

Value Analysis of Biopharmaceutical Industry Investment Based on China's A-share Market

Xinyi Rao

*Business School, The University of Aberdeen
Aberdeen, United Kingdom
zoey_rao@163.com*

ABSTRACT

In order to deeply understand the long-term value investment of the biomedical sector, this paper analyzes the fundamentals by using financial indicators. From the economic perspective, the financial data of biomedicine in a-share market in recent ten years are used to analyze the market performance, profitability, debt-paying ability, growth and valuation level. Finally, the correlation analysis discusses selected indicators and investigates the relationship between the biomedicine market and the A-share market. Through statistical analysis and correlation analysis, it is found that China's biomedical sector is superior to the A-share (non-financial) sector in terms of solvency, profitability and growth, with a growing trend. In terms of valuation, the overall performance of the biomedical industry is better than that of A-shares (non-financial), and there is a strong positive correlation between the profitability and growth of the sector and the market performance of the sector.

Keywords: *biopharmaceuticals; value investing; financial indicators; correlation analysis*

1. INTRODUCTION

This paper takes the biomedical module of the A-share market as the primary research object, uses financial indicators to conduct a comparative study on the market performance, solvency, operation, profitability, growth and so on of the biomedical sector, before carrying out a value evaluation, and finally comes to the results [1]. In the process of long-term investment in the biopharmaceutical industry, investors can find those companies in the severely undervalued areas of the market, and then obtain excess returns here, to give long-term bullish biopharmaceutical industry investors a reference and advice. Therefore, it is of great theoretical and practical significance to evaluate the investment value of listed companies in the biopharmaceutical industry.

2. SAMPLE SCREENING & SELECTION

This paper is based on 3814 stocks in the A-share market as at 2020, of which 223 are held by the pharmaceutical industry.

The sample was selected from 223 pharmaceutical stocks in the A-share market, excluding the three major

segments regarding the pharmaceutical industry, namely devices, commercial and services, and dividing the remaining biological products into the biopharmaceutical segment, with a total of 61 listed companies. The article focuses on Price Earnings Ratio, Price-to-Book Ratio, Current Ratio, Quick Ratio, Receivables Turnover Ratio, Inventory Turnover Ratio, Total Assets Turnover, Return on Equity, Net Sales Margin, Operating Income Growth Rate and Net Profit Growth Rate, as well as using DuPont analysis and correlation analysis to explore the relevant financial indicators of the biopharmaceutical industry.

For the purpose of comparative analysis, 10 years of historical data of biopharmaceutical companies and A-shares (non-financial) from 2010 to 2019 were selected. The raw data of this sample was obtained from the Guotaian database and this paper analyses and studies the fundamentals of the biopharmaceutical industry in 6 main aspects: Market Indicators, Solvency, Operational Capacity, Profitability, Growth and Valuation levels. In the analysis of this paper, listed companies with missing data and incomplete information disclosure were excluded to ensure the authenticity and validity of the data and the comparability of the data. The main method used to calculate the data is the arithmetic average method. At the

same time, due to the uniqueness of the banking and finance sector compared to other industries, the banks derive most of their income from off-balance sheet transactions, it is difficult to convince people to analyse the banking sector in three tables. The financial statements of the financial sector do not conform to those of non-financial companies in general, as they differ in terms of business models, reporting structures and underlying accounting entries, and therefore financial stocks such as banks, securities and insurance are not covered in this paper. Relative valuation analysis

2.1.P/E ratio Comparison

The P/E ratio is based on the industry average P/E ratio to predict its value, which is easy to understand and intuitive statistic because it relates the current earnings to the stock price. It can reflect the characteristics of a stock company, such as risk and growth potential. Still, it is primarily influenced by individual factors because it reflects market sentiment and opinion and cannot predict risk and equity potential, etc. Whether a stock is overvalued or undervalued at different price points is determined by P/E [2].

Table1.BIOPHARMA SECTOR & A-SHARE (NON-FINANCIAL) P/E RATIO 2010-2019

Year	Biomedical	Pharmaceutical industry	A shares (non-financial)
2010	67.21	77.4	110.54
2011	51.73	87.01	72.6
2012	45.34	71.18	85.71
2013	71.07	79.93	90.97
2014	62.41	157.14	122.6
2015	122.1	182.27	107.02
2016	51.78	123.59	151.97
2017	66.69	75.17	100.64
2018	33.16	33.07	55.34
2019	48.65	47.66	64.62

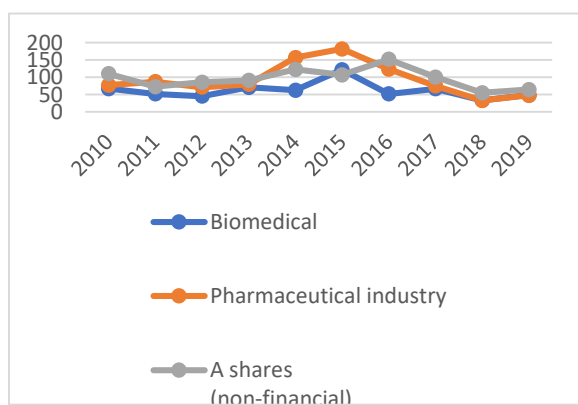


Figure 1.Biopharma Sector & A-Share (Non-Financial) P/E Ratio 2010-2019

P/E ratio between 20-30 is better. As can be seen from the table, the average P/E ratio of the biomedical sector is 62. Combined with the chart, from 2010 to 2019, the trend of the biomedical sector is roughly the same as that of A-shares (non-financial) from 2010 to 2019. To sum up, we can see that the biomedical sector is also closely watched by the market and investors. Still, its P/E ratio is lower than that of A-shares (non-financial), so the valuation of the biomedical sector still has room for improvement.

2.2. Comparison of P/B Ratio

The price-to-book ratio refers to a company's stock price ratio to its net assets. Whether the industry is booming or not, the net assets of listed companies usually do not change significantly, so it has reference value. It is generally believed that when the market value is greater than the book value, it indicates that its asset quality has been improved and development potential. On the contrary, it shows that the quality is poor, there is no hope of improvement. The price-to-book ratio can judge the value of equity investment, but this is only one of the criteria for judging the project's investment value. It must also consider the various operating conditions of the company and macro policies of the industry development. People usually feel that the lower the market-to-book ratio, the better. [3]

Table2.BIOPHARMA SECTOR & A-SHARE (NON-FINANCIAL) P/B RATIO 2010-2019

Year	Biomedical	Pharmaceutical industry	A shares (non-financial)
2011	3.86	3.69	3.76
2012	4.47	4.13	3.18
2013	8.16	5.42	4.49
2014	5.05	5.73	5.57
2015	7.1	8.62	7.67
2016	6.02	5.7	5.09
2017	4.92	4.28	3.7
2018	4.94	2.73	2.44
2019	5.17	3.67	2.93

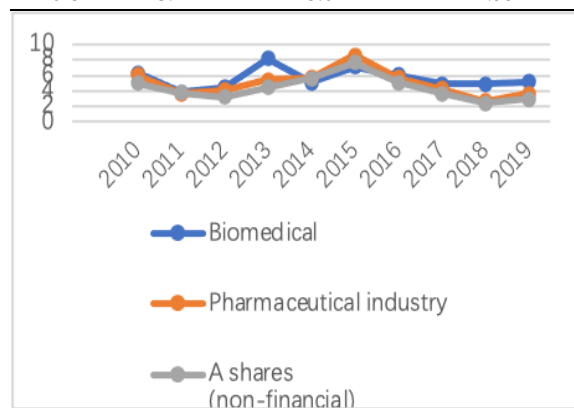


Figure 2.Biopharma Sector & A-Share (Non-Financial) P/B Ratio 2010-2019

As shown in the table and figure, the P/E ratio of the biomedical sector is mostly higher than that of the A-share (non-financial) sector, while the P/E ratio of the A-share (non-financial) sector also rose sharply from 2012 to 2013, reflecting the rising valuation level of the sector, which tended to decline from 2013 to 2017, but gradually recovered after 2017. The biopharmaceutical sector and the pharmaceutical industry are generally similar, and their performance in the market is better than that of the pharmaceutical industry. The specificity of the biopharmaceutical industry and the valuation level of its development ability are relatively high.

3. ANALYSIS OF FINANCIAL INDICATORS

3.1. Solvency Analysis

3.1.1 Current Ratio

The current ratio is the ratio of current assets to current liabilities and is used to measure the ability of an enterprise's current assets to be turned into cash to pay off liabilities before short-term debt becomes due, and is an indicator of an enterprise's short-term solvency. The higher the ratio, the better its short-term solvency is due to the liquidity of its assets. As shown in the table and chart below: the biopharmaceutical sector mostly stays above 2.

Table3.BIOPHARMA SECTOR & A-SHARE (NON-FINANCIAL) CURRENT RATIO 2010-2019

Year	Biomedical	Pharmaceutical industry as a whole	A shares (non-financial)
2010	2.15	4.41	2.57
2011	3.54	5.53	2.76
2012	3.08	4.47	2.36
2013	2.58	3.98	2.2
2014	3.23	3.66	2.16
2015	2.19	3.05	2.13
2016	3.24	3.27	2.3
2017	3.66	3.29	2.31
2018	2.69	2.98	2.18
2019	3.52	3.07	2.22

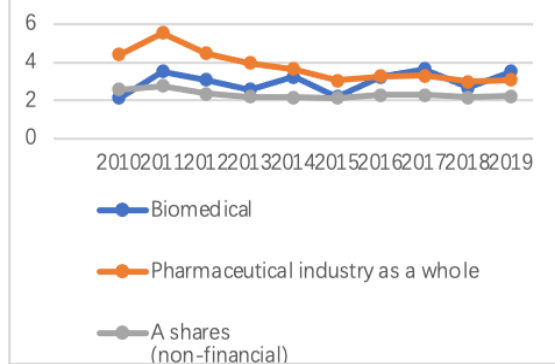


Figure 3.Biopharma Sector & A-Share (Non-Financial) Current Ratio 2010-2019

From 2010 to 2019, the biopharmaceutical sector was highly solvent, climbing again from around 2 to even more than 3 in A-shares (non-financial), proving the solvency of the biopharmaceutical sector. However, a high liquidity ratio is not better, which indicates that a company is using its current assets inefficiently. Current ratios in the biomedical industry have been around 2 and 3 for the past decade, which is a good position not only to ensure the short-term solvency of the company, but also to maximize the efficiency of the use of the company's current assets.

3.1.2. Quick Ratio

The quick ratio, which should not be too low, referring to the ability of the enterprise to repay current liabilities, is usually recommended to keep at 1:1. Calculated by the formula, we obtain the solvency of the biomedical industry for 2010-2019. As shown in the table, the biomedical industry has primarily performed well over the past decade, exceeding 1 in most years and even almost reach 3 a few times [4]. The formula is: Quick Ratio = Quick Assets / Current Liabilities

Table4.BIOPHARMA SECTOR & A-SHARE (NON-FINANCIAL) QUICK RATIO 2010-2019

Year	Biomedical	Pharmaceutical industry as a whole	A shares (non-financial)
2010	1.6	3.73	2.02
2011	2.96	4.83	2.17
2012	2.41	3.75	1.8
2013	1.97	3.28	1.66
2014	2.4	2.94	1.61
2015	1.72	2.46	1.63
2016	2.58	2.68	1.81
2017	3	2.66	1.83
2018	2.26	2.41	1.72
2019	2.74	2.46	1.75

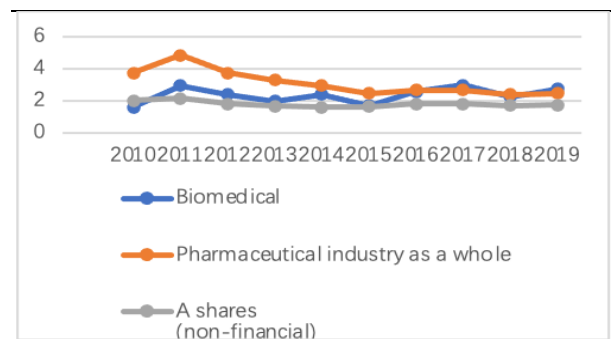


Figure 4.Biopharma Sector & A-Share (Non-Financial) Quick Ratio 2010-2019

3.2. Analysis of Operating Capacity

Operational capability measures a company's ability to

manage its asset performance. The overall analysis of financial management focuses on the company's operational capability, which has become a necessary standard to determine the solvency and profitability. Companies with operational solid capabilities can improve operational efficiency and hedge risks. Accounts receivable turnover, inventory turnover and total assets turnover were selected as the analysis indexes to explore the operating capacity of the biomedical industry [5].

3.2.1. Accounts Receivable Turnover Ratio

Generally, the higher the accounts receivable turnover rate, the higher the company's credit rating, which is a standard to measure the company's timely collection of accounts and lousy debt level.

Table5.BIOPHARMA SECTOR & A-SHARE (NON-FINANCIAL) ACCOUNTS RECEIVABLE TURNOVER RATIO, 2010-2019

Year	Biomedical	Pharmaceuticals as a whole	A shares (non- financial)
2010	10.43	12.34	389.28
2011	27.91	15.8	245.72
2012	13.1	12.07	358
2013	14.6	21.75	428.81
2014	18.84	15.74	205.93
2015	18.74	13.7	316.6
2016	10.5	11.6	243.36
2017	7.61	8.86	186.83
2018	6.28	11.12	60.53
2019	5.88	22.71	100.45

From 2013 to 2019, the A-share (non-financial) accounts receivable turnover generally declined, while the biomedical industry grew significantly from 2010 to 2015, but declined slowly from 2016 to 2019. Its turnover rate was usually lower than that of A share (non-financial).

There was a slow decline from 2016 to 2019, and it was generally lower than the turnover rate of A shares (non-financial), which was caused by the slow debt recovery of the biomedical industry. Therefore, the biomedical industry needs to improve the recovery efficiency of receivables.

3.2.2. Inventory Turnover Ratio

Inventory turnover reflects a company's overall ability to manage inventory, and it also demonstrates a company's ability to sell it, usually the faster the better. As can be seen from the inventory turnover of the biomedical industry calculated by the arithmetic mean in the table, the inventory turnover of A shares (non-financial) fluctuated

wildly from 2010 to 2019. However, we can still see that the overall trend is upward. Conversely, the slow downward movement of the biomedical sector indicates that its inventory is under pressure and its operational efficiency has declined; combined with the biomedical industry's macroeconomic impact, the lack of innovation in products and the deficiencies in national policy and regulatory oversight will all have an impact on the biomedical industry.

Table6.BIOMEDICAL SECTOR & A-SHARE (NON-FINANCIAL) INVENTORY TURNOVER RATIO 2010-2019

Year	Biomedical	Pharmaceuticals as a whole	A shares (non- financial)
2010	3.82	3.82	29.15
2011	3.64	3.65	152.27
2012	3.89	3.44	35.34
2013	7.26	6.93	153
2014	2.97	4.77	129.58
2015	3.21	5.43	62.36
2016	2.68	2.92	231.12
2017	2.93	2.95	97.18
2018	3.35	3.03	168.88
2019	2.54	3.06	219.02

3.2.3. Total Asset Turnover Ratio

The higher the turnover of total assets, the faster the turnover of assets, which can well reflect the efficiency and performance quality of the enterprise's overall assets and reflect the enterprise's strong sales ability to a certain extent.

Table7.BIOPHARMACEUTICALS SECTOR AND A-SHARE (NON-FINANCIAL) TOTAL ASSET TURNOVER RATIO, 2010-2019

Year	Biomedical	Pharmaceuticals as a whole	A shares (non- financial)
2010	0.7	0.7	0.78
2011	0.6	0.67	0.79
2012	0.6	0.63	0.73
2013	0.65	0.68	0.72
2014	0.66	0.7	0.68
2015	0.64	0.6	0.63
2016	0.58	0.56	0.62
2017	0.53	0.56	0.67
2018	0.59	0.59	0.66
2019	0.61	0.57	0.65

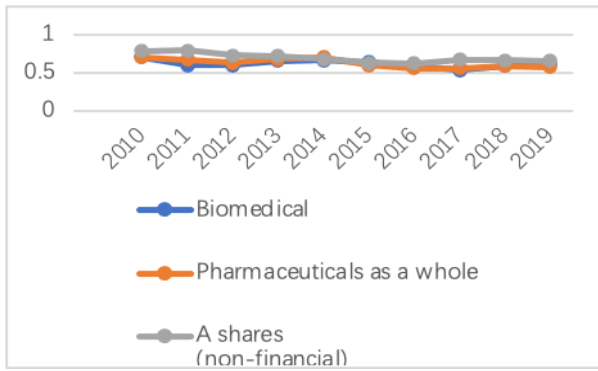


Figure 5.Biopharmaceuticals Sector and A-Share (Non-Financial) Total Asset Turnover Ratio, 2010-2019

Combining with the charts, we can see that the total asset turnover ratio in the biopharmaceutical and pharmaceutical sectors increased from 2012 to 2014, but the trend of A-share (non-financial) fell, showing an overall downward trend between 2015 and 2019. Among them, the total asset turnover index of the biopharmaceutical industry is slightly lower than that of the pharmaceutical industry and A-shares (non-financial), indicating that the asset utilization efficiency of the biopharmaceutical industry has not been significantly improved, which is caused by the poor inventory turnover.

The data analysis of the above three indicators shows that due to the particularity of the biomedical industry, compared with A-shares (non-financial), its operation capacity is not high. Operational capacity cannot be one of the reasons for the rapid development of the biomedical industry, and there is still room for further improvement in accounts receivable and inventory management.

3.3. Profitability analysis

Profitability reflects a company's ability to earn profits from daily production and operating activities, designed to maximize profits. The expected profitability of a company is closely related to its operating performance. In analyzing the profitability of a company, we should not only pay attention to the past operating conditions, but also pay attention to the size of future profitability. In the biopharmaceutical field, return on equity and net profit rate on sales are mainly selected to discuss profitability [6].

3.3.1. Return on net assets

Return on equity can measure the investment value of listed companies and is an important index reflecting owners' return on investment.

Table 8.BIOMEDICAL SECTOR & A-SHARE (NON-FINANCIAL) RETURN ON NET ASSETS, 2010-2019

Year	Biomedical%	Pharmaceutical industry %	A shares (non-financial)%
2010	10.95	10.98	15.6
2011	10.59	10.94	38.83
2012	7.08	13.76	7.91
2013	88.94	32.38	20.6
2014	11.97	10.25	0.97
2015	10.44	9.32	1.28
2016	12.83	10.35	4.36
2017	12.53	10.3	4.56
2018	5.33	6.67	-20.11
2019	11.65	10.65	-2.22

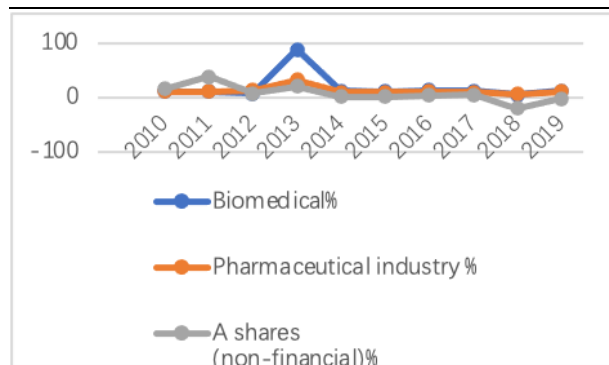


Figure 6.Biomedical Sector & A-Share (Non-Financial) Return on Net Assets, 2010-2019

As can be seen from the table, the ROE of A shares (non-financial) was much higher than that of biopharmaceuticals before 2013, but the situation was opposite after 2013. Since 2013, the ROE of A-shares (non-financial) has been in an apparent downward trend. The biomedical sector also declined, but the later decline rate was slow, much higher than the ROE of A-shares (non-financial). The stock price has been increased in recent years, indicating that the profitability of the biomedical sector is also rising.

3.3.2. Net sales margin

Net profit rate on sales can directly reflect the ability of an enterprise to earn profits through sales in a period of time. It increases with the increase of net profit and decreases with the decrease of sales revenue, and is one of the essential indicators to evaluate the profitability of an enterprise.

Table9.BIOPHARMACEUTICAL SECTOR & A-SHARE (NON-FINANCIAL) NET SALES MARGIN 2010-2019

Year	Biomedical%	Pharmaceutical industry %	A shares (non-financial)%
2010	8.43	10.53	6.51
2011	13.46	10.43	5.57
2012	13.66	11.22	4.61
2013	12.27	11	4.87
2014	11.15	11.47	4.69
2015	11.17	12.57	4.34
2016	12.61	13.48	5.09
2017	15.14	14.38	5.77
2018	15.19	15.38	5.18
2019	16.76	15.51	4.82

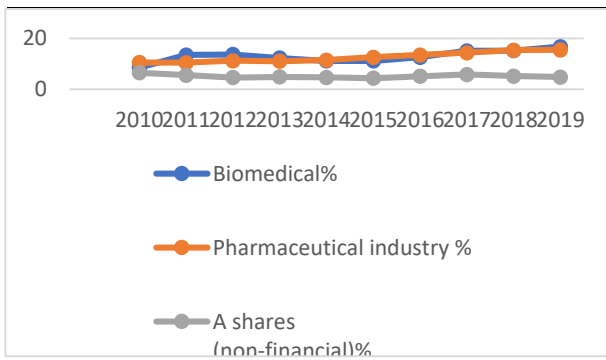


Figure 7.Biopharmaceutical Sector & A-Share (Non-Financial) Net Sales Margin 2010-2019

The table shows that the net sales margin in the biopharmaceutical industry is steadily increasing. Combined with the graph, the net profit margin on sales of A shares (non-financial) fluctuated little in the past decade, but declined slightly. On the contrary, the growth trend of the biopharmaceutical industry is gradually increasing, and much higher than that of A shares (non-financial), indicating that buyers are willing to pay higher prices to obtain the products they need.

From the analysis of the return on net assets and net sales margin, it can be seen that the biopharmaceutical industry still has much room for development, and especially with the support of national policies, its prospects are more promising, and investment opportunities are more prominent.

3.4. Growth Capacity Analysis

Growth capacity is an indicator used to predict the future growth rate of a company. The growth potential of the biopharmaceutical industry is analysed using two indicators: operating profit growth rate and net profit growth rate [7].

3.4.1. Operating income growth rate

The operating income growth rate can reflect the market share and financial balance of an enterprise's products. The higher the revenue growth rate is, the better the market prospect is.

Table10.OPERATING INCOME GROWTH RATE OF BIOPHARMACEUTICAL SECTOR & A-SHARE (NON-FINANCIAL) FROM 2010 TO 2019

Year	Biomedical%	Pharmaceutical industry %	A shares (non-financial)%
2010	0.17	0.6	0.45
2011	1.18	0.46	0.82
2012	0.49	0.24	0.18
2013	0.39	0.28	0.25
2014	0.13	0.26	0.15
2015	0.13	0.1	0.58
2016	0.15	0.28	0.38
2017	0.16	0.23	0.31
2018	0.24	0.21	0.39
2019	0.43	0.3	0.2

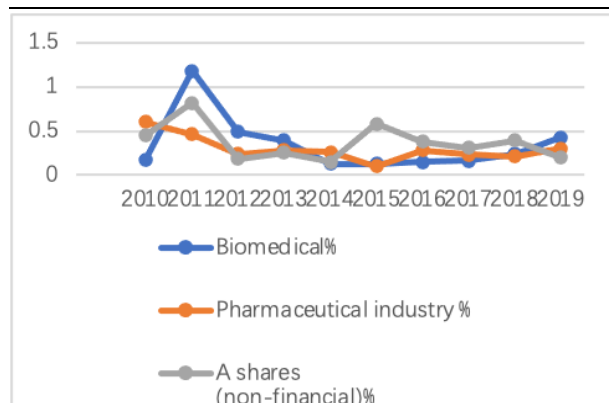


Figure 8.Operating income growth rate of biopharmaceutical sector & A-share (non-financial) from 2010 to 2019

As can be seen from the chart, from 2010 to 2019, the growth rate of a-share (non-financial) operating income fluctuated wildly and showed a downward trend. Compared with A-shares (non-financial), the performance of the biomedical industry is relatively stable. It offers A growth trend in the later period, which means that the biomedical industry has good growth ability.

3.4.2. Net profit growth rate

Net profit can refer to after-tax profit. If net profit is higher it means that the company's business operation is more efficient. Net profit growth rate refers to the growth rate of the company's net profit in the current period compared to the net profit of the previous period. The higher the index value is, the stronger the company's

profitability is. It is an important index to measure the operating efficiency of a company.

Table11. NET PROFIT GROWTH RATE OF THE BIOPHARMACEUTICAL SECTOR & A-SHARE (NON-FINANCIAL) FROM 2010 TO 2019

Year	Biomedical%	Pharmaceutical industry %	A shares (non-financial)%
2010	2.47	2.34	0.41
2011	0.23	0.04	1.47
2012	1.28	-1.2	-0.36
2013	1.21	0.24	-0.72
2014	-0.72	-0.08	-2.18
2015	0.13	0.26	-0.9
2016	0.41	0.89	0.2
2017	0.39	0.33	0.53
2018	0.52	0.8	-2.7
2019	1.06	0.65	-0.83

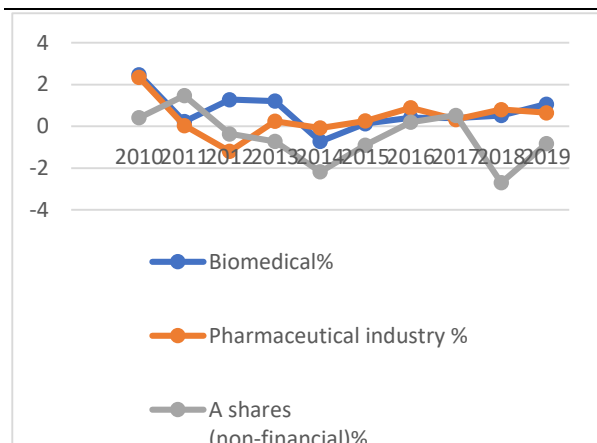


Figure 9. Net profit growth rate of the biomedical sector & A-share (non-financial) from 2010 to 2019

As shown in the chart, the ups and downs of the A-share (non-financial) and the entire pharmaceutical industry were relatively dramatic compared to the biopharmaceutical industry from 2010 to 2019. In 2013, the after-tax profit of the entire market declined, especially the A-share (non-financial), which reached negative value. However, the declining trend of the biopharmaceutical sector was relatively optimistic. Although it declined significantly in 2013, the net profit growth rate gradually recovered since 2014, while on the contrary, the net profit growth rate of A-share (non-financial) was repeatedly negative. It can be seen that with the active support of national policies, the biopharmaceutical industry will become an industry with excellent growth potential in the future with the large-scale and centralized development of the industry.

4. DUPONT ANALYSIS

Combined with the DuPont analysis, we discuss the long-term investment value of the biopharmaceutical industry by analyzing and summarizing the key factors affecting the profitability and shareholder return of the biopharmaceutical industry.

Table12. DUPONT ANALYSIS OF THE BIOPHARMACEUTICALS SECTOR 2010-2019

Year	Return on Equity	Rate of Return on Total Assets	Equity Multiplier	Net Profit Margin on Sales	Total Assets Turnover
2010	10.95	7.51	1.82	8.43	0.7
2011	10.59	10.35	1.75	13.46	0.6
2012	7.08	9.61	1.6	13.66	0.6
2013	88.94	10.81	0.38	12.27	0.65
2014	11.97	8.41	1.72	11.15	0.66
2015	10.44	7.97	1.73	11.17	0.64
2016	12.83	9.55	0.35	12.61	0.58
2017	12.53	9.28	1.62	15.14	0.53
2018	5.33	4.8	1.71	15.19	0.59
2019	11.65	2.93	1.6	16.76	0.61

Table13. A-SHARE (NON-FINANCIAL) DUPONT ANALYSIS 2010-2019

Year	Return on Equity	Rate of Return on Total Assets	Equity Multiplier	Net Profit Margin on Sales	Total Assets Turnover
2010	15.6	4.7	2.46	6.51	0.78
2011	38.83	6.58	2.67	5.57	0.79
2012	7.91	4.44	2.34	4.61	0.73
2013	20.67	4.83	2.5	4.87	0.72
2014	0.97	3.23	2.61	4.69	0.68
2015	1.28	3.46	2.38	4.34	0.63
2016	4.36	4.08	2.31	5.09	0.62
2017	4.56	4.4	2.92	5.77	0.67
2018	-20.11	2.25	2.73	5.18	0.66
2019	-2.22	2.08	2.38	4.82	0.65

A share (non-financial) in 2010 (15.60) was higher than Biopharma's return on equity (10.95), indicating that the company's operating profit in 2010 was affected by Biopharma's low-profit margin on gross net assets, but this does not represent the inefficient use of assets, which is more affected by the net profit margin on sales. The unsatisfactory net profit margin on sales was mainly influenced by poor cost control or underachievement sales. From 2013 to 2019, A-share (non-financial) NPAs was generally lower than biopharmaceuticals, especially because A-share (non-financial) NPAs was all lower than

biopharmaceuticals, rather than A-share (non-financial) equity multipliers being higher than biopharmaceuticals. It can be seen that from 2013 to 2019, the critical factor affecting the profitability of biopharmaceutical enterprises is the overall net interest rate on assets. As the overall asset turnover of A shares (non-financial) is mostly higher than that of the biopharmaceutical industry, a higher net interest rate on total assets does not mean higher asset turnover, which indicates that after-tax profits and sales income have a driving effect on the profits of biopharmaceutical companies with growth potential.

5. CORRELATION ANALYSIS

By analysing the biopharmaceutical industry's financial indicators and value ratios, a comparative study of the market performance, existing financial situation and value assessment of the biopharmaceutical industry and A-shares (non-financial) have been conducted more satisfactory conclusions are drawn. Firstly, the profitability and development capacity of China's biopharmaceutical industry has continued to rise steadily in the past decade, with good overall financial

performance and a development trend, while the A-share (non-financial) has

shown A certain degree of decline. Secondly, China's biopharmaceutical industry has dramatically outperformed the market in the past decade and achieved good market performance, reflecting the intense attention of the market to the biopharmaceutical industry. This section conducts correlation analysis on selected data to understand the connection between industry fundamentals and market performance to determine whether each financial indicator is meaningful to the previous analysis.

A simple statistical analysis shows a strong correlation between the sector's rise and overall return on equity and after-tax profit margins. Based on the preliminary analysis of the previous financial indicators, Table shows that in the past decade, the growth rate of China's biomedical industry has significantly outpaced the growth rate of the market, and the market has performed better than the pharmaceutical industry and A-shares (non-financial), with the growth potential and profitability of the industry continues to rise. Therefore, the biomedical industry's overall performance and future growth rate is promising.

Table14.CORRELATION ANALYSIS BETWEEN A-SHARE (NON-FINANCIAL) MARKET PERFORMANCE AND FINANCIAL POSITION, 2010-2019

	Ups or downs	P/E	P/B	Current Ratio	Quick Ratio	Inventory Turnover	Receivables Turnover Ratio	ROE	Net Profit Margin on Sales	Increase rate of main business revenue	Net profit growth rate
Ups or downs	1	—	—	—	—	—	—	—	—	—	—
P/E	0.675	1	—	—	—	—	—	—	—	—	—
P/B	0.727	0.647	1	—	—	—	—	—	—	—	—
Current Ratio	-0.08	- 0.316	- 0.525	1	—	—	—	—	—	—	—
Quick Ratio	-0.057	- 0.304	-0.511	0.997	1	—	—	—	—	—	—
Inventory Turnover	-0.348	0.116	- 0.193	0.373	0.355	1	—	—	—	—	—
Receivables Turnover Ratio	0.371	0.363	0.434	-0.6	- 0.566	-0.213	1	—	—	—	—
ROE	0.492	- 0.069	-0.118	0.64	0.632	0.499	0.005	1	—	—	—
Net Profit Margin on Sales	0.003	- 0.148	- 0.498	0.76	0.768	0.264	-0.437	0.553	1	—	—
Increase rate of main	0.217	-0.175	0.164	0.587	0.616	0.172	-0.336	0.408	0.38	1	—

business											
revenue											
Net profit											
growth rate	0.461	0.116	-0.113	0.724	0.741	0.194	0.05	0.81	0.593	0.43	1

6. CONCLUSION

This paper selects four financial indicators - solvency, operating capacity, profitability, and growth - for analysis. DuPont and comparative analyses discuss the link between biopharmaceuticals and A-shares (non-financial). The results show that in the past decade, the profitability and growth potential of the biopharmaceutical industry has steadily improved, with most individual indicators outperforming A-shares (non-financial). In order to analyze the valuation level of the biomedical industry, PE and PB are used, and the conclusion is drawn by the method of relative valuation. The biopharmaceutical industry performed well, basically surpassing the A-share market based on valuation, and these two indicators have a strong positive correlation with the industry's growth. Therefore, in the long run, the biomedical sector has outstanding growth and strong future profitability, which will be highly concerned by the market and investors, and the future investment value is also obvious.

REFERENCES

- [1] B. Graham and D. Dodd, *Security Analysis: The Classic 1940 Edition*.
- [2] S. Basu, "INVESTMENT PERFORMANCE OF COMMON STOCKS IN RELATION TO THEIR PRICE-EARNINGS RATIOS: A TEST OF THE EFFICIENT MARKET HYPOTHESIS", *The Journal of Finance*, vol. 32, no. 3, pp. 663-682, 1977.
- [3] I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in *Magnetism*, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271-350.
- [4] J. LAKONISHOK, A. SHLEIFER and R. VISHNY, "Contrarian Investment, Extrapolation, and Risk", *The Journal of Finance*, vol. 49, no. 5, pp. 1541-1578, 1994.
- [5] R. Nicole, "Title of paper with only first word capitalized," *J. Name Stand. Abbrev.*, in press.
- [6] Modigliani, Franco, and Merton H. Miller. "The Cost of Capital, Corporation Finance and the Theory of Investment." *The American Economic Review*, vol. 48, no. 3, American Economic Association, 1958, pp. 261-97.
- [7] S. PENMAN, *Financial statement analysis and security valuation*. MCGRAW-HILL, 2020.
- [8] I. Fisher, *The nature of capital and income*. *Wirtschaft u. Finanzen*, 1906.
- [9] J. Rosenbaum and J. Pearl, *Investment Banking: Valuation. Leveraged Buyouts. and Mergers & Acquisitions*, 2nd ed. 2013.