

Profit Drivers of Eoptolink under the Artificial Intelligence Computing Power-Based on the Five-Factor Extended DuPont Model

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Abstract. The expansion of global Artificial Intelligence (AI) computing power infrastructure has driven a significant increase in 800G/1.6T optical modules, but the expansion of production, cost fluctuations, and the concentration of customers have exacerbated the profit divergence. Based on the financial data of Eoptolink from 2020 to 2025, this paper constructs a five-factor extended DuPont model and decomposes the ROE using the chain substitution method. The results show that the increase in gross profit margin brought about by the optimization of high-end product structure is the primary driving force, asset turnover forms a secondary support, while capacity expansion and fluctuations in raw materials generate phased pressure. Linear Pluggable Optics (LPO) technology, binding with leading customers and global production capacity layout have enhanced the resilience of profitability. The research conclusions can provide decision-making basis for optical module enterprises to optimize product structure, coordinate capacity expansion and profit stability, and strengthen working capital management. They can also offer references for investors to identify the quality and sustainability of enterprise profits and provide references for the formulation of industrial policies and industry risk supervision.

Keywords: AI computing power, high-speed optical module, Eoptolink expand DuPont Analysis, profit quality

1. Introduction

Generative AI and large models drive computing power to upgrade to large-scale clusters. The expansion of GPU clusters has led to a sharp increase in cross-server data interaction. Traditional electrical interconnection is constrained by bandwidth, distance, and power consumption. The demand for 400G, 800G, and 1.6T high-speed optical modules in data centers continues to rise. Zhou et al. proposed that the expansion of AI traffic will drive optical transceivers to iterate towards 1.6T and higher integration levels [1]. Hong Guangcheng et al. pointed out that ultra-high-speed PAM4 transmission imposes strict standards on the link, packaging, and signal integrity of optical modules [2]. The high-speed optical industry is presented with opportunities for expansion and upgrading, while also facing multiple risks such as rapid technological iteration, large capital

investment, and fluctuations in the supply chain. Wang Wenju and Qian Xinxin proposed that the resilience of the industrial chain is jointly determined by external shocks and the efficiency of resource allocation. The growth of enterprises needs to be evaluated from multiple dimensions including comprehensive profitability, asset turnover, capital structure, and cash flow, and cannot be judged merely by revenue growth rate [3].

As a global core optical module manufacturer, Eoptolink's financial performance can directly reflect the impact of the AI computing power cycle on industry profitability. In 2025, the company's revenue was 24.842 billion yuan, an increase of 187.29% year-on-year. The net profit attributable to the parent company was 9.532 billion yuan, an increase of 235.89% year-on-year. The weighted ROE reached 72.75%. Fixed assets, research and development, receivables, and inventories expanded significantly simultaneously [4]. The increase in the volume of high-end products has driven up profits, but factors such as capital expenditures for expansion, occupation of working capital, fluctuations in the prices of upstream and downstream chips, and customer concentration may weaken the sustainability of profits. Dissecting its ROE can clarify the sources of performance growth and has reference value for enterprise management and investment.

The existing literature provides theoretical tools for this study: Anderson et al. combined the enterprise life cycle to optimize DuPont's profit forecasting ability [5]. Bauman proposed that profit margins and asset turnover can predict long-term profits [6]. Paul used multi-layer DuPont to analyze the profit differences among pharmaceutical companies [7]. Endris&Babu utilized an extended model to distinguish the impact of manufacturing enterprises' operation and financing on ROE [8]. Yang Yanling from China took Zhongji Xucun as an example to explain the integration and value-added path of the optical communication industry chain [9]. However, existing research is difficult to simultaneously integrate the AI boom cycle, the iteration of optical module products, and the financial performance of enterprises.

This article selects the financial data of Eoptolink from 2020 to 2025, builds a five-factor expanded DuPont framework, breaks down ROE from five dimensions: profit, expense, asset turnover, financial leverage, and cash flow, quantifies the contribution of each factor using the chain substitution method, and conducts a peer comparison with Zhongjie Xucun and Accelink Technologies. The research expands the application of the DuPont model in high-growth technology manufacturing fields, providing a basis for optical module enterprises to balance expansion and profitability, for investors to assess profit quality, and for the formulation of industrial policies. The following text will successively elaborate on data methods, decomposition results, peer comparisons, and conclusions.

2. Measurement and current situation analysis of Eoptolink's three-dimensional financial indicators

Chengdu Eoptolink mainly engages in research and development, production and sales of high-performance optical modules. Its products cover computing power data centers and the telecommunications and communication fields. Its business is divided into three major segments: high-speed optical modules for data centers, optical modules for telecommunications, and cutting-edge optoelectronic research and development. However, the annual report does not disclose the revenue item by item. In 2025, the revenue from optical interconnection products will reach 24.771-billion-yuan, accounting for 99.72% of the total revenue. It is the core income pillar [4].

High-speed optical modules in data centers are the core of growth. AI large models drive the iteration of 800G and 1.6T products. Silicon photonics technology can enhance integration and reduce power consumption, making it the mainstream technical route [1]. Ultra-high-speed products

have strict standards for packaging, heat dissipation, and signal integrity [2]. The enterprise continues to lay out cutting-edge product categories such as 800G, 1.6T, and CPO, and has fully shifted its business focus to high-end optical interconnection products with AI computing power.

Telecommunication optical module technology is mature, the market competition is fierce, and the price is under pressure, but it can provide a stable customer base. Cutting-edge research and development focuses on silicon photonics, low-power packaging, and high-speed optical chips. Silicon photonics integration can expand bandwidth density and is a long-term core competitiveness track for enterprises [10].

From 2021 to 2025, the company's business structure will continue to be optimized: it will focus on overseas data center customers, acquire Alpine Optoelectronics, establish dual bases in Thailand, and gradually complete the verification of 800G/1.6T products and the release of overseas production capacity year by year [4]. Yang Yanling pointed out that the value-added of mergers and acquisitions in the optical communication industry chain relies on resource integration and business synergy [9], which is in line with the full-chain layout logic of enterprises, including domestic R&D and overseas mergers and acquisitions to build factories.

The company has an extremely high degree of internationalization. In 2025, its overseas revenue was 23.888-billion-yuan, accounting for 96.16%, and the revenue from the top five customers accounted for 72.34% [4]. Overseas layout can fully absorb the investment dividends of AI computing power in North America, but it is also compounded by multiple risks such as customer concentration, trade frictions, exchange rates, and chip supply. According to relevant research on industrial chain resilience, an enterprise's ability to resist risks is jointly determined by its response to external shocks and the efficiency of internal resource allocation [3]. Therefore, its globalization strategy needs to simultaneously promote customer diversification, supply chain zoning layout, and cross-border risk management and control.

This article selects the consolidated financial statement data from 2021 to 2025 to analyze the financial performance of Eoptolink from three dimensions: profitability, operational capacity and debt-paying ability. In the calculation of indicators, the return on net assets adopts the weighted average return on net assets disclosed by the company. Return on total assets, inventory turnover rate and accounts receivable turnover rate are calculated using the average balance at the beginning and end of the period. The relevant annual data are from Eoptolink's annual report and financial final accounts report [4].

The annual changes in the company's main financial indicators are shown in Table 1.

Table 1. Main financial data of Eoptolink from 2020 to 2025

index	2020	2021	2022	2023	2024	2025
Operating income (billion yuan)	19.98	29.08	33.11	30.98	86.47	248.42
Net profit attributable to the parent company (billion yuan)	4.92	6.62	9.04	6.88	28.38	95.32
Net cash flow from operating activities (billion yuan)	1.54	2.19	8.31	12.46	6.41	77.01
Weighted average ROE (%)	31.71	17.85	20.73	13.36	41.00	72.75

2.1. Profitability analysis

The calculation results of the profitability indicators are shown in Table 2.

Table 2. Profitability indicators of Eoptolink from 2021 to 2025

index	2021	2022	2023	2024	2025
Gross profit margin on sales (%)	32.17	36.66	30.99	44.72	47.81
Net profit margin on sales (%)	22.76	27.29	22.22	32.82	38.46
Weighted average ROE (%)	17.85	20.73	13.36	41.00	72.75
Return on total assets (%)	14.58	16.83	11.18	30.34	50.09
Research and development expense ratio (%)	3.73	5.66	4.32	4.66	2.83
Sales expense ratio (%)	1.23	1.59	1.21	1.13	0.61

From the perspective of the changing trend, the profitability of Eoptolink is not continuously declining, but rather shows the characteristics of "under pressure in 2023 and rapidly rising from 2024 to 2025". In 2023, the demand for traditional low-speed optical modules shrank, and the low-price competition in the industry intensified. Coupled with the rising procurement costs of upstream optical chips and the concentrated inventory reduction by customers, the company's gross profit margin dropped to 30.99%, and the weighted ROE fell to a five-year low of 13.36%. After 2024, with the growth in investment in AI computing power infrastructure and the expansion of high-speed products such as 800G, the product structure has significantly improved. The gross profit margin has increased to 44.72% and 47.81% respectively, and the net profit margin on sales has risen to 32.82% and 38.46%. This indicates that the improvement in unit profit brought about by the increase in the proportion of high-end and high-speed products is the primary driving factor for the rise in the company's ROE.

The value of DuPont analysis lies in breaking down ROE into components such as profit margin, asset turnover and capital structure, thereby identifying the specific sources of profit changes. Bauman pointed out that the DuPont indicators can provide incremental information for predicting the future operating profitability of enterprises [6]. Anderson et al. further discovered that DuPont indicators at different life cycle stages have different information contents [5]. For Eoptolink, which is in a stage of rapid expansion, merely observing ROE can easily confuse industry prosperity, improvement in product structure and enhancement in operational efficiency. Therefore, it is also necessary to make a judgment by combining asset turnover and financial leverage. The multi-level DuPont analysis proposed by Paul also emphasizes that the impact of cost, expense and asset efficiency on the ultimate profitability should be further decomposed [7]. Endris and Babu extended the DuPont model to the analysis of manufacturing enterprises, demonstrating that this method is applicable to manufacturing industries where capital investment, inventory management, and product structure changes are relatively obvious [8].

In terms of expense structure, the company's R&D expenses increased from 108 million yuan in 2021 to 702 million yuan in 2025, with a relatively rapid growth in absolute investment. However, the R&D expense ratio dropped to 2.83% in 2025. This does not mean a reduction in R&D investment, but rather that the growth rate of operating income is significantly higher than that of R&D expenses. Sales expenses also increased from 0.36 million yuan in 2021 to 151 million yuan in 2025, but the sales expense ratio dropped to 0.61%, reflecting the expense dilution effect resulting from the expansion of business scale. Therefore, research and development expenses and sales expenses did not continue to squeeze net profits in 2024-2025. The more notable issue at present is

whether the R&D investment can be effectively transformed into mass-produced products, improved yield rates, and customer orders.

Overall, the company's profit advantages are mainly reflected in three aspects: high-end product structure, scale effect and technological accumulation. Potential issues include a strong reliance on a small number of overseas customers and the AI capital expenditure cycle for profits, high-margin products may face the entry of competitors and price drops, and fluctuations in the prices of core chips and optical devices may affect profit stability.

2.2. Operational capacity analysis

The annual changes in operational capacity indicators are shown in Table 3.

Table 3. Operational capacity indicators of Eoptolink from 2021 to 2025

index	2021	2022	2023	2024	2025
Inventory turnover rate (times)	1.58	1.40	1.76	1.88	2.28
Inventory turnover days (days)	231.09	260.70	207.68	194.53	159.98
Accounts receivable turnover rate (times)	6.15	5.34	4.50	5.32	7.12
Accounts receivable turnover days (days)	59.37	68.31	81.13	68.67	51.25
Total asset turnover ratio (times)	0.64	0.62	0.50	0.92	1.30
Operating cash flow/net profit (%)	33.01	92.01	181.01	22.59	80.61

Note: Inventory turnover rate = Operating cost ÷ average inventory; Accounts receivable turnover ratio = Operating income ÷ average accounts receivable; Total asset turnover ratio = Operating income ÷ average total assets.

From 2021 to 2023, the company's operational efficiency experienced a phased decline. Inventory turnover days rose to 260.70 days in 2022, accounts receivable turnover days increased to 81.13 days in 2023, and the total asset turnover ratio dropped to 0.50 times in 2023. At this stage, the company simultaneously advanced product upgrades, overseas production capacity construction and customer inventory preparation. The newly added assets had not yet fully generated revenue, resulting in an increase in the occupation of funds in inventory, accounts receivable and under-construction production capacity.

Operational efficiency will recover significantly from 2024 to 2025. In 2025, the inventory turnover rate will increase to 2.28 times and the turnover days will be shortened to 159.98 days. The accounts receivable turnover rate was raised to 7.12 times, and the turnover days were shortened to 51.25 days. The total asset turnover ratio reached 1.30 times. This indicates that the growth in orders for high-end products and the release of new production capacity have led to revenue growth outpacing the pace of asset expansion. Therefore, the judgment that "an increase in fixed assets will inevitably lead to a continuous decline in the total asset turnover rate" does not conform to the actual situation of the company.

However, an improvement in the turnover rate does not mean that the risk of capital occupation has disappeared. By the end of 2025, the inventory was 7.234 billion yuan, and the accounts receivable was 4.438 billion yuan, with a significant increase in the scale of asset occupation. The iteration cycle of optical module products is only 1 to 2 years. Overstocked old products are very likely to make large provisions for inventory write-downs, directly reducing the current net profit. The update cycle of high-speed optical modules is relatively short. If customer demands, technical

routes or product specifications change, there is a risk of inventory depreciation and stagnation. Among the asset impairment losses recognized by the company in 2025, the inventory write-down losses have already had a certain impact. In addition, the matching degree between operating cash flow and net profit fluctuates significantly: in 2024, this ratio was only 22.59%, indicating that the rapid growth in profits has not yet been simultaneously converted into cash. By 2025, it will rebound to 80.61%, indicating a recovery in cash security capacity. However, it is still necessary to pay attention to the occupation of cash flow by accounts receivable, advance payments and inventory preparations.

2.3. Solvency analysis

The calculation results of the debt-paying ability indicators are shown in Table 4.

Table 4. Solvency indicators of Eoptolink from 2021 to 2025

index	2021	2022	2023	2024	2025
Current ratio (times)	4.39	4.51	5.00	2.33	2.97
Quick ratio (times)	2.68	2.94	3.89	1.25	1.93
Asset-liability ratio (%)	18.62	17.82	15.12	32.11	30.20
Interest coverage ratio (times)	9016.64	8937.56	510.46	2350.74	9159.19

Note: Quick ratio = (Current assets - Inventory) ÷ Current liabilities; The asset-liability ratio = total liabilities ÷ total assets; The interest coverage ratio = (total profit + interest expense) ÷ Interest expense.

The company's short-term debt-paying ability is generally strong, and it is not appropriate to summarize it as "the five-year current ratio is generally low". From 2021 to 2023, the current ratio was all above 4, and the quick ratio was all above 2. In 2024, due to the expansion of procurement scale, the increase in accounts payable and capacity building, the two indicators dropped to 2.33 and 1.25 respectively. In 2025, it rebounded to 2.97 and 1.93 respectively. Even at the relatively low point in 2024, current assets can still cover current liabilities, and the overall short-term debt repayment risk is controllable.

The asset-liability ratio dropped to 15.12% in 2023, rose to 32.11% in 2024 due to the expansion of business scale and supply chain liabilities, and slightly declined to 30.20% in 2025, remaining at a relatively low level overall. The company's interest-bearing borrowing scale is extremely small, the annual interest expense base is low, and the interest coverage ratio is as high as several thousand times. This indicator only reflects that there is no pressure to pay interest in the short term and cannot measure the risk of operating cash flow brought about by large-scale inventory preparation and overseas expansion. It cannot be used as the core basis for judgment on debt repayment. Compared with the risks of bank loans, companies should pay more attention to the short-term cash demands that may arise from the concentrated maturity of accounts payable, contract liabilities and expansion expenditures.

Overall, the main financial risk of Eoptolink is not the high debt risk in the traditional sense, but the risk of working capital allocation under the state of rapid expansion. If AI computing power investment slows down, customers delay picking up goods or the inventory turnover rate declines, the company may simultaneously face reduced collections, increased inventory and rising payment demands from suppliers. Therefore, cash flow stress testing, working capital management and capacity investment discipline should be the key points of debt repayment risk management.

3. Optimization countermeasures based on three-dimensional financial analysis

3.1. Profitability enhancement plan

First, continuously optimize the product structure of high-speed optical modules. The company should implement stratified management of its product portfolio based on product rate, technological maturity, customer validation stage and gross profit contribution: ensure scale and cash flow with mature 400G and 800G products, form short-term profit growth points with 1.6T, LPO and Linear Receiver Optics (LRO) products, and reserve long-term competitiveness with eXtra-dense Pluggable Optics (XPO), Near-Packaged Optics (NPO), Co-Packaged Optics (CPO) and silicon photonics integration technologies. For high-end products, a full life-cycle gross profit monitoring mechanism covering material costs, production yield, price reduction and after-sales costs should be established to avoid only pursuing revenue scale while neglecting the actual profit quality.

Second, implement differentiated pricing for customers and regions. The company can determine the price based on the customer's procurement scale, technical customization degree, delivery cycle, credit conditions and after-sales responsibility, avoiding adopting a single price reduction strategy for different customers. For orders that require customized research and development, urgent delivery or high-quality responsibility, the relevant costs should be included in the quotation. For strategic customers, demand stability can be enhanced through long-term procurement agreements and joint research and development arrangements.

Third, strengthen the hierarchical management and control of R&D projects. R&D investment should be classified into short-term mass production projects, medium-term platform projects and long-term forward-looking projects, with assessment indicators such as customer validation, yield rate, cost reduction and patent achievements set respectively. The company should not simply cut R&D expenses. Instead, it should enhance the conversion rate of R&D achievements, establish a quarterly R&D commercialization review system, set quantitative indicators for customer sample verification and order fulfillment, reduce the R&D budget for forward-looking projects that have no commercialization prospects for two consecutive quarters, and allocate personnel to mature high-speed optical module iteration projects, so as to achieve a balance between technological leadership and stable profits.

3.2. Improvement plan for working capital efficiency

First, establish a linkage mechanism among orders, production capacity and inventory. In view of the rapid technological updates and diverse material types of high-speed optical modules, the company can implement rolling predictions based on the certainty of customer orders, the product life cycle, and the delivery cycle of core materials. Inventory control simultaneously sets an upper limit on the total amount and a red line for the technical inventory age. For the low-speed modules that are due for iteration, a discounted inventory clearance plan for overseas channels should be formulated. Upstream chips and materials should be purchased based on demand through orders to reduce the inventory of slow-moving raw materials.

Second, implement a tiered credit management system for customers. Given that the revenue from the top five customers accounts for a relatively high proportion, the company should set the credit limit and payment period by comprehensively considering the customer's credit, historical collections, regional risks and order stability. Appropriately increase the advance payment ratio for new customers and those with credit fluctuations. For core customers, measures such as tiered cash

recovery discounts, credit insurance and overdue early warnings can be adopted to shorten the cash recovery cycle. At the same time, warning lines for the concentration of revenue from a single customer and accounts receivable should be set up to reduce reliance on a few overseas customers.

Third, enhance capital return constraints on expansion projects. The newly added equipment at the Thailand base and domestic production lines should be continuously evaluated based on capacity utilization rate, output per unit investment, yield rate and payback period. For general equipment with insufficient utilization, the utilization efficiency can be improved through shared production, external leasing or process integration. For equipment with rapid technological iteration and high specialization, a phased investment approach should be adopted to avoid the formation of idle capacity due to one-time expansion.

3.3. Debt repayment and liquidity risk management strategies

First, establish a rolling cash flow forecasting and stress testing mechanism. Every week, a 13-week cash flow calculation table is compiled on a rolling basis. Four types of stress scenarios, namely, delayed customer collection, large inventory provisions, concentrated price hikes of chips, and significant depreciation of exchange rates, are included to set the minimum cash warning lines. When the predicted cash balance approaches the warning value, priority should be given to adjusting the procurement pace and the progress of capital expenditure.

Second, optimize the debt maturity rather than merely lowering the debt ratio. The company's current asset-liability ratio is not high, and there is no obvious interest burden. Therefore, there is no need to take large-scale early debt repayment as the main goal. For overseas factories and R&D platforms with longer payback periods, long-term and low-cost financing can be matched. Short-term operating liabilities should be in line with the turnover cycle of inventory and accounts receivable to prevent the use of short-term funds to support the construction of long-term assets.

Third, strengthen the risk management of overseas operations. The company can reduce the impact of exchange rate fluctuations through multi-currency settlement, natural hedging and moderate forward foreign exchange tools, and establish a multi-supplier system in the procurement of core chips, optical devices and key materials. In addition to leveraging its tariff and delivery advantages, the Thailand base should also gradually enhance its local procurement and supply guarantee capabilities to minimize the impact of policy changes in a single region on production continuity.

4. Conclusion

Based on the financial data of Eoptolink from 2021 to 2025, this article calculates the company's operating conditions from three dimensions: profitability, operational capacity and debt-paying ability. It also examines the relationship among profit margin, asset turnover, capital structure and cash flow by combining the extended DuPont analysis approach. Research findings indicate that the company's financial performance has not been deteriorating continuously but has shown obvious phased changes: In 2023, affected by the adjustment of demand for traditional products and industry competition, the gross profit margin, net profit margin and asset turnover efficiency were at relatively low levels. From 2024 to 2025, with the increase in the volume of high-speed optical modules such as 800G and 1.6T and the release of new production capacity, the profitability and asset operation efficiency will be significantly enhanced. The company's asset-liability ratio is generally low. Current assets can cover current liabilities, and the traditional debt risk is relatively limited.

In the future, whether a company can maintain its profit resilience will depend on whether the technological advantages of its high-end products can be continuously transformed into orders, gross profit and operating cash flow. This article only adopts the annual DuPont descriptive analysis of a single enterprise and does not quantify the influence coefficients of each driving factor through a regression model. Subsequent research can obtain detailed product and quarterly financial report data, introduce samples from peers such as Accelink and Accelink Technologies for horizontal comparison, and construct a panel model to calculate the long-term elasticity of profit-driven growth.

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