

A Study of the Impact of Capital Structure on the Firm Performance

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Abstract. This paper analyses the impact of different capital structures on the financial performance of firms, starting from the capital structures of different firms. Firstly, it starts from the MM capital structure theory and analyses the realistic limitations of its existence. Then, it analyses the characteristics of the capital structure of enterprises in different industries, and compares and analyses the characteristics of the capital structure of different enterprises in heavy-asset industries, light-asset industries, and scientific and technological and public medical categories, and the reasons for their differences, respectively. Then, the characteristics of the capital structure of enterprises in different regions are analysed, and the characteristics of the capital structure of different enterprises in developing and developed countries and within developing countries and the reasons for their differences are compared and analysed respectively. Finally, it is concluded that capital structure is an important but also complex decision for a company, there is no overall optimal conclusion, different industries and different markets will have a certain impact on it, and the capital structure is different at different stages of development, which needs to be constantly adjusted according to the different development of the company.

Keywords: Capital Structure, Firm Performance, Different Industries, Different Markets.

1. Introduction

The value composition of the various forms of capital and their proportionality within an organisation are referred to as the capital structure. This is the outcome of the financing mix of the firm over a specific time period. The primary decision-making issue with an organization's capital structure is its ownership structure, or how much loan capital is arranged in what proportion. One of the most important aspects of the enterprise's fund-raising management is the prudent use of debt financing and the scientific organisation of the proportion of borrowed capital in the capital structure decision-making process. The primary decision-making issue with an organization's capital structure is its ownership structure, or how much loan capital is arranged in what proportion [1]. Through the study of enterprise capital structure, it can understand the financing strategy of the enterprise and improve the efficiency of financing; grasp the financial leverage risk of the enterprise and understand the risk-taking ability; analyse the operating efficiency of the enterprise and improve the profitability level; and provide reference for the enterprise financing decision.

The relationship between capital structure and business financial performance is a topic of debate in academia. Some common viewpoints and research findings are included below.

Chikolwa studied 34 Australian real estate investment trusts for the period 2003-2008, and an empirical study of the financial data of these companies shown that financial leverage had no influence on tangible assets and that, conversely, higher financial leverage correlated with larger firm sizes, lower business risk, and slower corporate growth and profitability [2]. Tretiakova et al. take British listed companies as a research sample, analyse their sample data during the eleven years from 2009 to 2019, and through empirical analysis, conclude that the increase in gearing ratio will lead to a decrease in the company's financial performance [3]. Ding et al. take the new three board enterprises as the research object, the profitability, operating ability, solvency and development ability of the enterprise as the key index of performance evaluation, the enterprise performance and the level of indebtedness is an inverted U-type relationship, and the concentration of equity positively moderates the relationship.; the enterprise long-term indebtedness level is low and negatively correlated with

the performance; the shareholding concentration is an inverted U-type relationship with the performance of the enterprise, and the appropriate shareholding concentration is conducive to the improvement of the decision-making of small and medium-sized enterprises. A moderate degree of equity concentration is beneficial to SMEs to enhance decision-making efficiency and improve performance [4]. Fan et al. revealed the influence of capital structure of logistics listed companies on their business performance based on the financial data of 48 logistics listed companies. The study shows that: the higher the retained earning rate of a logistics company is, the level of its comprehensive business performance will be weakly improved; the higher the shareholding ratio of the top five shareholders is, i.e., the higher the degree of shareholding concentration is, the level of the business performance of the company will be significantly improved, and the degree of shareholding checks and balances, Z index will significantly reduce the company's operating performance level [5]. Wang et al. selected the financial data of Shanghai and Shenzhen A-shares from 2011 to 2015 as a sample, and empirically examined the relationship between capital structure and operating performance and found that: the gearing ratio exhibits a significant negative correlation with operating performance, while the long-term gearing ratio demonstrates a positive correlation with operating performance, and the relationship between current gearing ratio, equity ratio, and operating performance is not significant [6].

Extensive research findings have been documented regarding the association between capital structure and corporate financial performance, and capital structure has a complex and multi-dimensional impact on corporate financial performance. Regarding financial leverage, a higher level of financial leverage is associated with increased operational risk for enterprises, leading to lower profitability, which will increase the risk of capital chain break; the relationship between the level of indebtedness and the performance of different types of enterprises in different industries may be different. The relationship between the level of debt and performance may be different for different types of enterprises and different industries, which may be negatively correlated, positively correlated, or in other relationships; and the higher the equity concentration, the higher the level of its business performance will be significantly increased; long-term debt can help enterprises to make long-term investments, which will enhance their long-term business performance.

2. Theoretical Basis

Capital structure theory is a theory about the relationship between a firm's capital structure, the firm's consolidated cost of capital ratio and the firm's value. It is one of the core elements of corporate finance theory and an important theoretical basis for capital structure decisions. MM capital structure theory is one of the important theories.

The MM capital structure theory, abbreviated from the pioneering work of finance scholars Modigliani and Miller, explores the relationship between a company's cost and value in their article "Cost of Capital, Corporate Finance and Investment Theory." This theory revolutionized the study of modern capital structure by asserting that, under certain assumptions, a firm's value is independent of its capital structure. Instead, it depends on its tangible assets rather than the market value of debt and equity. MM theory makes nine assumptions and derives two important propositions based on the assumptions: whether a firm has debt capital or not, the sum of the market value of its common equity capital and its long-term debt capital is equal to the value of all of the firm's assets with their returns discounted at the rate of return necessary to fit the firm's risk rating. A firm that utilises financial leverage has a cost of equity capital ratio that increases with the amount of capital raised.

The above basic theory of MM capital structure is derived from a set of assumptions. There is hardly any company that is not concerned with capital structure in its financing practice. Therefore, the assumptions of the basic theory of MM capital structure are usually not fulfilled in the real situation. The assumption of the MM theory proposes that the company operates in a tax-free environment, which is difficult to realise in reality as the vast majority of the companies need to face a wide range of tax policies, such as income tax. The assumption of the MM theory is that the

individual and the enterprise can borrow money at the same interest rate and can take each other's place. In actuality, however, individual borrowing is far more expensive than corporate borrowing, and because of unlimited liability, individual debt risk is higher than that of the business. Although transaction costs of all kinds are inevitable in practice, contrary to MM theory's assumption that they are zero, arbitrage operations in the capital market are consequently restricted. Furthermore, the analysis of MM theory predominantly adopts a static perspective, neglecting to consider the impact of the external economic environment and adjustments to the enterprise's own production and operational conditions on its capital structure. In actuality, a wide range of variables influence capital structure.

3. Different Industries

In different industries, there are certain differences in the capital structure of firms and the impact on firm performance varies. This paper discusses the differences in financial leverage of firms in three types of industries, namely, asset-heavy industries, asset-light industries, scientific and technological services, and healthcare industries, and the factors affecting them and their impact on the economic performance of firms.

3.1. Capital-Intensive Industries

Asset-heavy industries refer to those industries in which companies have more tangible assets in their operations, and these tangible assets mainly include plant, equipment and inventory. Asset-heavy industries include industries such as the property industry and traditional manufacturing industries. These industries place high demands on the capital strength of the enterprise due to the large amount of capital investment required initially, including construction and equipment purchases. And it takes a long time to realise returns, which means that companies need to be patient and have sufficient capital strength to support long-term operations. Most asset-heavy enterprises mainly expand their operation scale by raising debt, with a low proportion of own funds, while the use of financial leverage can both expand returns and increase financial risks.

The real estate industry as an important part of the heavy asset industry, has a strong dependence on capital, sufficient capital is a real estate enterprise to purchase land, development projects, a reliable guarantee, is a necessary prerequisite for its sound operation, so the real estate industry also exists in the high financial leverage, a high proportion of asset requirements. The reason for this is mainly due to the real estate industry's high development costs in the early stage, and the uncertainty of the later payback time, the relevant enterprises need to maintain the normal operation of the business cycle through a small amount of their own funds coupled with a large number of borrowings, thus leading to the real estate industry's high debt disadvantages highlighted, high leverage has become the industry's normal features, reaching about 70% - 80%. In the relevant academic research, Morri and Beretta focused on listed real estate companies to analyze the impact of capital structure on business performance in the real estate industry. The findings indicate that as the proportion of debt financing increases, agency costs outweigh tax shield benefits, resulting in a negative correlation between financial leverage and business performance [7]. Through the analysis of the financial statements of the relevant enterprises, BGL announced that its debt ratio in the first half of fiscal year 2023 was 84.28%, and the debt-to-equity ratio reached 1.67. CR Land announced that its debt ratio in the first half of fiscal year 2023 was 70.42%, and the debt-to-equity ratio reached 0.93. Poly Development announced that its debt ratio in the first half of fiscal year 2023 was 76.99%, and the debt-to-equity ratio reached 0.93. In summary, the real estate industry is highly dependent on debt to operate, resulting in high financial leverage and high financial risk.

The traditional manufacturing industry also serves as an important part of the asset-heavy industry, including industries such as agro-food processing, textiles, wood processing, metal smelting, metal products industry, and handicrafts, which mainly use old manufacturing technologies. Among the relevant academic studies, Sola and David study examined the impact of capital structure on firm

performance within the oil industry. Various econometric techniques, including fixed effect estimation, random effect estimation, and maximum likelihood estimation for panel data analysis, were employed in this investigation. Earnings per share was found to be positively related to leverage ratio on the one hand, while on the other hand, dividends per share was positively related to leverage ratio [8]. By analysing the financial statements of related companies, Caterpillar announced its debt ratio of about 78% in 2023, and the debt-equity ratio reached 1.94. XCMG Machinery announced its debt ratio of 67.45% in its 2023 semi-annual report, and the debt-equity ratio reached 2.07. In summary, the traditional manufacturing industry typically exhibits a high debt ratio, thereby leading to elevated levels of financial leverage and financial risk.

3.2. Labor-Intensive Industries

Asset-light industries are those enterprises that rely on intangible assets as their main source of value and relatively less on physical and heavy assets. These industries achieve rapid business growth and value creation through non-physical means such as innovation, creativity, branding, marketing and channels. Some common asset-light industries include the culture and entertainment industry, the retail industry, and the financial industry. Asset-light industries tend to have smaller asset sizes, high flexibility, focus on core business, and relatively low operating risks. Enterprises outsource most of their heavy assets, hold relatively small assets of their own, have a low ratio of capital requirements, quick return of capital, mostly own funds and less borrowed funds, and have lower overall financial leverage.

The retail industry is an important part of the asset-light industry, which refers to the merchandising industry, including supermarkets, small home appliances, furniture, etc., where industrial and agricultural producers directly sell their products to residents for daily consumption or to social groups for public consumption through the process of buying and selling. As the retail market matures and profit levels increase, the amount of free capital is increasing, and its financial leverage is about 20-30 per cent. In the relevant academic research, Long concluded through the empirical analysis of the model, the capital structure of listed companies in the retail industry over time will show a trend of rising and then declining, in the process, individual characteristics of the changes in the capital structure of the capital structure of the same there is a significant impact on the changes of the company's operating conditions lead to the short-term fluctuations in the capital structure [9]. By analysing the financial statements of related enterprises, Walmart announced its debt ratio of about 67% in 2023, and the debt-equity ratio is 0.88. Amazon announced its debt ratio of about 62% in 2023, and the debt-equity ratio is 0.67. Open Marketer announced its debt ratio of about 65% in 2023, and the debt-equity ratio is 0.36. In conclusion, the retail industry generally has a low debt ratio, and the debt-equity ratio is 0.36. The retail industry generally has low debt ratios, its financial leverage is low, and its financial risk is low.

3.3. Technology & Healthcare

The science and technology services industry is a novel industry that applies contemporary scientific and technological knowledge, advanced technology, analytical and research methodologies, as well as expertise, information, and other essential components to provide intellectual services to society, and mainly includes activities such as scientific research, professional and technical services, and technology promotion. The medical industry is a service industry aiming to protect, maintain and enhance human health, which includes medical institutions, medical equipment manufacturers and other related organisations and personnel, and involves medical diagnosis, treatment, rehabilitation, health management and other aspects. The science and technology service industry and the medical industry are different from the heavy and light asset industries in that the relevant technology content is high, and a large amount of money needs to be invested in research and development in the early stage, which means that the enterprise needs to have a strong financial strength and a large amount of borrowing for the operation of the support; and the results of its later stage will be directly linked to its revenue, and if it is able to successfully develop the products needed at present, it will obtain a

large amount of revenue, which will be able to help the enterprise to supplement more if it is able to successfully develop products that meet market demand, it will receive a large amount of revenue, which can help the enterprise to supplement more cash inflows and reduce borrowing funds, thus lowering enterprise risk; if it is not able to successfully develop products that meet market demand, the enterprise's revenues will be limited, and it will need to continue to increase its borrowing to obtain cash flow, which will increase the enterprise's risk. As the technology services and healthcare industries will invest a large amount of sunk costs upfront, resulting in high leverage of about 40-50 per cent. In related academic research, Chen studied the capital structure of high-tech enterprises in the United States, and the study revealed an exceptionally low proportion of debt financing in high-tech enterprises, with the lowest group exhibiting a debt-to-equity capital ratio ranging from 6% to 7%, while the highest group, whose ratio is between 31% - 39%, and the whole shows a clear financial conservative behaviour. Mo & Huang through empirical analysis, concluded that the corporate performance of listed companies in the medical device industry is negatively correlated with the gearing ratio, and positively correlated with corporate social responsibility and corporate performance, and the enterprise initiative to assume social responsibility will bring more profits for it. And the relationship between corporate performance and R&D investment exhibits a positive correlation, while the impact of debt capital on enterprise innovation capacity attenuates this positive correlation with corporate performance [10].

4. Different Market

The capital structure of similar industries and firms can vary between countries due to differences in specific national conditions, economic systems, national policies and financial market development, and differences in financial leverage can have different impacts on differences in the financial performance of firms. The comparison of different markets in this paper is divided into the comparison between developed and developing regions and the comparison within developing countries.

4.1. Developed Countries vs. Developing Countries

Developing countries, characterized by a lower level of economic development, technological advancement, living standards, and a relatively low GDP per capita, are usually referred to as including countries in Asia, Africa, Latin America, and other regions. Due to the low level of economic development of the country as a whole, the development of financial markets is incomplete and lagging, the stock market feedback is slow and not in place, the enterprises rely more on bond financing for the expansion of funds, the financial leverage is relatively high, and therefore the risk of bankruptcy is higher. In related academic research, Li and He in their co-authored book "China's Financial Market in Economic Transition" analysed China's debt financing and equity financing by comparing and analysing the financing structure of foreign enterprises. It is argued that after nearly 20 years of reform, China's economy has generally freed itself from the constraints of supply and begun to show the strong constraints of demand. In order to adapt to this change, the management framework of the whole society should turn to be market and demand oriented. Enterprises should plan their financing structures according to the laws of the market economy and recognise the importance of corporate bond financing; the financial authorities should also vigorously develop the corporate bond market to make it more market-oriented.

The term "developed countries" refers to nations that have achieved higher levels of economic and social development, as well as elevated standards of living for their citizens, generally with higher human development indices, per capita gross national product, industrialisation levels and quality of life, including some countries in Europe, North America, Oceania, East Asia and other regions. Due to the maturity of the country's economic operation mechanism, sound market mechanism and market system, high flexibility of the financial market, strong financial market advantages, and rapid presentation of information, enterprises prefer more insurance and more flexible equity financing. In

related academic research, Rao conducted a research and analysis of external financing and leverage changes in the Group of Seven developed countries, that although the United States has sufficient market conditions, but different economic conditions and legal environment conditions are guiding the financing behaviour of the enterprise, and the company after the takeover tends to have a high level of indebtedness. The recapitalisation of leverage by some companies through bond issues to fund buybacks of company shares increased their leverage significantly [11].

4.2. Among Developing Countries

In addition to the obvious differences between developing and developed countries, there are also some differences between countries in individual markets. As financial markets in developed countries are generally more mature and have similar capital structure characteristics, while the differences between the capital structure characteristics of developing countries are relatively large, this paper chooses China and the emerging markets of Southeast Asia, represented by Vietnam, as examples for comparison.

With the reform of the economic system and the promotion of financial marketisation that began in the 1990s, the development of China's financial market has been more mature, and people's minds are more open, Chinese companies choose equity financing relatively more, many companies want to go public to expand their operations, and through the development of equity financing, the gearing ratio is relatively lower than in other developing countries, and the financial leverage is lower. The related academic research combined the relevant theoretical research results on agency costs, information asymmetry and incomplete contract in the choice of corporate financing behaviour theoretically comprehensively elaborates the impact of financing methods, financing structure and other financing behaviours on corporate governance on Chinese shareholding enterprises' equity finance. It also discusses the problems of equity financing preference and inefficient allocation of equity financing funds.

The emerging markets of Southeast Asia, represented by Vietnam, seem to have more external investment, but the actual financial market development is late, and is still in the early stage, and the overall financial market volume is small. In addition, the business philosophy and strategy of local enterprises will also affect the asset structure of enterprises, due to the more backward thinking, even if some enterprises can be listed on the stock market for equity financing, but also prefer to bank loans and other debt financing. As a result, Vietnamese enterprises have relatively higher gearing ratios and higher financial leverage. In a related academic study, Trang studied the relationship between the capital structure and profitability of financial institutions such as banks, funds, brokerage firms, and insurance companies in Vietnam, and concluded that among 38 financial institutions in Vietnam's stock market, the capital structure of financial institutions has a significant impact on their profitability. In the current capital structure of financial institutions in Vietnam, the short-term debt ratio is high, thus leading to the total debt ratio also negatively affects profitability, while long-term financing can help financial institutions to provide long-term loans or invest in better projects, so it can reduce the risk of organisations' insolvency and increase profitability [12].

5. Conclusion

This paper analyses the impact of different capital structures on the financial performance of firms starting from the capital structure of different firms and compares and analyses the differences in capital structure and the reasons for them in different industries and different regions. From the analysis of the characteristics of the capital structure of enterprises in different industries, the heavy asset industry represented by the real estate industry and traditional manufacturing industry has a high proportion of asset requirements, more borrowed funds, higher gearing ratio, and higher financial leverage; the light asset industry represented by the retail industry has a low proportion of capital requirements, more free funds, lower gearing ratio, and lower financial leverage; and the scientific and technological and public healthcare enterprises have an upfront need to invest a large amount of

R&D capital, have high sunk costs and higher financial leverage. From the analysis of the characteristics of the capital structure of enterprises in different markets, developing countries with incomplete development of financial markets rely more on bond financing, with relatively high financial leverage; developed countries with high flexibility of financial markets rely more on equity financing, with relatively low financial leverage; while within developing countries, China's financial market development has been more mature, with relatively more equity financing; Southeast Asia's emerging markets, represented by Vietnam, have a small volume of overall financial markets, with relatively high financial leverage. market, the overall financial market volume is small, relatively more debt financing.

Capital structure is an important and very complex decision for all enterprises, however, through the research in this paper, it is found that there is no overall optimal conclusion, different industries and different markets will have a certain impact on it, and the capital structure is also different at different stages of development. Therefore, the capital structure needs to be constantly adjusted according to the different development of the company, which is related to the source of funds for the future development of the company, and through the adjustment to constantly find the better decision at the moment.

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