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PROFITABILITY OF MEDICAL ENTITIES IN POLAND FOLLOWING OWNERSHIP TRANSFORMATIONS

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Purpose: The paper aimed to analyze the profitability of the ten selected healthcare units in Poland before and after ownership transformation. Source data used for calculations came from the financial statements of the examined healthcare units.
Design/methodology/approach: The paper focuses on ratio analysis, i.e., profitability, which facilitates the evaluation of the studied hospitals in two periods, 'before transformation' and 'after transformation'. A method of scientific cognition was used (1): an analysis of the subject literature, a method of obtaining empirical data (2): an analysis of the content of internal documentation of the analyzed healthcare entities (hospitals), and a method of analysis of the obtained empirical material (3): indicator analysis. Undertaken research contributed to the formulation of the research objective: *Is there an improvement in the profitability of medical entities (hospitals) in Poland following ownership transformation?* Referring to the presented research problem, the author formulated the following hypothesis: *There is an improvement in the profitability of the examined healthcare entities in Poland.*
Findings: The study's results allow the author to verify the research hypothesis. The spatial scope of the analysis refers to the territory of Poland with a focus on three selected provinces: Lesser Poland (małopolskie), Kuyavia-Pomerania (kujawsko-pomorskie), and Lubusz (lubuskie). The time scope of the study covers three years before the transformation of a given 'SP ZOZ' (Independent Public Healthcare Institution) into a commercial law company and three years after the transformation. The subject scope of the evaluation includes: hospitals subordinate to local government units (LGUs) transformed into commercial law companies. The subject scope of the evaluation is the profitability of hospitals.
Research limitations/implications: The results obtained are of great practical importance for managers, shareholders and other stakeholders in the health care sector. Nevertheless, the proposed considerations certainly do not exhaust all possible solutions and may be the subject of further research and scientific discussions. In the future, the author plans to expand the research results with the criterion of social effectiveness (quality of services provided and patient satisfaction with the services of medical entities).
Practical implications: The results of the work can become an incentive for executives, managers and investors, as they indicate an improvement in the profitability of hospitals.
Social implications: The implementation of the research results will contribute to increasing public awareness of the functioning of hospitals.

Originality/value: The number of studies on the financial performance of medical entities is insufficient. All the more, the research results presenting the evaluation of the financial situation of the transformed entities are extremely valuable. The results from the conducted research indicate an improvement in the profitability of the examined medical entities (hospitals). In connection with this fact, legal changes resulting from normative acts (reforms in the healthcare sector) were also justified. The choice of topic results from the personal interests of the author.

Keywords: economy, public and non-public healthcare entities, profitability of hospitals.

Category of the paper: Research paper.

1. Introduction

The priority task of the healthcare system is to respond to the health needs of society while ensuring the effective use of available resources. The paper aimed to present a profitability analysis of ten selected medical entities in Poland, focusing on three selected provinces – Lesser Poland (małopolskie), Kuyavia-Pomerania (kujawsko-pomorskie), and Lubusz (lubuskie) – before and after ownership transformation. The source data used for calculations came from the financial statements of the healthcare entities. The authors obtained the data through cooperation with one of the largest private investors in local government hospitals in Poland. Currently, the two largest in Poland are: EMC Instytut Medyczny S.A. of Wrocław and Grupa Nowy Szpital Sp. Z o.o.

There is a shortage of studies on the profitability of hospitals after ownership transformations in Polish subject literature. Authors in the Polish literature indicate the problem of modern health economics, which is the assessment of the financial condition of hospitals, due to the limited availability of relevant medical statistics that enable reliable research (Wielicka-Gańczarczyk, 2015, pp. 505-516). The article focuses on the indicator analysis, i.e., profitability, which enables the evaluation of the examined hospitals in two periods: before and after transformation. The examined Independent Public Healthcare Institutions (SP ZOZ) were transformed into Non-Public healthcare Insitutions (NZOZ), changing the legal form of the entity into a commercial law company, namely a limited liability company. The time frame of the analysis is from 2002 to 2018, which includes three years before the transformation of a given SP ZOZ into a capital company and three years after the transformation. To justify the choice of the topic, the authors paid particular attention to the most relevant issue, which is the healthcare reforms implemented from 1991 to 2018.

Moreover, the fact that further changes were introduced in December 2021, through the bill of 29 December 2021 on modernization and improvement of efficiency of hospitals (accessed 01.02.2023), although it goes beyond the analyzed time horizon (2002-2018), has a significant impact on the study of profitability of medical entities in Poland. The determinant of a country's effectiveness is the economic indicators at an optimal level and the widely understood social good. Hence, it is essential to improve access to medical services effectively. Therefore, the process of privatization and commercialization in the Polish healthcare sector seems to be necessary and worth undertaking, if only to secure the population's health in a given region. The results of studies in this area prove that transforming hospitals into private institutions is a good move.

2. Literature Review and Theory Development

The processes of both privatization and commercialization have been an integral part of transformations within the Polish healthcare sector in the last decade. Under Polish commercial law, these concepts were defined in the relevant Act of 1996 (Journal of Laws 1996, No. 118, item 561, as amended). Under this law's provisions, commercialization consists of 'transforming a state-owned enterprise into a company without changing its ownership structure. Regarding privatization, the legislator distinguished two forms: direct privatization (sale of a state-owned enterprise) and indirect privatization (sale of Treasury-owned shares in companies). Although the Act refers to state-owned entities, commercialization is commonly accepted as transforming a public entity into a commercial law company while maintaining the existing ownership structure (Dubas, Szetela, 2013, p. 39). Privatization, on the other hand, refers to a change in the ownership of a commercialized entity through the sale of most or all of its shares. In the international literature, privatization is also referred to as a set of mechanisms that aims not only to encourage the private sector to actively participate in the financing and delivery of public services, but also includes the introduction of private sector management principles in this area (Saltman, Bankauskaite, Vrangbaek, 2007, p. 246). The increase in the share of the private sector in the supply of healthcare services is the main effect of the so-called 'founder privatization' that has taken place in Poland over the last ten years. Unlike the two previously mentioned forms (i.e., direct and indirect), it does not involve a transformation of the ownership structure of an entity/institution belonging to the public sector (Dubas et al., p. 39) but the independent creation of entirely new non-public entities. Founder privatization has contributed to the faster development of the private sector in primary healthcare (e.g., group and individual medical practices). In the broader sense of healthcare, we deal with various forms of privatization. However, it should be remembered that when it comes to hospitals, which are the basis of inpatient treatment, indirect privatization with the participation of entities subordinate to local government units plays a key role here. The two concepts in question are separate processes, as commercializing public hospitals may be the first step toward privatization. The existing legislation contains incentives (i.e., financial motives) to encourage the founding bodies to commercialize public hospitals. Thus, the issue concerning their privatization is an independent and individual decision of the founding institution (Horosz, 2012, pp. 42-58).

The share of public and non-public entities reflects the commercialization scale in the inpatient care sector. Most public entities operate in the form of SP ZOZ, and their owners (founding bodies) are ministers, central government administration bodies, provincial governors, local government units (LGU), public medical universities, and the Medical Centre for Postgraduate Education. Non-public entities function in the form of companies. They are owned primarily by natural or legal persons (national and foreign), employers, foundations, trade unions, professional self-governments, associations, churches, religious associations, or companies that do not have legal personality (Dubas et al., p. 40). Such a classification in available statistics has been in force since the 1990s. It helps assess the scale of commercialization of public hospitals. Still, on the other hand, it poses difficulties in assessing the degree of privatization, which can be explained by the fact that in the group of non-public hospitals, there are also healthcare providers that operate as companies, where local government units have a majority or total share. These units are often referred to as 'non-public local government units'; the name indicates that it juxtaposes two opposing notions (Dubas et al., p. 41). On the one hand, its name suggests that it is the local government unit because it belongs to the element of public administration. On the other hand, it is non-public because a company is not mentioned in it – the current legal regulations contain a closed catalog of organizational and legal forms where a public provider of health services can function.

Healthcare system reform is a long, labor-intensive, complex social, economic, and political process. Due to the importance of changing the legal form of medical entities, the authors also paid attention to the following reforms in the health sector:

- Act of 30 August 1991 on Healthcare Institutions (Journal of Laws of 1991, No. 91, item 408 as amended, repealed on 1 July 2011).
- Act of 6 February 1997 on National Health Insurance (Journal of Laws of 1997, No. 28, item 153 as amended).
- Act of 23 January 2003 on National Insurance in the National Health Fund (Journal of Laws of 2003, No. 45, item 391).
- Act of 15 April 2011 on Medical Activity (Journal of Laws 2011, No. 112, item 654 as amended).
- Act of 10 June 2016 amending the Act on Medical Activity and certain other acts (Journal of Laws of 2016, item No. 1638 as amended).
- Act of 23 March 2017 amending the Act on Healthcare Services Financed from Public Funds, the so-called hospital network (Journal of Laws 2017, item 844).
- Act of 27 October 2017 on Primary Healthcare (Journal of Laws 2017, item 2217),
- Act of 10 May 2018 on the Protection of Personal Data (Journal of Laws 2018, item 1000).
- Draft Act of 29 December 2021 on Modernizing and Improving the Efficiency of the Hospital System.

Due to the importance of the subject matter of the article, it is crucial to distinguish the three healthcare system reforms that focus on changes concerning ownership transformations, namely:

- The Act of 30 August 1991 on Healthcare Institutions – the reform of the healthcare system after 1989 was concurrent with the rapid transition from a centrally planned economy to a market economy. The first changes were not radical and were introduced in 1991-1998. They focused on issues related to the decentralization of healthcare and the approval of the so-called founding privatization of clinics and specialist medical practices. During this period, the most significant change was providing state hospitals with accountability and autonomy in budget management (Journal of Laws 1991, No. 91, item 408 as amended, repealed on July 1, 2011).
- Act of 15 April 2011 on Medical Activity – the next stage of the healthcare reform was the introduction of the Act on Medical Activity, which came into force on 1 July 2011. The Act paved the way for transforming public hospitals into commercial law companies. The Act on Medical Activity is a continuation of earlier attempts to commercialize public hospitals to reduce their debts and improve their management. The Act on Medical Activity regarding the transformation of Independent Public Healthcare Institutions (SPZOZ) into companies guarantees complete continuity of activities in the new organizational and legal form. Transformations are performed with the participation of the entity forming SPZOZ, i.e., local government (province, poviat, commune) or medical university.The main incentive for the transformation is the possibility of obtaining partial write-offs of public liabilities of the medical entity, as well as the possibility of receiving a special-purpose subsidy from the state budget by the forming entity. However, the act brings about a noticeable change in nomenclature, as the notion of 'healthcare institutions' has been replaced with the notion of 'medical entities' (Journal of Laws, 2011, No. 112, item 654 as amended).
- Act of 10 June 2016 amending the Act on Medical Activity and certain other acts – Another systemic healthcare reform initiated the Law on Medical Activity amendment, which came into force on 15 July 2016. It halted the commercialization and privatization of public hospitals by prohibiting the sale of stocks and shares in capital companies with State Treasury participation. One of the most important changes in this amendment was the abandonment of the transformation of SPZOZ into commercial companies (Journal of Laws 2016, Item No. 1638, as amended).

Therefore, the analyzed time horizon of the examined medical entities was justified. According to the information contained in the report of the Supreme Chamber of Control of 2015 (SCoC), the Act on Medical Activity adopted in 2011 provided for the possibility of obtaining support for entities transforming Independent Public Healthcare Institutions (SP ZOZ) into capital companies (SCoC, 2022). Unlike the Act on Medical Activities, the Act on healthcare Institutions enabled the transformation of SP ZOZ into a capital company without requiring its prior liquidation. In connection with this situation, there appeared the possibility of preserving the legal continuity of the entity functioning in different legal forms. According to data on the Ministry of Health website, from the beginning of 2011 to the end of April 2014, the number of hospitals increased from 984 to 1,078 (Ministry of Health, 2022). Independent Public Health Care Institutions (SP ZOZ) transformed into companies at the level of 174 hospitals. The organizational and legal form based on the Act on Healthcare Institutions of 1991 was changed in 125 hospitals, thus resulting in the establishment of private entities. Forty-nine hospitals were subjected to the 2011 Act on Medical Activities, creating the possibility of transforming a public entity into a commercial company. In turn, the World Health Organization reports that in 2016 there were 926 hospitals in Poland, including the majority of public hospitals (462) operating in the form of SP ZOZ (Sowada, Sagan, Kowalska-Bobko, 2019). According to the Ministry of Health, at the end of 2020, there were 575 public hospitals in Poland, defined as healthcare entities providing hospital services, functioning in the form of independent public healthcare institutions (428), research institutes (14), and capital companies (133), of which 125 with 100% state capital) with majority Treasury share, local government units, or medical universities (joint-stock companies) (Ministry of Health, 2022). Therefore, one can conclude that the number of medical entities (hospitals) before and after the transformation is not sufficiently estimated.

3. Materials and Methods

Medical institutions' periodic reports on their activities rely mainly on the balance sheet, income statement, and financial flow statement (if a certified financial auditor audits the report). The analysis of economic indicators acts as a compliment to financial reporting (Wielicka-Gańczarczyk, 2015, p. 507). Indicator analysis allows one to study the interdependencies between the various elements that appear in financial statements, thus making it possible to assess an enterprise's financial standing (Pomykalska, Pomykalski, 2007, p. 66). The analysis comprises the calculation of particular relations between data found in the balance sheet or profit and loss account and then comparing the obtained quantities with the base quantities or the quantities of other enterprises (Kotowska, Uziębło, Wyszkowska-Kaniewska, 2013, p. 57). When conducting comparative studies, medical entities often face the fundamental dilemma of which entity to compare themselves with, as choosing the best one is difficult due to the poor financial condition of most businesses.

Various methods can be used to assess the financial condition. However, in practice, the indicator method is most often used, as it is of fundamental importance for the synthetic assessment of the asset and financial situation. A good selection of indicators allows one to illustrate the mutual relationships, which are defined by economic values, resulting in the possibility of assessing the financial condition. The indicator analysis includes a wide range of measures designed to evaluate the financial situation of an economic unit. With their help, it is possible to characterize various economic aspects of entities' activities synthetically. Regardless of the sector, the four primary groups of indicators used to assess an enterprise's financial condition are most often distinguished, i.e., profitability, debt, liquidity, and turnover (Perechuda, Kowalewski, 2008, p. 156). Due to the article's purpose, the research was narrowed down to the profitability analysis of the ten selected medical entities in Poland before and after ownership transformation. To achieve the article's principal objective, the authors made a collective overview presented in Table 1 and unified the group of indicators according to which the research was conducted.

Table 1.
Profitability indicators

Indicator	Formula
Return on Sales (ROS)	$\frac{Net\ profit}{Sales} * 100\%$
Return on Assets (ROA)	$\frac{Net\ profit}{Total\ assets} * 100\%$
Return on Equity (ROE)	$\frac{Net\ profit}{Equity} * 100\%$

Source: Nowak, 2005, pp. 165-188.

As can be seen, profitability ratios are profit to invested capital. When medical entities show a positive value of profitability in all tested aspects with the help of the presented indicators, it should be read as a positive effect for the institution's benefit. Return on sales (ROS) examines a business's profitability (Gabrusewicz, 2014, p. 302). The profit margin ratio determines the level of earnings on the business activity, and its value is a specific characteristic of a business entity because it depends on the type of activity. It is indicated that manufacturing activity brings a higher profit margin than trade and service activity. This difference is due to the length of the operating cycle and the cost of freezing the capital. A higher level of this ratio implies a more favorable financial situation for the company. ROA shows the effectiveness of using assets at the company's disposal. It is a measure used to evaluate managers of business entities. It informs how much profit is generated by one unit of money engaged in assets; the higher the ratio value, the higher the efficiency of the use of assets by the enterprise (Gabrusewicz, 2014, p. 312). Return on equity (ROE) shows the return on capital invested by the owners of the economic entity and the capital earned during its operation.

A higher measure value indicates a more profitable situation for the company (Perechuda, Kowalewski, 2008, p. 159). The spatial scope of the analysis refers to the territory of Poland with a focus on three selected provinces: Lesser Poland (małopolskie), Kuyavia-Pomerania (kujawsko-pomorskie), and Lubusz (lubuskie), including an analysis of ten medical entities.

Table 2 presents the results for hospitals, focusing on the number of healthcare entities in the studied provinces, accounting for the analysis period, and the change in legal form from SP ZOZ to NZOZ.

Table 2.
Research results on the profitability of medical entities in Poland after ownership transformations

Province (number of hospitals)	Analysis period	PROFITABILITY (%) SP ZOZ (before transformation)			PROFITABILITY (%) NZOZ (after transformation)					IMPROVEMENT/ NO IMPROVEMENT/ INCONCLUSIVE RESULT
Lesser Poland (małopolskie)										
1	2010-2011, 2012-2013				**10**	**11**	**12**	**13**		IMPROVEMENT
ROS					3.72	16.42	20.94	3.43		
ROA					21.03	9.68	10.63	12.88		
ROE					97.79	201.80	53.58	54.76		
Kuyavia-Pomerania (kujawsko-pomorskie)										
1	2002-2004, 2005-2006	**02**	**03**	**04**	**05**	**06**				IMPROVEMENT
ROS		-16.82	-31.07	-13.15	11.83	12.48				
ROA		-54.60	-72.06	x	3.95	3.34				
ROE		-38.48	-40.2	-17.56	9.38	5.8				
2	2004-2006, 2009-2010	**04**	**05**	**06**	**09**	**10**				IMPROVEMENT
ROS		-7.8	-16.62	-22.33	3.2	3.5				
ROA		-20.48	-43.20	-49.13	17.8	20.2				
ROE		-100.94	x	x	7.53	9.3				
3	2006-2008, 2009-2011	**06**	**07**	**08**	**09**	**10**	**11**			IMPROVEMENT
ROS		-4.46	13.66	-6.98	1.25	4.01	6.5			
ROA		-17.11	66.93	-12.51	10.96	17.8	19.44			
ROE		-11.36	-90.67	x	35.20	37.7	38.9			
Lubusz (lubuskie)										
1	2004-2006, 2007-2008				**04**	**05**	**06**	**07**	**08**	IMPROVEMENT
ROS					1.4	1.2	2.3	2.89	9.71	
ROA					1.8	1.6	3.4	4.49	14.4	
ROE					2.7	2.4	4.4	6.15	19.71	
2	2003-2005, 2008-2010	**03**	**04**	**05**	**08**	**09**	**10**			IMPROVEMENT
ROS		-27.99	-7.64	-5.97	11.34	13.24	14.52			
ROA		-55.91	-36.18	-43.14	44.75	47.05	60.19			
ROE		x	-30.76	-15.38	11.85	11.73	18.44			

Cont. table 2.

3	2004-2006, 2008-2010	**04**	**05**	**06**	**08**	**09**	**10**			IMPROVEMENT
ROS		- 52.39	-36.01	-43.12	7.17	5.06	1.26			
ROA		-54.86	-38.51	-43.28	37.89	8.07	1.85			
ROE		-25.62	-15.16	-13.99	93.75	41.40	9.44			
4	2005-2006, 2009-2011	**05**	**06**		**09**	**10**	**11**			IMPROVEMENT
ROS		-23.2	0.05		7.39	4.36	0.94			
ROA		-31.04	0.08		29.76	14.61	1.56			
ROE		-53.27	-13.45		48.63	24.46	6.06			
5	2005-2007, 2011-2013	**05**	**06**	**07**	**11**	**12**	**13**			INCONCLUSIVE
ROS		-1.20	-4.75	4.56	-9.44	-14.03	-8.82			
ROA		-2.21	-8.93	9.59	-77.65	-25.62	-63.85			
ROE		-0.29	-18.77	-36.29	82.01	16.18	22.17			
6	2007-2008, 2011-2012	**07**	**08**		**11**	**12**				INCONCLUSIVE
ROS		-2.71	-4.85		-0.07	-0.01				
ROA		-7.53	-14.17		-0.50	-0.05				
ROE		-112.38	-123.14		0.43	0.5				

Source: Authors' compilation based on the material collected and financial statements.

Eight out of ten healthcare entities under study showed a definite improvement in profitability after the transformation into a commercial law company. Often this improvement was due to making a profit or diminishing a loss that existed prior to the transformation into NZOZ entities. In two entities before the transformations, there was a profit in individual entities and a loss in others. After transformations, in some cases, the activity became profitable, whereas, in some companies, it was still loss-making. It should be added that the profitability of two medical entities, i.e., one from Lesser Poland province (no. 1) and the other from Lubusz province (no. 1), was examined based on data from the period after the introduction of corrective measures, as the authors had no data from the period before the transformation. Nevertheless, in this case, it was also possible to make a comparison from the perspective of the three examined years. The analysis results showed a positive trend - the examined NZOZs showed improvement in profitability. Therefore, in the case of two healthcare entities from Lubusz province (No. 5 and 6), it was challenging to indicate improvement in profitability unequivocally.

4. Conclusions

As a rule, ratio analysis is carried out using a more comprehensive range of measures, but we opted for the ones that can be synthetically evaluated. The profitability indicators provide a basis for a successful future prognosis, giving the institution the possibility of stable development. The results of the performed research indicate an improvement in the profitability of the examined medical entities (hospitals). Full implementation of corrective plans by the company in the analyzed time horizon contributed to an increase in the size of profitability indicators. It means that the transformation of each medical entity was a good solution for the further functioning of the institution. Before the transformation, the examined healthcare entities were underfinanced. Moreover, they generated substantial financial losses (costs greater than revenues), which would have probably led to the liquidation of SPZOZs. Ownership transformations of the analyzed healthcare entities contributed to their further functioning in a given region, thus creating opportunities for the public to access healthcare services. One should also remember that profitability is a crucial issue analyzed by an investor when deciding on investing their capital. It determines whether the entity is profitable or whether it is underperforming. Our analysis shows that SP ZOZs were operating at a loss, as almost all profitability indicators were negative. The healthcare system has been in constant evolution for over 20 years. The goal of enforcing the changes described above is to build an efficient and well-functioning system. Regrettably, reforms in the healthcare sector undergo frequent changes. Nevertheless, the topic under discussion is essential, if only due to the introduction of the changes under the draft Act of 29 December 2021 on Modernizing and Improving the Efficiency of the Hospital System. The draft assumes, among other things, that hospitals should be examined according to four ratios: operating profitability, quick ratio, maturing liability to income, and total liability to income. The draft of the above act was rejected by public consultations. Therefore, further work on the preparation and implementation of reforms will be of key importance.

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