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Origin and Development of Financial Flexibility: A Systematic Literature Review

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Abstract: In the past 30 years, especially in the 1990s, financial flexibility has aroused great interest among researchers. Financial flexibility has always been regarded as one of the most important driving forces for capital structure decision-making, and after 20 years of exploration, there has been a significant increase in literature related to financial flexibility. Financial flexibility refers to the extent to which financial resources can support a company's ability to survive and seize opportunities in the face of environmental changes, as well as the debt capacity reserved by the company for timely acquisition or use of financial resources in the future. Nowadays, financial flexibility has been applied in various business fields, including finance, management, organizational environment, and corporate governance. It has also gained strong application scope in different industry fields, including manufacturing, service, information technology, and banking. At present, research on financial flexibility mainly focuses on two aspects: financial flexibility and investment capability, and financial flexibility and corporate performance. There are still many research gaps that need to be supplemented by researchers.

Keywords: financial flexibility; capital structure; environmental changes; financial resources; investment capability; corporate performance

1. Background of Financial Flexibility

In the past 30 years, especially in the 1990s, financial flexibility has aroused great interest among researchers. Financial flexibility has always been regarded as one of the most important driving forces for capital structure decision-making, and after 20 years of exploration, there has been a significant increase in literature related to financial flexibility. An important work conducted by [1,2] focused on identifying the sources of financial flexibility. However, recent work in this field has focused on the meaning of financial flexibility and gained a more comprehensive understanding of its calculation. The importance of financial flexibility stems from the notion that it is one of the best tools as an intangible asset for enterprises to solve their economic problems [3]. In addition, enterprises are facing challenges such as imperfect capital markets and rising external financing costs, making financial flexibility increasingly important. Therefore, financial flexibility can be pursued by managing its capital structure, developing cash management or payment policies, and considering the intertemporal link between financing and investment decisions [4].

In the process of constantly pursuing the maximization of owner wealth or corporate value, financial researchers have made significant efforts to develop theories that enable them to achieve this goal. To achieve

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this goal, capital structure theories such as trade-off theory and pecking order theory have been developed. However, many studies, such as [5–9], provided evidence that financial managers often have debt levels lower than their debt capacity and/or excess cash levels. This financing behavior contradicts traditional trade-off theory and pecking order theory, prompting researchers to raise questions behind these financing decisions. The phenomenon of debt reduction or accumulation of high cash balances has also attracted the attention of many scholars. Because this behavior cannot be explained or proven by traditional pecking order theory and trade-off theory. All of these make financial flexibility a more important research area. Therefore, scholars have created a theory about flexibility in the fields of finance and accounting, now known as "financial flexibility". DeAngelo & DeAngelo even argue that "financial flexibility is a key missing link in the empirical feasibility theory of capital structure [2].

References [5,6] explain that financial flexibility primarily drives CFO's capital structure decisions, and its considerations are of primary importance for the company's financial policy decisions. Financial executives understand that financial flexibility is one of the most critical factors in capital structure decision-making [3]. For example, Graham & Harvey's survey showed that 59% of US company CFOs have stated that financial flexibility is the first and most important debt policy factor [5]. Later, when Bancel & Mittoo and Brounen et al. both conducted this survey [6,10], they obtained the same results as Graham & Harvey [5]. In addition, DeAngelo & DeAngelo [2] and Gamba & Triantis [11] added that CFOs are motivated to pursue financial flexibility to ensure and restructure the company's future external financing at low cost, as financially flexible companies have the privilege of easier access to capital markets. Therefore, financial flexibility can enhance a company's ability to seize future investment opportunities rather than giving up profitable ones. References [12,13] discussed how companies can follow financial flexibility policies by formulating capital structure, cash management, and/or expenditure policies, thus building cross period dependencies between current financing decisions and future investment decisions.

Another factor driving the increasing popularity and importance of financial flexibility is the increasingly uncertain and rapidly changing economic environment in today's world. In recent years, the global economic environment has become more uncertain, trade frictions have increased, political crises in Europe have become frequent, and the world's economic recovery has shown signs of weakness. Due to rapid technological progress, intensified competition, market fluctuations, intensified competition, and even the impact of infectious diseases such as COVID-19, traditional measures have been difficult to effectively maintain the competitiveness of enterprises in a turbulent and complex business environment, and financial flexibility plays an effective role in the success and continuation of business organizations [14]. Due to flexibility, enterprises can respond more quickly to environmental changes and uncertainties: they can absorb changes in a short period of time, integrate, develop, and restructure resources and capabilities within the organization [15], which is beneficial for successfully responding to crisis situations and gaining an advantage in intense market competition. Faced with crisis and uncertainty, maintaining sufficient financial flexibility can not only help companies overcome financial difficulties faster, but also enable them to seize investment opportunities in a timely manner, thereby achieving higher efficiency. Therefore, the definition of financial flexibility includes the ability of a company to use increased revenue for investment opportunities and respond to decreased revenue. It is the ability of a company to quickly respond to unexpected changes in cash flow and investment opportunities by maximizing value, and the ability of a company's liquidity to meet unexpected needs [16,17]. Financial flexibility provides enterprises with different choices to cope with unpredictable investment and financing needs in the future [18]. Whether environmental uncertainty is an opportunity or a challenge depends on whether the organization can effectively adjust to new market demands. Generally speaking, companies with higher financial flexibility tend to continue to exist and thrive [19]. Finally, improving financial flexibility is also considered a key tool for predicting organizational performance [20]. By maintaining moderate financial redundancy, such as sufficient cash reserves or adjustable capital structure, enterprises can maintain strategic initiative in the face of economic fluctuations or financing constraints, thereby enhancing their long-term performance. It can be seen that the emergence of financial flexibility is the result of the dual effects of the limitations of traditional theories and the needs of practical situations.

2. The Application of Financial Flexibility in Different Fields

According to [21,22], financial flexibility is applied in different business areas with different policy definitions and implementation requirements, including finance, management, organizational environment, and corporate governance. Financial flexibility is defined by various policies in the financial field, such as debt policy, equity policy, expenditure policy, and cash policy. Financial flexibility in the field of management is defined as the valuation, operational flexibility, and risk management of a company's expensive assets. In the field of organizational environment, it is defined by the legality of the company's legal environment, the organizational channels related to the company, and foreign listings. In the field of corporate governance, shareholder policies contribute to the financial flexibility and transparency of corporate governance. With the development of China's capital market and the improvement of corporate governance mechanisms, financial flexibility has gradually evolved from a theoretical concept to a key capability in enterprise operation practice, which has a profound impact on strategic decisions such as investment, mergers and acquisitions, financing, and innovation of enterprises.

Financial flexibility certainly plays the most specific and direct role in the financial field. Financial flexibility can be defined not only as the ability of a company to attract necessary funds under unfavorable environmental conditions, but also as the ability to use it for investment opportunities when favorable monetization conditions arise, while ensuring the growth of the company. Financial flexibility is particularly important when opportunities to access capital resources are limited, as it can reduce the problem of underinvestment and help avoid costs associated with financial difficulties. The funds required to provide capital for growth can be obtained through the use of available cash reserves and future cash inflows, therefore financial flexibility is related to available cash and potential cash flows. Maintaining cash reserves can ensure faster utilization of investment opportunities, as cash holdings are considered an important factor in investment decisions [4]. However, due to agency issues, the cost of holding cash is relatively high, so many companies choose to maintain relatively low cash balances and retain unused financing capabilities in order to obtain sufficient cash when needed to reduce costs. Therefore, for a company, potential cash inflows may be more important than cash holdings. Adequate financial flexibility can help companies cope with adverse external events and seize good investment opportunities [23]. Previous studies from multiple perspectives have consistently concluded that financial flexibility can make businesses more stable. The main purpose of managing financial strategy is to ensure that the enterprise maintains its ability to obtain capital from the market, especially in situations involving unexpected cash flow shortages or investment prospects. Fundamentally, financial flexibility enables managers to effectively manage unpredictable cash flow demands, while also enabling businesses to optimize their inherent growth opportunities. Working capital management policies are one of the important aspects that have a significant impact on operational success. The investment policy of working capital is reflected in the level of current assets in the company's asset structure. In contrast, the financing tools used by the company for current asset financing reflect the financing policy for working capital. An active working capital investment policy can maintain a low level of current assets for the company. Following such policies can generate greater cash flow for various payments or investments, and ensure greater financial flexibility.

Debt capacity is also considered a form of financial flexibility. Capital structure is a mixture of equity and debt. Enterprises with more equity financing are considered financially flexible organizations. These enterprises have retained their borrowing capacity to cope with future unexpected events and growth opportunities [17]. Previous research on capital structure has shown that, in general, a company's leverage ratio is lower than the leverage ratio predicted by mainstream theories. This phenomenon is attributed to the tendency of companies to maintain financial flexibility in their unused debt capacity, as this allows them to avoid financial distress during negative shocks and provide funding for investments when opportunities arise [4]. Debt buffer can be seen as a measure of financial flexibility, defined as the amount of debt that a company can still borrow without facing high risks of credit reduction, and measured as the difference between debt capacity and debt ratio. However, when evaluating financial flexibility, the ability to attract external financing sources through issuing stocks is often overlooked, as external financing can come from debt or equity. External equity financing typically

depends on a company's ability to conduct an initial public offering or issue additional shares, while external debt financing is typically limited by the company's current leverage ratio. Young companies often have limited borrowing opportunities. Therefore, the ability to attract financial resources through IPO issuance is crucial, and the possibility of internal financing and its impact on the growth of young companies should not be forgotten.

Financial flexibility also has a strong application range in different industries, such as manufacturing, services, information technology, and banking. At present, the existing industry research on financial flexibility focuses on the manufacturing industry, high-tech/information technology industry, energy industry, real estate industry and agriculture/food industry. These industries are highly sensitive to fixed assets investment, technology update and policy impact, and financial flexibility is crucial to their long-term development. For example, in the manufacturing industry, companies often face fluctuations in raw material prices and capacity adjustments, and financial flexibility can help them arrange capital expenditures and inventory management reasonably [11]; The information technology industry, due to its fast technological iteration and high R&D investment, also needs to rely on good financial flexibility to support continuous innovation and business expansion [24]. Since the outbreak of COVID-19, the service industry, especially high contact industries such as transportation, accommodation, cultural tourism and entertainment, has been greatly impacted and has become a new focus of financial flexibility research, making it more urgent for enterprises to rely on financial flexibility to maintain basic operations and strategic adjustments. With the increasing uncertainty of the external environment, research on the industry adaptability of financial flexibility is constantly deepening. In the future, it is expected to achieve more detailed theoretical expansion and empirical breakthroughs in industry feature recognition, differences in enterprise lifecycle stages, and governance structures.

3. Concept and Characteristics of Financial Flexibility

3.1. Concept 1: From the Perspective of Adapting to Environmental Changes

Financial flexibility plays an important role in maintaining the survival and prosperity of enterprises in a constantly changing market environment [19]. Therefore, improving financial flexibility is a feasible solution to help businesses grow in turbulent environments. Financial flexibility means that companies can avoid financial difficulties during negative shocks and provide funding for investments at any time when profit opportunities arise. In the face of uncertain environments, financial flexibility plays an important role in corporate strategic adjustments [18]. Based on the theory of dynamic capability [25], dynamic capability is the core competitiveness for enterprises to survive in dynamic environmental changes. Dynamic capabilities require financial flexibility support [26]. Financial flexibility refers to the extent to which financial resources can support a company's ability to survive and seize opportunities in the face of environmental changes [27]. It reflects the company's inherent comprehensive strength in reducing financial risks and effectively utilizing financial resources in the face of dynamic financial environment changes [18]. The characteristic of a financially flexible company is to hold more cash, which makes it easier or more cost-effective to obtain external debt financing [28]. Financial flexibility refers to the ability of a company to acquire and utilize financial resources at the lowest cost, representing the company's ability to effectively respond to unexpected shocks in cash flow or investment opportunities [18]. Enterprises need financial flexibility because it can enhance investment capabilities and reduce reliance on internal finances, especially during economic downturns. During financial crises, financially flexible companies can obtain better investment opportunities and perform better than financially inflexible companies [3]. Enterprises that maintain large capital reserves and prudent leverage guidelines are often more robust and able to maintain performance during times of crisis [29]. Financial flexibility is the ability of a company to raise economic resources, respond to expected investments and expansion opportunities, and provide strength to cope with any unexpected events in the future, which helps to maximize the company's value [18,30]. Financial flexibility represents a company's ability to seek and manage finances in less stable companies. Companies with financial flexibility have the ability to protect themselves from adverse shocks and protect themselves when favorable opportunities arise [31]. According to [32], companies that maintain financial flexibility can manage the revenue shortfall caused by the pandemic. Compared to companies with poor flexibility, these companies are more resilient and are less likely to encounter financial difficulties. This study emphasizes the necessity of maintaining financial

flexibility to withstand unexpected economic downturns. The stock prices of enterprises with greater financial flexibility are less adversely affected by the COVID-19 crisis. On average, they will perform about 10% better than enterprises with lower financial flexibility [32]. Therefore, business owners or managers are increasingly concerned about financial flexibility [18].

3.2. Concept 2: From the Perspective of Flexible Constituent Elements

Graham & Harvey [5] proposed that financial flexibility is the ability of a company to retain debt for timely acquisition or use of financial resources in the future. Morais et al. distinguished between financial flexibility and priority theory to elucidate the reasons why companies tend to choose internal funds over debt [33]. The argument for financial flexibility advocates that companies should maintain their borrowing capacity in order to invest in future investment opportunities. Modigliani & Miller were both leading analysts who introduced the broad concept of flexibility [34], which refers to a company's ability to handle "large amounts of unused borrowing options" [21]. Evidence has shown that financial flexibility measured by cash holding levels depends on a balance between the costs and benefits of higher liquidity positions. Generally speaking, costs typically include tax disadvantages and the possibility of low cash reserve returns. The benefit is that it saves money in raising funds, issuing new capital, or disposing of assets, reduces the likelihood of default, avoids expensive funding, and even lacks alternative financing. According to the Chief Financial Officer, financial flexibility is the primary task in a company's financial management decisions, and it is also the most important determining factor in capital structure decisions. Financial flexibility is a core issue of concern for company executives, and the desire for companies to maintain flexibility is an inevitable part of financial policies [17]. Financial flexibility can benefit businesses in two ways. First, financial stability helps alleviate the problem of insufficient funds when there is a shortage of funds. Second, it may help avoid costs associated with economic difficulties. The entire economic structure and financial practices of a company are referred to as financial flexibility. Flexibility can be described as the ability to maintain debt flexibility to allow for potential investments or acquisitions, which is a choice to lower interest rates by keeping debt at a low level or maintaining a certain cash surplus in the event of a business crisis. Financial flexibility enables enterprises to respond promptly to investment opportunities or unforeseeable changes in cash flow, and maximize value [35,36].

Through the interpretation of the meaning of financial flexibility from the above two different perspectives, we can summarize some characteristics of financial flexibility. The author will use the following five keywords to describe them, as shown in Table 1:

Table 1. Characteristics of financial flexibility.

Keywords	Explain
Elasticity	Enterprises can adjust their capital structure or resource allocation without affecting their operations.
Forward-looking	Not only is it a passive response, but it also reflects the strategic foresight of the enterprise. For example, laying out cash reserves in advance or reserving debt space to cope with future uncertainties.
Dynamic nature	Not static traits, but changing over time, strategy, and environment.
Multidimensional nature	It is not a concept that can be fully measured by a single indicator, including cash holding level, adjustment space of capital structure, debt payment ability, etc.
Risk resistance	During crises or economic downturns, companies with strong financial flexibility are less likely to go bankrupt or experience cash flow disruptions, serving as a 'financial cushion'.

4. Determining Factors and Measurement of Financial Flexibility

Financial flexibility is typically defined as the accumulation of a company's remaining cash over time. Cash holding has the benefits of saving transaction costs and preventing motivation [37]. If a company has excess cash, even if other sources of funding are unavailable, managers can use it to provide funding for ongoing operations and expanding investment opportunities, as studied by Myers & Majluf [38]. Holding sufficient cash provides an opportunity to utilize good investment opportunities, promote business growth, and protect the

company from adverse situations [3]. Therefore, if companies can choose to receive cash when needed to avoid delayed payments, then they have financial flexibility. Companies with financial flexibility are characterized by high cash levels and/or low debt ratios, indicating that raising cash can achieve financial flexibility for the company. A survey conducted on 392 Chief Financial Officers of American companies announced that CFOs are interested in making decisions about a company's capital structure to obtain, maintain, and restore its financial flexibility and loan interest rates. Avoiding accountability and financial difficulties can raise additional funds to achieve legitimate goals. If the company has sufficient internal funds, they do not need additional funds in the form of loans or shareholder securities. If additional funds are needed after all internal resources have been exhausted, the loan should be treated as an external resource. In this situation, companies must utilize flexibility to avoid financial distress [21]. The size, risk, profitability, debt level, research and development concentration, growth opportunities, and external financing costs of a company are the explanatory factors for its cash holdings.

Leverage is an important determinant of financial flexibility, playing a role as insurance during periods of company downturn. By adopting a low leverage policy, financial flexibility can be achieved, and maintaining a low leverage ratio can generate future borrowing capacity and create space for increasing leverage ratio [3]. Research shows that more flexible companies invest more during periods of decline than other companies. Before internal funds are available, companies with financial flexibility are less sensitive to investment costs than those without flexibility. Leverage and cash were once closely related because leverage provided more ways to obtain cash, and liquidity has always been of great significance in financial flexibility [3].

The company's expenditure policy is also one of the important determining factors of financial flexibility. According to [39], companies will change their dividend strategy based on the need to maintain financial flexibility. However, some researchers have shown that companies delay dividends to maintain financial flexibility. These studies assume that companies with a stronger desire for capital stability often have higher capital reserves and lower leverage ratios, which can be achieved by reducing dividends. Companies with financial flexibility pay lower cash dividends than those without flexibility. Therefore, cash dividend decisions are important for business growth as they reduce the company's net assets and increase investors' personal net assets. This may also inhibit the company's expansion strategy, and companies should carefully choose dividend policies to maintain financial flexibility [3]. This is the same as maintaining a lower level of debt. However, dividend policy is a trade-off between maintaining financial flexibility and eliminating agency costs [17].

Furthermore, previous studies have consistently suggested that financial flexibility also depends on individual effects, which reflect the ability of senior managers to predict future choices and risks, as well as their ability to adopt more conservative strategies to protect the company from adverse consequences. The ability of senior managers, as well as the company values and other business dimensions that managers can determine, are captured through individual effects in the leverage prediction model. Unfortunately, this individual effect is unobservable, and current research has not yet found a specific method to measure the extent to which individual effects affect financial flexibility. The approach of most researchers is to use it as a component of the error term related to the explanatory variable, thereby generating bias in the estimation.

Therefore, there are four common indicators for measuring financial flexibility. The first one is called a single indicator, which refers to holding cash [1,16,40–43] or leverage [44–46] as the measurement standard. Single indicators are favored due to their simple calculation and ease of understanding, and their results are also relatively intuitive to display. However, it must be acknowledged that relying on a single indicator may be subject to interference from other factors, leading to inaccurate evaluation results. Therefore, scholars both domestically and internationally have further developed judgment methods that combine multiple indicators based on this foundation; The second type is called multiple indicators, which refer to indicators that measure both cash holdings and leverage [4,9,18,22,40,41,47,48], or liquidity, leverage, and internal funds simultaneously [21,49]. Compared to the single indicator judgment method, the multiple indicators can provide a more comprehensive perspective and to some extent eliminate the interference of other factors, allowing us to compare the financial flexibility levels of different enterprises through these indicators. However, some scholars still believe that this method has shortcomings in comprehensiveness and meticulousness. Therefore, based on this, the multi index comprehensive method has emerged; The third method is the multi index comprehensive method [50], which mainly assigns different weights to different

financial indicators to calculate a comprehensive score, in order to evaluate the financial flexibility level of the enterprise. Compared to the multiple indicators method, the multi index comprehensive method is more detailed and comprehensive, and can better reveal the differences in financing capabilities between enterprises. However, this method is difficult to make clear judgments on the specific financing methods for different types of financially flexible enterprises. Therefore, there is still room for improvement to expand its applicability; The fourth type is the popular Altman's [51] Z Score measurement index in recent years. It was proposed by American financial scientist Edward Altman in 1968 as a financial indicator model for predicting whether a company is likely to go bankrupt. The formula for Altman's [51] Z Score is as follows:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

In the formula, X_1 = current assets/total assets; X_2 = retained earnings/total assets; X_3 = earnings before interest and taxes/total assets; X_4 = market value of shareholders' equity/book value of total liabilities; X_5 = sales revenue/total assets. Z-Score 2.675 is considered as the company's green safety zone; Companies with a score exceeding 2.67 are financially flexible companies; A Z-Score of 1.81 is considered a critical point, and companies below this point are considered to lack flexibility and may lead to bankruptcy. However, scores between 1.81 and 2.675 are considered an uncertain region, but may safely go bankrupt in the next two years [52]. Enterprises with higher Z-Score scores usually exhibit a certain degree of financial flexibility in multiple dimensions, but this does not mean that Z-Score is the best tool for measuring financial flexibility.

5. Financial Flexibility and Corporate Investment

One of the main functions of a financial manager when faced with long-term financing decisions is how current financing decisions affect future financing choices. Financial flexibility is an increasingly important concern for financial managers when making debt decisions, as they want to protect the credit rating of credit companies to preserve unused debt capacity and provide funding for future investment opportunities [3]. At present, researchers focus on two aspects of financial flexibility and corporate investment: financial flexibility and investment capability, and financial flexibility and investment efficiency.

5.1. Financial Flexibility and Investment Capability

Companies with high flexibility have the ability to obtain necessary financing to seize investment opportunities [18]. The relationship between financial flexibility and investment capability is reflected in a company's ability to respond to unexpected fluctuations in cash and investment opportunities, as well as the timeliness of such responses and the ability to maximize company value [14,18]. Financial flexibility leads to investment profitability, especially during economic downturns [29], depending on the size of the company. Compared to small companies, large companies make better investment decisions with the help of financial flexibility. For private, young, and small businesses, financial flexibility has high value. In addition, companies in countries with weak legal protection systems and underdeveloped capital markets benefit more from flexibility by pursuing conservative leverage policies. Companies that enjoy financial flexibility have greater investment expenditures and develop effective and pragmatic investment policies to reduce levels of overinvestment and underinvestment [53]. Organizations with financial flexibility have greater investment capabilities, reduce reliance on internal funds, and improve performance during times of crisis [29]. Financial flexibility is an essential part of capital structure decision-making and is closely related to a company's future investments. Companies that adopt minimum leverage policies help them become more financially flexible, which enhances their investment potential. Financial flexibility also provides managers with opportunities to increase capital expenditure investments. Therefore, financial flexibility can prevent corporate borrowing and create opportunities for future growth [21]. The effectiveness of financial flexibility for enterprises depends on their intention and ability to achieve and maintain financial flexibility. The two main ways in which financial flexibility becomes important for enterprises are to avoid financial distress costs in crisis situations and alleviate the complexity caused by insufficient investment [18].

Many studies have examined the investment capabilities of financially flexible companies and how they can seize future investment opportunities, and researchers from different countries have different perspectives. Ferrando et al. investigated the relationship between financial flexibility and investment propensity of European companies from 1993 to 2010 [54]. The goal of this study is to imagine whether financial flexibility will lead to better and more investment. Ferrando et al. found that financial flexibility has a significant positive impact on the investment ability of Eurozone firms [54]. The author also reports that financially flexible companies have sufficient reserve borrowing capacity to raise external funds and make more investments in the years following the implementation of conservative financial policies. Setianto & Kusumaputra also reached the same conclusion using data from Indonesia's manufacturing industry, that financial flexibility promotes investment activities [55].

Cherkasova & Kuzmin [53] analyzed the impact of corporate financial flexibility on capital investment using Asian company data. Using the backup lending capacity model, the results indicate that financially flexible companies have made significant contributions to their investment costs by reducing levels of excess and insufficient funds, and have implemented efficient financing strategies.

Islam et al. explored the relationship between financial flexibility and the investment ability of Chinese listed companies [56], confirming the significant positive impact of financial flexibility on the investment ability of Chinese listed companies, as financially flexible Chinese companies place great emphasis on investment expansion to achieve better corporate performance. This important relationship is due to conservative debt policies allowing companies to borrow additional capital without assuming high risks, which enables them to spend more on investments and implement more important investment policies by overcoming issues of overinvestment and underinvestment, thereby reducing investment distortions during restricted periods [56]. Financial flexibility provides additional borrowing capacity, allowing for easy access to capital markets even during challenging periods of external financing. Therefore, financially flexible companies can leverage future profitable projects [56]. This advantage stems from the company's concern about sacrificing today's borrowing benefits in order to establish debt capacity for future growth opportunities [56]. Previous studies have shown that financing decisions have a direct impact on investment decisions, and choosing the right capital structure can lead to better investment decisions.

Xie & Zhao argue that the accumulation of financial flexibility helps to reduce the risk of corporate reputation and enables companies to survive in environments of maximum uncertainty [57]. Financial flexibility greatly promotes investment expenditures, however, their investments mostly depend on the investment prospects brought about by economic downturns and do not care about the supply of internal financing. The level of financial flexibility differs between emerging countries and third world countries. Financial flexibility is very helpful for companies in making decisions regarding investment, debt, and equity, and also contributes to overall identity performance. If the average investment over the past three periods is equal to the current investment amount, it indicates that the company is operating at its maximum investment level [35, 36]. Financial flexibility will improve the performance of enterprises by reducing overinvestment and inefficiencies [29].

5.2. Measurement of Investment Capability

Investment capability refers to the ability and willingness of an enterprise to invest existing funds or fundraising income into capital expenditure projects, reflecting the growth potential, strategic vision, and resource allocation efficiency of the enterprise. A company with strong investment capabilities is usually able to continuously promote capacity expansion, technological upgrading, and market development, thereby achieving long-term value growth. In actual operation, investment capability not only depends on the financing ability of the enterprise, but also closely related to its internal capital operation, strategic planning, and external environment. Therefore, financial flexibility has become one of the core elements that affect investment decisions and capability levels of enterprises. In empirical research at the enterprise level, investment capability is often measured through the following financial variables:

$$\text{Capital expenditure ratio} = \frac{\text{Capital expenditure}}{\text{Total assets}}$$

$$\text{Total asset growth rate} = \frac{\text{Current total assets} - \text{Previous total assets}}{\text{Previous total assets}}$$

$$\text{Fixed asset growth rate} = \frac{\text{Current net fixed assets} - \text{Previous net fixed assets}}{\text{Previous net fixed assets}}$$

5.3. Financial Flexibility and Investment Efficiency

The correlation between financial flexibility and investment activities is related to Myers & Majluf's pecking order theory [38], which is also covered by [54, 58] and others. However, references [49, 59] briefly considered financial flexibility and its impact on investment efficiency. The correlation and practicality between financial flexibility and investment efficiency have attracted numerous researchers. The relationship between financial flexibility and company performance is influenced by investment efficiency and investment scale, with investment efficiency having a greater impact. In addition, due to differences in macroeconomic policies and economic and legal environments, the value of financial flexibility varies by country and region [29]. Financial flexibility is determined by leverage, internal funds, or cash holdings, which are becoming increasingly important for a company's investment objectives. The link between leverage, internal funds, and cash holdings and investment efficiency has created a new research field that financial researchers are introducing. The current research extends the term financial flexibility to the missing link between capital structure decisions and corporate performance [53]. Financial flexibility is an important component of capital structure decision-making and is closely related to future investments of enterprises. The ability of enterprises to raise external financing can reduce investment distortions, especially in situations where financing is limited. Financial flexibility is the main reason for maintaining a low leverage ratio, even if these companies have the opportunity to raise funds through a profitable tax reduction option [56]. Companies with financial flexibility are less affected by financial crises, and European companies confirm that flexibility is an important determinant of capital structure policies during market downturns.

The value of financial flexibility is closely related to a company's investment capability. In an imperfect market, financial flexibility in the form of conservative leverage policies prompts managers to make decisions. To avoid potential financial difficulties and economic shocks, companies are eager to maintain a certain degree of flexibility and invest in profitable projects when the possibility arises. Investment efficiency is related to deviation from the optimal investment level. This means that the optimal investment level is the level at which a company chooses to exit profitable projects and refuses to invest in projects that generate negative returns [56]. In an economy where companies face imperfect capital markets, they are often plagued by agency and information asymmetry issues, which may force companies to choose projects with negative net present value rather than continuing with projects with positive net present value. According to [53], these situations are commonly referred to as overinvestment or underinvestment. La Rocca et al. explained why companies maintain low debt ratios even when they have profitable options to obtain external funding [60]. They demonstrated that during a single period, the company maintained a specific leverage ratio due to its strategic tools and market competition. The recent study conducted by [49] introduced a mechanism of investment scale and efficiency that mediates between financial flexibility and firm performance, indicating a positive correlation between financial flexibility and investment strategy scale and efficiency. However, Nouri & Jafari pointed out that financial flexibility may lead to overinvestment or underinvestment [59], therefore, studying financial flexibility and investment efficiency is crucial. Despite the tax advantage of obtaining debt financial flexibility, companies tend to avoid abnormal amounts of debt [34]. Companies implementing minimum leverage policies help them become financially flexible, thereby enhancing their investment capabilities [16]. Financial flexibility provides managers with opportunities to increase capital expenditure investments. This means that financial flexibility limits corporate borrowing and creates opportunities for future growth. Enterprises utilize financial flexibility to respond to positive investment opportunities and adjust their investment strategies. While serving the scale and efficiency of investment strategies, a company's financial flexibility is positively correlated with its

performance. This means that financial flexibility not only provides managers with opportunities to improve their investment levels, but also offers them the chance to use funds for projects with higher profitability and lower risk, freeing them from plans with higher risk and more economical returns. Therefore, financial flexibility can lead to better investment strategies and company performance [56].

Financial flexibility enables managers to invest in high-risk projects, despite market friction, ultimately investing funds in negative net present value or loss making projects. Financial flexibility also minimizes shareholder agency conflicts to the greatest extent possible [56]. A large amount of debt and investor confidence are negatively affected, as the outcome of debt may ultimately lead to the risk of company default or bankruptcy. However, rational behavior of investment managers can minimize investor skepticism and largely eliminate inefficient investments [61]. Financial flexibility can bring additional borrowing capacity, which can be used to fund profitable projects and continue business operations during difficult times, especially when external financing is challenging. In addition, financial flexibility can also be used to develop profitable projects, reduce underinvestment or overinvestment, and thereby improve investment efficiency.

5.4. Measurement of Investment Efficiency

Investment efficiency refers to the absence of underinvestment or overinvestment points in a company. Investments that exceed the optimal investment level are called overinvestment or abnormal investment, while investments below the optimal level are called underinvestment. Investment efficiency means that by minimizing the degree of overinvestment and underinvestment, suboptimal investment decisions can be reduced [17]. It is the company's choices that drive them to pursue profitable projects and reject all loss making projects. Investment efficiency is closely related to a company's free cash flow and investment decisions. According to agency cost forecasts, information asymmetry is typically high in emerging markets. When managers have free positive cash flow, they can squander it or invest in projects that may result in losses. In addition, when managers are able to obtain cheap funds, they may waste the company's cash [53].

Richardson explained total investment as the sum of total expenses, acquisition, and research and development expenses [62]. The total investment can be divided into maintenance investment, efficient project investment expenditure, and abnormal investment. The model derived from [62] is the most widely used method in current literature, called the "measurement method based on deviation from the optimal investment level". The core idea of this method is that the degree of deviation between a company's actual investment and its "theoretical optimal investment" reflects the level of investment efficiency. The greater the deviation, the lower the efficiency. This method consists of two steps in total. First, using regression models to predict the "optimal investment level" of enterprises, Tobin's Q is usually the main explanatory variable, and other control variables such as company size, cash flow, debt ratio, etc. can also be added. Second, subtracting the predicted value from the actual investment value of the enterprise, the residual part is the indicator of overinvestment or underinvestment.

Reference [63] explored how monetary policy affects the investment efficiency of Chinese listed private enterprises through financing constraints. The investment efficiency calculation method used by [63] is consistent in theoretical basis and logic with Richardson's method [62], but slightly different in specific model settings and usage purposes. It can be said that Han & Zhang [63] extended and applied the Richardson [62] method to a certain extent by combining Chinese context and policy variables. Both follow the same logic of measuring investment efficiency, that is, the degree of deviation of enterprise investment is the difference between actual investment and the theoretical optimal investment level predicted by explanatory variables such as Tobin's Q. The smaller the degree of deviation, the closer the enterprise's investment behavior is to "rationality", that is, the higher the investment efficiency. The difference between the two lies in the model setting and research focus.

Titman et al. [64] did not directly construct residual indicators of "investment efficiency" like Richardson [62], but instead used the "Investment-Q" model under Tobin's Q theory framework to explore the relationship between capital structure and investment behavior, indirectly measuring investment efficiency. The core idea of this method is to examine the sensitivity of investments to Tobin's Q and use it to measure investment efficiency. If a company's investment behavior is sensitive to Tobin's Q, it indicates that the

investment is arranged based on future profit expectations and the investment behavior is relatively "effective"; If high leverage weakens this sensitivity, it indicates that high debt levels reduce investment efficiency, meaning that companies cannot fully utilize their investment opportunities.

Cherkasova & Zakharova proposed a method for measuring the efficiency of corporate investment in their study [65], mainly based on the comparison between the current investment level and the historical average investment level of the enterprise. In this study, the author suggests evaluating a company's investment efficiency through three steps. First, determine a time window, such as the past three or five years, and calculate the average investment amount of the enterprise during that period. Second, compare the current year's investment amount with the historical average investment amount mentioned above. Finally, if the current investment amount is close to the historical average investment amount, it indicates that the company may be implementing a stable and consistent investment strategy, which may be considered as the "optimal" investment strategy; If the current investment amount is significantly higher than the historical average, there may be a risk of "overinvestment"; But if the current investment amount is significantly lower than the historical average, there may be a problem of "underinvestment". The core idea of this method is that a company's investment level should remain relatively stable without significant changes. Significant deviations may reflect the irrational behavior of enterprises in investment decisions, thereby affecting their investment efficiency. Although this method is computationally simple and easy to implement, it does not take into account changes in the external environment of the enterprise, such as market demand, technological progress, etc. It also tends to overlook the impact of enterprise strategic adjustments or lifecycle stages. In practical applications, comprehensive analysis should be conducted by combining other factors and methods to obtain more comprehensive and accurate evaluation results.

6. Financial Flexibility and Corporate Performance

The impact of financial flexibility on corporate performance has mainly been studied since the end of the 21st century. Corporate value is a key indicator of a company's performance and prospects, serving as the benchmark for investors' investment decisions and determining the success of the company. It is influenced by many factors, including financial flexibility, corporate governance, financial constraints, depreciation, company size, and tangibility. Understanding the factors that affect business performance is crucial for stakeholders such as managers, investors, and policy makers in the modern business environment.

Generally speaking, companies with significant financial flexibility have robust cash flows, strong balance sheets, and low-cost debt. There is still abundant research on whether companies with financial flexibility in normal times will lead to strong corporate performance. However, these research findings are contradictory as some believe that high financial flexibility has a positive impact on firm performance [49,66]. However, some people argue that high financial flexibility can have a negative impact on corporate performance [67], because from the perspective of self financing constraints, low financial flexibility can lead to insufficient investment, while high financial flexibility can lead to overinvestment, especially from the perspective of agency costs. Some people believe that financial flexibility has interval effect on corporate performance [26]. From 2011 to 2017, Yi analyzed the impact and mechanism of financial flexibility on the performance of manufacturing companies listed on the Shanghai and Shenzhen stock markets in China from the perspective of self dynamic capabilities [26]. Yi's article points out that there is an inverted U-shaped relationship between financial flexibility and corporate performance of Chinese manufacturing listed companies [26], while supporting the argument that financial flexibility has interval effects on corporate performance. The performance of multinational and local companies based on financial flexibility may differ, as international companies must face changes in foreign government regulation, policies, environment, and culture. However, during the financial crisis, financial flexibility had a significant and positive impact on the performance of multinational corporations, and there were no significant changes in organizational structure when dealing with external shocks [3]. Asymmetric information also plays an important role in determining cash holdings and corporate performance. The high degree of information asymmetry leads to low cash holdings, and vice versa. The

pecking order theory and transaction cost theory have also shown a positive correlation between firm performance and cash holdings [3].

References [17,18,29] all use "Return on assets" as a measure of corporate performance. Enterprise performance refers to the operational efficiency and performance of a company during a specific period of time. The indicators for measuring micro performance are divided into subjective and objective categories. Considering the availability of data and the composition of financial flexibility indicators, "Return on assets" has been selected as the main objective indicator for research testing, and "Return on assets" is defined as the ratio of after tax income to average total assets. The "Return on assets" indicates the effectiveness of a company in generating profits through the use of its assets, and it implies how the management effectively utilizes the company's assets, as stated by [17]. The specific calculation formula is:

$$\text{Return on assets} = \frac{\text{Net income}}{\text{Total assets}}$$

7. Research Gaps on Financial Flexibility

In recent years, financial flexibility has gradually received attention from the academic community, especially in terms of corporate financing constraints, investment decisions, capital structure adjustments, and coping with external shocks. However, there are still some research gaps or areas that have not been fully explored. In author's opinion, they mainly involve the following eight aspects:

First, the dynamism and nonlinear effects of financial flexibility. Existing research mostly focuses on static financial flexibility, while there is relatively little research on how companies can dynamically adjust their financial flexibility, such as adjusting with economic cycles and industry fluctuations, especially with insufficient empirical testing of dynamic trade-off theory. The dynamic trade-off theory is an extension of traditional trade-off theory, and its core idea is that enterprises should dynamically adjust their capital structure according to internal and external environments at different time points, rather than statically maintaining an optimal capital structure level. Fischer et al. [68] first systematically proposed the theoretical model of "dynamic adjustment of capital structure", emphasizing that due to the existence of adjustment costs, enterprises will not completely return to the target capital structure in every period, but will have "adjustment regions". Leary & Roberts subsequently empirically supported that a company's capital structure would regress towards the target value, but at a limited pace. [69] Strebulaev further discusses the complexity and misunderstandings of dynamic adjustment using both theoretical and empirical approaches [70]. In addition, the benefits of financial flexibility may exhibit non-linearity with increasing levels, for example, excessive flexibility may lead to an increase in agency costs, but specific thresholds and critical conditions still lack systematic research.

Second, the heterogeneous impact of financial flexibility. There may be significant differences in the mechanism of financial flexibility among enterprises of different sizes, lifecycle stages, and industry attributes, but targeted research is insufficient. The value of financial flexibility may differ between emerging markets and developed markets due to differences in property rights protection and financial market completeness, but there is limited cross institutional comparative research.

Third, the combination of financial flexibility and emerging technologies/scenarios. The theoretical framework for how the digital transformation of enterprises, such as the application of big data and AI in financial decision-making, affects the construction and utilization of financial flexibility has not yet been formed. In terms of ESG and sustainable flexibility, does ESG performance enhance corporate resilience by improving financial flexibility? Is there a synergistic or trade-off relationship between ESG development and financial flexibility? Does the measurement of financial flexibility need to include environmental and social dimensions in the context of green finance? These questions can provide theoretical basis for financial arrangements of enterprises in green transformation or social responsibility fulfillment, but so far no clear answer has been obtained.

Fourth, the non-financial consequences of financial flexibility. Does financial flexibility truly promote innovation in enterprises, or is it only used for short-term risk avoidance? The existing conclusions are contradictory. How does financial flexibility affect a company's human capital investment or supply chain resilience?

Fifth, improve the measurement of financial flexibility. The existing metrics may be fragmented and require the development of comprehensive indicators, such as combining liquidity, financing capacity, and capital markets for comprehensive evaluation. How to quantify and incorporate "implicit flexibility" in off balance sheet financing, such as supply chain finance, leasing, government subsidies, etc. into research?

Sixth, expanding the perspective of behavioral finance. How do psychological factors such as managerial traits such as overconfidence and risk appetite affect a company's preference for financial flexibility? There is relatively little research on similar behavioral finance perspectives. Does the capital market overestimate or underestimate the value of financially flexible enterprises? This also needs to be analyzed in conjunction with investor sentiment.

Seventh, internationalization comparison and cross-cultural research of financial flexibility. Is there a difference in the dependence of companies on financial flexibility between high uncertainty avoidance culture and low uncertainty avoidance culture? How can multinational corporations balance global unified financial strategies with local flexible demands?

Eighth, the negative effects of financial flexibility. Will high financial flexibility lead to excessive investment or waste by management, such as the problem of "cash redundancy"? Maintaining flexibility may sacrifice other strategic opportunities, including mergers and acquisitions, market expansion, etc., which also requires quantitative weighing of the pros and cons.

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