

Value Creation in Italian Private Healthcare Companies: A Comparative Analysis

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Abstract

The paper aims to test the capability of Italian private healthcare companies to create value. The study compares Italian private healthcare companies with the EU28 peers in the period 2013-2017. Competitive positioning is investigated using the performance benchmarking model and the ability in wealth creation for shareholder is expressed by positive ROE-Ke differential. The analysis shows that Italian private healthcare companies have negative differential of ROE-Ke in all the period. This is to be attributed to distortions in the financial structure, strongly debt-oriented, and to the country risk: these elements generate an increase in the cost of equity that affect the ability to create value. The study suggests the performance benchmark model as a new method to measure the competitive positioning of private healthcare companies. Furthermore, in order to investigate value creation by these companies the analysis is assisted by the examination the differential ROE-Ke.

Keywords: value creation, benchmark analysis, healthcare system, private healthcare companies

1. Introduction

Over the last few years healthcare system has been interested by various changes, with reference to both the private and public component, both at national and Community level. Regarding the Italian system these changes are mostly characterized by merger processes, foundation creations, partnerships between public and private entities, as well as mergers and acquisitions operations of private companies (Bergamaschi and Lecci, 2008). Company exists to create value. This represents the real driver to do business, guarantees its existence and continuity by guiding its choices and behaviors. The complexity involved in determining the value created by companies, often summarized, in a simplistic way, in the ability to operate in conditions of economic equilibrium is well known. For the efficiency of the company, it is also important to achieve a capital and financial solidity in addition to a positive economic result. Healthcare companies, although called to guarantee levels of satisfaction with the services provided to their customers, must operate according to the logic of efficiency, efficacy and economy, considering the financial and economic dynamics. In fact, the ability to generate value is closely linked to the company's competitive profile, in terms of profitability and financial efficiency and it must be analysed comparing company results with performance of competitors, according to benchmarking logic. This because results reached by companies depend on the performance of competitors. In this perspective, the company's performance in terms of financial efficiency is particularly important, even more so when in times of tension and economic uncertainty companies are judged primarily regarding their financial health.

Hence the performance benchmark model proposed in this work for estimating the competitive positioning of private healthcare companies as the main component of their ability to generate value.

The suggested model is a quantitative benchmark, based on the assumption that profitability and financial efficiency are drivers for the companies' competitive advantage, including the healthcare sector ones. Generation of value is to be understood above all from the perspective of the shareholders. Based on the assumption that wealth for shareholders is generated where the difference between profitability (expressed by ROE-return on equity) and the cost of equity is positive, we compute the ROE-Ke measure in order to conduct a differential analysis between Italian and other EU28 countries: the aim is to investigate the level of value generation within EU countries and the ranking of each of them.

2. Literature review

Benchmark is an innovative methodology developed since 1979. It can be defined as "continuous measurement and improvement of an organization's performance against the best in the industry"(Kozak 2004, Dattakumar and Jagadeesh 2003). The principles which guide the benchmarking process can be individuated in performance comparison and gap identification (Kay 2007). The process is articulated on the following phases: determinate what to benchmark; form a benchmark team; identify benchmark partners; collect and analyse benchmarking information; take action (Camp 1989). Benchmark logic is based on systematic comparison. Company implements benchmark to compare itself with the best companies operating in the same sector in order to identify the best practices, the reasons for their success in order to subsequently improve their competitive positioning applying the best practices thus identified. Benchmark allows companies to improve their performance (St-Pierre, St-Pierre and Delisle 2006). In finance, it is usually used to identify within the sector the optimal values for economic and financial ratios that a company should present in relation to competitors operating in the same area. There are different types of benchmark. In detail, it can be distinguished performance benchmarking, process benchmarking, strategic benchmarking, internal benchmarking, competitive benchmarking, functional benchmarking and generic benchmark. All this are based on comparison with competitors in order to implement the so-called best practices (Bhutta and Huq 1999). Regarding the variables to be considered, Cimasi (2004) focuses on the quantitative economic-financial measures to be adopted as a reference meter in the benchmark surveys for healthcare sector, argues that these measures must be representative of the financial structure of the company to be assessed. Suarez, Lesnesky and Denison (2011) show a prevalent interest in the relationship between the four areas of liquidity, profitability, leverage and operational management. Janati, Valizadeh and Asghari-Jafarabadi (2014) identify in profitability, liquidity, financial structure, operations, asset efficiency the main areas for measuring the performance of Iranian hospitals. Coyne and Singh (2008) select leverage, debt service coverage, credit period, operating cash flow/debt ratio, operating cash flow/revenues ratio and percentage change in operating cash flow as variables useful to predict crisis state in healthcare companies. Pink, Daniel, Mc Gills Hall and McKillop (2007) present a summary of the financial indicators most used in the healthcare sector. They are first cataloged in four areas (profitability, liquidity, financial structure and efficiency) and subsequently sorted by frequency of use. In particular, the most used are: MOL (%), Total margin and ROA for profitability, current ratio for liquidity, leverage and debt service coverage for financial structure and Total asset turnover for efficiency. Pink and Holmes (2005) identify 20 ratios for healthcare companies classified in 3 different groups: profitability ratios which measure the ability to generate wealth, liquidity ratios which measure the ability to accomplish the obligations assumed and structure ratios aimed at verifying medium-long term solvency. For Cleverly and Harvey (1992) liquidity ratios are essential for measuring the health status of healthcare companies. Chu, Zollinger, Kelly and Saywell (1991) suggested that performance analysis in hospital sector should be based on equity to total assets ratio, net income, working capital, and cash flow.

However, profitability and efficiency represent only some components of value, which only take on significance when compared with the cost of equity. It is necessary to estimate of the ROE-Ke differential, on the basis of the assumption that the company generate value when it is able to meet shareholder expectations and maximize the wealth to be allocated to growth (D'Amato 2015). Value orientation implies a cultural change, even before a methodological one, of the company management and of the main super-systems, first of all that of ownership. In fact, the generation of value can be identified with the search for economic-financial results expressive of the company's ability to persist over time, to survive in determined and "sustainable" risk conditions.

The value is the best measure of the degree of vitality of the business system and reveals the conscious choice of the corporate governance body of a specific combination of risk and return on the overall business activities. The concept of value therefore differs from that of income or economic-accounting result for the period, given their inadequacy to guide business decisions. While the income for the period is a conventional indication of the year and of the company's functioning in the short term period, without an explicit reference to the risk underlying the initiatives put in place by the corporate governance body, the value is complete expression of the company results taking into account the degree of risk associated with them. The topic of value creation is much debated in literature. Several authors conducted research on this issue, identifying the situation to which the creation of value corresponds. It can be associated with the achievement of performance objectives higher than the expected ones and the realization of a shareholder return higher than the cost of capital (Fernandez 2001). The growth rate,

income tax rate, operating profit margin, fixed capital investment, cost of capital, working capital investment and value growth duration represent the key drivers in generating value (Rappaport 1987) and the stability of cash flows also influences the generation of value (Srivastava et al. 1998). Another factor that can influence the creation of value is the financial structure (Modigliani and Miller 1963, Jensen and Meckling 1976, Harris et Raviv. 1991, Ross 1977). Nevertheless, factors that affect the creation of value are specific according to the sector in which the company operates and the accounting variables have a greater explanatory capacity than those of an economic nature (Hall 2016).

3. Methodology

The analysis is articulated by developing a benchmark performance and analyzing the ability of European private healthcare companies to create value. This is a comparative analysis in which Italian healthcare companies are compared with those of the other countries in the European area. We employed benchmark model to estimate the competitive positioning of private healthcare companies. Performance benchmarking is applied in the study: it is based on the comparison between performance measures. Study involved Italian and EU28 companies whose activity is cataloged with 86.10 NACE REV 2 code (Hospital services). From the Amadeus Bureau Van Dijk database n. 7,310 companies were extracted. Of these n. 581 were located in Italian territory. The extracted companies have operating revenues greater than 1 million euro and balance sheet data available in the 2013-2017 period. Using the method of Hidioglou - Berthelot (1986) and Lee (1995) we computed and eliminated outliers from series of data in order to improve the statistical significance of results. Outliers can be defined as all the value of distribution higher than upper inner fence and inferior than lower inner fence considering the following formulas:

lower inner fence = $Q1 - 1.5 * IQ$;

upper inner fence = $Q3 + 1.5 * IQ$.

Then, we individuated two areas to study the competitive positioning, i.e. financial and efficiency area. They identified respectively a financial benchmark and an efficiency benchmark. We selected current ratio, credit period, leverage as variables representative of financial benchmark and ROA, Ebit margin, Cash flow/Operating revenue ratio to represent the efficiency benchmark. Selection of variables was been made considering the consensus in literature.

They are computed using the following formulas (tab. 1):

Table 1. Ratio used for the analysis

Area	Ratio	Formulas
Efficiency benchmark	ROA (%)	(Profit before tax/Total assets)
	EBIT MARGIN (%)	(EBIT/Operating revenue)
	CASH FLOW / TURNOVER (%)	(Cash flow/Operating revenue)
Financial benchmark	CREDIT PERIOD (DAYS)	(Creditors / Operating revenue)* 360
	CURRENT RATIO (X)	Current assets / Current liabilities
	LEVERAGE (X)	

Correlation between them was analyzed in order to identify the variables with the lowest degree of correlation. For this purpose, ρ di Pearson coefficient was used. It is calculated by comparing the covariance between the two variables to the product of their standard deviations:

$$\rho_{X,Y} = \frac{\sigma_{X,Y}}{\sigma_X \sigma_Y}$$

Where:

$\sigma_{X,Y}$ is the covariance between variables X e Y;

σ_X is the standard deviation of variable X;

σ_Y is the standard deviation of variable Y.

The oscillation range is defined within the values $-1.00 \leq \rho \leq +1.00$. Using the Evans's symmetric scale (Evans 1996) for the interpretation of the strength of the correlation between variables, we assumed that the relationship is not to be considered significant when the correlation coefficient is between -0.40 e $+0.40$ (tab. 2).

Table 2. Intensity of correlation between variables

Value ρ	Intensity
$-1.00 < \rho < -0.80$	Very strong
$-0.79 < \rho < -0.60$	Strong
$-0.59 < \rho < -0.40$	Moderate
$-0.39 < \rho < -0.20$	Weak
$-0.19 < \rho < 0.00$	Very weak
$0.00 < \rho < 0.19$	Very weak
$0.20 < \rho < 0.39$	Weak
$0.40 < \rho < 0.59$	Moderate
$0.60 < \rho < 0.79$	Strong
$0.80 < \rho < 1.00$	Very strong

Separately for the financial benchmark and the efficiency benchmark, we computed the best, average and worst tertiles for each variable. So, companies was been sorted according to the three levels:

- *best benchmark*, for companies whose variables has one of the combinations [*best variable 1-best variable 2*]; [*best variable1-average variable2*]; [*average variable1-best variable2*];
- *average benchmark*, for companies whose companies has one of the combinations [*average variable1-average variable2*]; [*best variable1-worst variable2*]; [*worst variable1-best variable2*];
- *worst benchmark*, for companies whose companies has one of the combinations [*average variable1-worst variable2*], [*worst variable1 -average variable2*]; [*worst variable1-worst variable2*].

After, the financial and the efficiency benchmark were combined to obtain the total benchmark with the following classes:

- total best benchmark for the companies which belong to one of the following classes: [*best efficiency benchmark-best financial benchmark*]; [*best efficiency benchmark-average financial benchmark*]; [*average efficiency benchmark-best financial benchmark*];
- total average benchmark, for the companies which belong to one of the following classes [*best efficiency benchmark-worst financial benchmark*]; [*average efficiency benchmark- average financial benchmark*]; [*worst efficiency benchmark-best financial benchmark*];
- total worst benchmark, for the companies which belong to one of the following classes: [*worst efficiency benchmark-worst financial benchmark*]; [*average efficiency benchmark-worst financial benchmark*]; [*worst efficiency benchmark-average financial benchmark*].

Value creation provides for a careful analysis of the characteristics of the company and the peculiarities of the sector in which it operates (Damodaran, 2006). In this perspective, competitive positioning of private healthcare companies is only one explanatory component of value. Assuming that company generates value when it is be able to meet shareholder expectations and to maximize the wealth to be allocated to growth (D'Amato 2015), we integrated the analysis with a further investigation aimed at estimating the ROE-Ke differential in the period 2013-2017. The value creation state can in fact be associated with the condition that ROE is greater than cost of capital (Arzac 1986, Magni 2011, Adams and Thornton (2009). Cost of equity (Ke) has its own complexity of estimation due to its nature of opportunity cost: company must guarantee a return like that achievable to risk capital holders by using financial resources in projects with the same risk profile.

When this condition is not met, shareholders would have no reasons to continue financing the company and would allocate the available resources elsewhere, given the risk-return relationship.

We computed Ke whit CAPM based on the relationship:

$$k_E = r_f + \beta \times ERP$$

where:

r_f is the rate of return on risk-free investments;

β is the correlation coefficient between the performance of a share security and the performance of the reference index;

ERP represents the Equity Risk Premium calculated as the difference between expected market return and risk free rate.

For the risk free rate and ERP we used the values indicated by Fernandez for the years of the survey (Fernandez 2013-2017).

β was the industry beta unlevered estimated in 0.47. This value was therefore corrected for the financial structure of each company in order to obtain the related beta levered, according to the formula:

$$\beta_L = \beta_U \text{ sector or industry} * [1 + (1 - \text{Tax rate}) * (\text{Debt}/\text{Equity})]$$

with differentiated tax rate according to the country. In order to record the value created by the companies, ROE-Ke was calculated for each company. The survey was divided into two sequential levels: the first referred to the different systems (Italy and EU28) and the second based on the ranking of the specific countries in terms of ROE-Ke.

4. Results

4.1 Competitive positioning

The variables which the lower degree of correlation are current ratio and credit period for the financial benchmark (tab. 3) and ROA and cash flow/operating revenue for the efficiency benchmark (tab. 4).

Table 3. Correlation analysis for financial benchmark; year 2017

	<i>Current ratio</i>	<i>Credit period</i>	<i>Leverage</i>
<i>Current ratio</i>	-		
<i>Credit period</i>	-0.03	-	
<i>Leverage</i>	0.19	-0.06	-

Table 4. Correlation analysis for efficiency benchmark; year 2017

	<i>CF/OR</i>	<i>Ebit margin</i>	<i>RoA</i>
<i>CF/OR</i>	-		
<i>Ebit margin</i>	0.81	-	
<i>ROA</i>	0.60	0.64	-

For the EU28 sample the following benchmark ranges were individuated. For the classes individuation we assumed that the more the current ratio assumes high values, the more the company is financially solid. So, the worst class fluctuates from a minimum of 0.02 to a maximum of 0.92; the average class includes current ratio values within 0.92 e 1.80; the best class contains value of current ratio between 1.80 and 99.25 (tab. 5).

Table 5. Current ratio: benchmark range EU28

<i>Current ratio</i>	
[0.02 – 0.92]	<i>Worst</i>
(0.92 – 1.80]	<i>Average</i>
(1.80 – 99.25]	<i>Best</i>

Credit period's classes subdivision is based on the assumption for which the lower the time allowed for collection of credits, the more solid the company is from a financial point of view. High indicator values indicate difficulties met by the company in collecting credits and the need to supplement the financial needs to make up for lost revenue. So, the best class is associated with values of credit period included in the range 0.00 and 26.36 days (tab. 6).

Table 6. Credit period (days): benchmark range EU28

<i>Credit period</i>	
(49.61 – 965.01]	<i>Worst</i>
(26.36 – 49.61]	<i>Average</i>
[0.00 – 26.36]	<i>Best</i>

Cash flow/operating revenue ratio refers to the monetized percentage of revenues. Best class is therefore associated with higher value of the ratio (i.e. 9.10% – 98.98%) (tab. 7).

Table 7. Cash flow/operating revenue (%): benchmark range EU28

<i>Cash flow/Operating Revenue</i>	
[-96.92 – 3.95]	<i>Worst</i>
(3.95 – 9.10]	<i>Average</i>

(9.10 – 98.98]

Best

As for cash flow/operating revenue ratio, for ROA the best class of benchmark contains the higher values. These varie between 5.24% and 96.10% (tab. 8).

Table 8. ROA (%): benchmark range EU28

<i>ROA</i>	
[-88.75 – 0.28]	<i>Worst</i>
(0.28 – 5.24]	<i>Average</i>
(5.24 – 96.10]	<i>Best</i>

Analysing the subdivision of EU28 companies in terms of financial benchmark, 31.59% of them belongs to the range *Best*, 35.83% in the range *Average* and 32.58% in the range *Worst* (tab. 9).

Table 9. Financial benchmark EU28

<i>Best</i>	31.59%
<i>Average</i>	35.83%
<i>Worst</i>	32.58%

At the same time, for the efficiency benchmark 42.52% of EU28 companies is included in the range *Best*, 19.71% in the range *Average* and 37.77% in the range *Worst* (tab. 10).

Table 10. Efficiency benchmark EU28

<i>Best</i>	42.52%
<i>Average</i>	19.71%
<i>Worst</i>	37.77%

For total benchmark, 38.34% of EU28 companies belongs to the range *Best* 36.04% to the range *Worst* and 25.62% to the *Average* range (tab. 11).

Table 11. Total benchmark EU28

<i>Best</i>	38.34%
<i>Average</i>	25.62%
<i>Worst</i>	36.04%

For the Italian sample, best class of current ratio varies within the range 1.58-36.26 (tab. 12).

Table 12. Current ratio: benchmark range Italy

<i>Current ratio</i>	
[0.07 – 1.00]	<i>Worst</i>
(1.00 – 1.58]	<i>Average</i>
(1.58 – 36.23]	<i>Best</i>

Regarding the credit period, best class for Italian companies refers to values within the range of 0.00 days and 42.86 days (tab. 13).

Table 131. Credit period (days): benchmark range Italy

<i>Credit period</i>	
(68.73 – 956.77]	<i>Worst</i>
(42.86 – 68.73]	<i>Average</i>
[0.00 – 42.86]	<i>Best</i>

For the cash flow/operating revenue ratio, best class includes values between 9.94% and 50.39% (tab. 14).

Table 14. Cash flow/Operating revenue (%): benchmark range Italy

<i>Cash flow/Operating Revenue</i>	
[-44.70 – 4.99]	<i>Worst</i>
(4.99 – 9.94]	<i>Average</i>
(9.94 – 50.39]	<i>Best</i>

Best class associated to ROA fluctuated within a minimum of 3.41% and a maximum of 30.74% (tab. 15).

Table 15. ROA (%): benchmark range Italy

<i>ROA</i>	
[-25.56 – 0.62]	<i>Worst</i>
(0.62 – 3.41]	<i>Average</i>
(3.41 – 30.74]	<i>Best</i>

For Italian sample we observe a higher incidence of the average class that contains the 34.78% of the companies. 32.92% of them are included in the worst class and the remaining 32.30% in the best range (tab. 16).

Table 16. Financial benchmark Italy

<i>Best</i>	32.30%
<i>Average</i>	34.78%
<i>Worst</i>	32.92%

With reference to the efficiency benchmark Italian companies are allocated for 40.37% in the best class, 38.82% in the worst one and 20.81% in the average range (tab. 17).

Table 17. Efficiency benchmark Italy

<i>Best</i>	40.37%
<i>Average</i>	20.81%
<i>Worst</i>	38.82%

Total benchmark highlights the prevalence of the worst class with 37.58% of companies, followed by best class (35.40%) and average range (27.02%) (tab. 18).

Table 18. Total benchmark Italy

<i>Best</i>	35.40%
<i>Average</i>	27.02%
<i>Worst</i>	37.58%

Apparently the proposed model does not lead to significant differences between the samples Italy and EU28. The distribution of the companies in the benchmark ranges is almost the same for the two samples: with reference to the financial benchmark, most companies are in the average range (35.83% for EU28 and 34.78% for Italy); the efficiency benchmark shows the prevalence of the best class (42.52% for EU28 and 40.37% for Italy).

Results reached in terms of total benchmark highlighted the superiority of EU28 sample over the Italian one: for EU28 38.34% of companies belongs to best class; conversely, for the Italian sample 37.58% of companies is included in the worst class.

Significant differences are found for the threshold values of the benchmark ranges. Current ratio for the best Italian companies presents a threshold value of 36.23 versus 99.25 of EU28 (this means that Italian companies have less liquidity than the EU28 ones); Credit period of best Italian sample has a threshold value of 42.86 days versus 26.36 days of EU28 (i.e. Italian companies have a collection time for credits higher than the comparable European ones). At the same time Cash flow/Operating revenue ratio shows a threshold value for best Italian of 50.39% versus 98.98% of EU28 and ROA is 30.74% for best Italian versus 96.10% of EU28 (tab. 19).

Table 19. Comparison *Best* Italy vs Europe 28

Best	Italy	Europe 28
<i>Current ratio</i>	(1.58 – 36.23]	(1.80 – 99.25]
<i>Credit period</i>	[0.00 – 42.86]	[0.00 – 26.36]
<i>Cash flow/Op. revenue</i>	(9.94 – 50.39]	(9.10 – 98.98]
<i>ROA</i>	(3.41 – 30.74]	(5.24 – 96.10]

Table 20. Comparison *Average* Italy vs Europe 28

Average	Italy	Europe 28
<i>Current ratio</i>	(1.00 – 1.58]	(0.92 – 1.80]
<i>Credit period</i>	(42.86 – 68.73]	(26.36 – 49.61]
<i>Cash flow/ Op. revenue</i>	(4.99 – 9.94]	(3.95 – 9.10]
<i>ROA</i>	(0.62 – 3.41]	(0.28 – 5.24]

Table 21. Comparison *Worst* Italy vs Europe 28

Worst	Italy	Europe 28
<i>Current ratio</i>	[0.07 – 1.00]	[0.02 – 0.92]
<i>Credit period</i>	(68.73 – 956.77]	(49.61 – 965.01]
<i>Cash flow/ Op. revenue</i>	[-44.70 – 4.99]	[-96.92 – 3.95]
<i>ROA</i>	[-25.56 – 0.62]	[-88.75 – 0.28]

So, the best EU28 companies in the health sector have a competitive advantage and, therefore, a greater ability to create value. This appears even more evident if we reformulated the benchmark for Italian companies using the threshold values deriving from the European sample. In this case, for financial benchmark only 19.63% of Italian companies would be into the best range while 49.84% would belong to the worst range (fig. 1). The efficiency benchmark, on the contrary, would not register significant changes (fig. 2). Therefore, we can affirm that the greatest competitive advantage of European companies is limited to the financial area.

Figure 1. Financial benchmark

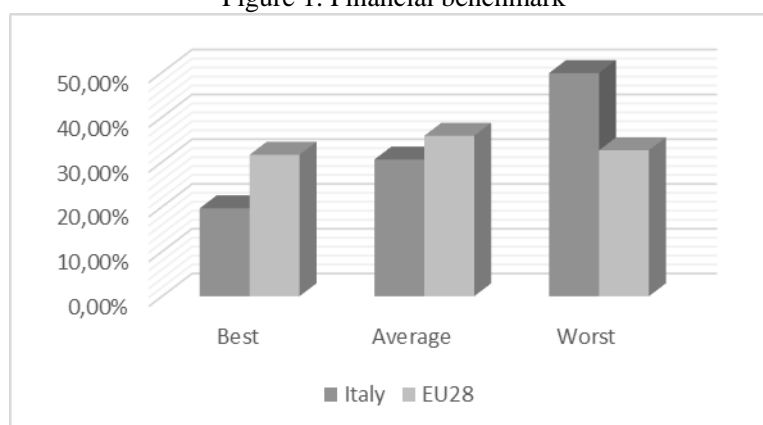


Figure 2. Efficiency benchmark

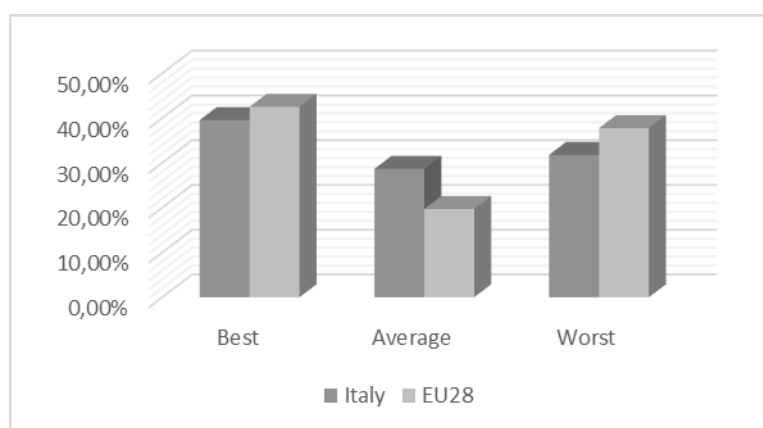
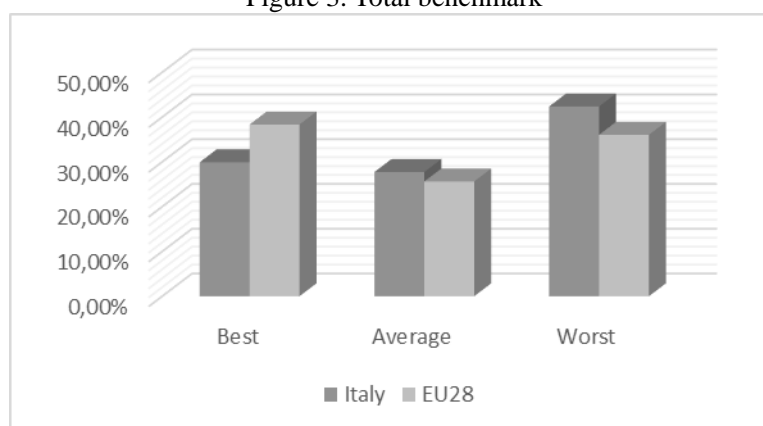


Figure 3. Total benchmark



4.2 ROE-Ke analysis: Italy vs EU28

For the first level of investigation, in which the Italian system is compared with the EU28 system, we found that Italian companies show negative average value of ROE-Ke in all years (tab. 22). This is because Italian companies have a higher cost of equity due to country risk and the excessively unbalanced financial structure in favor of debt.

Table 22. Average Roe-Ke: Italy vs EU28 (2013-2017)

Year	Roe-Ke	
	ITALY	EU28
2013	-4.61***	5.35***
2014	-4.09***	4.47***
2015	-1.91***	4.05***
2016	-1.63***	5.23***
2017	-1.51***	4.70***

Note: level of significance at *10%, **5%, ***1%

The second level of investigation verified, within the countries of Europe 28, those that have the best results in terms of ROE- Ke. Croatia, Denmark, Sweden and Romania have the highest ROE-Ke differential (tab. 23).

Table 23 ROE-Ke for EU28 countries (2013-2017)

Countries*/years	2013	2014	2015	2016	2017	Average (2013-2017)
Austria	-1.28	-1.39	-1.45	0.69	0.87	-0.51
Belgium	-4.2	-2.18	-6.66	-3.34	-4.55	-4.19
Bulgaria	-1.73	-1.65	-4.43	-9.3	-6.33	-4.69
Croatia	23.45	17.95	24.48	20.26	13.54	19.94
Denmark	13.37	15.54	15.06	15.48	10.23	13.94
Estonia	5.16	0.33	0.48	4.76	-0.28	2.09
Finland	3.46	2.97	2.19	5.26	2.55	3.29
France	2.31	3.23	3.39	5.17	4.76	3.77
Germany	1.08	-0.6	-0.75	-0.47	0.13	-0.12
United Kingdom	5.61	3.02	3.45	3.07	3.98	3.83
Greece	-2.89	-4.41	-3.3	-3.55	-7.22	-4.27
Ireland	2.69	3.52	3.54	0.27	0.48	2.10
Italy	-4.61	-4.09	-1.91	-1.63	-1.51	-2.75
Latvia	-2.66	-2.63	-2.74	-3.4	-3.54	-2.99
Lithuania	-6.61	-0.93	5.67	0.22	-0.15	-0.36
Luxemburg	0.54	-1.57	-3.51	-3.41	-4.89	-2.57
Netherlands	1.44	3.33	1.09	1.67	0.74	1.65
Poland	1.6	0.38	1.67	-2.11	0.57	0.42
Portugal	1.56	-0.31	0.76	1.94	-0.54	0.68
Czech republic	-1	3.42	0.53	0.23	-3.68	-0.10
Romania	14.29	15.14	12.22	13.74	8.02	12.68
Slovakia	4.32	3.35	-0.78	0.98	0.76	1.73
Slovenia	5.65	4.76	7.65	5.76	6.32	6.03
Spain	2.34	2.57	1.11	2.46	-0.12	1.67
Sweden	15.31	12.96	13.5	15.6	8.92	13.26
Hungary	8.56	3.16	4.93	5.36	6.99	5.80

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

In the investigation period, Italy presents an average Ke value of 11.03%. It ranks first among the countries with the highest cost of capital (followed by Bulgaria with an average Ke of 10.56% and Slovenia with the 9.73%). Sweden, Lithuania and Ireland are the countries with the lowest values, respectively with an average cost of equity of 4.33%, 4.63% and 5.02% (tab. 24).

Table 24. % values of Ke for EU28 countries (2013-2017)

Countries*/years	2013	2014	2015	2016	2017	Average (2013-2017)
Austria	6.84	6.67	7.01	7.15	6.78	6.89
Belgium	7.21	6.82	10.31	6.83	6.20	7.47
Bulgaria	10.84	10.83	10.10	10.41	10.62	10.56
Croatia	6.87	6.81	6.74	6.45	6.47	6.67
Denmark	6.97	6.11	6.24	6.45	6.01	6.36
Estonia	5.73	5.90	5.87	5.97	5.85	5.86
Finland	6.10	5.48	6.39	6.29	6.39	6.13
France	5.55	5.50	5.90	5.66	5.33	5.59
Germany	4.83	4.81	5.03	5.54	5.65	5.17
United Kingdom	7.83	7.10	7.09	7.04	7.07	7.23
Greece	6.86	5.50	5.61	5.61	5.65	5.85

Ireland	4.35	4.94	4.74	5.15	5.91	5.02
Italy	11.49	11.03	10.78	10.54	11.29	11.03
Latvia	5.78	5.61	6.28	5.66	5.24	5.71
Lithuania	4.70	4.02	4.39	4.04	5.99	4.63
Luxemburg	5.42	5.33	5.39	5.29	5.02	5.29
Netherlands	7.90	7.65	7.58	7.64	7.74	7.70
Poland	7.36	7.58	7.75	7.72	6.33	7.35
Portugal	6.75	6.65	6.84	6.92	6.52	6.74
Czech republic	7.06	7.09	6.31	6.84	6.09	6.68
Romania	8.22	8.52	8.74	8.81	7.66	8.39
Slovakia	8.22	8.52	8.74	8.81	7.66	8.39
Slovenia	9.72	9.63	9.52	9.94	9.84	9.73
Spain	6.01	6.33	7.18	6.71	6.54	6.55
Sweden	3.72	3.63	4.52	4.94	4.84	4.33
Hungary	7.96	7.18	8.41	8.92	7.79	8.05

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

The average value of ROE for Italy is about 8% in the period analysed. This value appears very low when compared with the ROE of countries with highest average ROE that are Croatia (27.20%), Denmark (23.09%) and Romania (19.47%). Conversely, Greece (2.37%), Luxemburg and Latvia (3.32%) and Lithuania (3.87%) have lower average ROE than Italy (tab. 25).

Table 25. ROE (%) for EU28 countries (2013-2017)

Countries*/years	2013	2014	2015	2016	2017	Average (2013-2017)
Austria	5.56	5.28	5.56	7.84	7.65	6.38
Belgium	3.01	4.64	3.65	3.49	4.65	3.89
Bulgaria	6.10	6.18	5.67	4.11	4.29	5.27
Croatia	30.32	24.76	31.22	26.71	23.01	27.20
Denmark	22.34	24.65	23.3	21.93	23.24	23.09
Estonia	10.89	6.23	6.35	10.73	6.57	8.15
Finland	9.56	8.45	8.58	11.55	8.94	9.42
France	7.86	8.73	9.29	10.83	10.09	9.36
Germany	5.91	4.21	4.28	5.07	5.78	5.05
United Kingdom	11.44	10.12	9.54	10.11	11.05	10.45
Greece	3.97	1.09	2.31	2.06	2.43	2.37
Ireland	7.04	8.46	8.28	6.42	6.39	7.32
Italy	5.88	6.94	8.87	8.91	9.78	8.08
Latvia	3.12	2.98	3.54	2.26	4.7	3.32
Lithuania	-2.91	3.09	9.06	4.26	5.84	3.87
Luxemburg	5.96	3.76	1.88	2.88	2.13	3.32
Netherlands	9.34	10.98	8.67	9.31	8.48	9.36
Poland	8.96	7.96	6.42	5.61	6.9	7.17
Portugal	6.31	6.34	5.6	8.86	5.98	6.62
Czech republic	6.06	10.5	6.84	7.07	6.42	7.38
Romania	18.51	19.66	20.96	22.55	15.68	19.47
Slovakia	8.54	7.87	7.96	9.79	8.42	8.52
Slovenia	15.37	14.39	17.17	15.7	16.16	15.76
Spain	8.35	8.9	8.29	9.17	9.42	8.83
Sweden	19.03	16.59	18.02	20.54	18.76	18.59

Hungary	16.52	10.34	13.34	14.28	14.78	13.85
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*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

The following tables show in detail how the European countries are positioned in terms of Ke in each years analysed. For 2013 the first three places are occupied by Croatia, Sweden and Romania. In fact, with 23.45%, 15.31% and 14.29%, these represent the countries with the higher capability in value generation for shareholders. Italy ranks 25th with a negative ROE-Ke differential of 4.61%: this means that in 2013, healthcare companies destroyed value for shareholders because ROE was not enough to cover the cost of equity (tab. 26).

Table 26. Ranking Roe-Ke by countries (2013)

2013					
1	Croatia	23.45	14	Poland	1.60
2	Sweden	15.31	15	Portugal	1.56
3	Romania	14.29	16	Netherlands	1.44
4	Denmark	13.37	17	Germany	1.08
5	Hungary	8.56	18	Luxemburg	0.54
6	Slovenia	5.65	19	Czech republic	-1.00
7	United Kingdom	5.61	20	Austria	-1.28
8	Estonia	5.16	21	Bulgaria	-1.73
9	Slovakia	4.32	22	Latvia	-2.66
10	Finland	3.46	23	Greece	-2.89
11	Ireland	2.69	24	Belgium	-4.20
12	Spain	2.34	25	Italy	-4.61
13	France	2.31	26	Lithuania	-6.61

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

In 2014 Croatia is once again at the top of the ranking with ROE-Ke of 17.95%, followed by Denmark (15.54%) and Romania (15.14%). Italy is again 25th with a negative differential of 4.09% (tab. 27).

Table 27. Ranking Roe-Ke by countries (2014)

2014					
1	Croatia	17.95	14	Spain	2.57
2	Denmark	15.54	15	Poland	0.38
3	Romania	15.14	16	Estonia	0.33
4	Sweden	12.96	17	Portugal	-0.31
5	Slovenia	4.76	18	Germany	-0.60
6	Ireland	3.52	19	Lithuania	-0.93
7	Czech republic	3.42	20	Austria	-1.39
8	Slovakia	3.35	21	Luxemburg	-1.57
9	Netherlands	3.33	22	Bulgaria	-1.65
10	France	3.23	23	Belgium	-2.18
11	Hungary	3.16	24	Latvia	-2.63
12	United Kingdom	3.02	25	Italy	-4.09
13	Finland	2.97	26	Greece	-4.41

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

For 2015 we find in the first positions Croatia and Denmark again, followed by Sweden. Italy improves its positioning which is now in 20th place with a negative differential which is reduced to 1.91% (tab. 28).

Table 28. Ranking Roe-Ke by countries (2015)

2015					
1	Croatia	24.48	14	Netherlands	1.09
2	Denmark	15.06	15	Portugal	0.76
3	Sweden	13.50	16	Czech republic	0.53
4	Romania	12.22	17	Estonia	0.48
5	Slovenia	7.65	18	Germany	-0.75
6	Lithuania	5.67	19	Slovakia	-0.78
7	Hungary	4.93	20	Italy	-1.91
8	Ireland	3.54	21	Austria	-1.45
9	United Kingdom	3.45	22	Latvia	-2.74
10	France	3.39	23	Greece	-3.30
11	Finland	2.19	24	Luxemburg	-3.51
12	Poland	1.67	25	Bulgaria	-4.43
13	Spain	1.11	26	Belgium	-6.66

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

For 2016 Croatia assumes the highest values followed by Sweden and Denmark. Companies located in these countries denote high levels of return on equity and low level of cost of equity. Italy is again 20th with ROE-Ke negative differential which is further reduced at 1.63% (tab. 29).

Table 29. Ranking Roe-Ke by countries (2016)

2016					
1	Croatia	20.26	14	Slovakia	0.98
2	Sweden	15.60	15	Austria	0.69
3	Denmark	15.48	16	Ireland	0.27
4	Romania	13.74	17	Czech republic	0.23
5	Slovenia	5.76	18	Lithuania	0.22
6	Hungary	5.36	19	Germany	-0.47
7	Finland	5.26	20	Italy	-1.63
8	France	5.17	21	Poland	-2.11
9	Estonia	4.76	22	Belgium	-3.34
10	United Kingdom	3.07	23	Latvia	-3.40
11	Spain	2.46	24	Luxemburg	-3.41
12	Portugal	1.94	25	Greece	-3.55
13	Netherlands	1.67	26	Bulgaria	-9.30

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

For 2017 the countries able of generating the most value are again Croatia, Denmark and Sweden. Italy is also in 20th place for this year with negative ROE-Ke of 1.51% (tab. 30). The improvement in Italian position is attributable to the trend recorded by the ROE which grows from the average value of 5.88% in 2013 to 9.78% in 2017 (tab. 25); Ke values instead remain almost stable at around 11% in the period 2013-2017 (tab. 24).

Table 30. Ranking Roe-Ke by countries (2017)

2017					
1	Croatia	13.54	14	Ireland	0.48
2	Denmark	10.23	15	Germany	0.13
3	Sweden	8.92	16	Spain	-0.12
4	Romania	8.02	17	Lithuania	-0.15
5	Hungary	6.99	18	Estonia	-0.28

6	Slovenia	6.32	19	Portugal	-0.54
7	France	4.76	20	Italy	-1.51
8	United Kingdom	3.98	21	Latvia	-3.54
9	Finland	2.55	22	Czech republic	-3.68
10	Austria	0.87	23	Belgium	-4.55
11	Slovakia	0.76	24	Luxemburg	-4.89
12	Netherlands	0.74	25	Bulgaria	-6.33
13	Poland	0.57	26	Greece	-7.22

*Cyprus and Malta are excluded from the survey as the data did not reflect the search criteria

5. Conclusions

The research aims to analyse the capability of private healthcare companies to create value. The study is based on a comparative analysis between Italian and other EU28 countries' private companies whose business falls under the Nace code 86.10 (Hospital services) in the period 2013-2017. We assume that value creation comes from competitive advantage of the companies and wealth for shareholders: in detail, we propose the performance benchmark model to measure the competitive positioning within the sector and we employ the ROE-ke differential to estimate the capability of companies to generate value for shareholders. Using the performance benchmark approach we identified two area, representative of competitive positioning: efficiency and financial benchmark. Ratios to be employed in the analysis are selected on the basis of the prevalent literature. We used ROA and cash flow/operating revenue for the efficiency benchmark and current ratio and credit period for the financial benchmark.

Apparently the distribution of the companies in the efficiency and financial benchmark ranges is almost the same for Italy and EU28; thus, the proposed model does not lead to significant differences between the two samples. Results reached in terms of total benchmark, obtained by combining the efficiency and financial benchmark, highlighted the superiority of EU28 sample over the Italian one. However, the analysis of the threshold of benchmark show that Italian healthcare companies present complications from a financial point of view due to liquidity problems and to the management of working capital conditioned by the extension times granted for the collection of the credits, which appear on average longer than the European companies.

Regarding the value creation for shareholders, analysis highlights for Italian private healthcare companies negative differential of ROE-ke for all the period, although it has decreased over the years. Italy ranks among the countries with the higher cost of equity. The analysis of the value created for shareholders by Italian private healthcare companies confirms the results emerged with the benchmark analysis regarding the financial imbalance that characterize the performance of our businesses.

In particular, distortions in the financial structure, with a high incidence of debt capital, affect the ability to create value. This have some implications on the cost of capital: in particular, the excessively unbalanced financial structure and the country risk are reflected in an increase in the cost of equity. Further extensions of the work could concern the analysis of value creation for all lenders and not only for shareholders.

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