

Managerial Aspect of Private Health Care Institutions in the Republic of Croatia at the Time of COVID-19 Pandemic

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Managerial economics, with its specificity, provides a special insight into the management of private health care institutions. According to the sources of the Financial Agency (FINA) and the national classification of activities (8622 and 8610), the observed industry in the Republic of Croatia in 2020 contains 675 entities, out of which 9 are in special private hospitals (8610), and others are in specialist medical practice (8622). The effectiveness of managers in conditions of uncertainty and increased risk is reflected in the availability of information and their experience in similar situations. Precisely the lack of information that was present at the time of the COVID-19 pandemic indicates the effective strategic thinking of managers (owners) of the observed institutions who responded in a timely manner to market needs in these conditions. In doing so, they acted as a substitute for specialist health care because it was not able to provide adequate service to the required extent.

Keywords: managerial economics, private health care, COVID-19 pandemic, company, market structure.

JEL classification: D4, I1, L1

INTRODUCTION

Success in the business world, no matter how analytically dissected, means winning the market. From CEOs of large corporations to managers of small, private

companies and even non-profit institutions such as hospitals and universities, managers of any of these types of organizations cannot expect to make successful business decisions without a clear understanding

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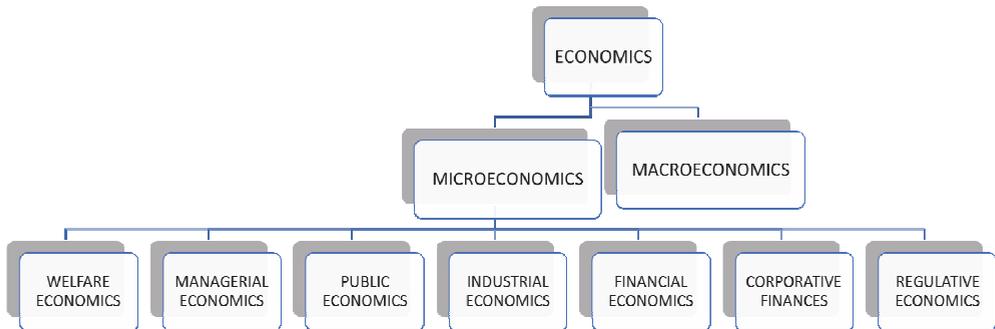
of how market forces create both opportunities and restrictions for business enterprises (Thomas & Maurice, 2016: 1). Therefore, by analysing the observed industry of specialist medical practice and special hospitals in private ownership in Croatia, according to the national classification of activity, we can conclude that it is as successful as its managers and, in most cases, owners are aware of its importance for the entire market income, i.e. the number of performed examinations and medical procedures. The importance of the observed industry is even greater due to the fact that business was difficult in all industries during the COVID-19 global pandemic, but the fact that state hospitals in Croatia operated with reduced capacity indicates the strengthening of business results of private clinics and special hospitals (Kaštelan, 2020a). Therefore, it is indisputable to put forward the thesis that the managers of the observed institutions recognized market opportunities and responded in a timely manner in favour of business efficiency (Šimović, 2022).

Managerial economics is a derivative of microeconomics. Microeconomics fo-

cus on the study of the actions and behaviours of individual economic entities such as consumers and enterprises. In the first economic unit, consumers, their demand is observed and analysed, and in the second, companies, their decisions in production, their supply and prices are investigated, all in the context of the market structure in which they operate. From the perspective of the economic unit, microeconomics looks at the conditions and finds the determinants of a partial analysis while trying to ask whether there is, and under what conditions, the possibility of establishing a general balance.

There is often a minimal difference between managerial economics and microeconomics, which can be seen in the understanding of managerial economics as the application of microeconomic tools and analysis techniques in the decision-making process within the company. The adjective managerial should emphasize the manager, i.e. the leading person (or team) within the company in charge of decision making.

Figure 1
The tree of economics



Source: Managerial Economics Teaching Materials: Managerial Economics as a Science.

Leadership i.e. management (management team) makes routine decisions within known limits in order to meet the set goals (Boyes, 2012: 157). It is important that managers have theoretical knowledge regarding different parts of the economy such as accounting, finance and management, and that they apply them in decision-making in order to more successfully meet their goals that are consistent with the goals of the company. What is also important to understand is that the manager must be willing to compromise when it comes to resource allocation because individual decisions may show to be more useful at some point. On the other hand, it is possible that a slightly different decision will currently be less beneficial; however, over time the effectiveness will only increase and ultimately prove to be better.

The core of economic decision-making refers to the allocation of insufficient resources. Allocation contributes to the achievement of the goals of companies and interest groups. For this reason, the management needs knowledge of economics as a science of decision making in conditions of limited resources (Rupčić, 2016: 33). This problem was particularly evident in the case of the COVID-19 vaccine which was created later, and therefore the unavailability of possible treatments as well as the treatment of the disease consequences and complications, greatly contributed to the search for market solutions for the observed institutions in Croatia. Regarding management decisions, they are rarely made with absolute certainty in the outcome of the chosen alternative. Decision-making in secure conditions is characteristic for lower hierarchical levels that deal with operational tasks, and a shift to the higher hierarchical scale increases the degree of risk and uncertainty (Sopta, 2020). It is decision-making in conditions of uncertainty that is the real test for a

manager. Features of uncertain situations are:

- lack of valid data,
- uncertainty regarding the accuracy of available information,
- lack of knowledge regarding the possibilities of evaluating situations during the decision-making process
- lack of knowledge about the relationship between different variables that may affect the decision-making process.

The effectiveness of the manager in terms of uncertainty and increased risk is reflected in the availability of information, as well as his experience in similar situations (Sopta & Slavica, 2017). Namely, the lack of information that was present at the time of the COVID-19 pandemic indicates the existence of effective and strategic thinking by the managers (owners) of the observed institutions, who were therefore able to respond to the needs of the market in a timely manner. Thus, they acted as a substitute for primary health care since primary health care was unable to provide adequate service. There are achievements of science that do not belong to the field of economics, nonetheless are extremely important in the process of making managerial decisions. This refers to the achievements of decision science, especially in terms of quantitative methods, which can be of great benefit to managerial economics. Demand estimation methods, for example, those on which predictions are made, are not among the tools and techniques of microeconomics, however they are very necessary for managers, and they are encountered in econometrics. Therefore, a company manager who, in addition to standard tools and techniques of microeconomics, will use more advanced and sophisticated decision-making methods

can count on making better and more certain decisions despite the limited information regarding the market and the specifics of the current situation.

The main goal of this research is to show the managerial aspect of private healthcare institutions in the Republic of Croatia during the COVID-19 pandemic. The analysis was performed using data of private health care institutions in the Republic of Croatia included in the research. Data before the pandemic and available data during the COVID-19 pandemic will be presented.

The work is structured in such a way that after the introduction, we describe the materials used in the research. Furthermore, the results and discussion of the research itself are presented and at the end there is a conclusion.

METHODS AND MATERIALS

In the analysis we used the annual data of the largest health private institutions in Croatia for 2018, 2019 and 2020. The analysed sample includes Magdalena Clinic Krapinske Toplice, Medikol Polyclinic, Agram Special hospital, Radiochirurgia Special hospital, Medico Special hospital, Svjetlost Special hospital, Sv. Nedjelja Polyclinic, Akromion Special hospital Krapinske Toplice, Sv. Katarina Special hospital, Croatia Polyclinic, Aviva Polyclinic, Bagatin Polyclinic, Sv. Rok Polyclinic, Arithera Special hospital and Podobnik Special hospital. The data is available on the website of Financial Agency (FINA) in order to ensure the transparency and reliability of the data used in the analysis.

The data used in the analysis refers to revenues, EBIDTDA (earnings before interest, taxes, depreciation, and amortization), number of employees and income

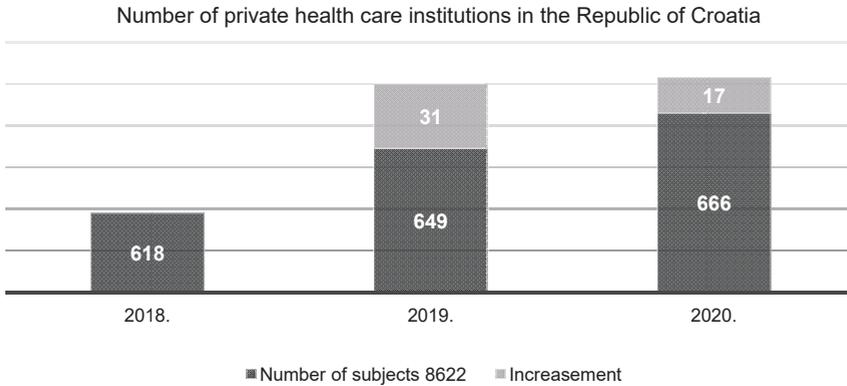
per employee. The above-mentioned data was used in a comparative analysis of selected health private institutions in Croatia.

RESULTS AND DISCUSSION

When the state is involved in a market economy, it generally controls the behaviour of buyers and sellers through a process of "indirect command", thus demonstrating the impact of government policies on managerial decision-making (Keat, 2011: 560). The case is similar in the observed activities. However, analysing the data leads to the conclusion that the managers of the observed institutions have managed to impose themselves on the market as an important factor, which also shows new trends in the health care activities. As already mentioned in the paper, out of the total number of institutions according to the national classification of industry (8622 and 8610) in the Republic of Croatia, there are 675 entities, out of which nine are in special private hospitals (8610), and the remaining 666 institutions are in specialist medical practices. Analysing the data from 2020 indicates a growth of 2.6% (17 institutions) compared to 2019 or even a growth of 7.8% (48 institutions) compared to 2018 (Graph 1). This shows the trend of free entry into the market, but also the evident impact of the COVID-19 pandemic on the growth of the number of these types of institutions. If companies make positive economic profits in a market, there is a danger of new companies entering. Further, if new companies enter the market, there is a decline in economic profits, which is not in the interest of the existing market players. In some cases, the entry of a new company can be very simple, while some markets are characterized by barriers to entry that may relate to high capital investment, the existence of economies of scale, etc. (Von Weizsäcker, 1980: 8-20).

Graph 1

Total number of health institutions of special medical practice and special hospitals in the Republic of Croatia



Source: Fina (Financial agency).

The structure of the observed activity (8622) indicates that there are 806 micro-enterprises on the market, out of which 55 are small, three are medium and none are large (Table 1). In part, this

is a consequence of tax and other forms of assistance for small and medium-sized entrepreneurs, while fiscal and regional policies make business more difficult for large companies.

Table 1

Activities 8622 and 8610 - revenues, number of employees and EBITDA in 2020

Activity designation	Activity description	Number of subjects	2020 (Croatian Kuna)		
			Revenues	EBITDA	Number of employees
8622	Activities of specialist medical practice	666	1 581 587 485	267 859 814	4 079
8610	Hospital activities	9	312 920 637	25 275 645	642
Total		675	1 894 508 122	293 135 459	4 721

EBITDA: earnings before interest, taxes, depreciation, and amortization.

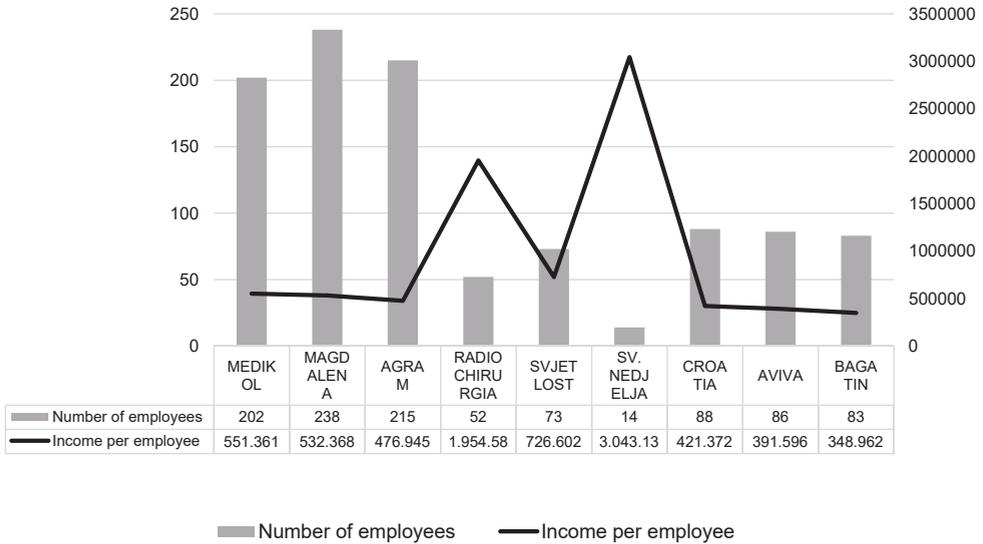
Source: Fina (Financial agency).

The share of the observed activity of specialist medical practice (8622) in the total income in the economy of the Republic of Croatia is 0.26%, while this number in the share of the number of employees in the economy of the Republic of Croatia is slightly higher and is 0.47%. It is

important to note that these are mostly specifically educated and in-demand occupations both on the Croatian market and on the markets of other EU members, and therefore maintaining them requires much higher costs.

Graph 2

Number of employees and income per employee of the ten largest health and private institutions in the observed activity for 2020



Source: Fina (Financial agency).

The observed data for year 2020 shows that the highest growth in income per employee was achieved by the two institutions, Sv. Nedjelja and Radiochirurgia (Graph 2). Other polyclinics record a constant in revenue per employee for 2020.

Furthermore, analysing the revenues for 2018, 2019 and 2020 (Table 2), it can be concluded that only the polyclinics Bagatin, Akromion and Svjetlost achieved a slightly lower growth than other institutions of the observed activity. The reason for this is the specialization of those polyclinics whose services were possibly less in demand during the pandemic. There is also an evident trend of the development

of special hospitals that emerged from the former polyclinics. Undoubtedly, it is obvious that without going into the expansion of the offer of individual institutions, during COVID-19, some strategic management decisions contributed to a better income result, without analysing the profit for the same period.

The positive trend in the offer and expansion of services regardless of profit ensures the presence of patients and the creation of trust for future periods, which is also seen in the revenue results that are increasing for the top fifteen private health institutions in the observed activities (8622 and 8610) (Graph 3).

Table 2

Operating revenues of the fifteen largest health private institutions in the observed activity for 2018, 2019 and 2020

Revenue (HRK)							Difference	
Activity	2020	Subject	2018	2019	2020	18/19	19/20	
8610	1	MAGDALENA Clinic Krapinske Toplice	109 622 457	116 608 983	126 703 642	106%	109%	
8622	2	MEDIKOL Polyclinic	94 697 613	105 358 840	111 374 937	111%	106%	
8622	3	AGRAM Special hospital	83 541 986	91 698 800	102 543 12	110%	112%	
8622	4	RADIOCHIRURGIA Special hospital	39 971 509	69 769 326	101 638 601	175%	146%	
8610	5	MEDICO Special hospital	48 395 662	53 837 333	54 356 282	111%	101%	
8622	6	SVJETLOST Special hospital	55 771 722	59 875 890	53 041 975	107%	- 89%	
8622	7	SV. NEDJELJA Polyclinic	2 493 661	27 071 122	42 603 941	1086%	157%	
8610	8	AKROMION Special hospital Krapinske Toplice	34 185 867	40 509 017	37 572 685	118%	-93%	
8610	9	SV. KATARINA Special hospital	30 177 061	35 361 132	37 135 287	117%	105%	
8622	10	CROATIA Polyclinic	23 309 569	28 465 804	37 080 767	122%	130%	
8622	11	AVIVA Polyclinic	33 845 073	36 897 660	33 677 231	109%	-91%	
8622	12	BAGATIN Polyclinic	37 974 608	32 090 518	28 963 884	-85%	-90%	
8622	13	SV. ROK Polyclinic	18 964 215	23 846 549	26 330 369	126%	110%	
8622	14	ARITHERA Special hospital	23 589 616	24 783 246	25 596 768	105%	103%	
8610	15	PODOBNIK Special hospital	19 836 466	23 909 175	24 181 704	121%	101%	
Total			656 377 080	770 083 395	842 801 196	117%	109%	
					8622 total (N= 666 subjects)	1 581 587 485		
					8610 total (N= 9 subjects)	312 920 637		
					Total (8622 + 8610)	1 894 508 122		

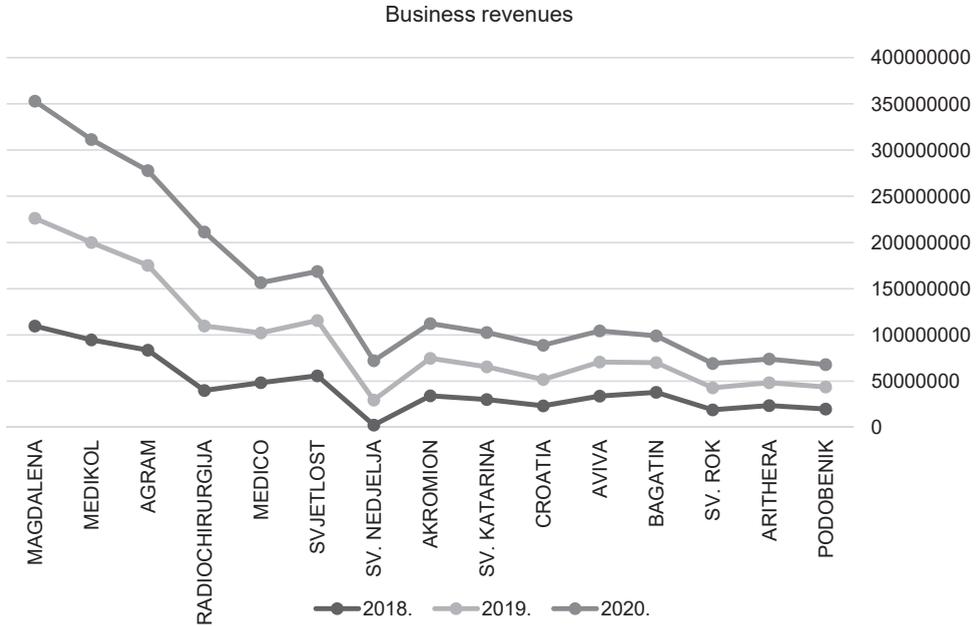
Source: Fina (Financial agency).

The total amount of revenues of the largest fifteen institutions for 2020 amounted to HRK 842 801 196, which is an increase of 9% compared to 2019 and 17% compared to 2018. The growth trend of using the services of these institutions is shown, which means that their offer hit the market need during the COVID-19 pandemic, i.e. the public

health system failed due to the inability to function during the pandemic. This proves that the public and private health care systems are complementary as the number of patients grows and the needs for diagnosis and treatment increase from year to year. A similar situation is present in several Central and Eastern European countries (Konatar, 2021).

Graph 3

Revenues of the ten largest private health institutions in the observed activity for 2018, 2019 and 2020



Source: Fina (Financial agency).

Methods of analysis of time series can be divided into two groups: methods of analysis in the domain of angular frequencies and methods of analysis in the domain of time (Bahovec & Erjavec, 2009:190).

A linear stochastic model was used in the analysis of the time series from 2018 to 2020, in the period where the impact of the COVID-19 pandemic is evidently reflected. Given that there were no data for 2021 at the time of writing, we can only conclude that all observed institutions had higher revenues from year to year, particularly the medium-sized ones which were more engaged in the volume of business, since the state hospitals were open only for emergencies due to technical reasons. According to the authors' predictions, the revenue growth trend would be higher in 2021 for all institutions, considering that the pandemic lasted throughout 2021.

This study shows the growing trend in the use of the services of the analysed institutions, which means that their management correctly perceived the needs of the market during the COVID-19 pandemic, in fact it could be said that the public health system failed to some extent due to the inability to function during the pandemic. The trend of increasing private health services is not common during financial crises (Kaštelan, 2020b) and the presented data and their analysis indicate the specificity of the crisis associated with the COVID-19 pandemic and prove that the public and private health systems are complementary as the number of patients grows and the needs for diagnosis and treatment increase from year to year.

CONCLUSION

The limitation of this research is that data on public hospital systems and centres were not included. This, in parallel with the growth of private health institutions, would indicate a trend of decreasing capacity utilization of the public health sector in favour of private ones during the COVID-19 pandemic.

Possible guidelines for the continuation of research from the domain of the managerial aspect of private healthcare institutions in the Republic of Croatia and the influence of COVID-19 pandemic refer to the following years, particularly 2021, considering the continuation of this pandemic. Data from 2021 could not be included in the analysis since audited public reports were not available at the time of writing. Further, for a more detailed analysis, it would be beneficial to distinguish to what extent ownership overlaps with management in the analysed institutions. This is particularly important considering that medical professionals are not trained in business management. However, the specificity of the medical sector gives additional advantages to the medical professionals in the managerial aspect of business in the healthcare system.

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Sažetak

MENADŽERSKI ASPEKT PRIVATNIH ZDRAVSTVENIH INSTITUCIJA U REPUBLICI HRVATSKOJ U VRIJEME PANDEMIJE COVID-19

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Upravljačka ekonomika sa svojim specifičnim obilježjima pruža poseban uvid u upravljanje privatnim institucijama zdravstvene skrbi. Prema izvorima Financijske agencije (FINA) i nacionalnoj klasifikaciji djelatnosti (8622 i 8610), u 2020. godini analizirana industrija u Republici Hrvatskoj sadržavala je 675 subjekata, od kojih su 9 bile specijalne privatne bolnice (8610), a ostale specijalističke liječničke prakse (8622). Učinkovitost menadžera u uvjetima nesigurnosti i povećanog rizika odražava se u dostupnosti informacija i njihovom iskustvu u sličnim situacijama. Upravo nedostatak informacija koji je bio prisutan u vrijeme pandemije COVID-19 upućuje na učinkovito strateško razmišljanje menadžera (vlasnika) analiziranih institucija koji su pravovremeno reagirali na potrebe tržišta u tim uvjetima. Postupajući na taj način djelovali su kao nadomjestak za specijalističku zdravstvenu skrb koja nije mogla pružiti adekvatne usluge u potrebnoj mjeri.

Ključne riječi: upravljačka ekonomika, privatna zdravstvena skrb, pandemija COVID-19, društvo, struktura tržišta.