Financial Performance Evaluation Analysis Based on the Improved DuPont Analysis - A Case Study of H Enterprise

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Abstract: This paper conducts an in-depth analysis of the financial performance of H Enterprise (full name: H Enterprise Co., Ltd., hereinafter referred to as H Enterprise) using an improved DuPont analysis method. The DuPont analysis method takes the return on equity (ROE) as the core, decomposing the net profit margin on sales, total asset turnover, and equity multiplier to reveal the relationship between the company's profitability, operational efficiency, and financial leverage. However, the traditional method overly focuses on short-term financial performance and neglects the assessment of long-term development capabilities. Therefore, this paper distinguishes between financial data and operating data and introduces indicators such as cash flow data, growth rate of shareholders' equity, asset growth rate, and sales growth rate. By using an improved DuPont analysis system, it overcomes the limitations of the traditional DuPont analysis system. The results show that sluggish sales growth has affected the company's profitability, and the continuous decline in asset turnover rate and the fluctuation in accounts receivable turnover rate have exposed operational efficiency issues. At the same time, the company lacks a competitive advantage in the growth rate of shareholders' equity. Based on this, the article suggests improving asset utilization, strengthening cost control, expanding sales channels, and promoting innovation to support the long-term development of H Enterprise. This research not only provides theoretical support for the financial decision-making of H Enterprise but also offers valuable references for the financial performance evaluation and management practices of similar enterprises.

Keywords: H Enterprise; improved DuPont analysis method; financial performance

1. Introduction

1.1 Research Background

The DuPont Analysis, as a classic financial analysis tool, has been widely applied in the evaluation of corporate financial performance since its introduction^[1]. By decomposing core financial indicators, it reveals the intrinsic connections among a company's profitability, operational efficiency, and financial leverage. This decomposition approach enables managers to intuitively understand the main drivers of a company's financial performance and is one of the important methods in financial management and investment analysis^[2-4]. However, the traditional DuPont model mainly focuses on a company's short-term financial performance and pays less attention to its long-term financial dynamics and performance in capital expansion, shareholder equity growth, and market development^[5]. This makes it difficult to comprehensively reflect a company's true financial status and potential risks in the modern economic environment^[6]. Therefore, improving the DuPont analysis by incorporating indicators reflecting a company's long-term development capabilities will provide a more comprehensive and forward-looking perspective for financial performance evaluation.

American professors Zvi, Alex, and Marcus incorporated interest expenses and tax expenses into the DuPont model, along with return on sales, asset turnover, and equity multiplier, to form the five-factor DuPont model. This model separately isolates the factor of tax burden rate to reflect changes in corporate income tax, which helps companies make reasonable adjustments to their tax structure, thereby increasing their profit margins and reducing financial risks^[7]. Zheng Hongtie believes that by introducing cash flow analysis, the DuPont financial system can become a comprehensive financial analysis system. He is one of the earliest scholars in China to attempt to incorporate cash flow indicators into the DuPont financial analysis system^[8]; Lv Lichun takes the equity cash return rate as

the core indicator of the DuPont analysis system and adds financial indicators related to cash flow, such as the operating index, total asset cash recovery rate, equity cash recovery rate, and cash debt coverage ratio, to the improved DuPont analysis system^[9].

1.2 Research Significance

From a micro perspective, an effective financial performance evaluation system can assist enterprises in drawing correct conclusions, improving operational efficiency, and thereby enhancing their benefits and promoting their development. H Enterprise, as a leader in the food industry, has a significant advantage in the niche market but also faces challenges from market competition and changes in industry policies. It is necessary to conduct an in-depth analysis of whether its profitability. operational efficiency, and capital structure support sustainable development. From a macro perspective, the improved DuPont analysis method introduces indicators such as the growth rate of shareholder equity and asset growth rate, providing a more comprehensive perspective for evaluating H Enterprise's financial status. Meanwhile, the growth rate of shareholder equity, as a focus of shareholders, directly reflects their investment returns and equity value.

Compared with the DuPont analysis method, the improved DuPont analysis method not only reveals the key factors of a company's short-term financial performance but also conducts a systematic analysis of its long-term development potential and financial sustainability. By taking H Enterprise as an example, this study comprehensively assesses its financial status and potential problems from four dimensions: profitability, operational efficiency, debt-paying ability, and development ability, and then proposes specific improvement suggestions.

2. Application of Traditional DuPont Analysis in H Enterprise

2.1 Relevant Financial Data of H Enterprise

This paper takes the publicly available financial data of H Enterprise from 2018 to 2023 as the research basis. The data is sourced from the enterprise's annual reports, including the basic financial data table (Table 1) and the core financial ratio table for DuPont analysis of H Enterprise from 2018 to 2023 (Table 2).

Table 1 Basic Financial Data of H Enterprise from 2018 to 2023.

(Unit: Ten thousand vuan)

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Financial indicators	2018	2019	2020	2021	2022	2023
Operating income	114,451.30	138,518.37	160,575.14	155,029.77	162,139.71	171,582.40
Total profit	4,167.76	1,008.67	9,669.73	-3,096.20	8,560.44	1,213.23
Net profit	3,489.45	683.99	7,049.53	-3,662.22	6,428.75	-57.40
Accounts receivable	16,102.46	20,227.92	22,203.59	19,685.38	23,127.94	25,322.79
Total assets	115,377.86	119,605.03	135,294.29	148,787.29	176,604.70	216,485.40
Total liabilities	34,947.98	40,758.47	51,179.94	68,949.38	90,686.79	97,350.30

Table 2 Core Financial Ratios of DuPont Analysis for H Enterprise from 2018 to 2023

Financial ratios(%)	2018	2019	2020	2021	2022	2023
Return on net assets(%)	4.43%	0.86%	8.75%	-4.26%	7.81%	0.23%
Net profit margin on total assets(%)	3.13%	0.58%	5.53%	-2.58%	3.94%	-0.03%
Net profit margin on sales(%)	3.05%	0.49%	4.39%	-2.36%	3.96%	-0.03%
Total asset turnover (times)	1.03	1.18	1.26	1.09	1.00	0.87
Equity Multiplier	1.41	1.48	1.57	1.76	2.01	1.97

2.2 Application of the Traditional DuPont Analysis Model in H Enterprise

The DuPont analysis method, as a classic financial analysis tool, reveals the core drivers of a company's financial performance by decomposing the return on net assets. Its formula is:

Among them:

Net profit margin = Net profit / Sales revenue
$$(1)$$

Total asset turnover = Sales revenue / Total assets
$$(2)$$

Return on equity (also known as net asset net profit rate or ROE), net profit margin, total asset turnover and equity multiplier, these four indicators are the core indicators of the traditional DuPont analysis system. Based on the financial data of H enterprise from 2018 to 2023, the following changes in core financial indicators have been calculated. These indicators can reveal the financial status and trends of the enterprise from the aspects of profitability, operational efficiency and financial leverage.

2.2.1 Return on equity (ROE)

As shown in Figure 1, the return on equity of H enterprise fluctuated greatly from 2018 to 2023. It was at a low point in 2019, 2021 and 2023, indicating that the overall profitability of the enterprise was very unstable. Especially in 2021, it turned negative, which indicated that the enterprise's ability to return resources was obviously insufficient, and shareholders suffered losses. The continuous and significant fluctuations in the return on equity (ROE) are directly related to the enterprise's net profit and net assets. On the one hand, it may be due to a significant decline in net profit; on the other hand, it may be due to a decrease in liabilities, which leads to an expansion of the proportion of net assets and a subsequent decline in the return on equity. Additionally, if the enterprise's investment scale is too large and its profitability does not increase accordingly in a timely manner, it will also lead to a decline in the return on equity.

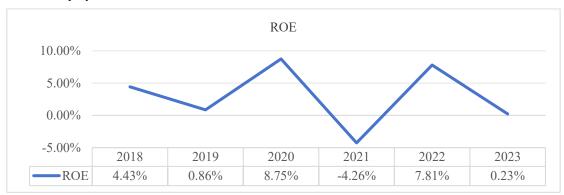


Figure 1 Trend Chart of Return on Net Assets of H Enterprise from 2018 to 2023.

2.2.2 Net Profit Margin on Sale



Figure 2: Net Profit Margin Changes of H Enterprise from 2018 to 2023.

As shown in Figure 2, the net profit margin on sales of H Enterprise follows the same fluctuation pattern as the return on net assets. Both reached their lowest points in 2019, 2021, and 2023. Such fluctuations indicate that the product market of H Enterprise has been highly unstable in recent years, such as due to fluctuations in raw material prices, increased marketing expenses, or intensified market competition. The fluctuations in the net profit margin on sales suggest that the core drivers of the enterprise's profitability still need to be optimized, for instance, by reducing the cost structure or increasing the sales proportion of high-margin products.

2.2.3 Total Asset Turnover Rate

As shown in Figure 3, the total asset turnover rate of H Enterprise rose from 1.03 in 2018 to 1.26 in 2020, but has been declining since then, reaching 0.87 by 2023. This indicator reflects the efficiency of a company's resource utilization. Therefore, the changes depicted in Figure 3 suggest that H Enterprise has issues with its operational efficiency, particularly in asset management. Moreover, the decline in this value is also one of the main reasons for the decrease in the return on equity (ROE). The enterprise needs to improve this situation by enhancing asset operation efficiency, such as optimizing inventory management and strengthening the benefit assessment of fixed asset investment.

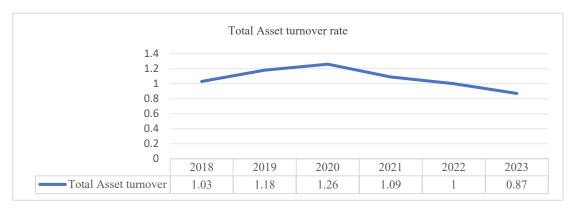


Figure 3: Changes in Total Asset Turnover Ratio of H Enterprise from 2018 to 2023.

2.2.4 Equity Multiplier

As shown in Figure 4, the change in the equity multiplier of H Enterprise is not significant. It rose gradually from 1.41 in 2018 to 2.01 in 2022 and then dropped to 1.97 in 2023. The increase in the equity multiplier indicates that the company's debt level is rising. This relatively aggressive strategy has relatively expanded the company's resource utilization capacity through leverage, but it has also correspondingly increased financial risks, as an increase in the equity multiplier often indicates that the company has increased its financing amount.

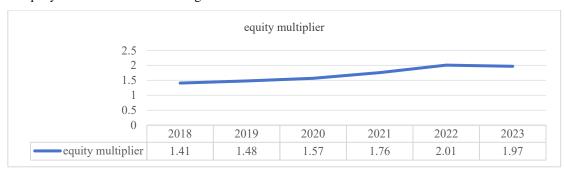


Figure 4: Changes in the Equity Multiplier of H Enterprise from 2028 to 2023.

The calculation results of the traditional DuPont analysis method show that H Enterprise's financial performance from 2018 to 2023 has the following characteristics: (1) Highly unstable profitability: The continuous decline in the return on equity (ROE) indicates that the company's profit-making ability is unstable, mainly due to the dual impact of sluggish sales growth and a decline in asset turnover. (2)Low resource utilization efficiency: The significant drop in total asset turnover reflects the company's insufficient asset management and operational efficiency, which may involve adjustments in inventory management, production planning, and sales strategies.(3)Relatively aggressive financial structure stability: The increase in the equity multiplier indicates that the company's debt ratio has risen during

this period, possibly due to a large amount of external financing. Although the traditional DuPont analysis method plays an important role in revealing a company's short-term financial performance, its limitations are also quite obvious, mainly including the following three points:(1) Ignoring the company's long-term development capabilities: The traditional DuPont analysis method is mainly based on static indicators of the balance sheet and neglects information such as the growth rate and scale of shareholders' equity and asset expansion.(2) Lack of comprehensiveness: This method focuses on profitability and efficiency but lacks attention to the company's growth capabilities.(3) Over-reliance on accounting profits: It is based solely on accounting profits and ignores the influence of other important indicators such as cash flow and market performance.

3. Application of the Improved DuPont Analysis in H Enterprise

It is precisely because the traditional DuPont analysis system has limitations that in order to overcome these limitations, we introduce indicators such as the dividend payout ratio and sustainable growth rate and distinguish between operating activities and financial activities to achieve a more scientific evaluation of the financial performance of H Enterprise.

3.1 Basic framework based on the improved DuPont analysis system:

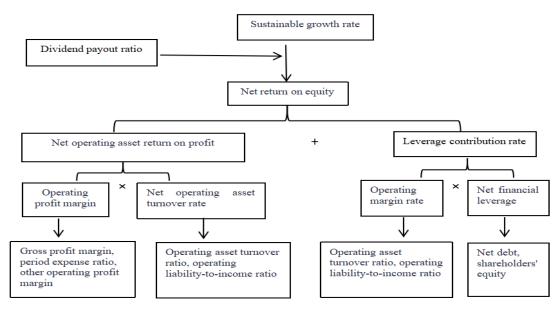


Figure :5 Improved DuPont Analysis Method.

As shown in Figure 5, this is the improved DuPont analysis method, which encompasses numerous financial indicators and distinguishes between operating assets and financial assets, it will make the financial data we use more reasonable.

3.2 Adjusting the Balance Sheet

To better analyze the financial health of H Enterprise, this paper distinguishes its operating assets, financial assets, etc., and obtains the following Table 3:

Table 3: Adjustments to H Enterprise's Financial Statements from 2018 to 2023.

(Unit: Ten thousand yuan) Year $13\overline{6700}$ Operating assets Operating liabilities Net operating assets Financial assets Financial liabilities Net financial liabilities -11800 -131700

Data source: Annual report of H Enterprise

Among them, operating assets refer to the assets owned by the enterprise to obtain profits in daily production and operation activities, and operating liabilities refer to the capital obtained through commercial credit in business activities. Financial assets refer to the assets other than operating assets, and financial liabilities refer to the liabilities brought by financial products that the enterprise needs to repay. From the perspective of net operating assets, although its value is not very stable, it is always positive. From the perspective of net financial liabilities, it is very unstable, with both positive and negative values, and the difference is huge. This indicates that the enterprise's financial assets and financial liabilities have undergone significant changes. Among them, from 2018 to 2020, the net financial liabilities were 0 or negative, because the financial liabilities were relatively low or zero, while the financial assets were large positive values. This indicates that the enterprise purchased a large number of financial products and made good investments, but the utilization of financial leverage was relatively low. From 2021 to 2023, the net financial liabilities were all positive, indicating that the enterprise had more financial liabilities in these three years. Although it made good use of financial leverage, it may also face greater debt pressure. Considering the overall situation from 2018 to 2023, the enterprise's financial assets should have been sold out in 2021 and financing was carried out. This indicates that the enterprise's debt situation is not very optimistic.

3.3 Dividend Payment Capacity

Dividend payment capacity is also an important factor in measuring the sustainable development ability of an enterprise, and the dividend payout ratio is commonly used to represent it. The dividend payout ratio also reflects the enterprise's ability to pay profits to shareholders, its profitability, and its operating conditions. Its calculation formula is:

Based on the annual report of Enterprise H from 2018 to 2023, we get Table 4:

Table 4: Dividend Payout Ratio of H Enterprise from 2018 to 2023.

Year	2018	2019	2020	2021	2022	2023
Dividend per share	0.05	0.05	0.05	0	0.10	0.04
Earnings per share	0.0726	0.0142	0.1477	-0.0716	0.1315	0.0045
Dividend payout ratio(%)	68.87%	352.11%	33.85%	0.00	76.05%	888.89%

As can be seen from Table 4, H Enterprise has a relatively high dividend payout ratio, which indicates that the overall dividend payout ratio of the enterprise is good. However, there are two problems: (1) The fluctuation range is very large, mainly due to the significant changes in earnings per share. In 2021, the enterprise suffered a loss, resulting in a negative earnings per share. (2) The earnings per share value is relatively low, indicating that the enterprise's profitability is poor. Moreover, an excessively high dividend payout ratio is not conducive to the long-term development of the enterprise. Analyzing these two issues, we can draw the conclusion that although the dividend payout ratio is relatively high, the fluctuation range is large and the profitability is poor.

3.4 Sustainable Development Capacity

Sustainable development capacity is measured by the sustainable growth rate, which is calculated as the net return on equity multiplied by (1 - dividend payout ratio). The actual growth rate is the growth rate of current period sales compared to the previous period. If the trends of the two are consistent, it indicates that the enterprise has a strong sustainable development capacity; otherwise, it indicates a weak sustainable development capacity. Based on the data from H Enterprise's financial statements, the following Table 5 is obtained:

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Year	2018	2019	2020	2021	2022	2023
Net return on equity(%)	7.20%	2.04%	5.46%	-1.57%	8.46%	2.11%
Dividend payout ratio(%)	68.87%	352.11%	33.85%	0.00	76.05%	888.89%
Sustainable growth rate(%)	0	-4.25%	-3.32%	-1.89%	2.80%	-23.09%
actual growth rate(%)	18.24%	21.03%	15.92%	-3.45%	4.59%	5.82%

Table 5: Indicators of H Enterprise's Sustainable Development Capacity.

From the data in Table 5, it can be seen that the sustainable growth rate of H Enterprise has a significant gap with the actual growth rate during the period from 2018 to 2023, indicating that the company's sustainable development capability is relatively poor. The reasons for this are as follows: (1) The impact of the epidemic on the economic environment. (2) The company's profit-making ability is weak, and the net profit margin is not satisfactory.

3.5 Cash Flow Analysis

To conduct a better financial analysis of H Enterprise, this paper introduces the following three cash flow indicators: sales cash ratio, operating profit cash ratio, and net operating asset cash flow return rate. Among them: (1) The sales cash ratio reflects the quality of the company's profits and the effectiveness of its capital utilization. Its formula is: Sales cash ratio = Net cash flow from operating activities / Operating income * 100%. (2) The operating profit cash ratio reflects the company's profit situation and financial health. Its calculation formula is: Operating profit cash ratio = Net cash flow from operating activities / Net profit * 100%. (3) The net operating asset cash flow return rate reflects the company's cash flow situation and its ability to obtain cash. Its calculation formula is: Net operating asset cash flow return rate = Net cash flow from operating activities / Net operating assets * 100%. After organizing the financial data of H Enterprise from 2018 to 2023, the following Table 6 is obtained:

2018 2019 2020 2021 2022 2023 Year Sales Cash Ratio (%) 6.72% -1.37% 7.44% -3.09% 10.62% -1.36% 220.46% -276.73% 168.12% 139.15% -1,031.48% Operating profit cash 272.37% ratio (%) -2.59% 13.90% Return on net -4.43% 17.29% -1.86% 5.77% operating assets cash flow (%)

Table 6: Cash Flow of H Enterprise from 2018 to 2023 Arranged.

Data source: Calculated based on the annual reports of H Enterprise from 2018 to 2023.

Firstly, according to Table 6, the sales cash ratio of H Enterprise is unstable. In 2019, 2021 and 2023, it was negative. In 2019, the net cash flow from operating activities decreased by 124.60% compared to the previous year, mainly due to the fact that accounts receivable had not yet reached the due date and the strategic purchase of raw materials increased inventory. In 2021, the net cash flow from operating activities decreased by 135.26% compared to the previous year, mainly due to the increase in cash paid for purchasing goods and receiving services during the reporting period. In 2023, the net cash flow from operating activities decreased by 113.60% compared to the previous year, mainly due to the increase in cash paid for purchasing goods and receiving services and other reasons. According to the annual report data of H Enterprise, its operating income has been steadily increasing from 2018 to 2023, but the sales cash ratio has fluctuated severely and even been negative. This indicates that the cash ratio of H Enterprise cannot keep up with the growth rate of sales revenue, and it needs to strengthen cash management and improve the efficiency of cash usage.

Secondly, according to Table 6, the operating profit cash ratio also has relatively large fluctuations. In 2019 and 2023, it was negative, while in other years it was relatively stable. In 2019, the net cash

flow from operating activities was negative mainly due to the fact that accounts receivable had not yet reached the due date and the strategic purchase of raw materials increased inventory. The net profit was 6.8399 million yuan. In 2023, it was due to a loss, with a net profit of -0.574 million yuan. Therefore, the ratio of net cash flow from operating activities to net profit was negative in 2019 and 2023. The reason for this is that the management of accounts receivable and inventory needs to be improved, and the company's operational capacity should be strengthened.

Finally, according to Table 6, the net operating asset cash flow return rate also fluctuated significantly, indicating that the company's ability to obtain cash needs to be enhanced.

4. Financial Performance Optimization Suggestions for H Enterprise

4.1 Suggestions for Improving Profitability

Based on the information above, we find that the profitability of H Enterprise is fluctuating. The main influencing factor is the instability of the net profit margin on sales, which is mainly determined by net profit and sales revenue. Therefore, this paper offers the following two suggestions:

Firstly, strive to increase operating income. As a frozen food enterprise, it should not only strive to increase product sales and reduce material inventory, but also innovate and produce high-value-added products to capture the market in the form of "blockbusters". Secondly, enhance cost control capabilities, strengthen the control of management expenses, and conduct effective supply chain management in the procurement, production, and storage of materials to increase the space for net profit.

4.2 Suggestions for Improving Sustainable Development Capacity

From the information above, we can see that the sustainable development capacity of H Enterprise is unstable and generally poor. The main influencing factors are the dividend payout ratio and the net equity return rate. On the one hand, the dividend payout ratio can be appropriately reduced to expand the company's capital scale in the form of retained earnings. On the other hand, the factors affecting the net equity return rate are mainly the net operating asset return rate and the leverage contribution rate. By improving the net operating asset return rate and rationally planning the leverage contribution rate, the overall sustainable growth rate can be increased. Specifically, the following aspects can be considered: (1) Reasonably control costs and reduce the period expense ratio. (2) Strive to increase operating income and enhance the company's profitability. (3) Reduce the company's dividend payout ratio.

4.3 Suggestions for Improving Operating Capacity

From the information above, we can see that the total asset turnover rate and accounts receivable turnover rate of H Enterprise are relatively low, which seriously affects the company's operating capacity. Specifically, the following aspects can be considered for improvement: (1) Improve accounts receivable management, establish a sound risk prevention and control mechanism, and implement credit classification management for customers. Different reward and punishment systems can be used to actively promote the efficiency of customer payment. (2) Increase the company's revenue. Sales revenue is the decisive factor affecting the total asset turnover rate. Motivating the enthusiasm of sales personnel and conducting thorough market research will help the company sell products better. At the same time, optimize and diversify sales channels to increase product sales. (3) Accelerate product research and development, and preferably produce "blockbusters" in the industry to increase the company's overall revenue.

5. Conclusion

Through the financial performance analysis of H enterprise by improving the DuPont analysis system, the following conclusions are drawn: Paying attention to the development ability of the enterprise is conducive to the improvement of enterprise performance. By comparing the results of the DuPont analysis system and the improved DuPont analysis system, in the future operation process of H enterprise, the enterprise should adjust the distribution policy, adhere to technological innovation, increase the retained earnings of the enterprise to enhance the confidence of investors, increase

operating income and control costs, balance the proportion of debt capital and own capital, and improve the operational efficiency of enterprise assets.

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