

a downward trend (year-on-year) before the pandemic period. Profit margin deteriorated by 0.19 p.p. (2018/17) and by 0.26 p.p. (2019/18) for the entire study population, and by 0.37 p.p. (2018/17) and by 0.47 p.p. (2019/18) for Eastern European entities. In contrast, the profit margin improved significantly in the first year of the pandemic, i.e. by 0.96 p.p. (2020/19) for the entire study population and 1.72 p.p. for Eastern European entities.

The change in the trend of the profit margin indicator is also noticeable in the second group of the study population, i.e. Western European entities. In this case, the change is the opposite. In the pre-pandemic period, entities from this region of Europe recorded an increase in the analyzed indicator (year-on-year) by 0.16 p.p. (2018/17) and by 0.19 p.p. (2019/18). In turn, after the first year of the pandemic, the indicator deteriorated by 0.90 p.p. (2020/19).

The change in the behavior of the profit margin ratio was influenced by both the change in the volume of operating revenue (turnover) and profitability. Western European companies in the first year of the pandemic recorded both an increase in turnover and a decrease in profitability, which ultimately must have had a negative impact on profit margin. The opposite was true for entities in Eastern Europe. In this part of the population, companies recorded a decrease in turnover and an increase in profitability, which in turn contributed to an improvement in the profit margin ratio. Eastern European entities managed to generate more profit in the first year of the pandemic than in the period preceding it, despite reduced turnover levels.

5 Conclusion

The COVID-19 pandemic forced hospital managers in Europe to change their priorities and strategies. As a consequence of the negative impact of the coronavirus pandemic on national economies, economic entities around the world experienced severe or threatening to their stability negative financial effects in the form of a reduction in the volume of orders received for goods sold, an increase in problems related to payment bottlenecks affecting the deterioration or loss of financial liquidity. The pandemic also had a significant impact on reduced access to health care services, as well as on the financial and asset situation of hospitals.

The aim of this article was to present the research results and evaluate in terms of the impact of the COVID-19 pandemic on the development of the financial situation of hospitals in Europe after

the first year of the pandemic with reference to the situation several years before the pandemic. The study covered the period 2017-2020. An economic analysis was conducted relying on basic statistical characteristics using financial data from a research population of 8,995 private and public hospital operating companies in Europe, including 2,769 from Western Europe and 6,226 from Eastern Europe. From the point of view of assessing the minimum sample size ($n_{\min}=753,41$), the size of the study population ($n=8,995$) allows the results of the survey to be used for inference with translation to the entire general population ($N=57,722$).

The hypothesis was adopted that the financial situation of hospital operators in Europe has deteriorated due to a reduction in the range of medical services forced by the spread of coronavirus. The research data was analyzed by Eastern and Western Europe and assessed against economic volumes represented by the research sample from across Europe. Considering the above, the research hypothesis was only confirmed in the case of operating revenue, current ratio, and solvency ratio.

In the first year of the pandemic, there is a noticeable slowdown in the growth rate of total operating revenue (turnover) of the research sample, both in Eastern and Western Europe and at the level of the European area. In the case of median turnover, the deceleration of the growth rate is characteristic only for Eastern Europe (-63.2 p.p.). This resulted in a decrease in turnover in 2020 compared to 2019 generated by Eastern European companies and an increase in turnover generated by Western European companies.

In the first year of the COVID-19 pandemic, hospitals from both Eastern and Western Europe recorded a slight deterioration in current ratio. In the last three years before the pandemic, hospitals in Europe showed an improvement in their current ratio (year-on-year). The decreasing trend of the current ratio is indicative of a deteriorating ability to meet short term liabilities. Despite the deterioration of the current ratio, it is still maintained at an optimal level, i.e. between 1.5 and 2.0. The solvency ratio also deteriorated in the first year of the COVID-19 pandemic in both Eastern and Western European entities. For Eastern European hospitals the deterioration of the ratio was 3.29 p.p. and for Western European hospitals it was 2.32 p.p., with a negative change calculated over the entire study sample of 2.29 p.p.

The hypothesis was not confirmed in terms of the asset situation. No significant impact of the pandemic in the first year of its occurrence on the

companies' asset levels was observed. The steady increase in the level of total assets of the research sample was maintained, with a slight reduction in the rate of asset growth. The steady increase in the level of total assets of the research sample was maintained with a dynamic of 105.9% for Europe and Western Europe and 105.8% for Eastern Europe. In contrast, a slight reduction in the rate of asset growth is noticeable. The dynamic in 2020/19 decreased compared to previous periods by 5.3 p.p. (2019/18) and by 0.5 p.p. (2018/17).

For the other economic quantities analyzed, such as profit/loss before tax, profit margin and ROE, heterogeneous results were obtained, depending on the region of Europe in which the hospital operates. The results confirmed that for Eastern European hospitals, the COVID-19 pandemic did not affect the deterioration of total profit/loss before tax, profit margin and ROE. The research sample from Eastern Europe in the first year of the pandemic increased total profit/loss before tax by €197,735 k, median profit/loss before tax by €5.3 k, profit margin by 0.96 p.p. and ROE by 4.45 p.p. Meanwhile, the Western European sample over the same period decreased total profit/loss before tax by €889,669 k, median profit/loss before tax by €18.2 k, profit margin by 0.90 p.p. and ROE by 4.25 p.p.

Despite lower asset potential, the above-mentioned economic figures for the first year of the pandemic for Eastern European hospitals were better than for the Western European part of the research sample. Total profit/loss before tax was higher by €654 794 k, profit margin higher by 1.72 p.p. and ROE by 11.1 p.p. For median profit/loss before tax, hospitals from Western Europe showed a higher profit margin.

Continuing research on the impact of the COVID-19 pandemic on the development of the financial situation of hospitals in the subsequent years of the pandemic, narrowing down the statistics to the country level may allow hospital operators in Europe to be better prepared to function not only in a pandemic environment, but also in the various crisis situations that are increasingly affecting business entities and societies in Europe. Thereby, it will be possible to minimize the negative impact of crises not only on the economy of individual countries, but also on the financial situation of business entities, and thus on the lives of hundreds of millions of people, if not around the world, then at least in Europe.

Europe in the last decade or so has been experiencing successive crises affecting the financial and asset situation not only of economic entities, but also of the inhabitants of the European

continent. The global financial crisis began in 2007, was followed by the Greek financial crisis with the threat of bankruptcy of the country, then the over-liquidity of the financial sector was experienced in many European countries and was followed by the crisis caused by the SARS-CoV-2 coronavirus. The world has not yet overcome the consequences of the COVID-19 pandemic in its first period, and at the beginning of 2022 a new crisis began in Europe triggered by Russia's war with Ukraine, which is already resulting in an increase in the price of strategic raw materials, as well as a high increase in inflation (inflationary crisis). As a consequence of the inflationary crisis and the war in Ukraine, a significant decrease in gross domestic product can be expected in most European countries soon. These are certainly not the last problems of the Old Continent.

The financial crises of recent years affect the financial and asset situation of economic entities doing business in Europe, which is an interesting research problem that can be considered in subsequent scientific studies. The subject of further research should be Eastern and Western European entities doing business in key industries for European economies and society, such as energy, petrochemicals and fertilizer production. This is particularly relevant to the situation in which Europe finds itself at the end of 2022. Problems with inflation and insufficient energy utilities are just some of them. Europe, due to Russia-induced restrictions on energy and petrochemical raw materials, needs to ensure its security over a longer time horizon, beyond the duration of hostilities in Ukraine.

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