noted a slight decrease in income compared to other countries.

5. Conclusions

This article presents the results of a study of the impact of the Covid-19 pandemic on the income of the economically active population in 43 countries in 2020. The aim of the study, which was to assess the current impact of this pandemic on the level of household income in modern national economies, was achieved. The author's contribution, which has scientific novelty and originality, is as follows: (1) A methodological approach is proposed and implemented to assess the distribution of the values of five indicators that characterize the decrease, preservation and increase of household income across countries, using the density functions of the normal distribution; (2) It is proved that for the majority (53%) of households, due to the pandemic, there was a decrease in household income; (3) It shows the preservation of income in a significant (40%) number of households in the countries under consideration; (4) It is shown that the increase in income in 2020 was observed only in a small number (less than 4%) of households; (5) It is proved that the values of each of the five indicators under consideration had a significant differentiation by country; (6) For each of the indicators, countries with maximum and minimum values are identified; (7) ANOVA analysis showed significant differences in the groups that correspond to the maximum and minimum values of all five indicators.

The results of our work have a certain theoretical and practical significance for governments and the economically active population. The methodological approach presented in the article can be used to assess the impact of the Covid-19 pandemic on household income in 2021.

The study had limitations on empirical data due to the fact that only 43 countries were considered. Further research may be related to the assessment of the consequences of the pandemic in 2021.

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Author Contributions
The author conceived the study, did the literature review section and was responsible for the design, data collection, data analysis and interpretation.

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