



The Effect of Bargaining Power of Companies on the Relationship Between Financial Constraints and Inventory Adjustment Speed

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1. Introduction

Inventory planning and control are vital activities in supply chain and logistics systems, aiding managers in future decision-making. Since inventory constitutes a substantial portion of a company's assets, any deviation from optimal levels ultimately affects its financial performance. Therefore, determining optimal inventory levels under demand uncertainty is paramount for profitability. Inventory investment is widely regarded as a significant contributor to operating cycle fluctuations, as inventory is one of the key pillars of corporate working capital management.

2. Research Hypotheses

Inventory level is a key indicator of a firm's short-term investment. Optimal inventory control significantly impacts overall company efficiency, acting as a competitive advantage by reducing expenses, optimizing operational processes, and ensuring long-term profitability. An optimal inventory strategy balances holding costs with the losses incurred from an

inability to meet market demand, thereby maintaining appropriate inventory levels. Maintaining optimal inventory levels allows companies to be insulated from (or benefit from) market price fluctuations, a concept supported by inventory pricing theories. According to the partial adjustment model, firms have an optimal inventory level towards which they gradually move. This process weighs the costs of deviating from the target against the benefits and drawbacks of adjusting inventory to reach the optimum.

There is substantial evidence that financial constraints hinder adequate investment and future company growth. Financial constraints and capital adjustment costs create different response pathways for financially constrained firms compared to firms with unlimited liquidity concerning inventory investment. A decrease in internal funds (facing financial constraints) affects all types of investments, but its impact is greatest on inventory investment. Bargaining power mechanisms enhance a company's capabilities to possess or create unique resources and increase interdependencies between two companies. Bargaining power is defined as the ability to gain more profit from transactions. As an effective mechanism, bargaining power can reduce the severity of financial constraints in acquiring necessary goods (by obtaining credit) and accelerate inventory adjustment speed. Therefore, bargaining power can indirectly influence the primary research relationship. Based on the above, the research hypotheses are presented as follows:

H1: There is an optimal inventory investment level, and companies move towards this target.

H2: Financial constraints affect the speed of inventory adjustment in companies.

H3: Bargaining power influences the relationship between financial constraints and the speed of inventory adjustment in companies.

3. Method

The statistical population of this study comprises companies listed on the Tehran Stock Exchange between 2012 and 2025. Using systematic elimination sampling, 149 companies were selected as the final sample, resulting in 1937 company-years over the 13-year period. To accurately test the research hypotheses, given the dynamic nature of the model (presence of the lagged dependent variable on the right side of the equation) and the endogeneity of the variables, the Generalized Method of Moments (GMM)

estimator, which is the most suitable estimator for dynamic panel data, was employed. The validity of this estimator depends on the selection of appropriate instrumental variables and the absence of serial correlation in the error terms.

4. Results

The results of the hypothesis tests indicate that the inventory adjustment speed in the sample companies is approximately 68%. This means that companies are striving to reduce the gap between their actual and target inventory levels and are moving towards optimal inventory at this speed. Financial constraints reduce the speed of inventory adjustment towards the optimal level. However, the interaction between bargaining power and financial constraints can increase the speed of inventory adjustment towards the optimal level, suggesting that bargaining power plays a moderating role in the relationship between financial constraints and inventory adjustment speed.

5. Discussion and Conclusion

The overall inventory adjustment speed in the sample companies was estimated at approximately 0.68. This figure suggests that companies are reasonably swift in closing the gap between their actual and optimal target inventory levels. This confirms the first hypothesis regarding a dynamic and incomplete relationship between actual and target inventory levels, although the movement towards optimality depends on various factors. The inverse coefficient of financial constraints indicates that increased financial constraints directly reduce a company's speed in reaching its optimal inventory level. This is logical, as limited financial resources (such as cash shortages or difficult access to credit) compel companies to hold less inventory or exercise greater caution in purchasing, which in turn slows down the process of filling the target gap. The negative and significant interaction coefficient between bargaining power and financial constraints reveals a crucial mechanism. This implies that bargaining power mitigates the negative effect of financial constraints on adjustment speed. In other words, when a company faces financial constraints, the greater its bargaining power in persuading sellers to grant credit (instead of demanding cash payment), the more it can circumvent these constraints and increase the adjustment speed towards the optimum. Alternatively, bargaining power acts

as an operational lever in the presence of financial constraints, moderating and partially neutralizing the negative impact of financial limitations.

Keywords: Inventory adjustment speed, financial constraints, bargaining power, management accounting, working capital management.