

The Impact of Capital Structure on Corporate Financial Performance: A Case Study of Alibaba and E-commerce Industry

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Abstract. The composition ratio of different capital sources in a company forms different financing structures among companies, and at the same time produces different financing costs and economic benefits, which have different impacts on the company's financial performance. Corporate capital structures are becoming more and more important as the e-commerce sector develops quickly. Through in-depth analysis of the capital structure of Alibaba and related enterprises in the industry, this paper discusses the influence mechanism of different sources of capital and capital structure on financial performance. Research indicates that a sensible capital structure can enhance financial performance by lowering borrowing costs and optimizing the use of available money. On the contrary, improper capital structure may lead to increased financial risk and decreased profitability. This paper aims to provide useful reference for e-commerce corporations to optimize capital structure and enhance financial performance and promote the sustainable and healthy development of Alibaba and e-commerce industry.

1 Introduction

1.1 The background of the research

In today's globalized and digital economy, the survival and development of corporations is highly dependent on their capital structure. Capital structure not only determines the financing cost and financial risk of a corporation, but also has a profound impact on its financial performance. Take Alibaba as an example, as a globally well-known e-commerce and technology giant, it is in an industry with fierce competition, rapid technological innovation, and volatile market environment.

With fluctuations in the global economic situation, changes in interest rates, exchange rates and adjustments in macroeconomic policies, Alibaba's competitiveness in the market depends on its capital structure's ongoing adaptation to these shifts. At the same time, the characteristics of the e-commerce industry make corporations need a large amount of capital

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investment in the development process to support technology research and development, market expansion and business innovation, therefore, it is essential to take into account the source of funds and financing channels in order to promote the development of the company.

1.2 The aim and significance of the research

This study aims to investigate the precise influence of Alibaba's capital structure on its financial outcomes. This article aims to disclose the internal relationship between financial performance metrics and the makeup of the capital structure.

At the theoretical level, this study contributes to the theoretical development of the relationship between capital structure and company financial performance. It also offers fresh empirical data and new lines of inquiry for scholars conducting similar studies.

At the practical level, it can provide decision-making basis for Alibaba's management, help it optimize capital structure and improve financial performance. Meanwhile, it also provides useful reference about the management of capital structure for other cooperators, especially those in the same industry.

1.3 Research methods

Literature research method: By searching "the impact of capital structure on corporate financial performance" on CNKI and Google Scholar, literature related to this topic in recent years is collected for analysis, thus providing a rich theoretical basis for the writing of this paper.

Case analysis: Alibaba Company is used as the case study in the study "The impact of capital structure on corporate financial performance" in order to reflect the validity and relevance of the research views and conclusions of this paper. This is combined with the actual circumstances of the e-commerce industry to improve the reference of practical value.

2 Literature review and theoretical analysis

2.1 Literature review

2.1.1 Positive correlation

Shah observed that stock prices rise as a firm's financial leverage increases and fall as a firm's financial leverage decreases [1]. Panayotiskapopoulos and Sophia Lazaretou took nearly 200 enterprises in Greece as research objects and found that appropriate ownership concentration can improve corporate performance [2]. Reyna et al. also studied listed companies in Mexico and showed that shareholding concentration has a positive effect on enterprise financial performance [3].

2.1.2 Negative correlation

Hall, Hutchinson, and Michaela studied British middle and small-sized businesses and discovered that the long-term asset-liability ratio was not substantially connected with profitability, however the short-term asset-liability ratio was inversely correlated with profitability [4]. Booth et al. evaluated data from ten developing nations and discovered a

highly substantial negative relationship between enterprise financial performance and capital structure in all save Zimbabwe [5]. Frank and Goyal found that performance is positively connected with the book value financial leverage ratio and adversely correlated with the market value financial leverage ratio [6]. Yang, Chou-Chen et al. retested and found that capital structure and corporate performance changed in the opposite direction [7]. Agbadua et al. study on listed companies in Nigeria shows that both non-current liabilities and current liabilities will have a negative effect on corporate performance [8]. Khamis et al. and Tachiwou respectively pointed out that shareholding concentration is negatively related to the firm performance in Bahrain and West African Monetary Union companies [9,10].

2.2 Theoretical analysis

2.2.1 Conception definition

Capital structure

The combination and proportional connection of various capitals, commonly the makeup and relationship of an enterprise's long-term capital (including long-term debt and equity capital), are known as its capital structure. An appropriate capital structure is of great significance for enterprises. It influences the financing cost, financial risk, governance, and market value of businesses.

Financial performance: It is a comprehensive indicator that measures the financial operation effect and results of an enterprise within a specific period. It reflects the financial accomplishments and benefits obtained by an enterprise through financial management and business activities, usually in terms of profitability.

2.2.2 Theoretical basis

The Modigliani-Miller Theorem (MM Theorem), put forward by Modigliani and Miller, yields two crucial conclusions under a set of stringent assumptions. Firstly, in the absence of corporate tax, a company's value is independent of its capital structure. That is to say, regardless of whether an enterprise has liabilities, its weighted average cost of capital remains unchanged as it is not influenced by the capital structure of the business. Secondly, when corporate taxation is considered, the enterprise value increases as the debt ratio goes up (i.e., there is a positive relationship between these two variables).

Trade-off Theory

By this theorem, businesses should evaluate the advantages of debt's tax shielding impact against the potential risks of bankruptcy that come with taking on more debt while deciding on the best capital structure. Debt financing provides a tax shield effect, meaning that interest on debt can be written off before taxes, which lowers an organization's tax liability, lessens its tax burden, and raises its market value. However, as debt levels rise, businesses run a greater risk of financial instability, which can result in higher bankruptcy expenses. The company achieves the ideal capital structure and reaches its maximal business value when the marginal tax shield income of debt equals the marginal cost of bankruptcy. The tradeoff theory is more in line with the capital structure decision-making factors of businesses that are really in operation and makes up for the absence of the bankruptcy cost and tax shield effect in MM theory.

3 Analysis of the influence mechanism of capital structure on corporate financial performance

3.1 Analysis of the impact of debt financing on financial performance

The debt financing structure mainly reflects the financial leverage effect, tax shield effect and borrowing cost burden on the company's financial performance.

Financial leverage effect refers to the fact that creditors can only receive fixed principal and interest, so when the company's operating condition is good, the increase in EBIT can drive a larger increase in earnings per share, thus improving the company's profit rate of capital.

The tax shield effect refers to that when an enterprise pays interest to creditors, the interest is deducted before tax, so this part can be deducted in the calculation of pre-tax profit, which reduces the tax calculation basis and reduces the tax payment cost of the company, that is, the tax burden is saved through borrowing.

However, although financial leverage effect and tax shield effect can both improve financial performance, debt financing still has the risk of borrowing cost burden, which requires the obligation of debt financing to repay the principal and interest. Therefore, increasing the scale of debt financing will increase the financial burden of the company and lead to financial crisis.

3.2 Analysis of the influence of equity financing on financial performance

A corporation may typically raise a sizable sum of money through equity financing in a short length of time. The company's business development and scale expansion will benefit greatly from the raised money, if they are used wisely, and this will also help to improve the company's financial performance. Additionally, equity financing has a lower financial burden and greater degree of freedom than debt financing because it only requires the company to pay dividends to shareholders rather than taking on the obligations of capital and interest repayment. This helps control the financing costs for the business.

However, because the risk borne by shareholders is much higher than that borne by creditors, shareholders usually require higher returns than creditors, which leads to equity financing costs are usually greater than debt financing costs. And too high equity financing may lead to the dispersion of ownership and control, affecting the efficiency of the company. Even, because of information asymmetry, the separation of company operators and owners is easy to cause moral hazard. The company operator may do things that are beneficial to himself and disadvantageous to the company's shareholders, such as insisting on low dividends or no dividends, so that the interests of shareholders are damaged. Finally, equity financing does not have tax shield effect, and listed companies have to pay corporate income tax and individual income tax while paying dividends, which increases financing costs to a certain extent.

3.3 Case study

3.3.1 Company introduction

Founded in 1999, Alibaba Group is a prominent Chinese worldwide e-commerce corporation that has expanded into a multifaceted conglomerate spanning several industries. The New York Stock Exchange lists its main shares under the ticker symbol BABA.

In 2012, Alibaba was privatized and delisted from the Hong Kong Stock Exchange where it had been previously listed. Then, on September 19, 2014, Alibaba Group relisted on the New York Stock Exchange in the United States. At that time, it raised \$25 billion in an initial public offering (IPO), becoming the largest IPO in history up to that point.

3.3.2 Analysis of Alibaba's debt structure

A company's debt structure, that is the composition and distribution of its debt sources, debt types, debt maturities and other aspects, will affect the robustness of its balance sheet and debt paying ability, and then affect its operating risk and profitability

As of March 31, 2024, Alibaba's debt structure consisted of RMB68.4 billion of bank loans and RMB102.3 billion of senior unsecured bonds.

Table 1. Financial Situation of Alibaba 2020-2023 (Unit: 100 million yuan)

Year	Total assets	Total liabilities	Owner's equity	Worth debt ratio	Current liabilities	Non-current liabilities	Current liabilities rate	Non-current liabilities rate
2020	13129.85	4333.34	8796.51	33.00	2418.72	1914.62	55.8	44.2
2021	16902.18	6065.84	10836.34	35.89	3773.58	2292.26	62.2	37.8
2022	15432.08	6538.02	8894.06	42.37	3837.84	2700.18	58.7	41.3
2023	17530	6301.23	11228.77	35.95	3853.51	2447.72	61.1	38.8

According to Table 1 summarized from Alibaba's annual report, Alibaba's balance sheet ratio is probably between 30% and 45%, from which we can know that Alibaba is mainly based on equity financing. In debt financing, Alibaba's current debt ratio remains in the range of 55% to 65% according to Table 1, so short-term debt is the main type of debt, and current debt accounts for a relatively large proportion.

Since current liabilities need to be repaid in the short term, this means that Alibaba needs to maintain good liquidity to ensure that it can repay its debts on time. The cost of financing current liabilities is usually lower than that of long-term liabilities, because the interest rate of short-term borrowing is lower than that of long-term borrowing, and the procedure of short-term borrowing is relatively simple and the issuance cost is relatively low.

However, the relatively high proportion of current liabilities may also mean that Alibaba's business risk is relatively high. If there is a problem in the business situation of the enterprise, the current liabilities may not be repaid on time, resulting in a financial crisis.

Therefore, according to the tradeoff theorem mentioned above, the debt structure needs to weigh the benefits of debt (tax shield effect) and the cost (financial distress cost). Alibaba needs to arrange the debt structure reasonably, ensure that it has enough funds to repay the debt, and choose the appropriate financing method and term according to its own operating and financial conditions.

3.3.3 Analysis of Alibaba's shareholding structure

According to the excerpt analysis of Alibaba's financial statements in the above table, Alibaba's capital structure is dominated by equity financing, and the average proportion of equity financing is 60%. Among them, Alibaba's largest shareholding institution is SoftBank Group, which maintains a shareholding ratio of 23%-24% in 2020-2022, but the shareholding ratio drops to 13.9% in 2024. At the same time, the average shareholding ratio of the top ten shareholders in Alibaba also maintained about 40%-55%. Generally speaking, with a higher degree of ownership concentration, major shareholders can make decisions quickly, reduce internal decision-making differences and negotiation costs, and thus improve the company's decision-making efficiency and execution speed, which is conducive to the company's decision-making and operation. But Alibaba Group uses a special partnership system that is essentially similar to a dual-class share structure, known as AB shares, which has the main benefit of allowing the company's founders or management team to retain control of the company even if their stakes are reduced.

3.3.4 Analysis of the impact of Alibaba's capital structure on financial performance

The profitability of Alibaba Group's financial performance is examined in this research and the profitability of a company is a measure of how well the business uses its financial resources to conduct operations. This article selects return of assets (ROA) and return of equity (ROE) as measures to gauge Alibaba's profitability because the data is readily available.

Table 2. Financial Situation of Alibaba 2020-2023 (Unit: 100 million yuan)

Year	Total assets	Owner's equity	Net profit	ROA	ROE
2021	16399.03	9274.95	1432.84	8.73734605	15.44849298
2022	15432.08	8894.06	4707.9	30.5072291	52.93308118
2023	17530	11229	6557.3	37.40616087	58.3961172

Table 3. Profit indicators of Alibaba in 2020-2023

Profit indicators	2020	2021	2022	2023
ROA	10.82%	8.73%	30.51%	37.41%
ROE	16.53%	15.45%	52.93%	58.40%

From the two indicators of ROA and ROE in Table 2, although the national economy was seriously affected by the epidemic in 2021, Alibaba's net profit was not greatly affected, only ROA and ROE indicators declined, and the economy gradually recovered in 2022 and 2023, and Alibaba's assets increased due to the increase in equity financing. Alibaba has used the funds to continuously improve its own strength and competitiveness, improve operational efficiency and user experience; In addition, Alibaba uses the funds obtained from equity financing to expand overseas markets, making Alibaba look for new growth opportunities globally. For example, in fiscal year 2023, the revenue of Alibaba's international commerce division reached 61.078 billion yuan, up 25 percent year on year. Therefore, in 2022,2023, ROE and ROA two indicators will increase significantly as Table 3. It can be seen that the increase of equity financing has further improved the efficiency of the company's business development, and thus improved the company's financial performance.

3.3.5 Industry capital structure

Companies in the e-commerce industry have an average gearing ratio of 44.15%. The data is largely steady, essentially staying at 44%. The asset-to-liability ratio of all companies is moderate overall, with a reasonable ratio falling between 40% and 60%. The value of the leveraged company at this point is equal to the value of the unleveraged company plus the present value of the tax shield after the MM theorem is modified to account for the influence of corporate income tax; in other words, the debt will increase the enterprise's value because of the tax reduction effect of interest. Under particular asset-liability ratios, businesses in the e-commerce sector will benefit from specific tax shielding advantages.

In addition, in the debt financing structure, enterprises in the e-commerce industry are more inclined to current debt financing, and the proportion of current debt financing is about 35%-40%. When the proportion of current debt financing is within this range, the company can quickly obtain funds in the short term to meet the temporary business needs, so that the company has more autonomy in capital allocation. In addition, when the proportion is controlled at 35-40%, it can not only enjoy the low-cost advantage of short-term financing, but also avoid frequent refinancing risks and cost increases due to too high short-term debt. In addition, moderate current liabilities can also promote the company to pay more attention to the turnover efficiency of funds and optimize the operating process, thereby indirectly reducing the overall cost of using funds. It is conducive to improving the flexibility of the company's operation and the flexibility of capital.

For listed companies in the e-commerce industry, the average shareholding ratio of the largest shareholder is 33.02%, and that of the top ten shareholders is 58.08% on average, suggesting a certain level of equity concentration within the industry. A relatively concentrated ownership structure might enable major shareholders to have a stronger impact on the company's decision-making and operations. To some extent, this kind of ownership structure may offer a degree of stability to the company. However, it could also potentially restrict the company's financing channels and development space. If major shareholders disagree on the company's development strategy and decisions, it may have an impact on the company's long-term development.

3.4 Optimal capital structure

As can be seen from Alibaba's financial report, Alibaba's shareholders' equity is relatively high, for example, as of June 30, 2023, the asset-liability ratio was about 35.41%. The gearing ratio is at a low level in the industry. Considering Alibaba's business stability, profitability, cash flow and other factors, and according to the trade-off theorem, on the basis of balancing

the tax shield effect of debt and financial risks, it can be concluded that appropriately raising its asset-liability ratio to about 40%-50% May be a relatively better range of capital structure.

Under the optimal capital structure, assuming that Alibaba can effectively use funds, appropriate debt financing can increase the source of funds for the enterprise to expand the scale of business and carry out technological innovation, so as to improve the operating income and net profit of the enterprise. If the new assets generate enough income and the income increases more than the asset growth, then the ROA is expected to increase. For example, suppose Alibaba undertook a major technology upgrade project through reasonable debt financing, improved operational efficiency, reduced costs, and thus increased net profit by 10%, while total assets increased by 8% due to debt financing, then ROA would rise.

Then consider ROE. Under the optimal capital structure, assuming that Alibaba can operate effectively, increasing the debt ratio will generally increase the financial leverage of the enterprise. Under the condition that the net profit remains unchanged or increases, ROE may increase due to the relative decrease in net assets. For example, if Alibaba, under the optimal capital structure, has expanded its business through debt financing, net profit has increased by 5%, and net assets have decreased by 10% relative to the increase in debt, then ROE will rise.

Moreover, under the optimal capital structure, raising the debt ratio to a certain extent can leverage the tax shield benefit of debt interest to lower Alibaba's Weighted Average Cost of Capital (WACC). WACC is calculated as

$$WACC = \left(\frac{E}{V}\right) * Re + \left(\frac{D}{V}\right) * Rd * (1 - Tc) \tag{1}$$

The WACC is the average cost a company incurs to raise funds. Here, E/V = equity divided by (equity + debt), which represents the equity capital as a percentage of total capital. D/V = debt divided by (equity + debt), indicating the debt capital as a percentage of total capital. Re , which means return on equity, is the cost of equity financing. Rd , representing return on debt, is the cost of debt financing. The term $(1 - tax)$ considers the tax shield benefit of interest on debt since debt interest can generally be deducted before tax, thereby reducing the tax burden on enterprises.

The following is Alibaba's WACC estimated in the past four years:

In 2023, Alibaba's fiscal year 2024 annual report reveals that Alibaba's net profit for the fiscal year amounted to 71.332 billion yuan, registering an increase of 9%, while its operating income was 941.168 billion yuan, with an 8% growth. As of March 31, 2024, Alibaba's total assets stood at 1,785.054 billion yuan, and total liabilities were 731.694 billion yuan, with a gearing ratio of 40.98%. According to IFI data, on August 18, 2024, the closing price of Alibaba (BABA) was 81.24 US dollars, and the total share capital was 2.677 billion shares. Thus, the market value of the company's share capital

$$(E) = 81.24 * 26.77 = 217.351(USD) \tag{2}$$

Based on the exchange rate of US dollar to RMB 1:7.2456 on August 21, 2024, it is equivalent to approximately 1,573,744 million yuan. The market value of corporate debt (D) is 731,694 million yuan. The corporate tax rate (Tc) is 25%. Furthermore, as per Alibaba's financial report for 2023, its long-term liabilities amount to 479.234 billion yuan and its total investment is 1700246 billion yuan. Thus, the ratio of long-term liabilities to total investment

$$(W1) = 479.234 \div 17002.46 = 28.19\% \tag{3}$$

The cost of equity (Re) is determined by the capital asset pricing model (CAPM), that is,

$$Re = Rf + \beta * (RM - RF) + Rs \tag{4}$$

Here, R_f represents the risk-free rate of return, R_m is the market expected rate of return on investment, β is the beta coefficient, and R_s is the excess rate of return on enterprise specific risks assessed. For R_f , the average interest rate of recent 10-year Treasury bonds at 4% is selected. For R_m , the average return on equity of public companies in the same industry at 10% is chosen. β is set as the average weekly coefficient of public companies in the same industry at 1.21. R_s is determined based on the relationship between corporate net assets and scale effect at 0.5%. Hence,

$$R_e = 4\% + 1.21 * (10\% - 4\%) + 0.5\% = 11.76\% \tag{5}$$

According to Alibaba's credit loan interest provisions, for a fixed loan of 100,000 with a term of 1 year, the interest is about 10016 yuan (annual interest rate of 18%), equivalent to a daily interest rate of about 5 thousand. The quoted interest rate (LPR) of the loan market on December 20, 2023 is: 1-year LPR is 3.65%. R_d is obtained by taking the average of the long-term loan interest rate announced by the central bank and the fixed loan interest rate of Ali Credit Loan. Thus,

$$R_d = (18\% + 3.65\%) \div 2 = 10.83\% \tag{6}$$

In conclusion, the WACC of Alibaba in 2023 can be calculated by the following formula:

$$WACC = (15737.44 \div 23054.38) * 11.76\% + (7316.94 \div 23054.38) * 10.83\% * (1 - 25\%) = 9.18\% \tag{7}$$

In 2022, Alibaba's fiscal year 2023 annual report indicates that Alibaba's net profit for the fiscal year was 119.346 billion yuan and its operating income was 853.062 billion yuan. As of March 31, 2023, Alibaba's total assets were 1,820.966 billion yuan, total liabilities were 678.536 billion yuan, and the gearing ratio was 37.26%. According to data from Yingwei Financial Intelligence, on March 31, 2023, the closing price of Alibaba (BABA) was 99.04 US dollars, and the total share capital was 2.632 billion shares. Thus, the market value of the company's share capital

$$(E) = 99.04 \times 26.32 = 260639 \text{ US dollars} \tag{8}$$

Based on the exchange rate of US dollar to RMB 1:6.8717 on March 31, 2023, it is equivalent to 1,794.854 billion yuan. The market value of corporate debt (D) is 678.536 billion yuan. According to Alibaba's 2022 financial report, its long-term liabilities are 470.585 billion yuan and its total investment is 1622.246 billion yuan. Therefore, the ratio of long-term liabilities to total investment

$$(W1) = 470.585 \div 1622.246 = 29.01\% \tag{9}$$

$$R_e = 4\% + 1.21 * (10\% - 4\%) + 0.5\% = 11.76\% \tag{10}$$

$$R_d = (18\% + 3.65\%) \div 2 = 10.83\% \tag{11}$$

In summary, the WACC of Alibaba in 2022 can be calculated by the following formula:

$$WACC = (17948.54 \div 24733.9) * 11.76\% + (6785.36 \div 24733.9) * 10.83\% * (1 - 25\%) = 9.57\% \tag{12}$$

In 2021, Alibaba's fiscal year 2022 annual report reveals that Alibaba's net profit for the fiscal year was 136.388 billion yuan and its operating income was 836.405 billion yuan. As of March 31, 2022, Alibaba's total assets were 1,811.59 billion yuan, total liabilities were 641.544 billion yuan, and the gearing ratio was 35.41%. According to IFI data, on March 31, 2022, the closing price of Alibaba (BABA) was 114.94 US dollars, and the total share capital was 2.694 billion shares. Thus, the market value of the company's share capital

$$(E) = 114.94 * 26.94 = 3097.14 \text{ billion USD} \quad (13)$$

Based on the exchange rate of US dollar to RMB 1:6.3482 on March 31, 2022, it is equivalent to approximately 1969.022 billion yuan. The market value of corporate debt (D) is 641,544 million yuan. According to Alibaba's 2021 financial report, its long-term liabilities are 439.154 billion yuan and its total investment is 155.233 billion yuan. So, the ratio of long-term liabilities to total investment

$$(W1) = 4391.54 \div 15523.33 = 28.29\% \quad (14)$$

$$Re = 4\% + 1.21 * (10\% - 4\%) + 0.5\% = 11.76\% \quad (15)$$

$$Rd = (18\% + 3.7\%) \div 2 = 10.85\% \quad (16)$$

In summary, the WACC of Alibaba in 2021 can be calculated by the following formula:

$$WACC = (19690.22 \div 26105.66) * 11.76\% + (6415.44 \div 26105.66) * 10.85\% * (1 - 25\%) = 9.44\% \quad (17)$$

In 2020, Alibaba's fiscal year 2021 annual report indicates that Alibaba's net profit for the fiscal year was 143.284 billion yuan and its operating income was 717.789 billion yuan. As of March 31, 2021, Alibaba's total assets were 1,764.829 billion yuan, total liabilities were 652.23 billion yuan, and the gearing ratio was 36.95%. According to data from the British Financial Intelligence, on March 31, 2021, the closing price of Alibaba (BABA) was \$226.36, and the total share capital was 2.711 billion shares. Thus, the market value of the company's share capital

$$(E) = 226.36 * 27.11 = 613.678 \text{ billion US dollars} \quad (18)$$

Based on the exchange rate of US dollar to RMB 1:6.5713 on March 31, 2021, it is equivalent to 4033.13 billion yuan. The market value of corporate debt (D) is 652.23 billion yuan. According to Alibaba's 2020 financial report, its long-term liabilities are 383.43 billion yuan and its total investment is 1,442.308 billion yuan. Hence, the ratio of long-term liabilities to total investment

$$(W1) = 3834.3 \div 14423.08 = 26.58\% \quad (19)$$

$$Re = 4\% + 1.21 * (10\% - 4\%) + 0.5\% = 11.76\% \quad (20)$$

$$Rd = (18\% + 3.85\%) \div 2 = 10.93\% \quad (21)$$

In summary, the WACC of Alibaba in 2020 can be calculated by the following formula:

$$WACC = (40331.3 \div 46853.6) * 11.76\% + (6522.3 \div 46853.6) * 10.93\% * (1 - 25\%) = 9.9\% \quad (22)$$

Therefore, Alibaba's WACC from 2020 to 2023 is 9.9%, 9.44%, 9.57% and 9.18%, respectively.

Assume that Alibaba under the optimal capital structure, the cost of debt is 5%, the cost of equity is 10%, and the asset-liability ratio is 45%. According to the calculation formula of WACC, and if the corporate income tax rate is 25%,

$$WACC = (45\% * 5\% * (1 - 25\%) + 55\% * 10\%) \div (45\% + 55\%) \approx 8.19\% \quad (23)$$

Compared to 2020-2023, Alibaba's WACC under the optimal capital structure is likely to be lower.

From a financial standpoint, the ideal capital structure changes Alibaba's debt-to-equity ratio, increasing the debt portion and resulting in a WACC value of approximately 8.19%. In

general, as the debt ratio rises, the WACC will initially decline and subsequently grow. In fact, Alibaba has lowered the number of outstanding shares by repurchasing them, raising earnings per share and stock price. This increases the value of equity while decreasing the cost of equity, lowering WACC.

In addition, the risks faced in achieving an optimal capital structure should also be considered. The first is the issue of market risk. Fluctuations in the capital market may affect Alibaba's financing costs and financing channels. If the market interest rate rises, the cost of debt financing will increase, which may make it difficult for enterprises to achieve the optimal capital structure; Besides, recapitalization may require significant business decisions and investments, which may entail certain business risks. For example, in order to improve the asset-liability ratio, Alibaba may undertake large-scale mergers and acquisitions or expansions, but if these projects fail to achieve the expected earnings, it may have a negative impact on the financial condition and operating results of the company.

From a non-financial perspective, due to the company's development needs, operational uncertainties, seize investment opportunities and other reasons, the profit retained in the development of the company may create a higher future value for shareholders than the immediate dividend, so in fact, the company's dividend is not mandatory. Therefore, in this case, the company should determine the capital structure by evaluating its own profitability and cash flow status.

4 Suggestions

The WACC represents the total cost of getting money across various financing sources. The following aspects can help Alibaba and other e-commerce enterprises cut their capital costs:

1. Reasonable adjustment of debt and equity ratio: to appropriately increase the proportion of debt financing within a certain range, we can consider issuing corporate bonds, especially medium and long-term bonds. Compared with other debt financing methods such as bank loans, bond financing has a relatively long term and can provide Alibaba with a more stable source of funding.
2. Reduce the cost of debt: maintain a good financial position and operating performance, improve the company's credit rating. The higher a company's credit rating, the lower its bond financing costs.
3. Reduce the cost of equity: explore using share repurchase and other methods to return to shareholders, improve shareholder return rates while reducing the number of outstanding shares, and raise stock prices.

5 Conclusion

Taking Alibaba as a case for analysis, this paper investigates the current situation of its capital structure and financial performance. It also analyzes the mechanism through which the capital structures of e-commerce companies impact business performance from three aspects: debt capital structure, equity financing structure, and corporate financial performance. Finally, the following conclusions are reached: Regarding the debt structure, there is a moderately negative correlation between the asset-liability ratio and the company's financial performance. In terms of the ownership structure, ownership concentration has a positive correlation with corporate financial performance.

5.1 Research limitation

Although I have collected a large number of literature materials in my paper writing, this paper has the following deficiencies in the research process: The indicators of business performance selected in this paper mainly come from the aspect of corporate profit, and ROA

and ROE are used as the evaluation criteria. Although they can reflect the financial performance of enterprises to some extent, the indicators of business performance do not cover all indicators. In addition, due to the availability of Alibaba's annual financial report and the announcement of Alibaba's financial report from 2020 to 2023, the data analysis of Alibaba's capital structure on financial performance from 2020 to 2023 can only be carried out. The sample size is small and the data analysis is not persuasive enough.

5.2 Research prospect

The choice of capital structure is not only influenced by the internal factors of the company, but also related to the macroeconomic environment and industry characteristics. Future studies can further explore the impact of macroeconomic fluctuations, interest rate changes, policy adjustments and other factors on Alibaba's capital structure and financial performance. At the same time, considering the competition pattern of the e-commerce industry, the speed of technological innovation, market saturation and other industry factors, this paper studies how these factors interact with the capital structure to jointly affect the company's financial performance. Through comprehensive consideration of macroeconomic environment and industry factors, it can provide a comprehensive analytical framework for Alibaba to make more reasonable capital structure decisions in the complex and changeable market environment.

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