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CAPITAL STRUCTURE DECISIONS BY MULTINATIONAL CORPORATIONS: A NEW APPROACH

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ABSTRACT

The capital structure of multinational corporations (MNCs) is a complex and multidimensional phenomenon that significantly influences their operational efficiency and financial decision-making processes. This article investigates the diverse factors impacting capital structure decisions, emphasizing the interplay of internal and market conditions. Through a comprehensive analysis of existing theories and empirical studies, we identify key determinants such as profitability, tax considerations, business risk, growth opportunities, agency costs and shareholder wealth.

In light of these findings, we introduce a novel metric, Signaling Capital Structure Ratio, designed to enhance capital structure analysis by reflecting the actual decisions made by insiders within MNCs. This proposed ratio aims to provide a more accurate assessment of how MNCs navigate their financing strategies in response to various internal and external factors. By focusing on the intentions and actions taken by decision-makers, this approach offers valuable insights into the complexities of capital structure management.

Our findings underscore the importance of achieving an optimal balance between debt and equity financing, which can enhance overall performance, reduce capital costs, and improve risk management. By applying this new ratio, MNCs can better adapt their strategies to dynamic market conditions.

Our study reconsiders established theories on capital structure, presenting evidence of a significant paradigm shift among U.S. nonfinancial corporations. The findings underscore a transition toward alternative financing strategies, challenging traditional approaches to debt, equity and dividend distribution preferences. The research provides valuable insights into how corporations are leveraging capital allocation to navigate recovery and achieve long-term sustainable growth.

Keywords: capital structure, multinational corporations (MNCs), financing decisions, signalling capital structure ratio (SCSR), capital structure theory

JEL Classification: G32, G01, M41, E01

INTRODUCTION

The capital structure of MNCs holds diverse importance. First and foremost, it affects the corporation's cost of capital, which, in turn, impacts profitability, investment decisions, ability to counter risks and enhance shareholder wealth. By achieving an optimal balance between debt and equity financing, MNCs can optimize their capital costs, enhance overall performance and adjust their risk profile accordingly. The level of debt assumed affects the corporation's vulnerability to financial distress and bankruptcy. Distribution of liabilities by their sum and structure originates complex obligations to stakeholders of nature that are much deeper than the amount on balance or paycheck. It involves multidirectional stakeholders' interests through voting rights, power of suppliers and creditors, etc. The importance of earnings distribution has lately grown. Furthermore, the capital structure can influence the corporation's ability to respond to economic downturns, seize growth opportunities and manage appropriate risks. By maintaining an appropriate capital structure, MNCs can enhance their flexibility and resilience in dynamic market conditions.

Researchers have made significant strides in identifying factors that influence capital structure decisions. Different theories have emerged, each offering unique perspectives on this complex phenomenon. These theories provide insights into fundamental economic factors and their expected impact on capital decisions. Empirical studies have consistently identified profitability, tax rates, business risk, growth opportunities, and agency costs as crucial determinants of capital structure.

While specific factors are essential in understanding capital structure decisions, it is crucial to acknowledge that these factors do not exist in isolation. Multiple factors, series, and unexpected events interact simultaneously, affecting the capital structure decisions by MNCs. For example, changes in interest rates, exchange rates, or economic conditions can impact both the availability and cost of debt and equity financing. Moreover, unexpected events such as financial crises or regulatory changes can significantly disrupt the capital structure dynamics of MNCs.

Proposed earlier approaches do not line on resulting metrics, which logically addressed problem being complex, multilevel and sometimes unrealized (as risks), but need to be evaluated anyway.

This article is dedicated to resolving some issues most capital structure studies face.

In this article, we propose a proxy for capital structure analysis that has the potential to become the first information used in appropriate research. The proposed approach provides an adjusted indicator for capital structure based on insiders' intentions and actions taken rather than unmaterial changes as market revaluations. Moreover, the proposed approach applies to other financial ratios but it is subject to another article.

LITERATURE REVIEW

In its early stages of theoretical development, capital structure was considered inconsequential to corporate performance, as posited by Modigliani and Miller (1958, 1963). However, as market imperfections and behavioural considerations came into play, the notion of optimal capital structure emerged with the advent of the trade-off theory. This theory integrates the impact of corporate taxes, financial distress, and agency problems on capital structure decisions.

Simultaneously, the recognition of information asymmetry gave rise to the signalling hypothesis and the pecking order theory, challenging the existence of an optimal leverage level. While these theories revolve around the relationship between capital structure and corporation performance, they offer divergent insights regarding the direction and significance of the influence between these two pivotal aspects.

Modigliani and Miller (1958) introduced the first of their two theorems on capital structure, known as the MM I Theorem. According to this theorem, a corporation's capital structure, i.e., the mix of debt and equity used for financing, does not impact its market value. Instead, the value of a corporation is solely determined by its underlying cash flows and level of risk, independent of how it is financed.

However, the MM I Theorem is predicated on certain assumptions, including the existence of perfectly efficient markets where investors possess all the necessary information to make rational investment decisions. Moreover, it assumes the absence of taxes and bankruptcy costs. In an ideal world where these assumptions hold true, a corporation's value would remain unaffected by its capital structure.

In reality, though, these assumptions do not hold perfectly. Tax considerations can incentivize corporations to opt for debt financing, while bankruptcy costs can impact the value of corporations that rely heavily on debt. Nevertheless, the MM I Theorem remains a valuable analytical tool for comprehending the interplay between capital structure and corporation value. It offers a fundamental benchmark against which to assess the effects of real-world factors, such as taxes and bankruptcy costs, in shaping corporations' financial decisions and performance. By acknowledging its limitations and accounting for real-world complexities, we can better understand the implications of capital structure decisions for multinational corporations and their overall financial well-being.

In their 1963 paper, Modigliani and Miller demonstrated the MM II Theorem, which states that a corporation's value could indeed be influenced by its capital structure when corporate taxes are considered. Specifically, they revealed a positive relationship between a corporation's value and financial leverage, indicating that corporations can enhance their overall worth by increasing their debt levels. This is due to the tax-deductible interest debt payments, which effectively reduce a corporation's overall tax burden and boost its cash flows.

These statements allow us to assess the extremes of evaluating the impact of capital structure.

The trade-off theory of capital structure, formulated by Kraus and Litzenberger (1973) and Myers (1984), posits that corporations carefully weigh the advantages of debt-related tax benefits against the potential costs of financial distress when deciding on their capital structure.

The tax benefits of debt financing arise from the tax deductibility of interest payments, enabling corporations to reduce their overall tax burden. In contrast, dividends on equity do not enjoy the same tax advantage, making debt financing a more tax-efficient choice.

Conversely, the costs of financial distress encompass direct expenses associated with bankruptcy, such as legal fees, and indirect costs, such as losing customers and suppliers. These costs can be significant and tend to escalate as a corporation's debt levels increase, underscoring the importance of prudently balancing leverage.

According to the trade-off theory of capital structure (Kraus, Litzenberger, 1973), corporations strive to adopt a capital structure that maximizes the net difference between the tax benefits of debt and the potential costs of financial distress. This implies that corporations will be inclined to employ more debt financing when the tax benefits are substantial, and the expected costs of financial distress are comparatively low.

The trade-off theory is a valuable and empirically supported framework for comprehending corporations' capital structure decisions. Corporate financial managers utilize this theory as a guiding principle when making critical determinations about capital structure to optimize corporation value and performance.

Notably, the trade-off theory of capital structure is dynamic, allowing for changes over time. Altering a corporation's tax rate or risk profile can influence the optimal capital structure. As corporations adapt to evolving market conditions, their financial strategies may evolve to align with new circumstances.

The pecking order theory is another dynamic theory (Frank and Goyal, 2007) based on asymmetric information. This means managers have more information about the value of their corporation's projects than do investors. This information asymmetry can lead to uncoordinated effects when corporations decide to issue debt or equity to finance their investments.

The pecking order theory suggests corporations finance themselves using internal funds first. This is because internal funds do not have the same problems as debt or equity. Investors do not view internal funds as a signal of risk and do not dilute current shareholders' ownership.

If a corporation does not have enough internal funds to finance its investments, it will turn to debt financing. Debt is less risky than equity and does not dilute current shareholders' ownership. As a last resort, a corporation may issue equity. However, corporations will only issue equity if they believe that the value of their projects is high enough to justify the dilution of ownership.

The Signaling Capital Structure Theory (Ross, 1977) explains that a company's capital structure sends signals to external investors about its quality or financial health. It is based on the idea of asymmetric information, where managers have more information about the firm's intrinsic financial state than outside investors. Managers also know more about the firm's future prospects and profitability than outside investors. Investors rely on signals, such as the firm's choice between debt and equity financing, to evaluate the firm's financial position and prospects.

According to the signalling theory, when a company issues debt rather than equity, it sends a positive signal to the market. The reasoning is that managers would only acquire more debt if they were confident in the company's future financials and ability to service that debt. Debt issuance suggests that managers believe the company is undervalued or that future profitability is strong. Another reason for debt being a positive signal is the cost of bankruptcy. Managers will only choose high levels of debt if they are confident in the company's ability to meet obligations because bankruptcy imposes high financial and reputational costs.

In contrast, issuing equity is seen as a negative signal. Investors may interpret equity issuance as a sign that managers believe the company's stock is overvalued and are trying to capitalize on a higher stock price before a potential decline. Equity issuance can also signal uncertainty about future profitability or a need for external funding due to weak internal cash flows.

Market timing theory (Baker, Wurgler, 2002) suggests that companies prefer to finance themselves with debt or equity based on market conditions rather than purely on their fundamental value or capital structure targets. Here is how it relates to debt and equity financing.

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When a company believes its stock to be overvalued (often during a market boom), it might opt to issue equity, taking advantage of the higher stock prices. Conversely, if the stock is undervalued, the company may prefer to issue debt, as it can avoid diluting ownership and take advantage of favourable interest rates.

Essentially, the theory posits that companies are "timing the market" – issuing equity when they believe their shares are overvalued and opting for debt when they believe their shares are undervalued. This leads to a capital structure that may not align with traditional theories, often suggesting a more stable approach to financing decisions.

This behaviour can lead to inconsistencies in a firm's capital structure over time and might explain why companies sometimes have high leverage in favourable conditions and low leverage during downturns.

A short review of the latest articles highlights emerging capital structure trends reflecting evolving capital financing preferences.

Khaki and Akin (2020) investigate the factors influencing the capital structure of corporations in the Gulf countries (Kuwait, Qatar, the United Arab Emirates etc.). The authors employed regression models and data from more than 320 non-financial corporations between 2009 and 2017, analyzing both individual countries and the Gulf region. The factors have been grouped into four categories. The authors come up with the following conclusions:

1. Positive Impact on Leverage: corporation size, tangibility of assets, and growth opportunities positively influence leverage. In other words, larger corporations, those with more tangible assets, and those with more significant growth potential tend to have higher debt levels.
2. Negative Impact on Leverage: profitability, corporation age, financial constraints, liquidity, and government ownership have a negative effect on leverage. This means that more profitable, older corporations with fewer financial constraints, higher liquidity, and less government ownership tend to have lower levels of debt.
3. Weak Relationship with Operating Risk. The study shows limited evidence of a positive relationship between leverage and operating risk, suggesting that operating risk might not be a strong determinant of capital structure.

Nevil and Lucey (2022) examine high-tech SMEs' capital structure in Ireland and identify critical factors influencing their financing choices. They conclude that older high-tech SMEs place significant importance on internal funding, mainly retained earnings, for their financing needs. However, over time, high-tech SMEs have shifted from equity financing to debt financing. This trend suggests that as these SMEs mature, they rely more on debt financing than equity. The authors also found that high-tech SMEs with higher intangible assets tend to rely more on internal financing. This could be due to the difficulty in valuing intangibles for collateral purposes, which is particularly relevant for technology-focused corporations. While external equity is a prominent choice for initial capital, high-tech SMEs tend to transition towards debt financing as they mature. This aligns with the notion that corporations seek more diverse financing sources as they grow. The decline in the use of external equity might be attributed to difficulties in obtaining venture capital as corporations age, potentially due to higher risk and more complex evaluation processes.

Çam and Ozer (2022) investigate how country-level governance factors impact corporations' capital structure and investment financing decisions. The study focuses on governance aspects like voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. The authors conclude that more robust governance is followed by lower leverage: Companies operating in countries with more robust governance tend to have lower levels of leverage, indicating less reliance on debt financing. Also, companies in countries with better governance opt for longer-term debt maturity, reducing their reliance on short-term debt issuance. The authors find that a conducive institutional environment with robust governance positively affects companies' financing decisions, reduces market friction, and encourages economic growth. Policymakers can leverage these insights to create an environment that supports efficient and effective capital allocation, promoting economic prosperity.

The study by Vu et al. (2020) focuses on how various aspects of corporate governance influence the capital structure choices of Vietnamese listed corporations. The authors investigate factors like board size, board independence, and ownership structures, including managerial ownership, state ownership, concentrated ownership, and foreign ownership. They have divided all factors into three groups:

1. Factors with a positive impact on capital structure. A larger board of directors is associated with a higher capital structure (more debt usage); corporations with state ownership tend to have a higher capital structure; companies with concentrated ownership also exhibit a higher capital structure.
2. Factors with a negative impact on capital structure. Foreign ownership is linked to a lower capital structure (less debt usage).

3. Factors with no apparent correlation. The study did not find evidence of a significant relationship between board independence, managerial ownership, and capital structure.

Al Amosh et al. (2022) examines the relationship between capital structure choices and environmental, social, and governance performance in the context of Jordanian industrial companies listed on the Amman Stock Exchange. The authors conclude that debt financing positively impacts ESG performance across all dimensions (environmental, social, and governance), signalling that companies integrate ESG activities into their plans. Equity financing, on the other hand, does not significantly affect ESG performance. This suggests that shareholders prioritize their interests over broader stakeholder concerns. Debt financing helps mitigate agency costs and information asymmetry, driving companies to engage more in ESG practices to satisfy stakeholders and improve ESG performance.

Kuč and Kaličanin (2021) investigate the capital structure of the largest companies in Serbia after the 2008 global economic crisis. They conclude that the largest Serbian companies' total leverage behaviour is mainly in line with the "pecking order" theory. It is important to note that the "pecking order" theory drives short-term leverage, and long-term leverage conforms to the "trade-off" theory. Moreover, macro context matters in capital structure decisions, e.g., inflation influences leverage positively, and developed banking sectors lead to lower leverage. Therefore, capital structure is crucial for a company's flexibility and ability to respond to threats or opportunities.

The study by Fenyves et al. (2020) focuses on the capital structure of agricultural and food companies in the Visegrad Group countries (Czech Republic, Hungary, Poland, and Slovakia). The findings suggest that more profitable corporations tend to rely less on debt financing. Company size influenced leverage positively only in the Czech Republic, possibly indicating challenges for small-scale corporations to secure debt. Farm structure and relative company size significantly influenced capital structure across the countries. In Hungary, a higher fixed assets to total assets ratio was linked to a lower leverage ratio.

Additionally, growth-oriented companies were more likely to finance growth through debt, supporting the pecking order theory. However, the applicability of the pecking order theory varied, suggesting that other theories, like the static trade-off theory or modified pecking order theory, might play a role. The study highlights the impact of country-specific factors on capital structure and suggests combining multiple theories for a more comprehensive analysis.

Weihan (2022) explores factors influencing capital structure decisions in China by examining variables like profitability, company size, asset tangibility, internal financing ability, tax ratio, growth opportunities, and volatility. Results indicate that company size, asset tangibility, tax ratio, and the previous quarter's debt level positively correlated with leverage. On the other hand, profitability and internal financing ability are negatively related to leverage. However, earning volatility and growth opportunities do not significantly affect leverage. These findings support existing capital structure theories in emerging financial markets. The study finds that factors influencing capital structure decisions in developed markets also apply to Chinese corporations. Chinese corporations tend to rely more on equity financing, prefer short-term over long-term financing, and have relatively lower costs of financial distress due to the state's influence on corporate governance.

AIMS AND OBJECTIVES

The primary aim of this research is to explore and redefine the capital structure decision-making process within multinational corporations (MNCs), tracing their evolution from their formation to the most recent global financial crises. The study seeks to analyze the interplay of internal and external factors, examining their diverse impacts on key stakeholders, including shareholders and management. Additionally, this research aims to uncover global trends in financing strategies by introducing and validating new analytical instruments, a novel metric, the Signaling Capital Structure Ratio (SCSR). By providing a comprehensive understanding of capital structure dynamics, this study offers valuable insights into how MNCs optimize their financing strategies, navigate stakeholder interests, and adapt to dynamic market conditions for long-term sustainable growth.

In addition, our research aims:

- to identify and analyze key factors—such as profitability, tax considerations, business risks, agency costs, and shareholder interests—that influence capital structure decisions in MNCs;
- to evaluate the relevance and limitations of existing capital structure theories, including the trade-off theory, pecking order theory, and signalling hypothesis, in the context of MNCs and evolving market conditions;

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- to introduce and validate enhanced analytical instruments, a novel metric, the Signaling Capital Structure Ratio (SCSR), to provide a more accurate and practical assessment of capital structure decisions, uncovering global trends and insider decision-making dynamics;
- to assess the diverse impact of capital structure decisions on stakeholders, such as shareholders, creditors, suppliers, and regulators, and explore strategies to align financial decisions with stakeholder interests;
- to offer actionable insights for MNCs to balance debt and equity effectively, fostering long-term growth, minimizing risks, and improving adaptability to economic and financial instabilities.

METHODS

Theoretical Analysis. The research is grounded in the theoretical foundations of capital structure theory, with a focus on classical and contemporary models. This includes the Trade-off Theory, Pecking Order Theory, and Signaling Hypothesis, as well as more recent adaptations of these theories in the context of multinational corporations (MNCs).

Document and Literature Analysis. The study employs a systematic analysis of existing literature on capital structure, drawing from empirical studies, theoretical works, and reports on MNCs' financing strategies. This includes a thorough review of global studies on corporate financing decisions, which provide empirical data on the factors influencing capital structure.

Case Study Analysis. Specific case studies of U.S. nonfinancial corporations are used to illustrate the practical evolution in capital structure decisions.

Conceptual Modelling. The article introduces conceptual modelling by proposing the Signaling Capital Structure Ratio (SCSR), a novel metric designed to capture the internal decision-making process within MNCs. This model aims to enhance capital structure analysis by shifting the focus from market-driven external changes (such as stock price fluctuations) to insider decisions. By integrating both theoretical insights and empirical data, the SCSR offers a new way to evaluate how corporate insiders shape financing decisions in response to internal factors and stakeholder interests.

Synthesis and Theoretical Contribution. Finally, the study synthesizes theoretical insights from existing literature and empirical findings to propose new directions for capital structure research. By introducing the SCSR and emphasizing stakeholder considerations, the article makes a conceptual contribution to the field, offering a novel framework for future studies on corporate finance and capital structure.

RESULTS

The above-mentioned proves that capital structure is a complex financial approach facing several issues simultaneously.

One issue is the need for a common metric for evaluating capital structure. While empirical studies use an estimate for capital structure analysis, they still differ from one another.

Another area for improvement is that capital structure results from too many factors to address at a time. Forces affecting capital structure have different economic and accounting natures and, thus, need to be addressed in great detail. This makes a common approach almost impossible to develop. Another approach is to use the broadest perspective possible, try to identify and develop a comprehensive framework.

We propose establishing a new approach for further capital structure research and an intuitive, applicable metric based on common approaches. We apply our approach and the proposed metric to US non-financial corporations as an example.

We chose US non-financial corporations as the object of our detailed study as we believe they represent the real economy. Available statistics from the Integrated macroeconomic accounts, produced jointly by the Bureau of Economic Analysis and the Federal Reserve Board, allow consolidated financial metrics to be treated as a sole entity with a balance resulting from all possible market forces and trends, aggregating actual systemic trends ignoring deeper level specifics (company, industry, sector specifics etc.), blending appropriate managerial decisions.

We were initially intrigued by the net worth dynamics of US non-financial corporations (Figure 1).

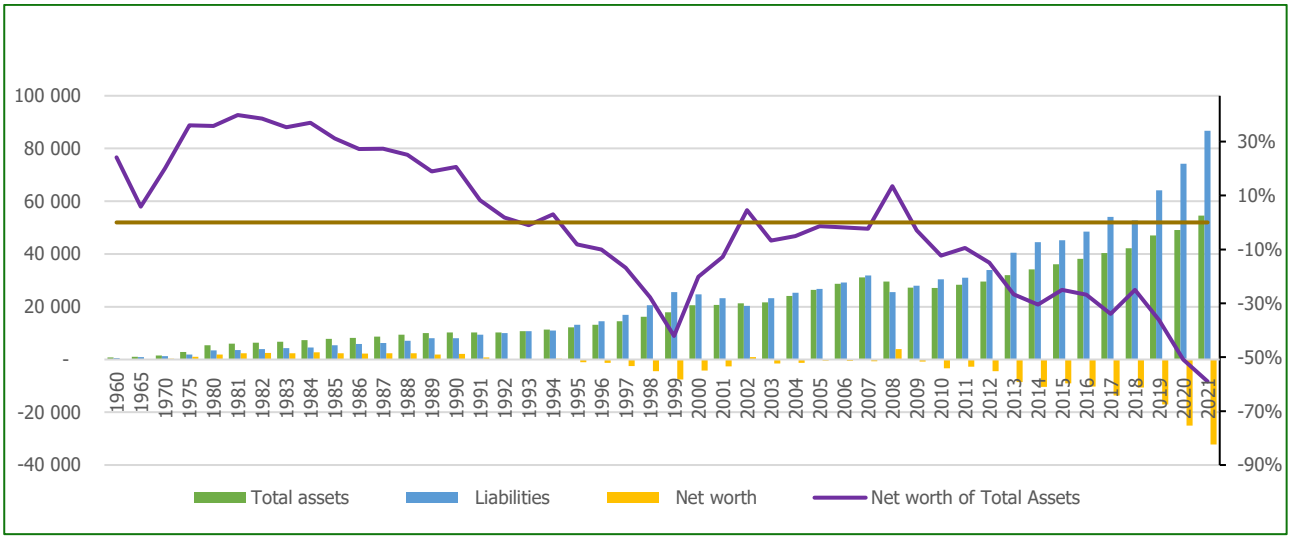

Figure 1. The net worth of US nonfinancial corporations. *(Source: compiled by the authors based on Annual Tables of Integrated Macroeconomic Accounts for the United States (S.5.a Nonfinancial Corporate Business))*

Observing common statistical values of non-financial corporations' total assets relative to their total liabilities, we became intrigued by the unfavourable trend of Net Worth (difference between total assets and total liabilities (*As per the methodology for calculating the gross domestic product, share capital is incorporated in total liabilities*)). It commenced during the early 1980s recession, followed by a recovery phase from the early 2000s, and returned to steady negative dynamics since the 2008 financial crisis. Based on the availability of statistical data, further study will primarily focus on the latter period. After the crisis of the 1990s, there was a tendency towards quicker growth of liabilities rather than assets, leading to a decrease in net worth. This resulted in the first negative net worth in 1993 since the beginning of statistics.

The reasoning behind this was obvious, but its underlying economic essence brought us to our main thought on our capital structure metric. The rationale for such unfavourable net worth dynamics is asset revaluation and its dualistic impact.

On the one hand, we observe growing capital markets, capitalization, indices, and investors' wealth, which is a good standalone. Conversely, equity is on the right side of the balance sheet, an obligation. Dealing with a yearlong perspective, this is hardly an issue; companies have profit within a year to cover and numerous rations and measures to provide precise metrics. However, a more extensive perspective reveals significant cumulative misbalances.

Modern capital markets aim to reflect asset intrinsic value continuously. In an inflationary monetary system like ours, this means constantly growing figures for most items.

Considering that the monetary system has been credit-based for some time, it is reflected in companies' liabilities being made up of capital instruments with a debt or equity nature. Almost three-thirds of non-financial corporate liabilities are made up of equities, added by 9% of debt. Equity is constantly reevaluated as well as debt. At the same time, more than half of non-financial corporate assets comprise non-financial assets (primarily real estate and equipment) and accounts receivable standing for primary economic resources. Their revaluation speed and magnitude can hardly be compared to those of financial assets. Cumulative revaluation of liabilities (primarily equity) has grown steadily since data initial collection, reaching 50% in 1991 and 75% in 2021.

Equity revaluation, which is an unmaterial change, does not influence the asset side of the balance but disturbs the whole balance sheet with all consequences. This raises a huge dilemma about how to treat changes in the balance sheet and respective coefficients concerning capital structure like leverage.

Revaluation plays a predominant role in total equity variance during crises and uncertainties. Revaluation has almost entirely shaped equity change since the end of the 21st century.

Since total liabilities of non-financial corporations are mainly composed of financial liabilities and share capital while total assets contain less than half of financial liabilities, financial market volatility, especially in times of crisis, impacts assets and liabilities with different magnitudes. This explains the anomaly in net worth growth during the recession.

For example, tight monetary policy during economic and financial instability with rising interest rates leads to the depreciation of financial assets due to decreased relative yields. Along with the realization of market and credit risks, the number

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of company bankruptcies and negative revaluation of their share capital increase. The result is a more significant reduction in liabilities relative to assets during crises, increasing net equity.

The following graph demonstrates how much of the total balance is made up of revaluation (Figure 2).

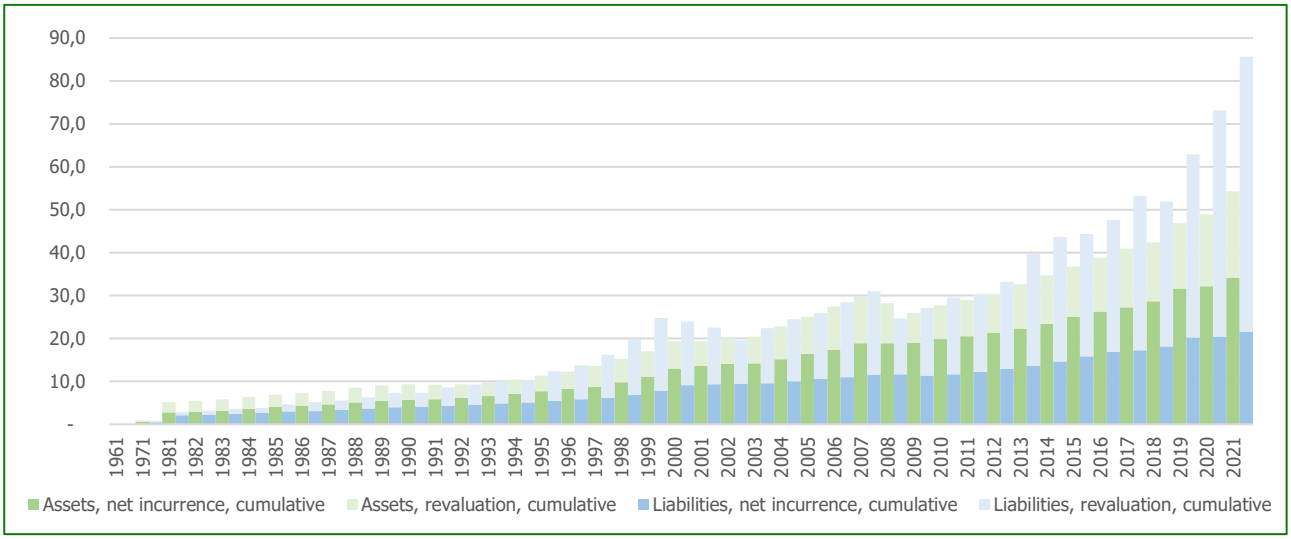

Figure 2. Cumulative asset and liabilities revaluation and net issuance, USD trillion. *(Source: compiled by the authors based on Annual Tables of Integrated Macroeconomic Accounts for the United States (S.5.a Nonfinancial Corporate Business))*

In 1961, net incurrence accounted for 94%, and revaluation was only 6% of the total cumulative asset growth. This indicates high-quality accounting and asset growth been driven by real asset capital investments and acquisitions. By 1981, revaluation had grown significantly, reaching 47% cumulative assets. From 1990 onwards, revaluation's share stabilized around 30–40%. For 4 years since 2009 cumulative assets issued managed to stay below 30%, but demonstrate a steady upward dynamic onwards.

Revaluation's share in liabilities fluctuates significantly over time, reflecting periods of high market volatility and changes in the value of liabilities due to external factors like interest rates or exchange rate movements. By 2021, revaluation had risen to 75%, its highest share, suggesting a major contribution from market-driven changes.

As for capital structure, where long-term debt and bonds counter equity instruments, net issuance is shown in Figure 3.

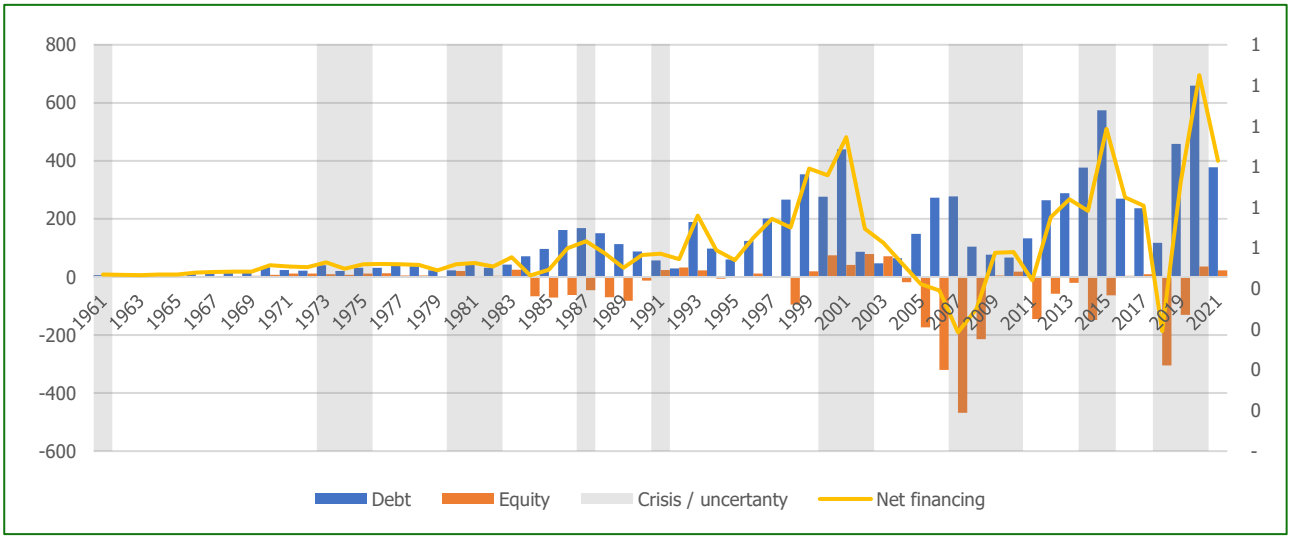

Figure 3. Net issuance of debt and equity by US nonfinancial corporations. *(Source: compiled by the authors based on Annual Tables of Integrated Macroeconomic Accounts for the United States (S.5.a Nonfinancial Corporate Business))*

Exciting trends can be visually noticed: debt financing seems to react on periods of uncertainty that correspond with most of the mentioned theories, while equity financing disturbs all previous conclusions.

Most statements regarding debt financing by trade-off, pecking order, signalling, and market timing theories can be visually observed: financing drops near the crisis start and rises to its end. However, equity financing demonstrates the opposite behaviour. Most companies use debt for buybacks which itself has rarely been mentioned by capital structure theories before.

The resulting balance sheet items support our findings (Figure 4).

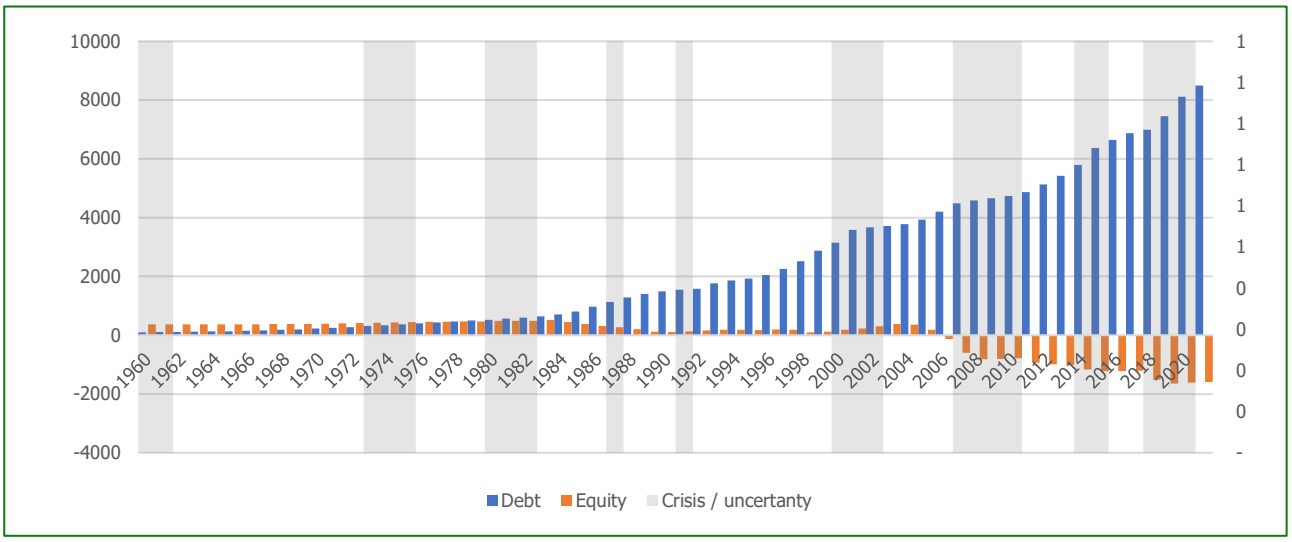

Figure 4. US nonfinancial corporations' debt and equity adjusted. *(Source: compiled by the authors based on Annual Tables of Integrated Macroeconomic Accounts for the United States (S.5.a Nonfinancial Corporate Business))*

In 2006, the cumulated net withdrawal of shares (buybacks) overcame net issuance of equity starting in 1960, and the tendency continues till today. Goldman Sachs predicts S&P 500 buybacks will exceed USD 1 trillion in 2025, more than tripling (3,37 times growth) since 2010 (USD 319 billion). Since then, a constant tendency for buybacks can be taken as a default capital decision, while common capital structure theories cover the rest.

We introduce an approach that allows a better understanding of the rationale behind tendencies observed by focusing on metrics adjusted for their cumulative revaluation.

Applying the proposed approach to the balance sheet, we derive adjusted assets, liabilities, and their components, ignoring revaluations since available statistics since 1960. Keeping out revaluations leaves us with a balance made up of continuously issued net equity and debt, which we believe to be much better proxies for capital structure.

The proposed approach is fully supported by signalling capital structure theory because adjusted balance figures result solely from all previous managerial signals. Trade-off and pecking order theory can only slightly counter the approach because adjusted figures result from actual decisions by managers and shareholders on raising capital and income distribution. Insider decision-makers have the most information on all alternatives and are incentivized to make the best choice possible. Even the survival bias is mostly encountered as all acting entities are included in statistics.

In other words, the proposed approach forms a balance sheet that incorporates all managerial and shareholder decisions while remaining unaffected by outer unmaterial factors. The adjusted balance can be seen in Figure 2.

We also introduce a financial ratio describing the intrinsic capital structure. It uses the common D/E ratio approach, modified to deal with negative cumulative debt or equity metrics we observed.

As a result, the Signaling Capital Structure Ratio (SCSR) is calculated as:

$$\text{SCSR} = \frac{D}{D+E},$$

where D stands for debt, adjusted for revaluations and made up of net issuance, and E for equity, adjusted for revaluations and made up of net issuance for the same period.

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While D/E is informative on short-term perspective or for comparisons on steady balance sheet at a specific moment in time, SCSR reveals the upper-level trends in capital structure. Combined with D/E, SCSR allows a complex understanding of strategic and tactical capital movements, which is also indicative for sole corporations.

Applying SCSR to US non-financial corporations, we observe significantly different dynamics from the classical D/E ratio both over the whole period and during periods of financial distress and uncertainty. Figure 5 shows a comparison of SCSR and the classical D/E ratio.

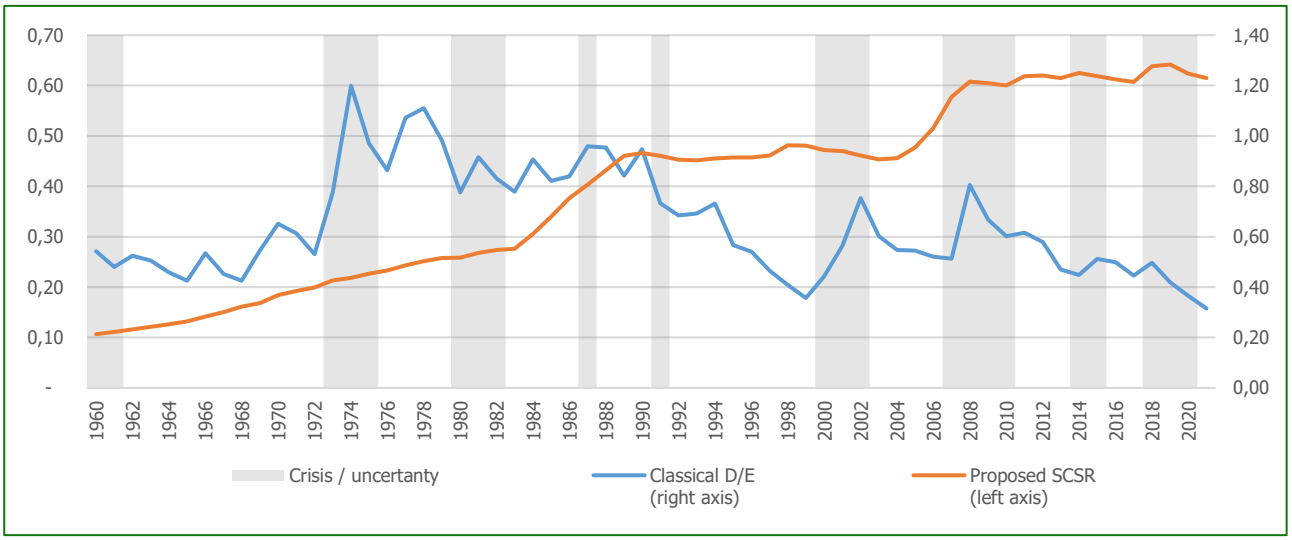

Figure 5. Comparison of SCSR and the classical D/E ratio. *(Source: compiled by the authors based on Annual Tables of Integrated Macroeconomic Accounts for the United States (S.5.a Nonfinancial Corporate Business))*

SCSR in Figure 5 highlights the recent strong preference for equity buybacks, supporting S&P 500 capital actions and expectations.

The Debt-to-Equity (D/E) ratio tends to rise at the onset of economic uncertainty, driven by falling equity market prices, but most often recovers by the end of the crisis period. The overall range has remained relatively narrow, declining steadily from a historical maximum of 0.6 during the 1974 crisis to a historical minimum of 0.16 in 2021.

In contrast, the Strategic Capital Structure Ratio (SCSR) remains relatively stable during periods of uncertainty, while the trend toward equity buybacks intensifies following such periods, as observed after 1982 and 2002.

An SCSR above 1.0 indicates that the cumulative outcomes of equity buybacks have exceeded the cumulative equity issuance since 1960.

In 2006 SCSR crossed 1.00 meaning US nonfinancial corporations have not only bought back as much equity as they had issued since 1960 but steadily continue buying back equity formed by market revaluations, financing the process mostly with debt.

Specifically, we observe that U.S. nonfinancial corporations are increasingly favouring debt financing – not only to fund their core business operations but also as a means to support equity buybacks. This shift indicates that companies are opting for leverage to drive both growth and shareholder returns, while simultaneously reducing the number of outstanding shares. The preference for debt over equity and the growing focus on buybacks rather than dividends suggest a new strategic approach to capital allocation, aimed at maximizing shareholder value without diluting ownership.

We interpret these changes as a clear signal of a broader transformation in the capital structure paradigm. The trends we observe also suggest that U.S. nonfinancial corporations are positioning themselves for a full recovery from economic challenges, with a strong expectation of continued sustainable growth in the long term.

Historically, earnings distribution has played a minor role in the capital structure process and has often been underemphasized in academic research and appropriate theories. However, our study challenges this perspective, revealing a significant shift in capital structure practice.

DISCUSSION

This study introduces a novel approach to analyzing capital structure by proposing a method that exclusively focuses on real money flows, excluding market revaluations. By doing so, it shifts the emphasis toward financing decisions and capital flows that are primarily managed by the financial strategies of multinational corporations (MNCs). This method addresses existing gaps in the literature, where capital structure analyses the balance made up of capital flows and revaluations.

The cornerstone of this research is the development of the Signaling Capital Structure Ratio (SCSR), which serves as a refined tool to evaluate capital structure. By concentrating on insider decisions and actual capital flows, the SCSR offers a practical and applicable metric for both academic research and real-world corporate finance. This innovation is particularly valuable in bridging theoretical concepts with empirical applications, making it a robust instrument for understanding and managing capital structure.

Our findings align with the principles of both pecking order theory and market timing theory. Specifically, the results support the pecking order theory's assertion that corporations prioritize internal financing before seeking external funding, as reflected in the observed tendencies of MNCs to manage their capital structures through retained earnings and targeted debt issuance. Similarly, the study corroborates market timing theory by illustrating how MNCs leverage favourable market conditions to optimize their financing strategies.

However, this study goes beyond the scope of traditional theories by identifying trends and dynamics previously unaddressed by researchers. The introduction of the SCSR has enabled the detection of nuanced patterns in capital structure decisions, such as significant buybacks.

While the proposed method provides significant advancements in capital structure analysis, there are certain limitations. The scope of this study is largely confined to U.S. nonfinancial corporations, which may limit the generalizability of findings to other regions or industries. Future research should aim to test the applicability of the SCSR on micro level.

CONCLUSIONS

This study has explored the intricate factors influencing the capital structure of multinational corporations (MNCs), emphasizing the significance of achieving an optimal balance between debt and equity financing. Our findings reveal that MNCs can enhance their overall performance, reduce capital costs, and effectively manage their risk profiles by carefully considering various internal, psychological, and market conditions.

In addition to these insights, we propose a new ratio for capital structure analysis that reflects the actual decisions made by insiders rather than merely theoretical constructs. The Signaling Capital Structure Ratio aims to provide a more nuanced understanding of how MNCs navigate their financing choices in response to dynamic market conditions.

Our study offers evidence of a notable paradigm shift among U.S. nonfinancial corporations. The findings highlight a movement toward preferences for debt, equity, and dividend distribution.

Furthermore, the introduction of this new ratio offers a promising avenue for future research. This method emphasizes actual capital decisions made by insiders, providing a more accurate representation of a corporation's financial health.

The research highlights that capital structure decisions are not made in isolation; rather, they are influenced by a multitude of economic factors and unexpected events. By recognizing the interplay between these elements, MNCs can better navigate the complexities of financial decision-making.

Ultimately, understanding and optimizing capital structure, through both traditional metrics and our proposed ratio, will be crucial for MNCs' resilience and long-term success.

ADDITIONAL INFORMATION

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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ФОРМУВАННЯ СТРУКТУРИ КАПІТАЛУ БАГАТОНАЦІОНАЛЬНИХ КОРПОРАЦІЙ: НОВИЙ ПІДХІД

Структура капіталу багатонаціональних корпорацій (БНП) є складним і багатовимірним явищем, яке суттєво впливає на їхню операційну ефективність і процеси ухвалення фінансових рішень. У роботі досліджені різноманітні фактори, які впливають на рішення щодо капітальної структури, з акцентом на взаємодію внутрішніх чинників і ринкових умов. Завдяки всебічному аналізові існуючих теорій і емпіричних досліджень, автори виявляють ключові детермінанти, такі як прибутковість, податкові аспекти, бізнес-ризики, можливості зростання, агентські витрати й добробут акціонерів.

У світлі цих висновків автори пропонують новий показник, показник сигнальної структури капіталу, що покликаний удосконалити аналіз капітальної структури, відображаючи реальні рішення, які ухвалюють інсайдери самих БНП. Запропоноване співвідношення дозволяє більш точно оцінити, як БНП обирають фінансові стратегії у відповідь на різноманітні внутрішні й зовнішні фактори. Зосереджуючись на намірах і відповідних ухвалених рішеннях, цей підхід забезпечує цінні інсайти щодо труднощів управління капітальною структурою.

Результати дослідження підкреслюють важливість досягнення оптимального балансу між борговим фінансуванням і власним капіталом, що може підвищити загальну продуктивність, зменшити вартість капіталу та покращити управління ризиками. Використання цього нового показника допоможе БНП краще адаптувати свої стратегії до динамічних ринкових умов.

У дослідженні також переглянуто усталені теорії структури капіталу, зокрема представлено докази значної зміни парадигми серед нефінансових корпорацій США. Результати вказують на перехід до альтернативних стратегій фінансування, що кидають виклик традиційним підходам до боргу, власного капіталу та розподілу дивідендів. Аналізуючи ці нові практики, дослідження пропонує цінні висновки щодо того, як корпорації використовують алокацію капіталу для керування власним відновленням і досягнення довгострокового сталого зростання.

Ключові слова: структура капіталу, транснаціональні корпорації (ТНК), рішення щодо фінансування, сигнальний коефіцієнт структури капіталу (SCSR), теорія структури капіталу

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