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Comparative Financial Analysis of Main Private Companies in the Health Sector in Greece, 2015-2020

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Abstract:

Purpose: *The purpose of this paper is to examine the financial situation of Hygeia Hospital, Athens Medical Center, Henry Dunant Hospital Center, Metropolitan Hospital, Euroclinic of Athens, Mediterraneo, Metropolitan General and Mitera Maternity Hospital for the years 2015-2020.*
Design/methodology/approach: *The Greek health system is one of the most privatized systems in the EU. The public NHS health system is characterized by its hospital-centric character, the lack of primary health care, its limited and irrational funding and the reduced satisfaction of citizens. On the other hand, the private sector of health service provision has grown in recent years and especially in the secondary care sector there are trends of centralization. A percentage of 66% of the total turnover is carried out by eight large private clinics, seven of them are located in Attica, while 50% of the total market share belongs to 2 Groups. Alongside, is to examine the importance of the private sector and especially the specific companies, which are the largest in the health sector, in covering the population with health services.*
Findings: *The analysis presented above, seems to indicate that, in the aftermath of the financial crisis, the sample companies, on average, operate at low levels of liquidity and depend crucially on future sales. In addition, most firms depend heavily on loan capital to finance their assets, e.g., loan capital is almost four times greater compared to equity capital for companies in the sector, while for the sample companies, extreme discrepancies are recorded, both, between companies and between financial years.*
Practical implications: *The analysis presented above, seems to indicate that, in the aftermath of the financial crisis, the sample companies, on average, operate at low levels of liquidity and depend crucially on future sales.*
Originality value*: The article briefly evaluates the financial position of the major private health providers in Greece, due to their importance in the health sector in the country. An important issue that must be examined in the future is the impact of the Covid-19 pandemic on the financial operation of the health sector in Greece.*

Keywords: *Private Clinics, financial analysis, financial statements, financial indicators.*

JEL codes: *I11, I15.*

Paper Type: *Research article.*

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1. Introduction

The Greek health system is one of the most privatized systems in the EU. It consists of the National Health System (NHS) which started its operation in 1983 in order to provide universal coverage of the population in health services, and a large private health services sector, consisting of clinics, diagnostic centers and a number of private doctors. The public NHS health system is characterized by its hospital-centric nature, the lack of primary health, its limited and irrational funding, the lack of efficiency, and the incomplete coverage of the population's needs, resulting in reduced citizen satisfaction.

On the other hand, the private sector of health services has grown significantly in recent years, offering services that fill the gaps of the NHS. The private health sector in recent years has shown strong centralization tendencies and an oligopolistic system is being created, especially in the field of private secondary care. In particular, a large part of primary care and outpatient diagnosis is offered by the private sector, while at the level of hospital care, 44% of the total beds belong to private clinics.

In addition, 66% of the total turnover is carried out by 8 large private clinics, 7 of which are located in Attica and 3 of which belong to the same group. It is worth emphasizing that the revenues of health service providers have been heavily burdened by the imposition of the clawback-rebate mechanism, with the result that their financial situation is significantly affected.

Given the importance of the private sector in Greece as a health service provider to the population, in this paper we attempt to examine its financial strength and financial sustainability and the impact, if any, of the financial crisis in Greece on the financial performance of the sector. The rest of the paper is organized as follows: section 2 briefly reviews the impact of the 2009-2013 financial crisis in Greece on the public health sector, section 3 discusses recent trends in the private health sector, section 4 presents data and the methodology, section 5 presents the results, whilst section 6 concludes the paper.

1. The Health System During the Crisis Period

The financial crisis started towards the end of 2009, when the Greek government revised the budget deficit to 15% of GDP, which increased the public debt to GDP to 126% by 2011, and weel above 150% by 2013, while the EU average was below 100% (Eurostat, 2021). Since the fiscal imbalances in Greece were largely linked to the dysfunctions and inefficiencies of the health and welfare system, the reforms and cuts imposed during the crisis by the creditors, in the health care sector, were inevitable and with great intensity (Kalavrezou and Hui, 2021; WHO, 2019). Overall, per capita health expenditure fell at an average annual rate of -7.3% in the period 2008-2013, while the annual growth rate in the EU was 0.7%.

Between 2013 and 2019, the per capita health expenditure in Greece began to increase by an average of 0.4% per year, while in the EU by 3% (OECD and EU, 2020). The main goals of government interventions in the health sector were to reduce public health expenditures to 6% of the Gross Domestic Product and to introduce the necessary reforms that would make the public health system more efficient (Niakas, 2014).

The health sector reform process, however, was implemented in a very rushed manner for a number of strategies, procedures and methods, and the majority of citizens are still dissatisfied with the quality of health services provided (Diamantis *et al.,* 2020), ranking the country in extremely low positions regarding the quality and satisfaction with the services they receive (Dornauer, 2021). Also, the economic crisis led to the increase of unmet health needs, which tripled from 4% in 2009 to 12% in 2016 (Zavras *et al.,* 2016; Matsaganis and Manalis, 2022).

Note that the magnitude of unmet health needs in relation to disposable income presents a very clear picture of who was most affected: 18% of the population belonging to the lowest income level reports that their needs were not met. For this reason, Greece is ranked second worst after Estonia, where more than 15% of the population report unmet needs for all reasons in general, and in the worst position among the EU countries when the economic reasons as the main reason. (OECD, 2021b).

In addition, during the financial crisis there has been a violent reduction in public expenses. For example, between 2009 and 2013, the total financing of the health sector as a percentage of GDP decreased by -12.83% (from 9.76% of GDP in 2009 to 8.65% in 2013). If one also accounts for the simultaneous reduction of GDP by 29.8% during the same period and inflation (1.8% annually; PwC, 2017), it becomes clear that the cuts in real terms were significantly larger. As Bakola *et al.* (2018) point out if health expenditures are examined at 2018 prices, the reduction in total funding was at the level of 46.91%. They also point out that public funding during this period decreased by 60.65% and private funding by 25.1%

According to the Hellenic Statistical Agency (ELSTAT, 2022) the total expenditure on health services as a percentage of GDP fluctuated between 8%, with 8.45% from 2015 to 2019, while in 2020 it increased significantly to 9.51% of GDP mainly due to the €785 million increase in funding to deal with the Covid-19 pandemic (OECD, 2021a). The financing of the health system in Greece has always been characterized by the large amount of private health costs, which is a paradox since the country is based on a national insurance system and is supposed to provide universal coverage of citizens in health matters (Siskou *et al.,* 2008).

According to OECD data (2020) for the year 2018, about 40% of total expenditure came from citizens' private expenditure (direct expenditure and private insurance). This percentage is considerably higher than the average of the EU countries which is around 27%. For this reason, the country ranks second, together with Bulgaria and Latvia, among the countries with the highest private health expenditures, following Cyprus where 55% of health expenditures come from private participation.

Also, for 2018, approximately 40% of the total expenditure refers to the private expenditure of citizens (direct expenditure and private insurance). This percentage is considerably higher than the average of the EU countries which is around 27% (OECD data, 2020). For this reason, the country ranks second, together with Bulgaria and Latvia, among the countries with the highest private health expenditures, following Cyprus where 55% of health expenditures come from private participation.

Regarding health expenditure per capita in 2019, it amounted to 1.603 € adjusted for purchasing power (ppp), which is below half of the average of EU countries (3.523 € ppp). At this point it is worth mentioning that these amounts do not take into account the effect of the clawback and rebate mechanisms, which cut about 1% of GDP from public health care spending, but also cannot fully calculate the true size of informal payments, which according to estimates reaches 25% of private payments (OECD, 2021a; WHO, 2018a).

2. The Private Health Sector in Greece

The private sector of health services includes clinics and diagnostic centers and provides services at primary and secondary level. Private clinics represent approximately 60% of the private health market, while diagnostic centers, and other services (rehabilitation, etc.) represent 25% of the market share. Maternity clinics collect approximately the remaining 15% of total revenue (ICAP CRIF, 2021).

At the level of secondary care according to Elstat data, a total of 141 private clinics operate, 52.4% of the total of 269, occupying approximately 30% of the total beds (Elstat, 2021a). According to the data from the Icap Crif (2021) sector studies, private general clinics represent a share of 84%, neuropsychiatric clinics and rehabilitation clinics together share about 11%, and the rest is shared by specialist, mixed and other categories of clinics.

As far as the size of the private health market is concerned, this is estimated at approximately 1.5 billion €. About 1 billion € of this is absorbed in Attica with 0.8 billion going to private clinics and diagnostic centers and 0.2 billion going to private maternity hospitals (Deloitte, 2017; 2019). In 2020, the sector showed a decrease of 8% compared to 2019, due to the epidemic of Covid-19 and the measures imposed as the suspension of regular surgeries.

In particular, the revenues of general clinics showed a decrease of 9%. The revenues of maternity and gynecology clinics recorded a decrease of 6.5%, while the market of diagnostic centers, dialysis centers and other centers also moved downward, showing a decline of 6% in the period 2019-2020 (ICAP CRIF, 2021). A high concentration is observed in the revenues of general clinics and maternity hospitals. For instance according to Deloitte (2019) for the year 2016 the eight private healthcare companies with the largest turnover, accounted for approximately 66% of the total turnover and 44% of the total hospital beds of all general hospitals in Greece.

Three companies account for almost 52% of the market share of general private clinics, two companies account for about 58% of maternity clinics and three companies account for 35% of the turnover of Diagnostic Centers. The Athens Medical Center occupies a 23% share, Hygeia 18%, Metropolitan 12%, Euromedica 7%, and the Agios Loukas clinic in Thessaloniki 6%. The rest of Attica's major clinics follow, with Euroclinic occupying 6%, Metropolitan General 5%, Henry Dunant and Mediterraneo 4% of the market share and Bioclinic 2% (Deloitte, 2019).

Recently, there is a reorganization in the sector and ta tendency of market concentration, as foreign investment funds enter or increase their position in the Greek market. A typical example is CVC Capital Partners, which through its subsidiary Hellenic Healthcare SARL, entered the Greek healthcare market, with the acquisition of Metropolitan, IASO General, Hygeia Group and Ethniki Insurance, giving to Hellenic Healthcare SARL a leading position in the market.

3. Data and Methodology

The objective of publishing financial statements is to provide information about the financial position and financial performance of an economic entity, as well as to record changes in its financial position, so that they can be used by a wide range of users in obtaining financial information. decision makers (Lewis and Pendrill, 2004).

The change trends in the financial accounts are presented either in absolute numbers or in percentages or in the form of financial indicators (Apostolou, 2015), and the analysis of financial indicators is one of the most popular and widely used financial analysis tools (Subramanyam and Wild, 2009; Apostolou, 2015; Niarchos, 2008). The analysis using financial indicators facilitates the disclosure, comparison and interpretation of the main characteristics of the financial statements and contributes to identifying the strengths and weaknesses of a company.

In this paper we analyze a sample of the 8 selected companies that have the largest turnover (approximately 66%) of the total turnover and 44% of the total hospital beds between all general hospitals in Greece, between the period 2015 and 2020.

More specifically, we examine the following companies:

● Hygeia S.A., belongs to the Hellenic Health Care Group since 2018
● Athens Medical Hospital

● Imithea M.A.E. (Henry Dunant Hospital Center)
● IASO General which in 2018 was renamed Metropolitan General due to its acquisition by the Hellenic Health Care Group
● Perseus S.A., (Metropolitan Hospital) belongs to the Hellenic Health Care Group
● Euroclinic of Athens S.A.
● Mitera Hospital S.A., belongs to the Hellenic Health Care Group since 2018
● Dragini S.A. (Mediterraneo)

All data used in the paper are publicly available from the financial statements of these companies. The selection of the specific companies was based on size - market share holding and the influence they exert in the industry, as the seven of the above general clinics hold approximately 66% of the private clinic market share and 44% of the total of hospital beds of all General Hospitals in Greece (Deloitte, 2019). The eighth clinic, Mitera Hospital, is one of the largest maternity-gynecology and pediatric private clinic, but a large part of its turnover comes from its successful operation in the field of general clinics.

4. Results

5.1 Liquidity

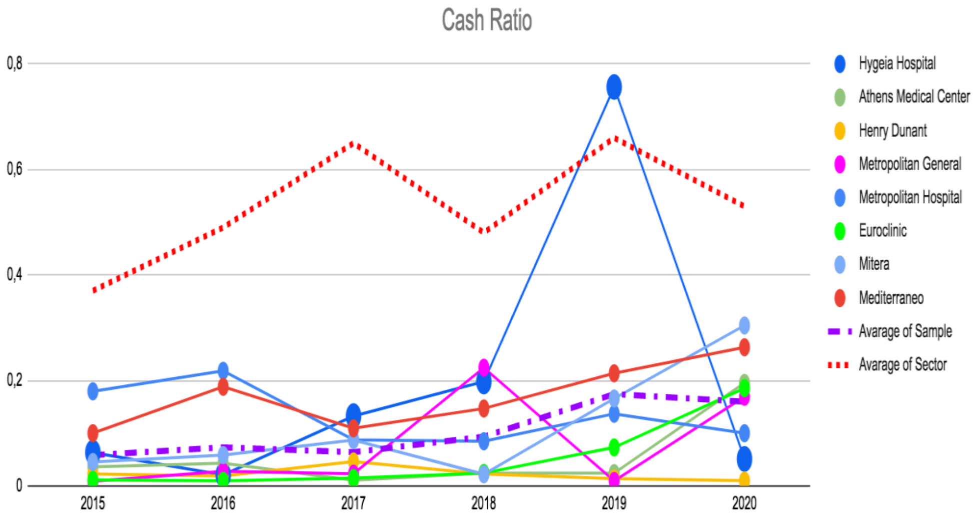
We start the analysis with the cash ratio. Overall, as can be seen from Table 1 and Figure 1, the 8 sample firms, which are the largest in the sector, seem to operate, on average, at much lower cash ratios in comparison to the whole sector during the whole sample period. For instance, in 2019 they operated with a cash ratio of 0.174 compared to a sector average of 0.66 (0.16 vs 0.53 in 2020).

Table 1. *Private Health Sector: Cash Ratio*

Cash Ratio						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	0,063	0,021	0,132	0,198	0,756	0,051
Athens Medical Center	0,036	0,043	0,011	0,024	0,024	0,195
Henry Dunant	0,023	0,019	0,046	0,023	0,014	0,010
Metropolitan General	0,009	0,028	0,023	0,224	0,009	0,169
Metropolitan Hospital	0,179	0,218	0,087	0,085	0,137	0,100
Euroclinic	0,011	0,010	0,015	0,024	0,073	0,185
Mitera	0,045	0,058	0,087	0,022	0,166	0,304
Mediterraneo	0,100	0,188	0,109	0,147	0,214	0,263
Average of Sample	0,058	0,073	0,064	0,093	0,174	0,160
Average of Sector	0,370	0,490	0,650	0,480	0,660	0,530

Source: *Own study.*

Figure 1. *Private Health Sector: Cash Ratio*



Source: *Own study.*

The highest ratio is that of Health, moving above the average of the sample for the longest period of time, with the exception of 2016 (0.021) and 2020 (0.051). Mediterraneo for the entire period has a liquidity ratio above the average of the sample with values between 0.1 2015 and 0.263 in 2020. For Metropolitan Hospital the index ranges for the years 2015-2017 from 0.179 to 0.218 moving up from the average of the sample, while from 2018 onwards it moves below the average, from 0.087 in 2018 and 0.137 and 0.1 in 2019 and 2020 respectively. The rest of the firms, for the entire period, are below the average, with Euroclinic being the worst performer (with a ration ranging between 0.01 and 0.185.

5.2 Activity

We next examine Activity ratios for the sample firms. Overall, as can be seen from Table 2 and Figure 2, on average, the sample firms seem to be more efficient in collecting receivables in many sample years. The average collection period for the private health sector ranges from 152 days (2018) to 244 days (2015), while the sample average from 147 days in 2019 to 189 days in 2017.

For example, in 2015 it took the sample firms 184 days, on average to collect while the sectoral average was 244 days. There was a deterioration, compared to the sector, only in 2017 (189 vs 168) and 2018 (173 vs 152).

Henry Dunan records the best performance and manages to collect its receivables demands in a period ranging from 66 days in 2015 to 110 days in 2020. Mitera Hospital follows with an average collection period of 80 days to 104 days between

2015-2016. Both companies, together with Hygeia, Euroclinic and Mediterraneo, move below the average of the sample and particularly below the private health sector average, for the whole studied period, collecting their demands in a period of 133 days (Hygeia, 2016), until 181 days (Mediterraneo 2016).

Table 2. *Private Health Sector: Average collection period*

Average collection period						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	143	133	150	149	149	172
Athens Medical Center	278	253	263	244	203	191
Henry Dunant	66	73	80	92	97	110
Metropolitan General	253	245	252	204	167	204
Metropolitan Hospital	294	368	363	294	207	197
Euroclinic	155	139	135	139	136	152
Mitera	104	104	97	100	80	88
Mediterraneo	180	181	174	158	140	134
Average of Sample	184	187	189	173	147	156
Average of Sector	244	220	168	152	153	187

Source: *Own study.*

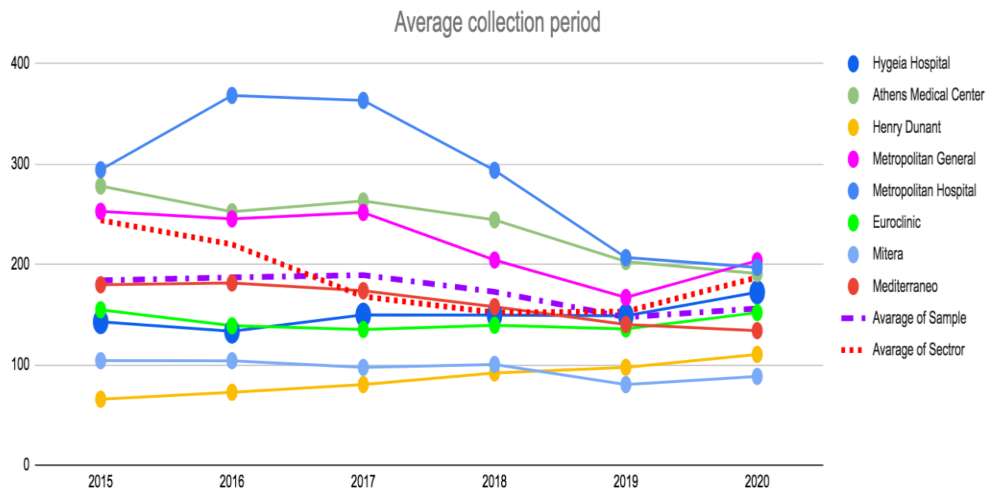
On the other hand, Metropolitan Hospital, Athens Medical Center and Metropolitan General for the entire period, move above the average of both, the sample and the sector, collecting their demands in a period from 167 days (Metropolitan General, 2019) to 368 days (Metropolitan Hospital, 2016)

5.3 Liabilities Payment Average Period

Overall, as can be seen from Table 3 and Figure 3, on average, the average time of paying current liabilities for the studied companies, is on a downward trend and from 206-207 days in 2015 and 2016 respectively, they managed to pay in 130 days in 2019. Hygeia S.A., in 2018, recorded the best performance and managed to pay its short-term liabilities every 41 days on average, while in 2020 unfortunately, recorded the highest level paying every 124 days on average.

Metropolitan General and Mitera Hospital follow Health S.A., were below the average sample ranging from 223 days in 2016 to 84 days in 2020 (Mitera). Respectively, Metropolitan General 177 days in 2015 to 118 days in 2020. Mediterraneo and Metropolitan Hospital are at the same level, almost throughout the period, quite close to the average and with minimal fluctuations around 170-180 days.

Figure 2. *Private Health Sector: Average collection period*



Source: *Own study.*

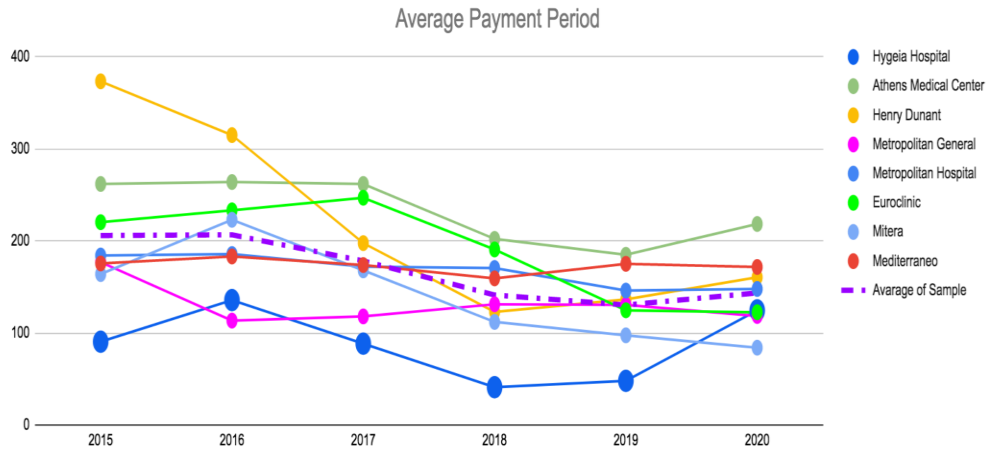
In contrast, Henry Dunan, Euroclinic and Athens Medical are moving most years above the average, following the trend of the sample average. Henry Dunan recording the biggest improvement, since the 374 days that it pays off its current liabilities in 2015, it managed to repay them every 123 days in 2018.

Table 3. *Private Health Sector: Average Payment Period*

Average Payment Period						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	90	136	88	41	48	124
Athens Medical Center	262	264	262	202	185	218
Henry Dunant	374	315	198	123	136	161
Metropolitan General	177	113	118	131	131	118
Metropolitan Hospital	184	186	172	171	146	148
Euroclinic	220	233	247	191	125	122
Mitera	164	223	168	112	97	84
Mediterraneo	176	183	174	159	175	172
Average of Sample	206	207	178	141	130	143
Average of Sector	0,00	0,00	0,00	0,00	0,00	0,00

Source: *Own study.*

Figure 3. Private Health Sector: *Average Collection Period*



Source: *Own study.*

5.4 Profitability

As can be seen from Table 4 and Figure 4 which present the operating profit margin of the sample companies and the sector, on average, whilst the whole sector operates at a negative profit margin during the whole sample period, the sample companies are profitable, on average, during all years except for 2015 and 2016.

For example, the sector records negative values ranging from -23% in 2015 to -7.90% in 2018, while the average of the sample companies for the years 2015 and 2016 records negative values of -10.8% and -1.11% respectively, but with a trend to profitability (e.g., 5.81% in 2019). It is worth noting that the sector and sample indicators are largely affected by the negative values recorded by Henry Dunan, which recorded the worst performance in 2015 with an operating profit margin of -86.08%.

Table 4. *Private Health Sector: Operating Margin Ratio*

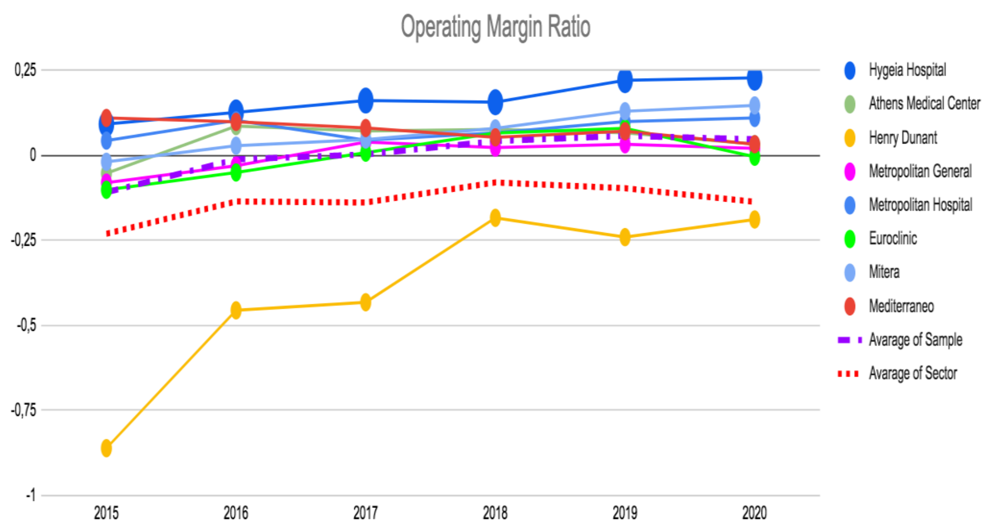
Operating Margin Ratio						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	9,26%	12,72%	16,20%	15,69%	22,18%	22,90%
Athens Medical Center	-5,23%	8,67%	7,22%	7,69%	6,72%	3,36%
Henry Dunant	-86,08%	-45,53%	-43,14%	-18,31%	-23,99%	-18,79%
Metropolitan General	-7,96%	-2,97%	3,98%	2,34%	3,33%	2,11%

Metropolitan Hospital	4,41%	10,39%	4,56%	6,71%	10,01%	11,07%
Euroclinic	-10,07%	-4,96%	0,87%	6,61%	8,01%	-0,33%
Mitera	-1,82%	2,90%	4,74%	8,00%	13,04%	14,75%
Mediterraneo	11,06%	9,92%	8,12%	5,38%	7,16%	3,35%
Average of Sample	-10,80%	-1,11%	0,32%	4,27%	5,81%	4,80%
Average of Sector	-23,00%	-13,50%	-13,80%	-7,90%	-9,60%	-13,60%

Source: *Own study.*

More specifically, Athens Medical and Mitera Hospital record negative values in 2015 (-5.23) and (-1.82%) respectively, but in the following years they move to a positive trajectory. A similar path is followed by Euroclinic and Metropolitan General, which from 2017 onwards have positive operating profitability values, with a decline in 2020, following the pattern of the other companies. Mediterraneo, Metropolitan Hospital and Hygeia for the entire period manage to achieve positive operating profit margin values. In particular, the Metropolitan Hospital has ups and downs in its course, Mediterraneo shows a downward course and Hygeia follows steadily increasing trends.

Figure 4. *Private Health Sector: Operating Profit Margin Ratio*



Source: *Own study.*

5.4.1 EBITDA

Table 5 and Figure 5 present the EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) of the sample companies and the average sample and sectoral ratios, for the sample period. It is worth noting that, except for one company (Henry Dunan) the rest of the sample companies present higher EBITA compared to the sector (Figure 5) during the whole sample period. For instance, The average EBITA of the sample ranges from - 3.9% in 2015 to 13.83% in 2019.

Table 5. *Private Health Sector: EBITDA Margin Ratio*

EBITDA Margin						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	16,72%	20,08%	23,07%	21,18%	28,37%	29,91%
Athens Medical Center	1,33%	13,60%	12,95%	12,03%	12,34%	9,51%
Henry Dunant	-73,48%	-32,14%	-19,24%	-7,70%	-11,32%	-8,81%
Metropolitan General	-0,59%	4,18%	10,39%	10,88%	15,61%	14,84%
Metropolitan Hospital	12,24%	19,26%	13,75%	15,94%	24,08%	22,27%
Euroclinic	1,61%	3,28%	7,99%	13,16%	14,38%	6,85%
Mitera	2,49%	6,66%	8,29%	11,38%	16,87%	18,26%
Mediterraneo	14,17%	13,14%	11,63%	8,66%	10,33%	7,98%
Average of Sample	-3,19%	6,01%	8,60%	10,69%	13,83%	12,60%

Source: *Own study.*

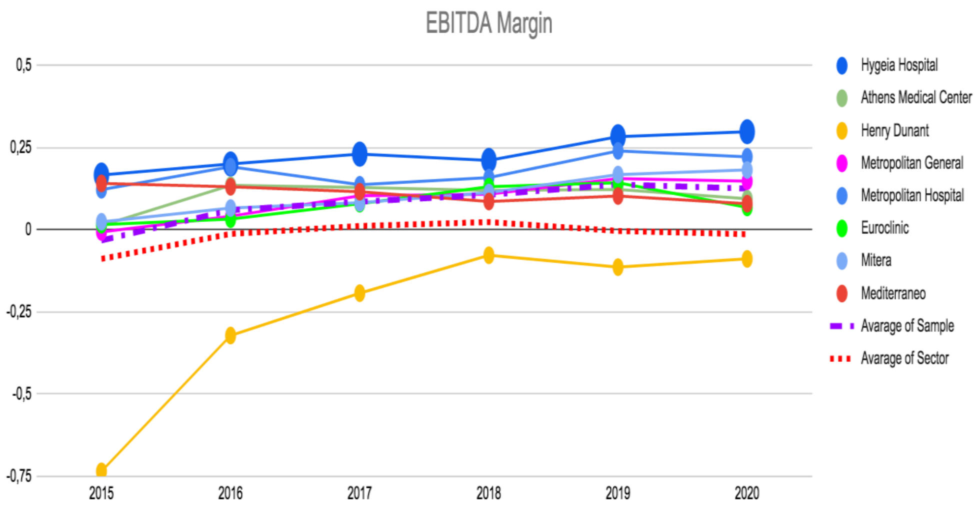
More specifically, YGEIA S.A. has the best performance with a continuous upward trend, from the 16.72% EBITDA margin in 2015, it manages to reach the 29.9% in 2020. Metropolitan Hospital is also following with an upward trend, from 12.24% in 2015 to 24.08% in 2019, with a slight decline in 2020 (22.27%). Mediterraneo has downward trends, from 14.17% in 2015 falling to 7.98% in 2020, while the rest of the companies move above the sector index, with small deviations from the sample average index. An exception is Henry Dunan, which moves below the values of the sector index, at negative levels but with a corrective course.

5.4.2 Net Profit Margin Ratio

When it comes to trends in net profit, whilst the whole health sector operates with negative ratios throughout the period, the sample companies seem to be profitable, albeit with low net profit margin ratios, during the recent period (2018, 2019, 2020). As can be seen in Table 6 and Figure 6, year 2015 seems to be the worst sample year in terms of net profit margins with a -22.68% for the sample companies and a -25.00% for the sector. In the following years we observe a gradual improvement, but profitability remains at low levels.

Mediterraneo for the entire period presents a positive net profit margin from 9% in 2015 to 2.15% in 2020. Metropolitan Hospital also presents a positive net profit margin value, with the exception of 2017 which had a marginally negative value of -0.77%. Hygeia S.A., from -37% in 2015, gradually manages to pass to a net profitability of 20% in 2020, while Mitera Hospital follows a similar trend and from -10.93% in 2015, following an upward trend manages to have in 2020 12, 39% net profit margin. The rest of the companies follow mixed trends and move above the levels of the sector index. Henry Dunan has a negative net profit margin for the entire period, but a significant improvement from -104.55% in 2015 to -27.84% in 2020.

Figure 5. *Private Health Sector: EBITDA Margin Ratio*



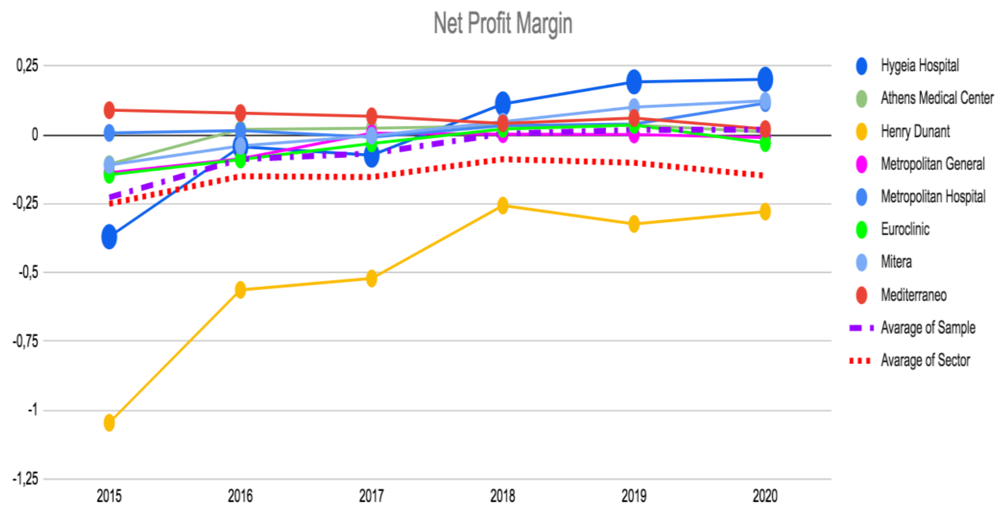
Source: *Own study.*

Table 6. *Private Health Sector: Net Profit Margin Ratio*

Net Profit Margin						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	-36,98%	-4,24%	-7,34%	11,27%	19,29%	20,22%
Athens Medical Center	-10,59%	2,05%	2,46%	3,24%	3,63%	1,06%
Henry Dunant	-104,55%	-56,27%	-52,14%	-25,65%	-32,32%	-27,84%
Metropolitan General	-13,67%	-8,68%	0,64%	0,28%	0,19%	-0,93%
Metropolitan Hospital	0,75%	1,59%	-0,77%	3,43%	4,01%	11,55%
Euroclinic	-14,47%	-8,92%	-3,08%	2,17%	3,62%	-2,96%
Mitera	-10,93%	-3,98%	-0,26%	4,83%	10,13%	12,39%
Mediterraneo	9,00%	7,97%	6,79%	4,22%	6,16%	2,15%
Average of Sample	-22,68%	-8,81%	-6,71%	0,47%	1,84%	1,95%
Average of Sector	-25,00%	-15,00%	-15,30%	-8,80%	-10,10%	-14,80%

Source: *Own study.*

Figure 6. *Private Health Sector: Net Profit Margin Ratio*



Source: *Own study.*

5.4.3 Return on Equity Ratio (ROE)

The return on equity (ROE) ratio for the whole health sector and the sample companies is negative during the first 3 sample years and positive during the recent years. As can be seen from Table 7 and Figure 7, the sectoral average shows a continuous improvement and from -26.8% in 2015 it becomes positive in 2018 and 2019 (1.3% and 4.8% respectively), although in 2020 becomes negative again. The average of sample companies records an improvement, from -38.51% in 2015 to 9.76% in 2018, with a maximum value in 2019 (31.67%) and a decline in 2020 to 2.81%.

Henry Dunan for the entire period records negative results, and as in Euroclinic for the years 2017 and 2018, the size of the equity is very small, and thus the specific index is not calculated. The performance of the companies follows the trend and the levels of the sector index. A more significant improvement is recorded by the Mitera Hospital, from -184.7% in 2015 managed to have a return on equity ratio of 66.85%, while in 2020 it will drop to 33.46%. Mediterraneo for the entire period 2015-20 moves with positive values consistently above the sector index, with a decreasing course but for the most part.

Hygeia S.A. from -26.97% in 2015 manages to return on equity to 21.10% in 2019. For 2020, however, due to the decrease in its net income and at the same time increase in equity, records a decline to 11.88%. Athens Medical Center, moving above the average of both companies, in the sector and in the sample, after 2016 records positive values with better performance in 2018, with a return on equity of 11.51%. The Metropolitan Hospital for the studied period presents mixed trends while the Metropolitan General moves with negative values.

Table 7. *Private Health Sector: Return on Equity Ratio (ROE)*

Return on Equity Ratio (ROE)						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	-26,97%	-2,69%	-7,17%	10,39%	21,10%	11,88%
Athens Medical Center	-21,62%	0,69%	2,32%	11,51%	6,48%	2,31%
Henry Dunant	0	0	0	0	0	0
Metropolitan General	-13,97%	-16,22%	-18,67%	-1,69%	-3,57%	-4,55%
Metropolitan Hospital	-0,28%	0,79%	-7,92%	0,03%	-0,98%	8,35%
Euroclinic	-87,94%	-127,47%	**0,00%**	**0,00%**	150,38%	-32,75%
Mitera	-184,74%	-102,91%	-18,07%	50,04%	66,85%	33,46%
Mediterraneo	27,45%	17,57%	12,90%	7,79%	13,10%	3,76%
Average of Sample	-38,51%	-28,78%	-4,58%	9,76%	31,67%	2,81%
Average of Sector	-26,80%	-16,40%	-4,00%	1,30%	4,80%	-8,22%

Source: *Own study.*

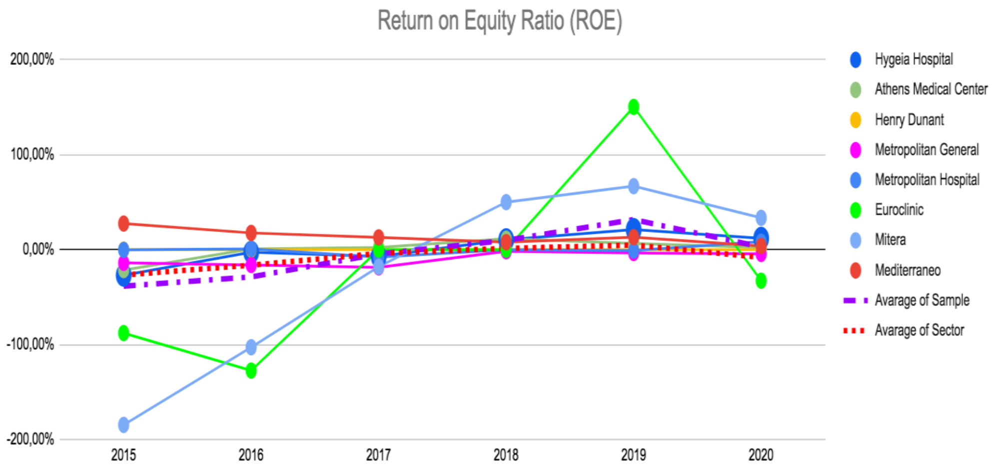
5.5 Capital Structure

In this sub-section we examine the capital structure of the sample companies, more specifically the debt-to-equity ratio. The results are presented in Table 8 and Figure 8 and seem to indicate that the sample companies have a strong dependence on debt, which is higher compared to the rest of the sector. For example, debt was 7.39 the size of equity in 2015 for the sample companies' vs a 5.23 for the sector; in 2019 it was 8.04 vs 3.29. The highest level for the sample companies is recorded in 2016 (23.88), which, however, is attributed to 2 firms (Figure 8).

Hygeia has the smallest ratio of debt-to-equity capital, with debt capital being approximately one to one for the longest period, while in 2018 and 2019 the ratio takes values less than 1 at 0.84 and 0.76 respectively. Metropolitan Hospital follows with a debt-to-equity ratio ranging from 1.61 in 2016 to 2.26 in 2020. Mediterraneo Hospital operates below 3:1 for the whole time period.

Metropolitan General has a debt-to-equity ratio of 3-4:1 while for Athens Medical Center the debt is about four to five times more compared to equity. Finally, Mitera Hospital and Euroclinic show for some years extreme values, especially in 2016 with 86.11 and 91.16 respectively, due to the small size of the equity, while for the years 2017 and 2018, Euroclinic's index is not calculated, as the equity is below 500 thousand, which have been set as a limit for the purposes of this work. For the same reasons, the specific index is not calculated for Henry Dunan as it records negative equity for the entire period.

Figure 7. *Private Health Sector: Return on Equity Ratio (ROE)*



Source: *Own study.*

Table 8. *Private Health Sector: Debt-Equity Ratio*

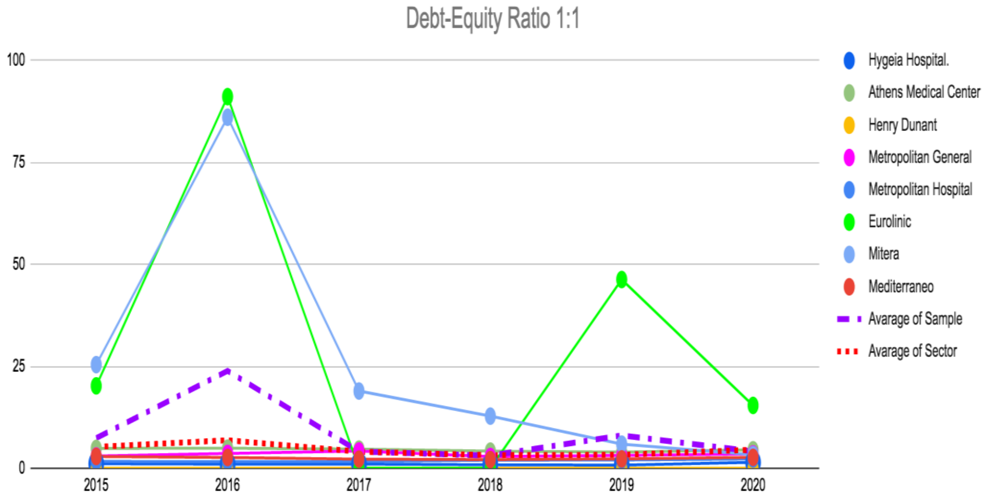
Debt-Equity Ratio 1:1						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hygeia Hospital	1,10	1,00	1,02	0,84	0,76	1,45
Athens Medical Center	4,86	4,91	4,70	4,20	3,96	4,52
Henry Dunant	0,00	0,00	0,00	0,00	0,00	0,00
Metropolitan General	3,00	3,62	4,22	2,87	3,14	3,51
Metropolitan Hospital	1,67	1,61	1,64	1,97	2,02	2,26
Euroclinic	20,20	91,16	0,00	0,00	46,29	15,41
Mitera	25,41	86,11	18,94	12,78	5,91	3,34
Mediterraneo	2,87	2,64	2,23	2,12	2,28	2,66
Average of Sample	7,39	23,88	4,09	3,10	8,04	4,14
Average of Sector	5,23	6,86	4,06	3,21	3,29	4,53

Source: *Own study.*

6. Conclusion

The public National Health System is characterized by its hospital-centric character, the lack of primary health care, its limited and irrational funding, and the reduced satisfaction of citizens. This has led to the Greek health system to be one of the most privatized systems in the EU; the private sector of health service provision has grown in recent years, with a 66% of its total turnover is carried out by 8 large private clinics, 7 of whom are in Attica; 50% of the total market share belongs to 2 Groups.

Figure 8. *Private Health Sector: Debt-Equity Ratio*



Source: *Own study.*

The purpose of this paper, given the importance of the private sector in Greece as a health service provider to the population, is to examine the financial strength and financial sustainability of the private health sector, by examining the 8 biggest private companies in the sector.

The analysis presented above, seems to indicate that, in the aftermath of the financial crisis, the sample companies, on average, operate at low levels of liquidity and depend crucially on future sales. In addition, most firms depend heavily on loan capital to finance their assets, e.g., loan capital is almost four times greater compared to equity capital for companies in the sector, while for the sample companies, extreme discrepancies are recorded, both, between companies and between financial years.

On the other hand, when it comes to trends in net profit, whilst the whole health sector operates with negative ratios throughout the period, the sample companies seem to be profitable, albeit with low net profit margin ratios, during the recent period (2018, 2019, 2020). Also, the average turnover is gradually increasing with a decline recorded in 2020, due to the Covid-19 pandemic, while the largest private health sector firms seem to be increasing their efficiency and profitability, with a decline in 2020, again due to the Covid-19 pandemic.

In this paper we attempted, to briefly evaluate the financial position of the major private health providers in Greece, due to their importance in the health sector in the country. An important issue that must be examined in the future is the impact of the Covid-19 pandemic on the financial operation of the health sector in Greece.

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