

## ECONOMIC EFFECTS OF THE COVID-19 PANDEMIC ON PENSIONERS' PERCEPTION IN CONNECTION WITH THE POSSIBILITY OF MEETING THEIR EXISTENTIAL NEEDS

Aleksandar Zunjic<sup>1, a</sup>, Sladjana Radomirovic<sup>2, b</sup>

<sup>1</sup>University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia

<sup>2</sup>Rudarski basen "Kolubara", Lazarevac, Serbia

<sup>a</sup>azunjic@mas.bg.ac.rs , <sup>b</sup>sladjanaradomirovic@gmail.com

**Abstract** The COVID-19 virus pandemic has caused a state of global economic uncertainty. This problem affects not only employees, but also the population of pensioners. The stability of pension systems in many regions of the world is threatened by a pandemic. Such a situation causes a feeling of uncertainty and fear among pensioners. Due to possible reductions in the amount of pensions, they become unsure whether they will be able to meet their basic living needs. All this is reflected in the perception of pensioners regarding their inability to pay bills for electricity, water, heating, medicines, or food in the coming period. Although this problem is expressed in a large part of the human population, this is the first paper in the world to consider this problem. In order to investigate this problem, a questionnaire was formed, which refers to the assessment of the level of concern (fear) of pensioners in terms of meeting basic subsistence needs in the pandemic. The research was conducted on a sample of pensioners from Serbia. The analysis of the research results indicates the segments that are of particular concern to retirees, as well as that additional attention should be paid to this problem on a global scale.

**Keywords:** SARS-Cov-2 virus; COVID-19 pandemic; pensioners; retirees.

### 1. INTRODUCTION

The payment of pensions largely depends on the state of the economy. If a country's economy grows stronger, pensions increase. However, the opposite is also possible, when a country's economy weakens, the amount of a pension can fall. This problem is very pronounced in countries with the unstable economic situation, where inflation is frequent. The pandemic caused by the COVID-19 virus has threatened the economies of many countries, even the most economically developed ones. Almost every country had to take certain emergency measures in order to preserve the economy and prevent the material decline of citizens, including the population of pensioners.

The COVID-19 virus pandemic has led to a situation of global economic uncertainty. This has led to the development of feelings of economic insecurity among citizens, fear, and in some cases panic. This panic was especially pronounced at the beginning of the pandemic, when people panicked to buy basic foodstuffs and store them in their homes. Citizens working in the private sector were the first to feel this problem, when part of the workers lost their jobs or went on forced, in most cases unpaid leave. Although the effect of this problem on the mental health of citizens is very pronounced, extremely few scientific papers have considered this phenomenon. The first paper that considered the impact of the changed economic situation due to the pandemic on the appearance of feelings of

anxiety and fear among employees is [1]. However, no paper so far has considered the effect of the changed economic situation due to the pandemic on the appearance of feelings of concern and fear among retirees. This paper deals with this problem.

So far, a relatively large number of papers have been written dealing with the problems of older people in a pandemic. However, only one paper [2] has so far considered the behavior of retirees in a pandemic. However, this paper does not consider the impact of the economic effect of the COVID-19 pandemic on the mental response of retirees. For that reason, it can be considered that this is the first work in the world that deals with this topic.

As already mentioned, the pandemic caused by the SARS-Cov-2 virus has produced many changes in the economic sphere. In [3] has been stated that the pandemic caused over 3 million people in the USA to retire earlier, although they are very important for the functioning of the national economy. In addition, in Europe, the pandemic of the SARS-Cov-2 virus has raised concerns about pension systems' long-term viability [4]. To mitigate the negative effects of the pandemic on the pension system, the governments of many countries have implemented various support programs for the pension system and retirees. For example, according to data from the National Association of Federal Retirees, the state of Canada has announced the contribution of \$ 9 million in funding to support their seniors impacted by COVID-19.

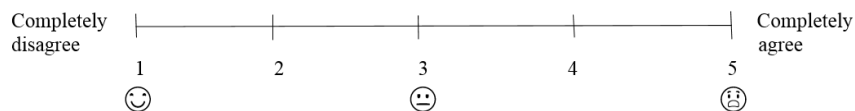
The research that will be presented in this paper was conducted in Serbia. However, the circumstances in which pensioners found themselves in Serbia at the time of this research were probably different than in many other countries. Serbia is one of the developing countries. Efforts have been going on for almost a decade to improve the economy, which in the previous period was exhausted due to various unusual circumstances. For several years now, the Serbian economy has been growing steadily. When the pandemic began, Serbia's economy was expanding. This circumstance has conditioned that instead of the expected decline in the amount of pension incomes, the amount of pensions in the conditions of the pandemic has increased in 2021 by 5.9%. In addition, on several occasions, the Government of the Republic of Serbia provided additional funds to pensioners and adult citizens. In September 2021, the Government gave its consent to the Republic Pension and Disability Insurance Fund to pay financial aid in the amount of 5,900 dinars to pension beneficiaries. For beneficiaries with the lowest pensions, an additional amount of money is paid, as a supplement to the pension. In addition, pensioners in Serbia received support twice in the amount of 30 euros during the pandemic and once in the amount of 20 euros. However, despite that, pensions in Serbia are significantly lower than the EU average, which certainly reflects on the perception of economic security of Serbian pensioners.

## **2. METHOD**

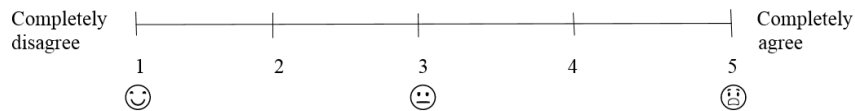
Given the goal of the research, it was necessary to form a tool, ie a questionnaire that allows assessing the concerns (fears) expressed by retirees, regarding the inability to meet their subsistence needs in conditions of reduced pensions, which could occur as a result of the Coronavirus pandemic. This questionnaire should take into account pensioners' basic existential needs, such as the ability to pay regular monthly bills (for heating, water, taxes, fees, and so on), the ability to pay for medicines and health care (which are frequently required by the elderly persons), and the need to provide nutrition.

Considering the previously mentioned, a short questionnaire was formed, which contains three questions. The formulation (form) of the question is largely in accordance with the questionnaire that was formed and used for the same purpose in the case of employed people [1]. A 5-level Likert rating scale was used. The questions are given below.

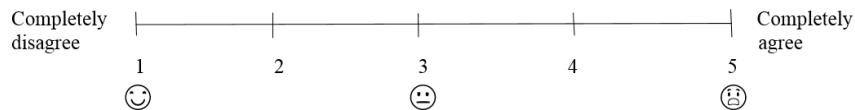
Q1. I am worried that the crisis caused by the existence of the Coronavirus will lead to a reduction in my pension so that I will not be able to pay my usual current bills (rent, taxes, electricity, ...)



Q2. I am worried that the crisis caused by the existence of the Coronavirus will lead to a reduction in my pension, so I will not be able to pay for the medicines and health care I need



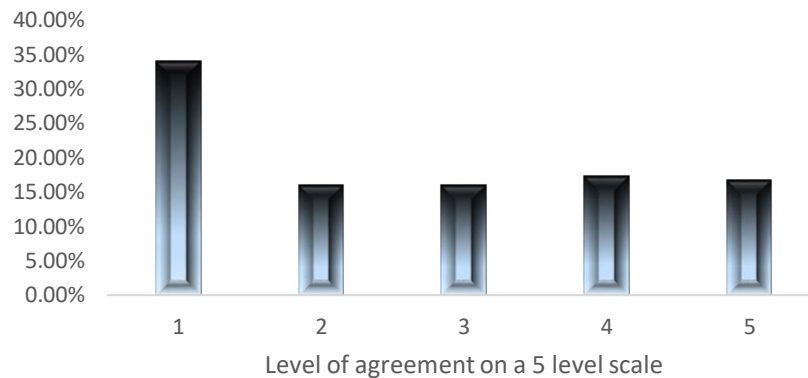
Q3. I am worried that the crisis caused by the existence of the Coronavirus will lead to a reduction in my pension, so I will not have enough resources to feed



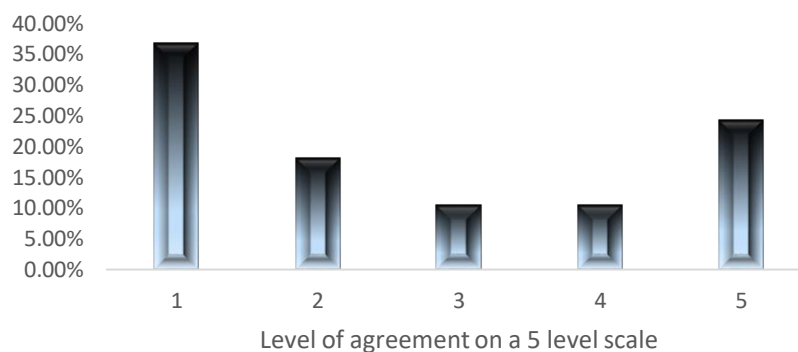
A total of 144 Serbian pensioners, 67 women and 77 men, took part in the research. All respondents were state pension beneficiaries. The average age of pensioners was 69.6 years (SD = 6.73). The sample was taken from the territory of the capital Belgrade, as well as several towns and villages around Belgrade. The research started in Jun 2020 and lasted for several months. Respondents were selected on a random sample basis.

### 3. RESULTS

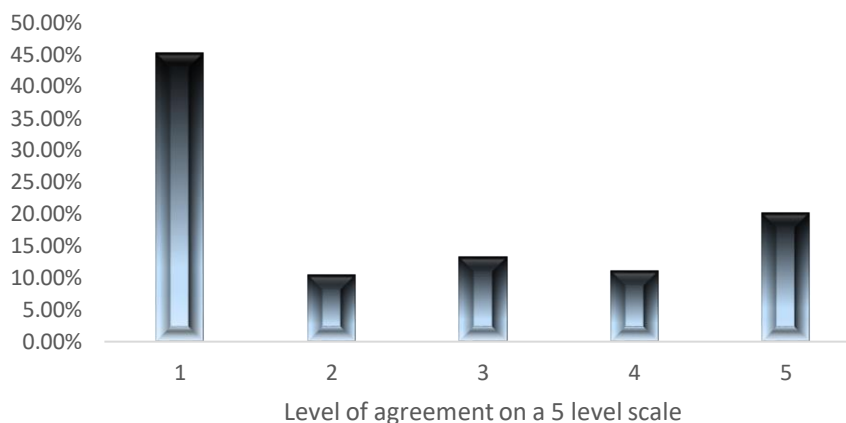
It should be noted that there were no pensioners who were left without a pension at some point. Also, the pensions of all respondents have not decreased since the outbreak of the COVID-19 virus pandemic. For questions from questionnaires 1, 2 and 3, Figures 1, 2 and 3 respectively show the answers of the respondents in percentage, in relation to the values from the assessment scale (from 1 to 5). In that way, an insight is gained into the level of the consent of pensioners with the views expressed in the questions asked. In addition, in this way, a global picture of the level of concern of pensioners for their existence in the conditions of the pandemic of the COVID-19 virus can be obtained in a visual form.



**Figure 1. Percentage-expressed answers of respondents to the first question from the questionnaire, where numbers 1 through 5 represent values from the scale to assess the level of induced fear resulting from pensioners' belief that a pandemic could lead to such a reduction in pensions that would put them in a position where they are unable to pay the usual current monthly bills.**



**Figure 2. Percentage-expressed answers of respondents to the second question from the questionnaire, where numbers 1 through 5 represent values from the scale to assess the level of induced fear resulting from pensioners' belief that a pandemic could lead to such a reduction in pensions that would put them in a position where they are unable to pay for the medicines they need.**



**Figure 3. The percentage-expressed answers of respondents to the third question from the questionnaire, where numbers 1 through 5 represent values from the scale to assess the level of induced fear resulting from pensioners' belief that a pandemic could lead to such a reduction in pensions that would put them in a position where they do not have sufficient funds for food costs.**

## 4. ANALYSIS OF RESULTS

The answers to each of the three questions asked indicate a certain level of concern of pensioners due to the possibility of reducing pensions, which would put them in a position that they are not able to meet some of the existential needs in the pandemic. In this regard, it is necessary to consider whether the level of induced fear differs, depending on their assumption that some of the mentioned life needs will not be met. To this end, it is necessary to determine whether there is a statistically significant difference in the level of fear registered with questions Q1, Q2 and Q3. For this reason, we will try to determine whether there are differences between the average levels of concerns of retirees (fears) that are registered based on the questions asked.

Since the same pensioners answered all three questions, we have dependent samples. In order to test the hypothesis of the existence of a difference in the level of induced fear of pensioners for their existence that has been expressed through answers to questions asked, we will use One way repeated measures analysis of variance. The basic assumption for the realization of this test is the normality of the distribution of the obtained data. However, the data normality test was not met ( $P < 0.050$ ). For this reason, we have given up on the application of One way repeated measures analysis of variance. Instead, the Friedman repeated measures analysis of variance on ranks will be used.

By applying the FRM ANOVA on ranks test, it was obtained that Chi-square = 9.989 with 2 degrees of freedom ( $P = 0.007$ ). The differences in the median values among the treatment groups are greater than would be expected by chance. So, there is a statistically significant difference ( $P = 0.007$ ). To isolate the group or groups that differ from the others, it should be used a multiple comparison procedure. For this purpose, we will use the Tukey test. The results of the analysis obtained by this test are shown in Table 1.

**Table 1. Results of the analysis based on the Tukey test.**

Comparison	Diff. of ranks	q	P<0.05
Q2 vs Q3	30.50	2.542	No
Q2 vs Q1	11.50	0.958	Do not test
Q1 vs Q3	19.00	1.583	Do not test

A result of "Do not test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. Note that not testing the enclosed rank sums is a procedural rule, and a result of "Do not test" should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

Since we were not able to obtain sufficiently accurate information based on the application of the Tukey test, we decided to perform an additional check for the difference between the values obtained by the questionnaire. To check the difference in the answers to the selected pairs of questions, the Wilcoxon signed rank test was used. The answers to questions Q1 and Q2 were first compared. Based on the application of this test, values were obtained  $W = 54.000$   $T^+ = 639.500$   $T^- = -585.500$ . Z-Statistic (based on positive ranks) = 0.294. Yates continuity correction option applied to calculations. The change that occurred with the treatment is not great enough to exclude the possibility that it is due to chance ( $P = 0.773$ ).

A comparison of the answers to questions Q1 and Q3 was then performed. Based on the conducted test, values were obtained  $W = -429.000$   $T^+ = 373.500$   $T^- = -802.500$ . Z-Statistic (based on positive ranks) = -2.347. Yates continuity correction option applied to calculations. The change that occurred with the treatment is greater than would be expected by chance. There is a statistically significant difference between answers to Q1 and Q3 ( $P = 0.019$ ).

Finally, we tested the existence of differences in the answers to questions Q2 and Q3. By applying the mentioned test, we obtained values  $W = -333.000$   $T^+ = 114.000$   $T^- = -447.000$ . Z-Statistic (based on positive ranks) = -3.169. Yates continuity correction option applied to calculations also. The change that occurred with the treatment is greater than would be expected by chance. There is a statistically significant difference between answers to Q2 and Q3 ( $P = 0.002$ ).

## 5. CONCLUSION

This research referred to the perception of pensioners regarding the possible effect of the pandemic on the reduction of pensions, which would cause the inability to meet certain existential needs of this population. The level of their concern (fear) as a consequence of such a situation was assessed. This is the first research on this topic that has been done in the world (we have not been able to find other research of this kind that included the population of pensioners). For the purposes of this research, a short questionnaire was formed, which took into account the basic existential needs of pensioners.

The research was conducted on a sample of pensioners in Serbia. On a five-point scale, the level of their concern was assessed, which was caused by the fear that they would not be able to meet the mentioned existential needs. The average values for questions Q1 and Q2 are approximate, and the difference is only on the second decimal place (2.66 and 2.67). This is the reason why no statistically significant difference was found in the answers to these two questions. However, a statistically significant difference was found for the answers to questions Q1 and Q3, and Q2 and Q3 (the average value of the estimate obtained for question Q3 is 2.50). This indicates that retirees believe that a possible reduction in pensions as a result of the pandemic cannot jeopardize their ability to pay for groceries, as much as it can jeopardize their ability to buy the drugs they need, or pay regular monthly bills (for utilities, electricity, etc.). The obtained results indicate that the concern of pensioners for solving existential life issues in the conditions of a pandemic cannot be ignored.

## References

- [1] Baert S., Lippens L., Moens E., Sterkens P., Weytjens J., 2020, How Do We Think the COVID-19 Crisis Will Affect Our Careers (If Any Remain)?, IZA – Institute of Labor Economics, Bonn, Germany.
- [2] Bertoni M., Celidoni M., Dal Bianco C., and Weber G., 2021, How did European retirees respond to the COVID-19 pandemic?, *Economics Letters*, Vol. 203, Jun, pp. 1-3.
- [3] Omeokwe A., 2021, Covid-19 Pushed Many Americans to Retire. The Economy Needs Them Back., The Wall Street Journal, <https://www.wsj.com/articles/covid-19-pushed-many-americans-to-retire-the-economy-needs-them-back-11635691340>

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- [4] Fouejieu A., Kangur A., Romero Martinez S., and Soto M., 2021, Rethinking pension systems in Europe for a post-Covid-19 world,  
<https://voxeu.org/article/rethinking-pension-systems-europe-post-covid-19-world>
- [5] National Association of Federal Retirees., 2021, Support for Canadian seniors impacted by COVID-19,  
<https://www.federalretirees.ca/en/news-views/news-listing/april/support-for-canadian-seniors-impacted-by-covid-19>