

Examining the Effects of Macroeconomic Variables and Firm's Characteristics on Capital Structure Adjustment Speed

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Abstract

Purpose: This study aims to identify, estimate, and analyze the factors influencing the speed of capital structure adjustment among firms listed on the Tehran Stock Exchange. Specifically, it focuses on the impact of firm-specific characteristics and macroeconomic variables on the rate at which companies adjust their capital structures.

Method: This study examines the impact of macroeconomic variables, including exchange rate, inflation rate, interest rate on bank deposits, and economic growth rate, alongside accounting variables such as return on assets, firm size, asset tangibility, cash flow, and growth opportunities, on the speed of capital structure adjustment. To achieve this, a dynamic partial adjustment model with panel-simultaneous data was employed, utilizing the generalized method of moments (GMM) for a reliable estimation of capital structure adjustment speed. The sample analyzed consists of 154 firms over a 10-year period from 2014 to 2023.

Results: The findings indicate a significant relationship between macroeconomic variables and firm characteristics with the speed of capital structure adjustment during the study period. Additionally, the results reveal that financial leverage tends to move more swiftly towards the firm's target leverage when influenced by changes in macroeconomic variables, compared to adjustments driven by changes in firm-specific characteristics.

Conclusion: Given that inflation and exchange rates continuing to rise, it is crucial to implement effective policies to mitigate this volatility, this requires not only greater transparency in government monetary policy, but also a commitment to consistent and appropriate implementation by policymakers.

Contribution: This research emphasizes the importance of factoring in broader economic contexts when developing financial policies for companies. It also sheds light on the complex dynamics of capital structure adjustments in response to varying economic factors.


Keywords: Adjustment Speed, Capital Structure, Firms Characteristics, Macroeconomic Variables.

Research Article

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Introduction

The capital structure of business organization is a key factor in its management. There is a substantial body of empirical evidence that demonstrates that firms in practice tend to operate within an optimal range of capital structure. Should they deviate from this optimal range for any reason, they will return to it as soon as possible. In light of this, the speed at which firms are moving towards this capital structure and the average time required to adjust leverage ratios represents a crucial aspect within the field of capital structure theories. The optimal capital structure of a firm is determined by a number of factors related to enhancing profitability and value. Capital structure decisions made by firms influence the cost or net worth of a firm. A well-informed decision can enhance shareholder value, whereas an ill-advised decision may result in a reduction in the net worth of the firm. In order to maintain a competitive advantage, leaders of successful firms must be able to adapt to the ever-changing landscape of optimal capital structures. This requires a keen awareness of factors such as firm-related variables, the economy, capital market conditions, and government regulations.

Materials and Methods

The research method is correlational in nature and content, and is designed to be practical in terms of purpose. The research is based on a statistical population comprising all firms admitted to the Tehran Stock Exchange and active on the stock exchange from the beginning of 2013 to the end of 2022 (for a period of 10 years). In this research, the screening method has been employed to ensure that the statistical sample is an accurate representation of the desired statistical population. To achieve this, a dynamic partial adjustment model with panel-simultaneous data has been utilized to obtain a reliable estimate of the capital structure adjustment speed through the use of the generalized method of moments (GMM). In this regard, two models have been developed. The first model is designed to determine the speed of capital structure adjustment, while the second model examines the relationship between the speed of capital structure adjustment and macroeconomic variables and firms' characteristics.

Results and Discussion

The objective of this research was to empirically examine the relationship between economic and accounting factors and the speed of capital structure adjustment. The first hypothesis examined the speed of capital structure adjustment in the presence of macroeconomic factors, while the second hypothesis examined the significant relationship between macroeconomic factors and the speed of capital structure adjustment. The results of the research indicate a significant relationship between the GDP growth rate (economic growth index), the capital structure adjustment speed, the real interest rate, the inflation rate and the capital structure adjustment speed, as well as between the free-market dollar rate fluctuations and the capital structure adjustment speed. The results demonstrate that an increase in economic growth leads to a longer period of time

to reach the desired capital structure and a faster pace of adjustment. GDP represents the growth in aggregate capital expenditure, which reflects an overall rise in demand for financial resources. This may have exerted pressure on the debt market, resulting in a higher overall cost of debt financing. An increase in inflation results in a longer period of time to reach the desired capital structure and a slower pace of adjustment. Similarly, inflation has a detrimental impact on the wealth of many equity holders through capital gains. An increase in the interest rate reduces the time to reach the desired capital structure and reduces the adjustment speed. According to the Fisher equation, the relationship between interest rate and inflation is linear. Therefore, in the economy, an increase in the inflation rate will lead to an increase in interest rates, therefore, considering that inflation has a negative relationship with the speed of adjustment of the capital structure, therefore, the interest rate is also the same as inflation and in line with the negative relationship between inflation and the capital structure adjustment speed. The results of this hypothesis are consistent with the findings of Bernardo et al. (2018), Saif-Alyousfi et al. (2020) and Demirgüç-Kunt et al. (2020).

The third hypothesis examined the speed of capital structure adjustment in the presence of firms' characteristics, and the fourth hypothesis examined the relationship between the speed of capital structure adjustment and firms' characteristics. The results demonstrate a significant correlation between corporate characteristics and adjustment speed. Asset return is defined as the ratio of after-tax income to total assets, with a higher return indicating a greater propensity towards financial leverage. From a hierarchical standpoint, high retained earnings reduce the necessity for debt and accelerate the pace of capital adjustment. As anticipated, the firm's size variable is found to have a significant relationship with the capital structure adjustment speed. Additionally, due to the diverse expected cash flow and higher collateral, large firms tend to have better access to capital markets as a result of their tendency to be more leveraged than small firms. The results of this hypothesis are consistent with the findings of Amahalu and Beatrice, E. (2016), Omojolaibi et al. (2019) and Mbonu and Amahalu (2021). It is worth noting that the speed of capital structure adjustment in the model estimated with firms' characteristics (0.60) was slower than the model estimated with macro factors (0.93). This indicates that despite fluctuations in the macroeconomic variables such as inflation, economic growth, interest rates and currency growth rates, the trend of financial leverage towards the target financial leverage of firms (desired and ideal financial leverage) is faster. If the changes in specific firms' variables result in a slower rate of change in leverage towards the target leverage than macroeconomic factors.

Conclusions

In light of the ongoing rise in inflation and exchange rates, it is crucial to implement effective policies to stabilize these fluctuations. This includes clarifying the government's currency policies and ensuring policymakers adhere to the agreed policies. It is also recommended that financial managers consider

these factors when creating a suitable capital structure for the firm and optimize the capital structure according to the coefficients of the variables mentioned in the obtained model. This research underscores the importance of considering broader the economic contexts when formulating financial policies for companies. It also highlights the intricate nuances of capital structure adjustments in response to diverse the economic factors.

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Conflict of Interest

The authors declared no potential conflicts of interest concerning the research, authorship and, or publication of this article.

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