

Evaluation of the Financial Situation: The Case of Pharmaceutical Firms listed on the Hanoi Stock Exchange

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Abstracts: The study investigates financial situation of pharmaceutical firms listed on the Hanoi stock exchange (HNX). The study employs a set of aggregated data from 10 pharmaceutical firms listed on the HNX. At the same time, the study also receives comments from experts experienced in the research field. We have performed some descriptive statistics, compared and correlation analysis with support by Stata13 software to evaluate and measure financial situation of pharmaceutical firms listed on the HNX through the financial indicators, including (i) Sales (size); (ii) return on total assets (ROA). The results show that there is a difference in financial situation of pharmaceutical firms listed on the HNX. Firms with operating time of 30 years or more account for a relatively low proportion of these enterprises.

Keywords: sales (size), return on total assets (ROA), finance

JEL codes: M41, F65, O16, P33, P45

1. Introduction

High financial efficiency is one of the long-term strategic goals of enterprises. The financial efficiency of the enterprise plays an important role and is the foundation of the firm reproduction process. Good financial health will have a positive impact on the production process of enterprises.

The world economy is developing very strongly and that development is not sustainable; Developing too quickly would lead to environmental, social and even economic problems (Sachs, 2008). In the current living environment, especially the outbreak of the Covid19 epidemic, the great role of pharmaceutical firms in disease prevention, treatment and health improvement for the whole society is further affirmed. In addition, pharmaceutical firms play an important role in ensuring the connectivity among industries of the economy, making important contributions to the national economic growth.

Pharmaceuticals are a very special commodity because it directly affects the health and life of users. Therefore, all pharmaceutical-related activities are subject to the strict control of the State.

Among 10 pharmaceutical firms listed on HNX, the financial status of some companies still has certain shortcomings that need to be improved.

From the above reasons, the assessment of the financial situation, analysis of the strengths and weaknesses of the financial status of enterprises and proposing recommendations to improve the financial situation of the pharmaceutical enterprises have an important meaning, thereby helping pharmaceutical enterprises to develop sustainably.

2. Theoretical Background and Literature Review

The signal theory states that a firm's financial decisions are signals sent by managers to investors so as to consider feedbacks and this is the foundation for financial information demonstration policy. It also assumes that firms which perform well often use financial information as a signaling tool to the market. Ross (1977) suggested that when enterprises issued new securities, this event could be considered to provide a signal to the financial markets about the future prospects of enterprises.

Altman (1977) compared the present value of financial exhaustion with the present value of benefits from the tax shield having an impact on leverage and concluded that the effect of financial exhaustion costs on firm value and capital structure were very important.

Pham (2018) used qualitative research methods, collected data from 29 firms transport construction listed on the stock market in the period 2011-2016 to evaluate the financial status of these enterprises. The author outlined the financial situation and firm performance of enterprises, evaluated solvency and capital efficiency. The research results showed that, in addition to the advantages achieved, the financial status of the transport construction enterprises also had disadvantages: (i) the scale of assets and equity was still limited; (ii) the revenue growth was low; (iii) receivables accounted for a large proportion of total short-term assets and showed signs of slow recovery.

Pham and Tran (2018) analyzed the financial status of TNT Investment and Trading Joint Stock Company through analysis of the firm's debt and solvency. The authors used qualitative research methods, collected data of TNT firm in the period 2013-2015. The research results showed that the receivable debts of TNT firm were mainly accounts receivable from customers; payables increased due to payables to sellers, taxes and other payables to the state, accrued expenses; receivables of the firm were greater than accounts payable.

Inheriting previous studies, this study uses a mixed research method to analyze the financial situation of pharmaceutical firms listed on the HNX through the evaluation two (2) ratios in the period 2015-2019, including: (i) sales (size); (ii) return on total assets (ROA). The research results could

contribute to analyzing financial situation of enterprises and are meaningful for enterprise managers to make effective business decisions.

3. Methodology

Firstly, we interviewed experts who are leading lecturers in finance and accounting; financial directors in food enterprises.

Secondly, the study uses balance sheet data, data collected by subjects and by time – series. The secondary data collected from the audited financial statements of 10 pharmaceutical firms listed on HNX in operation by the end of the accounting year 2019 on such reputable website <https://finance.vietstock.vn/>. Thus, this study has 10 firms * 5 years = 50 observed variables, which have been processed and cleaned with Excel.

Finally, we used Stata13 software in applying quantitative research method.

Data were tested for normal distribution, used Histogram’s chart, results were presented in figure 1 to figure 2.

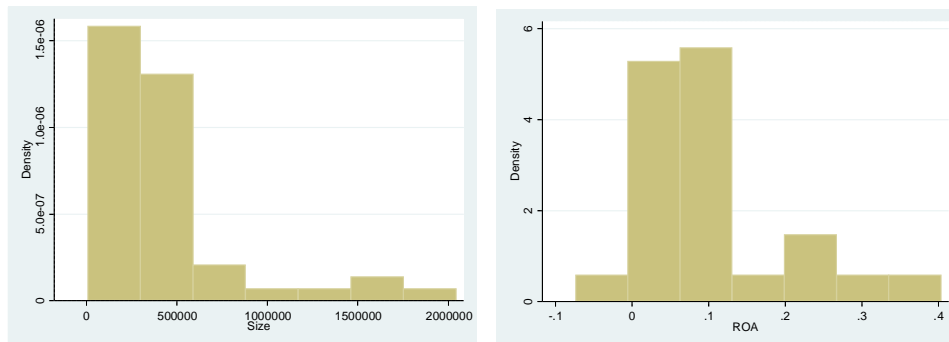


Figure 1: Sales’s (size) standard distribution chart Figure 2: ROA’s standard distribution chart

Figure 1 and figure 2 shows, data is normal distribution and has analysis eligible.

4. Research Results and Discussion

4.1. Descriptive Statistics Results

General descriptive statistics and detailed descriptive statistics

Table 1: General descriptive statistics & detail descriptive statistics

General descriptive statistics					
Variable	Obs	Mean	Std. Dev.	Min	Max
Size	50	431,615.7	419,367.3	8055	2,042,235
ROA	50	.10337	.097545	-.0736	.4032

Detail descriptive statistics

<i>stats</i>	<i>Size</i>	<i>ROA</i>
N	50	50
sum	2.16e+07	5.1685
range	2,034,180	.4768
variance	1.76e+11	.009515
cv	.971622	.943649
skewness	2.098786	1.142043
kurtosis	7.576482	4.05802
p50	339,298.5	.0768

Sources: Authors synthesized and Stata Software 13

Table 1 shows: There are 2 financial indicators, each of which is described by 50 observations (obs); basic indicators such as average value (mean), maximum value (max), minimum value (min), standard deviation (sd), variance, skewness coefficient of variation, the sum of variables, range, coefficient of variation (p50), coefficient of variation of each observed variable (CV) of each index have been identified and these basic indicators accurately reflect the current financial situation of pharmaceutical firms listed on the HNX.

Comparison the financial situation between firms with operating time of 30 years or more and the rest of firms

Operating time (C): The dummy variable is 1 if the enterprise with operating time of 30 years or more. The variable for the rest of firms is zero (0).

Table 2: Comparison sales (size) between firms with operating time of 30 years or more and the rest of firms

<i>T-test Size, by (C)</i>						
<i>Two-sample t test with equal variances</i>						
<i>Group</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Err.</i>	<i>Std. Dev.</i>	<i>[95% Conf. Intervall]</i>	
0	20	249,604	37,119.26	16,6002.4	171,912.5	327,295.5
1	30	552,956.8	89,633.51	490,942.9	369,635.7	736,277.9
Combined	50	431,615.7	59,307.5	419,367.3	312,432.8	550,798.6
diff		-303,352.8	114,210		-532,987.5	-73,718.19
		diff = mean (0) – mean (1)			t = -2.6561	
		Ho: diff = 0			degrees of freedom = 48	
		Ha: diff < 0			Ha: diff > 0	
		Pr (T < t) = 0.0053			Pr (T > t) = 0.0107	
					Pr (T > t) = 0.9947	

Sources: Authors synthesized and Stata Software 13

The results in Table 2 show that: There were 30 firms with operating time of 30 years or more; and they had a larger sale (size) than others. The difference of size between enterprises with operating time of 30 years or

more and the rest of enterprises was statistically significant (p-value = 0.0107 < 0.05, difference value 303,352.8) (Bryman & Cramer, 2001).

Table 3: Comparison ROA between firms with operating time of 30 years or more and the rest of firms

Ttest ROA, by (C)
Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Intervall]	
0	20	.126975	.0268426	.1200438	.0707928	.1831572
1	30	.0876333	.0141366	.0774293	.0587208	.1165459
Combined	50	.10337	.0137949	.097545	.075648	.131092
diff		.0393417	.0278782		-.0167112	.0953945
diff = mean (0) – mean (1)					t = 1.4112	
Ho: diff = 0				degrees of freedom = 48		
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr (T < t) = 0.9177		Pr (T > t) = 0.1646		Pr (T > t) = 0.0823		

Sources: Authors synthesized and Stata Software 13

The results in Table 3 show that: There were 30 firms with operating time of 30 years or more; and they had a lower ROA than others. However, the difference of ROA between enterprises with operating time of 30 years or more and the rest of enterprises was not statistically significant (p-value = 0.1646 > 0.05, difference value 0.0393417) (Bryman & Cramer, 2001).

Compare the financial status of pharmaceutical enterprises between state-owned (PO) firms of 40% or more and the rest of firms.

State ownership (PO): The dummy variable is 1 if the enterprise owns 40% or more of the State and the rest is zero (0).

Table 4: Comparison sale (size) between firms with 40% or more of the State and the rest of firms

Ttest Size, by (PO)
Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Intervall]	
0	40	301,408.4	33,602.62	212,521.6	233,440.7	369,376.1
1	10	952,445	196,223.7	620,513.8	508,556.1	1,396,334
Combined	50	431,615.7	59,307.5	419,367.3	312,432.8	550,798.6
diff		-651,036.6	116,668		-885,613.4	-416,459.8
diff = mean (0) – mean (1)					t = -5.5802	
Ho: diff = 0				degrees of freedom = 48		
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr (T < t) = 0.0000		Pr (T > t) = 0.0000		Pr (T > t) = 1.0000		

Sources: Authors synthesized and Stata Software 13

The results in Table 4 shows: There are 10 times of enterprises with the State participation; Enterprises with 40% or above of the State have a

larger sales (size) than others do. The difference of sales (size) between over 40% the State owned enterprises and the remaining enterprises is statistically significant ($p\text{-value} = 0.0000 < 0.05$, difference value 651,036.6).

Table 5: Comparison ROA between firms with 40% or more of the State and the rest of firms

Ttest ROA, by (PO)
Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Intervall]	
0	40	.0853975	.0152597	.0965107	.0545319	.1162631
1	10	.17526	.0206495	.0652993	.1285477	.2219723
Combined	50	.10337	.0137949	.097545	.075648	.131092
diff		-.0898625	.0323407		-.1548879	-.0248371
		diff = mean (0) – mean (1)			t = -2.7786	
		Ho: diff = 0			degrees of freedom = 48	
		Ha: diff < 0			Ha: diff > 0	
		Pr (T < t) = 0.0039			Pr (T > t) = 0.9961	
		Pr (T > t) = 0.0078				

Sources: Authors synthesized and Stata Software 13

The results in Table 5 shows: There are 10 times of enterprises with the State participation; Enterprises with 40% or above of the State have a larger ROA than others do. The difference of ROA between over 40% the State owned enterprises and the remaining enterprises is statistically significant ($p\text{-value} = 0.0078 < 0.05$, difference value 0.0898625) (Bryman & Cramer, 2001).

4.2. Correlation analysis results

Table 6: Correlation Analysis

Correlate Size ROA
(obs = 50)

	Size	ROA
Size	1.0000	
ROA	0.1675	1.0000

Sources: Authors synthesized and Stata Software 13

Table 6 shows the results of correlation analysis, as known as multicollinearity analysis. The results indicate that the absolute value of each correlation coefficient between the observed variables is less than 0.8; therefore, there is no multicollinearity phenomenon between the observed variables (Bryman & Cramer, 2001).

4.3. Financial situation of pharmaceutical firms listed on HNX

Table 7: Sales (size) of pharmaceutical firms listed on the HNX during the period 2015-2019

(Unit: Million VND)

<i>Stock code</i>	2015	2016	2017	2018	2019	<i>Average</i>
AMV	8,055	11,439	71,860	450,796	487,415	205,913
CPC	195,714	210,731	275,415	322,218	267,735	254,363
DBT	552,116	580,517	800,114	776,298	786,282	699,065
DHT	940,572	1,205,441	1,480,315	1,705,345	2,042,235	1,474,782
DNM	183,116	226,396	171,414	163,169	356,115	220,042
DP3	212,098	236,311	322,482	471,177	410,804	330,574
LDP	484,278	513,510	528,312	431,851	379,664	467,523
MKV	77,283	97,356	128,532	134,579	102,410	108,032
PMC	387,659	413,937	429,602	454,572	464,772	430,108
PPP	99,314	120,904	131,915	125,529	151,111	125,755
Total	3,140,205	3,616,542	4,339,961	5,035,534	5,448,543	4,316,157

Sources: <https://finance.vietstock.vn/>; cafef.vn; cophieu68.vn and authors synthesized

In the period 2015-2019, 10 pharmaceutical firms listed on the HNX achieved revenue of 21,580,785 million VND, on average each year. During this period, revenue of one (01) enterprise reached 431,616 million VND.

The data in Table 7 shows that, from 2015 to 2019, the number of enterprises with smaller revenue than the average revenue of firms accounted for a large proportion. Enterprises with revenue greater than the average turnover of 10 enterprises were firms with outstanding revenue compared to the rest.

The main reason is that they were heavily influenced by the fluctuations of the economy, the business and production situation of enterprises had many difficulties, goods were not in a good circulation, leading to a large amount of inventory; therefore, sales growth rate (GR) gain was not high;

Table 8: ROA of pharmaceutical firms listed on the HNX during the period 2015-2019

(Unit: %)

<i>Stock code</i>	2015	2016	2017	2018	2019	<i>Average</i>
AMV	(2.78)	3.83	17.62	40.32	28.86	17.57
CPC	9.62	9.47	9.02	8.63	7.61	8.87
DBT	5.79	4.82	5.00	3.19	3.34	4.43
DHT	9.14	11.32	12.56	12.73	12.52	11.65
DNM	10.47	10.92	7.66	2.79	4.80	7.33
DP3	9.85	12.10	18.74	35.23	27.17	20.62
LDP	7.62	7.41	5.25	(7.36)	2.88	3.16
MKV	1.33	2.01	0.14	(0.17)	1.45	0.95
PMC	25.80	26.49	23.11	21.44	20.15	23.04
PPP	4.07	6.49	4.45	4.25	7.70	5.39

Sources: <https://finance.vietstock.vn/>; cafef.vn; cophieu68.vn and authors synthesized

because the sales were low. Besides, there were still firms with larger scale than the industry average, leading the whole industry. The main reason is that these firms had a long time (AGE) of business operation, had a lot of experience and grasped the needs of partners and customers, so they attracted many customers and domestic and foreign contracts, therefore, they had a great source of revenue, high sale growth rate (GR). When there was large revenue and stable financial efficiency, the firm could maintain the reasonable asset structure (AS), moderate debt ratio (DR), and not depend too much on debt.

Based on the interest rates that firms borrowed from the banks, financial experts say that the enterprise is assessed as having sufficient financial capacity when its ROA is greater than 7.5% for at least 3 consecutive years; Enterprises that maintain $ROA \geq 10\%$ / year for 3 consecutive years will be good ones with stable finance; are highly appreciated by professionals and investors

Table 8 shows that among 10 pharmaceutical firms listed on HNX; four firms with stock codes PMC, DP3, DHT and AMV were considered as well-operating enterprises with stable financial status; were highly appreciated by professionals and investors. Enterprises with stock code CPC had sufficient financial capacity. The rest of the enterprises, in the period 2015-2019, although the ROA was not large enough to reach 7.5%, most of them were greater than zero, which means there were profit results.

5. Discussion and Implications

The increasing sales mean the fast circulation of goods in the market, the great demand for the product, the low amount of inventories. The corporate strategy is always set in the long term. In addition, when the revenue increases, the enterprise will affirm its position in the market, capture the reputation of investors, creditors. Therefore, there will be many incentives when borrowing.

Pharmaceutical firms need to maintain a reasonable capital source. In addition to the amount of capital available to enterprises which are in the pharmaceutical industry with their characteristics being in need of a large amount of capital, fast turnaround, another source of capital is also very important, which is loans. If the size of the enterprise's capital is not strong enough, the annual revenue is not stable and has not grown steadily, it will be difficult to mobilize capital from investors, banks; At the same time, it is difficult to enjoy the advantages of interest and payment time when compared with enterprises with large scale capital in the same industry. When the capital size of the firm is properly maintained, it will create confidence among customers and suppliers in the market; therefore, it is

possible to have a significant number of loyal customers and partners, contributing to increased revenue and growth for the firm. Solvency is also guaranteed because of the large and stable revenue.

Pharmaceutical firms need to expand their markets and improve product quality: Currently, when many tariff barriers are removed; free trade is developing with the freedom of services, tariffs and trade barriers, and also it is not influenced by import policies, Vietnam's economy is strongly integrated with the world economy. Therefore, it is easy for Multinational Corporation and well-known pharmaceutical firms to penetrate into Vietnam market. With competitive prices, quality and brand name affirmed over the years and over many countries around the world, it will be a challenge for domestic firms. Therefore, in order to maintain and affirm their position and product quality with foreign enterprises, domestic enterprises in the pharmaceutical industry need to improve product quality; diversify types of products, compete on selling prices. Improving product quality can also be the key to attracting foreign importers. Therefore, with market expansion, improving product quality will contribute to increasing revenue, increasing domestic and foreign orders for pharmaceutical firms in the industry. From there, it is possible to ensure the firm's ability to repay due debts; guarantee and improve solvency.

The longer enterprises have been operating, the more experience it has in production and business; and they can build familiar sizes of customers and suppliers. From there, it is easy to occupy capital of suppliers to serve their production and business activities. In contrast, those that have not had a long time or have just entered the industry will not have a large number of customers. At the same time, suppliers are hesitant, offer immediate payment terms or seldom delay payment time.

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