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Behavioural Capital Structure: A Systematic Literature Review on the Role of Psychological Factors in Determining the Capital Structure

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Abstract

Capital structure decision is one of the most important business decisions with a significant impact on firm's performance, valuation, risk, and long term solvency. Firms try to obtain the optimum capital structure to enhance the overall value of the firm. The concept caught the attention of academicians and practitioners since the theory of capital structure was promulgated by Modigliani and Miller in 1958. Since then, various theories of capital structure were developed by leading experts. However, no single theory is universally accepted and applicable due to the complexity of the subject matter. Each firm decides its capital structure, taking into consideration the various internal and external factors affecting the decision. These determinants of capital structure were empirically studied through various researches by various academicians across the world. By reviewing the literature, the study aims to understand the behavioural aspects of the capital structure decision. The paper attempts to understand the behavioural and psychological characteristics of the manager while choosing the capital structure. Individual preferences, biases, choices, and personality traits play a very crucial role in the decision making process, and this sometimes deviates the decisions away from rationality as assumed in the classical financial theories. The paper aims to present a conceptual understanding of the behavioural capital structure by summarising the findings and conclusions of scholarly literature.

Keywords: Determinants of Capital Structure, Behavioural Capital Structure, Managerial Psychology, Emotional and Cognitive Biases

Introduction

Finance is primarily concerned with money, currency, and capital assets. The field of finance is closely connected with economics and accountancy, and is still regarded as a separate branch of discipline. The broad sub-fields of finance can be broadly divided into personal, corporate, and public finance, depending on the nature of activity and decision. The history of finance is as old as the history of money. The origin of finance can be traced back to the start of civilisation. The early evidence of money and finance can be found around 3000 BCE in Babylon and the Indus Valley civilisation. Till the middle of the 20th century, finance was considered an integral part of economics; however, from the middle of the 20th century, finance has emerged as a distinct academic discipline and started gaining recognition as a specialised branch of study.

Finance is a study regarding decisions and movement of money which takes place in financial systems among households, corporates (businesses), and governments. Thus, finance studies the channelisation of funds from savers with access to funds to the users who demand funds for productive purposes; such a flow takes place by issuing and selling financial securities and assets. The suppliers of funds are compensated or rewarded by providing appropriate returns in the form of interest or a part of the profit of the commercial activity. Personal finance takes care of decisions regarding meeting personal financial needs and takes place through well-thought-out plans of spending, saving, and investing, while at the same time considering the monetary risks. Corporate finance,

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on the other hand, deals with the financial decisions of the business enterprises to maximise the value of the business. Corporate finance is primarily concerned with raising and utilising the funds. Financing decision, investment decision, dividend decision, and working capital decision are widely considered the four important corporate financial decisions. The last category is public finance, which deals with the financial decisions of government and public entities. Public finance is mainly concerned with revenue, expenditure, budgetary process, and public debt of the state. Public finance has a tremendous impact on the growth and development of the nation as a whole.

It is very hard and unclear to identify the exact origin of finance. Originally, finance was confined to satisfying personal needs and could be managed through the barter system. The concept of currency and modern forms of money and finance came into existence much later. The concepts of lending, borrowing, interest, and so on came to light in 1800 BCE. The use of metal coinage started somewhere around the 7th century BCE. Later, finance was a subject of states and primarily concerned with revenue, tax, and the spending of the kings and kingdoms. According to Chandra (2015), financial management as a separate branch of study emerged around the 20th century. The traditional phase that spread from the 1920s to 1940 mainly focused on arrangement and application of funds. The transitional phase started in early 1940 and lasted till early 1950. During this phase, emphasis was laid on the financial problems faced by finance managers in managing the daily affairs, and hence, focused on working capital management. The modern phase of financial management started in 1950; it witnessed tremendous growth and development in the principles and practices of financial management. The scope of financial management was enhanced drastically, and the complexity and functioning of finance management increased due to the introduction of new and sophisticated financial instruments, players, processes, and so on. Barradas (2015) made a systematic literature review of the evolution of financial sector across the globe in the last decades, where the first stage is financial repression, characterised by the existence of several restrictions and regulations in the financial market. The second stage is development, which showed liberalisation and deregulation of the financial system. The final stage is financialisation, expressed by the large growth of the financial sector. Levy (2016) provided a comprehensive non-technical historical overview of money and finance, starting from the Sumerians till the financial instruments and policies responsible for the 2008 credit crisis.

The first part of the paper describes the evolution of classical finance theories, scope, prominent contributors, and criticism and limitations of classical financial theories. The second part briefly outlines some of the leading and well-discussed theories of capital structure, along with their assumptions, applicability, and limitations. Emergence, evolution, and development in behavioural finance is discussed in part three, along with significant concepts, theories, and contributors. In the last and final part, the behavioural aspects of capital structure decision is discussed, by conducting a comprehensive and systematic review of available literature on the subject matter.

Classical Finance Theories

The classical approach to finance was predominantly developed since the 1960s and resulted in the evolution of various path-breaking theories in finance. The classical or standard theories of finance include some leading contributions like the arbitrage principle by Modigliani and Miller; modern portfolio theories by Harry Markowitz; William Sharpe's capital assets pricing model (CAPM); Fischer Black and Myron Scholes' Black-Scholes option pricing model; efficient market hypothesis by Eugene Fama; random walk theory by Kendall, Roberts, and Osborne; and others. Samal and Mohapatra (2020) provided a summary of leading classical finance theories in their conceptual paper. These theories are based on some common assumptions, such as: investors are rational; investors have access to all the market information; markets are fully efficient; investors have perfect self-control; and (in a few theories) absence of personal or corporate tax; and so on. These assumptions are very often challenged and criticised when used in the real world scenario. The neoclassical school of thought, which was introduced by Irwin Fischer, focused on the rationality of individuals who always aim at maximising their utilities, whereas Wesley Mitchell provided the institutional school of thought, which focused on the role of institutions in economic development.

Expected utility theory, which was proposed by John Von Neumann in 1944, argued that rational individuals always try to maximise their utilities or benefits. In 1952, modern portfolio theory was developed by Harry Markowitz, which served as the base for many portfolio

theories later on. It suggests that an investor can construct the most favourable portfolio by maximising the returns at the given level of risk or minimising the risk at a given level of returns. The theory introduced the concept of diversification and efficient frontier, which is known as 'optimum portfolio'. A highly significant theorem was proposed by Franco Modigliani and Merton Miller in 1958, which became the base for studying the capital structure decision. According to the original version of the MM theory which assumed no tax, it was concluded that capital structure has no impact on the value of the firm; hence, two identical firms having different capital structures should have the same value. The assumption of no tax was later removed and the updated theory was announced, taking into consideration the presence of tax. The movement and behaviour of stock price were studied by Kendall, Roberts, and Osborne in 1953, and it was observed that the movement of stock price follows a random pattern, without showing any visible and obvious trends. This gave rise to the random walk theory, which suggests that the movements and responses of the share prices are dependent on the availability of fresh information, which itself is random in nature.

A very important relationship between the risk of an asset and expected returns was studied by William Sharpe in 1964; he proposed one of the most popular and influential theories of capital asset pricing model (CAPM). The model provided a very comprehensive understanding on the construction of portfolio and the risk-returns relationship between various securities. Eugene Fama developed the efficient market hypothesis in 1970, which claimed that the price of the share reflates all the available information about the share and generally moves around the intrinsic value. He argued that the market cannot move away from equilibrium in the long run, and any deviation from the equilibrium will be automatically corrected by the market players and prices will come back to the level of the intrinsic value. One of the major contributions was the Black-Scholes option pricing model developed by Fischer Black and Myron Scholes in 1973. It provided a strong base for valuing the options and framing the option trading strategy.

Classical Theories and Determinants of Capital Structure

The study of capital structure holds a very prominent position in financial literature. It explains the composition between the debt and equity of the firm. The concept gained attention since Modigliani and Miller published their study on capital structure without tax in 1958. They termed the theory capital structure irrelevant theory, as the capital structure has no impact on the valuation of the firm. In 1963, they improved the theory by introducing the element of tax in their theory and argued that the levered firm enjoyed higher valuation to the extent of tax benefits on debt. Since the original theory was published in 1958, capital structure decision was widely studied by leading academicians and practitioners. Taking the base from the MM theory, various other theories of capital structure were developed by taking different sets of assumptions. Luigi and Sorin (2009), Iqbal et al. (2012), Nguyen et al. (2019), Ali et al. (2013), Korzh (2015), and so on have provided a detailed summary of major theories of capital structure. Modigliani and Miller (without and with tax), trade-off theory, pecking order theory, signaling theory, agency cost theory, and market timing theory are some of the leading contributions in the field of capital structure. These theories provide an insightful and different perspective on the subject matter; it could be argued that no single theory is universally applicable and acceptable.

Capital structure decision is one of the major financial decisions of a business, and one of the major influencing factors determining the performance and valuation of the firm. If the firms fail in deciding the optimum mix of debt and equity, potentially they face serious financial difficulties, including bankruptcy. Firms constantly strive for optimum capital structure, which is characterised by lowest overall cost of capital and maximum firm's valuation. However, empirical studies and evidences show a mixed relationship between capital structure and value of the firms. A few studies conclude that there is a positive relationship between the two, while other studies provide contrary perspectives. The empirical study by Luu (2021) on 23 firms in Vietnam during 2012-19 shows the inverse relationship between capital structure and firms' valuation. A study conducted by Aggarwal and Padhan (2017) to understand the impact of capital structure on firms in the Indian hospitality industry shows the opposite. By applying pooled OLS, and fixed effect model and random effect model of regression on the panel data of Indian hospitality firms listed on the BSE from 2001-15, it was concluded that firms' capital structure has a significant positive impact on the firms' valuation. Fumani and Moghadam (2015) found no significant impact of firms' capital structure on the value of the

firm for the listed companies in Iran. Thus, there is no universally acceptable relationship and impact of capital structure on the firms' valuation. A few empirical studies found no significant relation between capital structure and valuation, while other empirical studies found the relationship to be significantly positive or negative. Hence, the exact nature of impact of capital structure on value of the firm still remains debatable among academicians, researchers, and experts.

Capital structure decision is one of the key financial decisions which firms need to make. It is complex in nature and has tremendous implications on the overall performance of the firm. Firms need to take utmost care when deciding upon the judicious mix of various sources of finance in their capital structure. This decision must be taken considering various factors, which are commonly known as the determinants of capital structure. There cannot be an exclusive list of determinants of capital structure, as the nature and intensity of impact of these factors substantially differ from firm to firm, industry to industry, and country to country. According to Gas (2014), all these determinants can be classified as macroeconomic – outside the purview and control of the enterprise and microeconomic factors – within the control of the firm. A large quantity of researches and studies have been conducted to understand the determinants significantly affecting the capital structure decision. The results of these researches produce mixed conclusions. By conducting an extensive literature review on the determinants of capital structure, it can well be concluded that there is no single determinant which has the same impact under all the studies and researches. Some of the commonly observed and identified determinants of capital structure are size of the firm, profitability, asset size, availability of tangible assets, liquidity, tax benefit, ownership pattern, business risk, growth opportunities for the firm, age of the firm, and so on. The expected impact of these factors is explained in the theories of capital structure. Empirical studies revealed that the determinants do not follow a particular theory all the time. Sibindi (2016) conducted a literature review on the subject matter and found that the pecking order theory and trade-off theory substitute each other rather than complement each other in understanding the factors influencing financing decision. Pandey and Singh (2015) conducted a comprehensive literature review on the subject over one and a half decades, both in India and international literature. Based on their review, they were able to identify 11 commonly observed determinants of capital structure. A similar review was conducted by Prabodh Kumar (2018), and it concluded that the relationship between the determinants and capital structure is not consistent. It is still unclear what the significant determinants of capital choice are; the results of previous empirical studies even found varying, contradicting conclusions and findings.

Behavioural Finance

Even though classical financial theories have contributed significantly in answering some of the important aspects of financial decision making, they did not remain isolated by criticism. The classical theories are criticised and challenged by the opposite school of thought known as behavioural theories, mainly due to the inherent limitations and assumptions of classical theories. The classical theories of finance are criticised primarily in terms of deviation from rationality. Individuals cannot remain rational all the time and are driven by psychological factors in decision making. Another criticism is on the possible deviation from fundamental value and market pricing. The market seldom reflects the fundamental or intrinsic value of the financial assets as assumed in the classical theories. There is also the presence of irrational factors in the market which drive the market from its equilibrium. Quite often the market signals are misleading due to the presence of such irrational participants. These criticisms and limitations of classical theories led to the birth and evolution of a contrary school of thought popularly known as the 'behavioural finance theories'.

Sulphey (2014) provided a detailed background on how psychological factors play a very significant role in the decision-making process. Financial decisions are not the exception. Behavioural finance as a separate branch of study has emerged due to the shortcomings, criticisms, and limitations of classical finance theories and their assumptions which are unable to incorporate human psychology and behavioural aspects while taking financial decisions. Individuals tend to show behavioural traits based on their age, gender, profession, income, education, experience, perception, knowledge, attitude, personality, socio-demographic profile, and so on. Behavioural finance has gained popularity over the last two decades and extensive research has been done in the area due to the belief that the investors hardly behave in a way explained in the classical finance theories. Forbes (2017) concludes

that quite often it can be observed that human behaviour deviates from the assumption of rationality, which indicates a significant impact of psychological factors on the financial decision-making process. Kahneman and Tversky pioneered the study on behavioural finance in 1979 by criticising the expected utility theory and highlighting how individuals behave in the case of certain and uncertain outcomes. Prospect theory propounded by Kahneman and Tversky summarised the investors' action and reaction in the event of potential gain or loss. Biases, heuristics, limit to arbitrage, prospect theory, mental accounting, and so on are some of the major concepts and fundamentals around which the study of behavioural finance is built. Sharma et al. (2021), Sharma and Kumar (2020), Kapoor and Prosad (2017), Sharma and Sarma (2022), and Saxena and Joshi (2018) provided a comprehensive understanding on the emergence, growth, scope, and significance of behavioural finance. Kandapal and Malhota (2018) conducted a study on the investors in Dehradun and concluded that behavioural and demographic factors have a great impact while taking investment decisions. Sendilvelu and Shah (2021) carried out research to understand the effect of behavioural finance on the investment decisions of single parents. They found that the investors' risk taking capacity depends on the level and source of income. Ogunlusi and Obademi (2019) investigated the impact of behavioural finance on investment decision-making in Nigeria. The study found the evidence of a positive relationship between behavioural finance and investment decisions. The study also found that there is a significant relationship between prospect theory, heuristics, and individual investment decision in Nigeria. Budhiraja et al. (2018) provided a conceptual understanding of the impact of behavioural finance on investment decisions.

Psychological factors not only influence the individual financial decision-making, but also have very serious implications and influence on the corporate financial decisions. The decisions taken by owners and managers do affect the primary objective of value creation and wealth maximisation. Behavioural corporate finance examines the role of psychological biases, preferences, risk appetite, personality attributes, and so on, of the managers in financial management of the firm, which influences the investment, financing, and dividend decisions. Hersh (2005) and Chandra (2016) rightly expressed that "Behavioural corporate finance identifies the key psychological obstacles to value maximising behavior, along with steps that managers can take to mitigate the effects of these obstacles". Malmendier (2018) provided an overview of three leading streams of research and emphasised how behavioural corporate finance can significantly contribute to the broader field of behavioural economics. Baker et al. (2005) conducted an inquiry to review the theory, empirical challenges, and current evidence pertaining to each approach, of which one emphasises that the investors are less than fully rational, and the second assumes that the managers are less than fully rational.

Behavioural Capital Structure

In corporate finance, the study of capital structure decision has always been debatable, controversial, and constantly evolving. No single classical theory or set of factors can explain the financing decision of the firm without considering the behavioural aspects involved. The corporate financial decisions taken by the managers do not remain immune to the impacts of the managers' psychological factors. This section provides a systematic review of literature on the behavioural and psychological dimensions of capital structure decisions by the managers.

Bilgehan (2014) reviewed the literature on psychological biases and capital structure. By taking the inputs from the available literature and previous studies, he summarised the findings of previously done researches. Theoretical and empirical evidences observed by Bilgehan supplement the presence of emotional and cognitive biases like overconfidence, optimism, loss aversion, anchoring, and so on, in making capital structure decisions. Managers are affected by their psychological and behavioural characteristics, and are proved to be irrational. They tend to misjudge and misinterpret the available information during the decision-making process. The influence of sentiments on the capital structure in France was examined by Oliver and Mefteh (2010). They applied a pooled cross-sectional time series model on the data obtained from 1995-2004. The results of the study show that industry and investors' sentiments are negatively related to leverage, while they are positively related to the managers' confidence. It can be concluded that overconfident managers prefer debt over equity, supporting the theories of behavioural finance. The risk-taking behaviour of managers for adjusting capital structure was studied by Ullah et al. (2012), by taking the data of the motor and vehicle sector in Pakistan during

2006-2010. It was found in the study that managers are mainly risk averse, showing that they avoid debt capital to avoid bankruptcy costs when the earnings are found to be volatile.

The influence of managerial optimism on debt financing in Indonesia's manufacturing listed companies was analysed by Memarista (2016). A regression analysis on the data from 2010-2014 shows the positive relationship between managerial optimism and choice of debt in capital structure. Nyakundi et al. (2017) empirically examined the effect of managerial overconfidence on the ranking of financial decisions of the firms listed on the Nairobi Stock Exchange. Descriptive statistics, analysis of variance (ANOVA), and multinomial logit regression were used for data analysis; the results indicate a significant impact of overconfidence in ranking the financial sources. Managers characterised by overconfidence are inclined towards equity and debt financing rather than retained earnings. Beli et al. (2019) attempted to study the psychological effect on capital structure by studying the influence of overconfidence on the leverage of listed firms in Malaysia. Based on the data of five years, from 2014-2017, pooled OLS and panel regression techniques were applied. The findings suggest a positive significant relationship between CEOs' overconfidence and firm's leverage. The conclusion is in line with previous empirical studies on the subject.

Pham and Nguyen (2019) conducted a similar study to understand the impact of managers' overconfidence on the capital structure choice of firms in Vietnam. The result of studying 329 firms from 2010-2016 are consistent with other studies, that is, managerial overconfidence has an impact on the capital structure decision of the firm. Overconfident managers prefer higher overall leverage and short-term debt ratio. The overconfident managers of state-owned firms tend to have a higher long-term debt ratio compared to others. Mundi and Kaur (2022) examined the CEO overconfidence and capital structure decision with reference to India. Indian CEOs demonstrate a unique style of leadership, values, and beliefs. Overconfidence of CEOs of BSE 200 firms was measured with the press coverage of CEOs. Using various regression models incorporating different variables, it was found that overconfidence among CEOs led to faulty decisions, and there was often a deviation from the rational decision-making process. The study found that overconfident CEOs chose more debt financing over equity. Overconfident CEOs have higher expectations for future cash flow and consider equity financing as a costlier source of finance, compared to debt financing. Three important managerial behavioural aspects, viz. overconfidence, optimism, and risk aversion, were examined by Abdeldayem and Sedeek (2018). By applying hierarchical regression on the cross-sectional data of 47 managers and 31 firms, they found that managerial optimism and risk-taking ability have a significant positive impact on firms' leverage, while overconfidence has no significant influence on capital structure.

Alqatamin (2018) examined the effect of CEOs' personal characteristics (age, gender, and overconfidence) on 201 non-financial firms in Jordon, from 2008-2013. The results revealed that overconfidence and the gender of the CEO positively and significantly affect the leverage of the firm, while age has a significant negative relationship with capital structure. Babanic (2018) conducted an empirical study to understand the impact of certain psychological factors on the capital structure. The study confirmed that psychological factors affect the financial part of the income statement. The biases and personal beliefs of managers and investors, such as overconfidence and optimism, help mangers form the capital structure on the basis of their own affinity, which not only affects the level of risk, but also the profitability of such firms. Vasiliou and Daskalakis (2009) found that behavioural finance and neoclassical financial behaviour approach are better able to help in understanding the financial managers' behaviour and opinion. Reyes et al. (2022) evaluated the effect of cognitive factors on the debt ratio in the Mexican construction industry. Taking the response from 154 CFOs, structural equation modelling was applied to understand the cognitive factors responsible for corporate financial decisions, including capital structure. The findings provide a new perspective, in addition to the classical and behavioural theories of corporate finance.

Cagli et al. (2018) examined whether the sentiments of managers and investors affect the capital structure decision of manufacturing firms in Turkey, listed between 2010 and 2017. Consumer confidence index and real sector confidence index were used as indicators for the investors' sentiments and managers' sentiments. Panel data analysis of the data found a statistically significant negative relationship between investors' sentiments and leverage level and managers' sentiments and debt-equity ratio. This implies that when the sentiments increase,

the debt level of the firm decreases. Barros and Silveria (2014) found a strong positive relationship between overconfidence, managerial optimism, and leverage level of the Brazilian firms listed in the Sao Paulo Stock Exchange during 1998-2003. The findings confirm the considerable influence of psychological factors in capital structure decision.

Conclusion

Though classical theories on capital structure provided a comprehensive understanding on one of the most important corporate finance decisions, they still suffer from serious limitations and criticism due to the assumptions based on which the theories were developed. A pioneer study on the subject by Modigliani and Miller opened the door for more rigorous discussion and debate, resulting in the introduction of a few path-breaking works. However, these theories totally ignored the element of human behaviour, which is essentially present in every human action and decision.

With the origin, evolution, and development in the field of behavioural finance, the limitations of classical finance theories could be overcome. The concept of behavioural capital structure attempts to incorporate the behavioural aspects in choosing the source of finance for the business. The literature reviewed in the paper clearly show the significant influence of managerial behaviour on the leverage decision. The empirical studies and researches done to identify and understand the psychological factors in choosing the capital structure highlight the strong presence and influence of such factors on managerial decision-making, including the capital structure decision. Managers' psychological traits, like risk aversion, overconfidence, optimism, emotional and cognitive biases, and so on, significantly impact corporate decisions and firms' performance. The capital structure choice can neither be studies by classical theories or behavioural theories alone. Rather, it can be holistically examined by taking the insights from both schools of thought. Behavioural finance is still an evolving field of study and many major questions remain unanswered. One such question is why a human being thinks and behaves in a particular way. Going ahead, with the help of technological development, emergence of neuroscience, brain mapping techniques, and so on, such unanswered questions and mysteries could possibly be solved and a comprehensive picture can evolve, presenting the answer to the ever-debated and discussed area of corporate capital structure decision.

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