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Reviewing the Impact of Product Market Competition on the Relationship between Leading Ownership and Stock Price Crash Risk and Firm Value

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Abstract: *The objective of this research is to investigate the impact of product market competition on the relationship between leading ownership and stock price crash risk, as well as firm value, in companies listed on the Tehran Stock Exchange. For this purpose, four hypotheses were formulated to examine this issue, and data from 141 companies listed on the Tehran Stock Exchange for the period between 2015 and 2022 were analyzed. The research regression model was examined and tested using the panel data method with a fixed effects approach in Eviews10 software. The results obtained using the generalized least squares method at a 95% confidence level indicate that leading ownership has a significant negative impact on the stock price crash risk of the company. Additionally, leading ownership has a significant positive impact on the firm's value. Furthermore, the research findings indicate that product market competition does not have a significant impact on the relationship between leading ownership and stock price crash risk. The analysis of hypotheses related to product market competition does not show a significant impact on the relationship between leading ownership and firm value.*

Keywords: *Firm Value, Product Market Competition, Stock Price, Crash Risk, Leading Ownership.*

I. Introduction

Competitiveness arises from a combination of assets and processes. Assets can either be endowed (such as natural resources) or human-made (such as infrastructure), while processes transform these assets into economic benefits through sales to customers (Gupta & Krishnamurthy, 2021). Competitiveness can also be examined from another angle, specifically

the sources of competitiveness. These sources can be categorized into three groups: technology, organization, and human resources. Competitive advantages derived from human resources are more sustainable and enduring compared to other types of competitive advantages, taking longer for competitors to replicate (Bani-Mahd et al., 2015). The investor protection system, government regulations, and informational environment are weak and underdeveloped in capital markets (Anwar & Abdullah, 2021). Emerging markets are characterized by weak investor protection and poor law enforcement. Developed economies face agency problems in the economic environments of emerging markets. Market competition can present information in the most economical way in such markets (Young, et al., 2018).

Shareholders and other stakeholders can mitigate market fluctuations by comparing the performance of different companies, thereby better recognizing the capabilities and efforts of these companies. Product market competition can incentivize managers to actively disclose information, thus reducing information asymmetry between managers and investors. Consequently, by alleviating managerial agency problems, it can reduce stock price crash risk (Li & Luo, 2022). Proper governance facilitates timely and high-quality reporting by companies. The aim of corporate governance systems is to ensure the prevention of opportunistic behavior by reducing potential agency problems and information asymmetry between the agent (manager) and various stakeholders (shareholders, creditors, etc.) (Azizi, Ghodrati Zavarem, et al., 2022). A set of rules governing the direction, control, and supervision, known as corporate governance, increases the quality of information disclosure. Product market competition also serves as a potential mechanism for ensuring the proper implementation of corporate governance (Didar et al., 2018). In addition to influencing managers' information disclosure, the type of ownership plays an active role in creating a competitive market environment and can interact with the level of product market competition to enhance firm value (Fazlzadeh & Abdi, 2018). Product market competition has proven to be a critical market mechanism and an external constraint on corporate governance, with its impact on strategic decisions and firm value increasingly significant (Prasad & Kumar, 2022). According to related literature, product market competition can influence capital structure adjustments, investment choices, mergers and acquisitions, internal transactions, risk management strategies, and the pricing of corporate assets. This raises the question of whether product market competition can impact the establishment and implementation of internal controls within a company. The answer to this question remains unknown. However, it is anticipated that product market competition will have a more significant effect on company

control through shareholder and managerial decisions and behaviors, by influencing the risk of dissolution and agency costs. In developing countries, state-owned enterprises can easily obtain subsidies, bank loans, and stock market financing opportunities (as cited by Ahmed et al., 2022). Consequently, companies with different ownership structures may react differently when faced with product market competition. The impact of product market competition varies among companies with different types of ownership (Tang & Chen, 2017).

Unlike the United States and the United Kingdom, which classify dispersed ownership under an external corporate control system, developing countries operate under a system of highly concentrated ownership. Sarkar and Sarkar (2012) stated that in approximately 43% of companies, at least one shareholder holds more than 20% ownership (as cited by Sehmany-Asl, Nasiri-Far, and Vaisi-Hesar, 2022). Consequently, major ownership assumes control of the entire company. Factors such as minority shareholder protection laws, financial growth, and economic development affect the benefits and costs to companies and alter corporate governance regulations regarding company control and guidance. Thus, examining the relationship between competition and major controlling ownership as internal governance in developing markets contributes significantly to the research literature. Product market competition serves as either a substitute for or a complement to a company's internal corporate governance, with its relationship to blockholders varying accordingly. Previous studies have discussed the link between corporate governance and firm value, documenting that companies with good governance perform better and can increase overall firm value (Demuri and Izadi, 2019). Product market competition is considered important because, as an external mechanism, it can impose pressure to reduce managerial slack concerning owners, establish discipline, resolve agency conflicts, and ultimately help reduce stock price crash risk while increasing firm value (Anjua and Em, 2023).

Strong competition in the product market can lead to changes in prices, revenues, and profitability for companies (Ko et al., 2022). This can directly impact the stock value of these companies. Intense competition in the product market may result in increased market penetration and a higher market share for companies, directly affecting their stock value. The presence of intense competition and market dynamics can elevate the risk of stock price declines, which is concerning for investors and shareholders and can adversely affect stock value. Therefore, investigating the relationship between product market competition and the risk of stock price declines can enhance understanding of these factors and enable the formulation of effective strategies to mitigate risks and preserve stock value. The distribution

and composition of ownership in a company significantly influence the risk of stock price declines (Ali et al., 2021). For instance, if a company's ownership is predominantly held by institutional shareholders or those with legal status, it may reduce the risk of stock price declines because such owners typically prioritize preserving share value and make decisions based on long-term interests. The ownership structure of the board can greatly impact a company's value (Rahmanian Koushakki and Rafiei Bidgoli, 2021). Moreover, if the majority ownership lies with legal shareholders who possess rational and stable beliefs and strategies, it can potentially enhance the company's performance and overall value (Imani Barandagh, Abdul Lapour, and Gadmiari, 2022). The ownership style of the director can significantly impact the strategies of a company. Owners with substantial influence can affect the company's strategic decisions, leading to either improvements or weaknesses in the company's performance and value. Therefore, examining the relationship between managerial ownership, the risk of falling stock prices, and company value can enhance understanding of how ownership affects corporate performance and value. This understanding can help companies adopt suitable strategies to maintain and enhance their value (Kim et al., 2020). Based on the aforementioned literature, the current study aims to explore the impact of product market competition on the relationship between managerial ownership, the risk of falling stock prices, and company value. The main research question is whether competition in the product market moderates the relationship between managerial ownership and the risk of falling stock prices and company value.

Based on the theoretical foundations, four hypotheses were formulated as follows:

1. Hypothesis 1: Managerial ownership has a significant effect on the risk of the company's stock price falling.

2. Hypothesis 2: Managerial ownership has a significant effect on company value.

3. Hypothesis 3: Competition in the product market moderates the relationship between managerial ownership and the risk of the company's stock price falling.

4. Hypothesis 4: Competition in the product market moderates the relationship between managerial ownership and company value.

II. Literature review

The risk of falling stock prices refers to the potential for a company's shares to decrease in value over a period of time. This risk is influenced by various factors that can affect investor perception, market conditions, and the financial health of the company itself. One of the

primary drivers of this risk is adverse changes in the company's financial performance, such as declining revenues, lower profitability, or unexpected costs. When companies fail to meet market expectations or encounter operational challenges, investors may perceive these as signs of weakness and respond by selling off their shares, thereby driving down the stock price. Market volatility plays a significant role in the risk of falling stock prices. Fluctuations in broader economic conditions, geopolitical events, or sector-specific issues can create uncertainty among investors, leading to increased selling pressure on stocks. Moreover, changes in interest rates, inflation rates, or currency exchange rates can impact investor sentiment and market dynamics, influencing stock prices negatively. Company-specific factors also contribute to the risk of falling stock prices. Poor management decisions, governance issues, legal disputes, or regulatory changes can erode investor confidence and trigger sell-offs. Similarly, competitive pressures, technological disruptions, or shifts in consumer preferences can affect a company's market position and financial outlook, thereby influencing its stock price negatively. Investors and analysts assess the risk of falling stock prices through various metrics and analyses, including fundamental analysis, technical analysis, and market sentiment indicators. Understanding and managing this risk is crucial for investors, as it directly impacts portfolio performance and investment returns. Companies, on the other hand, employ strategies such as effective communication, transparency, and proactive risk management to mitigate these risks and maintain investor confidence in their stock (Derakhshanzade and Rezaie, 2015; Shannova and Budhidharma, 2023; Shami et al., 2023; Khosroabadi et al., 2023).

Competition in the product market refers to the rivalry among companies that offer similar or substitute products or services to consumers. It is a fundamental aspect of market dynamics where firms compete for market share, profitability, and customer loyalty. This competition is driven by the pursuit of competitive advantage, which can be achieved through various means such as pricing strategies, product differentiation, marketing efforts, and innovation. In competitive product markets, companies strive to distinguish their offerings from those of their competitors to attract and retain customers. Product differentiation may involve unique features, superior quality, customer service, brand reputation, or even intangible factors like perceived value and customer experience. Companies often invest heavily in research and development to innovate and stay ahead of competitors, thereby enhancing their market position. Pricing strategies play a crucial role in competitive markets. Companies may adopt competitive pricing to match or undercut rivals' prices, aiming to capture market share based on affordability. Alternatively, premium pricing strategies emphasize higher prices to

signal superior quality or exclusivity, targeting niche markets willing to pay more for perceived value. Market competition also influences strategic decisions regarding distribution channels, promotion tactics, and customer relationship management. Companies engage in promotional activities such as advertising, sales promotions, and public relations to enhance brand visibility and influence consumer preferences. Effective distribution strategies ensure products reach target markets efficiently, while customer-centric approaches build long-term relationships and loyalty. Regulatory frameworks and industry dynamics can shape the intensity of competition in product markets. Government policies, trade regulations, industry standards, and technological advancements all contribute to the competitive landscape. Market leaders continuously monitor and respond to these factors to adapt their strategies and maintain competitive advantage. Overall, competition in the product market fosters innovation, efficiency, and consumer choice. It compels companies to continually improve their offerings and operations to meet evolving market demands and stay relevant in a competitive environment. Effective competition benefits consumers by providing them with a variety of choices, competitive pricing, and enhanced product quality and service standards (Karuna, 2007; Bustamante and Donangelo 2017 Liu et al., 2022).

Company value, also known as corporate valuation or firm value, encapsulates the overall worth of a business entity. It serves as a comprehensive measure that evaluates the economic standing of a company in the eyes of investors, analysts, and stakeholders. This valuation encompasses various factors that collectively influence the financial health and prospects of the organization. Key determinants include financial performance metrics such as revenue growth, profitability margins, and cash flow consistency. Additionally, growth prospects, market position, and competitive advantages are crucial in assessing a company's potential to generate future earnings and sustain its competitive edge. The risk profile associated with the company, encompassing industry risks, economic conditions, and regulatory environments, also shapes its valuation. Moreover, effective management practices, transparent governance, and strategic decision-making play pivotal roles in enhancing company value by fostering investor confidence and reducing uncertainty. External market conditions and investor sentiment further impact company valuations, reflecting broader economic factors and market dynamics. Overall, company value serves as a pivotal metric guiding investment decisions, strategic planning, and stakeholder expectations, offering a holistic view of the company's economic worth and growth prospects in the marketplace (Berzkalne and Zelgalve 2014; Abbas et al 2023; Rahmantari et al., 2019).

Ownership structure refers to the distribution and composition of ownership rights in a company. It delineates how shares and decision-making power are distributed among stakeholders within the organization. The ownership structure of a company plays a crucial role in determining its governance, strategic decisions, and overall performance. It defines who holds controlling interests, influences key decisions, and shapes the company's direction. Various factors influence ownership structure, including the types of shareholders involved-whether they are individual investors, institutional investors, or insiders like managers and executives. The concentration of ownership, whether it is widely dispersed among many shareholders or tightly held by a few, also significantly impacts the dynamics within the company. In closely held companies, where a small group or individual holds majority control, decision-making can be more centralized and reflective of the interests of dominant shareholders. Ownership structure affects corporate governance practices, such as the allocation of board seats, voting rights, and dividend policies. It shapes how conflicts of interest are managed and how strategic initiatives are pursued. Moreover, the structure of ownership can influence the company's ability to attract capital, its resilience to market pressures, and its long-term sustainability. In publicly traded companies, ownership structure becomes a critical factor in shareholder activism, proxy voting, and investor relations strategies. It determines the degree of influence shareholders can exert over management decisions through mechanisms like proxy contests or shareholder resolutions. Additionally, ownership structure impacts how companies navigate regulatory requirements, financial disclosures, and stakeholder communications. Overall, understanding ownership structure provides insights into the governance framework, decision-making processes, and strategic direction of a company. It underscores the complex interplay between ownership dynamics, corporate governance practices, and organizational performance in both public and private enterprises (Ogabo et al., 2021; Al-Thuneibat, 2018; Setiawan et al., 2016).

The investigations conducted indicate that several foreign studies have been conducted in the field of business strategy and are well-documented. In this regard, Anjua and M (2023) provided evidence demonstrating that competition in the product market influences ownership structure and adjusts the company's value. In their research, Bengrim et al. (2022) concluded that competition in the product market serves as an effective mechanism of corporate governance, likely restraining managers from withholding adverse news from the market regularly, thereby reducing the risk of stock price declines. They noted that the negative impact of product market competition on stock price decline is more pronounced for owner-managed

firms. Lee and Lu (2022) similarly found that competition in the product market significantly mitigates the risk of stock price crashes, which contrasts sharply with findings in the American economic context. Ko et al. (2022) also demonstrated in their study that maintaining cash reserves enhances firm value, and that high audit quality improves financial reporting quality, thereby facilitating external monitoring and preventing managerial misconduct, ultimately leading to increased firm value. Additionally, Gupta and Krishnamoorthy (2021) highlighted the positive impact of corporate social responsibility on firm value in non-competitive industries (cited by Ang et al., 2022). In their study, Kim et al. (2020) investigated the influence of research and development intensity, financial constraints, and dividend payment policy on firm value. They demonstrated that the impact of research and development on the value of firms facing financial constraints and adhering to dividend payment policies is significantly higher compared to firms without such dividend policies. Agusteria et al. (2020) found that the risk associated with profit quality exhibits a positive and significant correlation with firm value. Conversely, certain factors negatively affect firm value, such as financial leverage, market-to-book value ratio, and earnings growth. Factors such as firm size, investment in fixed assets, and dividend payments positively impact firm value. Conversely, financial leverage, profit growth rate, and market-to-book value ratio are negatively associated with firm value based on economic value criteria.

In Iran, Bagheri et al. (2021) conducted a study where they assessed ownership structure using three criteria: institutional ownership, managerial ownership, and corporate ownership. They used discretionary accruals as a proxy for profit management. Their findings revealed that institutional ownership significantly influences profit management, while corporate ownership showed no significant relationship with profit management. On the other hand, managerial ownership had a negative and significant impact on profit management. The study also indicated that manager compensation positively affects profit management, whereas corporate performance does not affect profit management significantly. Azadi et al. (2021) further demonstrated that committed profit management, through discretionary commitments, and real profit management, through abnormal production costs and abnormal operating cash flows, positively influence company value derived from free cash flow. However, no significant relationship was observed between real profit management via abnormal discretionary expenses and company value resulting from free cash flow. Enayatpour Shiadeh et al. (2019), in their research on 116 companies listed on the Tehran Stock Exchange from 2012 to 2016, highlighted that institutional ownership significantly impacts both company

value and risk. Similarly, Barzegari et al. (2019) found that tax risk and social responsibility significantly affect company value across all four capital asset pricing models of companies listed on the Tehran Stock Exchange. Conversely, Irji Rad et al. (2018) concluded in their study that there is a positive and significant relationship between social responsibility and company value, moderated by the financial crisis which reduces this relationship. The influence of competition in the product market on the interplay between ownership guiding organizational decisions, risk of falling stock prices, and company value underscores a research gap. This gap motivated the authors to undertake their current study, which aims to innovate and contribute by filling this theoretical void. The research seeks to enhance understanding of how competition in the product market and the lifecycle of company value impact ownership decision-making policies. According to the authors, the findings of this study could yield significant insights for strategic planning and corporate governance in companies.

III. Materials and Methods

The applied research design employed in this study is quasi-experimental, utilizing a post-event design methodology. Data and information were gathered using both library and field methods. The library phase involved collecting theoretical foundations from specialized Persian and Latin books and journals. In the field phase, diverse sources were utilized to gather relevant data. Literature related to the research and theoretical topics was sourced from library materials including Persian and Latin books, periodicals, and internet sources. Company-specific information such as balance sheets and profit and loss statements served as primary research tools. Raw data required for testing hypotheses was obtained from databases associated with the Tehran Stock Exchange, including Tadbir Pardaz and Rahvard Navin, as well as reports published by the Tehran Stock Exchange and other essential sources. Notes accompanying company financial statements provided direct data extraction from financial statements, the Tadbir Pardaz database, and the Stock Exchange Organization's website. The Eviews software was employed for data analysis. The study period spanned seven years, encompassing financial statements from 2015 to 2022.

The statistical population for this research comprises all companies listed on the Tehran Stock Exchange. The criteria for selecting companies as the sample for this study are as follows:

1. The financial year of the companies ends at the end of March every year.

2. Companies have continuously operated without interruption and have maintained a consistent financial reporting period throughout the research period.

3. All necessary information required for the research is readily available.

4. Exclusion of banks and financial institutions, including investment companies, financial intermediaries, holding companies, leasing companies, and insurance companies.

5. Companies must have been listed on the stock exchange before the year 2015.

Based on these criteria, 141 companies were selected as the statistical sample for the research using a systematic elimination method. This sample is intended to represent the broader population of companies listed on the Tehran Stock Exchange meeting the specified conditions.

The research hypotheses will be tested using the following regression model based on the studies of Anjua and M (2023) and Bengrim et al. (2022):

Model Hypotheses 1 and 3:

$$NCSKEW_{it} = \beta_0 + \beta_1 PROM_{it} + \beta_2 HHI_{it} + \beta_3 PROM_{it} \times HHI_{it} + \beta_4 LEV_{it} + \beta_5 FSIZE_{it} + \beta_6 FAGE_{it} + \beta_7 MKTB_{it} + \beta_8 ROA_{it} + \varepsilon_{it}$$

Model Hypotheses 2 and 4:

$$TQ_{it} = \beta_0 + \beta_1 PROM_{it} + \beta_2 HHI_{it} + \beta_3 PROM_{it} \times HHI_{it} + \beta_4 LEV_{it} + \beta_5 FSIZE_{it} + \beta_6 FAGE_{it} + \beta_7 MKTB_{it} + \beta_8 ROA_{it} + \varepsilon_{it}$$

Where:

$NCSKEW_{it}$: Stock price crash risk of company i in year t

TQ_{it}: Tobin's Q ratio of company i in year t

$PROM_{it}$: Management ownership of company i in year t

HHI_{it}: Market product competition of company i in year t

LEV_{it}: Financial leverage of company i in year t

$FSIZE_{it}$: Size of company i in year t

$FAGE_{it}$: Age of company i in year t

$MKTB_{it}$: Market-to-book ratio of company i in year t

ROA_{it}: Return on assets of company i in year t.

IV. Results and Discussion

To ensure the validity of the research findings and the non-spurious nature of relationships in regression analysis, unit root tests were conducted and the variables were assessed for significance. These tests were performed using EViews software, employing methods such as Levin, Lin, and Chu (LLC), Im, Pesaran, and Shin (IPS), to examine the

presence of unit roots in the research model. In the unit root test, the null hypothesis (H0) suggests the presence of a unit root. If the probability (p-value) from the test is less than 0.05, the null hypothesis is rejected at the 95% confidence level, indicating that the variable is stationary and does not have a unit root. This process helps ensure the robustness of the regression results and the meaningfulness of the variables used in the analysis.

Table 1: Unit Root Test of Variables

Variable	Levin, Lin & Chu Statistic	Probability	Im, Pesaran and Shin W-stat	Probability	ADF - Fisher Chi-square	Probability	PP - Fisher Chi-square	Probability
NCSKEW	29.329	0.000	5.810	0.000	440.670	0.000	489.144	0.000
TQ	16.250	0.000	6.685	0.000	524.404	0.000	519.212	0.000
PROM	383.491	0.000	39.928	0.000	443.910	0.000	399.552	0.000
LEV	15.807	0.000	2.174	0.014	365.078	0.000	331.636	0.022
MKTB	21.541	0.000	7.864	0.000	548.261	0.000	580.216	0.000
ROA	6.541	0.000	4.188	0.000	368.364	0.000	407.685	0.000

The results of Table 1 indicate that all variables (NCSKEW, TQ, PROM, LEV, MKTB, and ROA) are found to be stationary based on the unit root tests conducted using different statistical methods. This supports the reliability of your regression analysis results and suggests that the relationships observed are likely not spurious. Before estimating the model, it is necessary to test for the absence of multicollinearity among the research variables. To examine the presence or absence of multicollinearity among the research variables, a correlation analysis has been utilized, which calculates Pearson correlation coefficients. Table 2 displays the Pearson correlation coefficients among the research variables.

Table 2: Pearson Correlation Coefficients

Correlation	**NCSKEW**	**TQ**	**PROM**	**HHI**	**LEV**	**FSIZE**	**FAGE**	**MKTB**	**ROA**
NCSKEW	1.000								
TQ	0.041	1.000							
PROM	0.042	0.039	1.000						
HHI	0.019	0.071	0.036	1.000					
LEV	0.127	0.170	0.188	0.012	1.000				
FSIZE	0.109	0.077	0.004	0.256	0.093	1.000			
FAGE	0.035	0.072	0.089	0.093	0.011	0.033	1.000		
MKTB	0.083	0.724	0.005	0.065	0.037	0.058	0.077	1.000	

Correlation	NCSKEW	TQ	PROM	HHI	LEV	FSIZE	FAGE	MKTB	ROA
ROA	0.053	0.242	0.007	0.103	0.537	0.299	0.048	0.077	1.000

Based on the results of Table 2, it is evident that the correlation coefficients are not excessively high or low (close to +1 and -1), which could influence the results of regression analysis. Therefore, multicollinearity among the independent variables of the study does not exist.

Estimating the first model to test hypotheses 1 and 3:

Table number 3 displays the results of estimating the research hypotheses model using Eviews 10 software and the Generalized Least Squares (GLS) estimation method. Since the variances across different periods are not homogeneous in this case, the model suffers from heteroscedasticity, and the Generalized Least Squares (GLS) method is used to estimate the model. The results presented in Table 3 indicate that the p-value of the F-test is 0.000, which is less than 0.05. Since the F-statistic represents the overall validity of the model, it can be concluded with 95% confidence that this model is statistically significant and possesses high credibility. Furthermore, the results indicate that the adjusted R-squared of the model is approximately 0.367. This value suggests that 36% of the variation in the dependent variable is explained by the explanatory variables of the model. Additionally, the Durbin-Watson statistic for this model is 1.749, which falls between 1.5 and 2.5, indicating the absence of autocorrelation in the model. The results in Table 3 also show that the calculated p-value for the variable PROM (0.005) is less than 0.05, and its estimated coefficient (-0.301) is negative. Therefore, it can be stated that management ownership has a significant negative impact on the stock price crash risk of the company. Based on this, the first hypothesis of the study, which asserts that management ownership significantly affects the stock price crash risk, is accepted with 95% confidence. Additionally, the results indicate that the calculated p-value for the variable PROM × HHI (0.468) is greater than 0.05, and its estimated coefficient (-0.160) is negative. Therefore, it can be concluded that market product competition does not have a significant impact on the relationship between management ownership and stock price crash risk of the company. Based on this, the third hypothesis of the study, which posits that market product competition significantly affects the relationship between management ownership and stock price crash risk, is rejected at the 95% confidence level.

Table 3: Results of Estimating the First Model

Variable	Coefficient	Std. Error	t-Statistic	Prob
PROM	0.301	0.109	2.755	0.005
HHI	0.073	0.091	0.803	0.421

Variable	Coefficient	Std. Error	t-Statistic	Prob
PROM×HHI	0.160	0.221	0.724	0.468
LEV	0.708	0.147	4.810	0.000
FSIZE	0.073	0.015	4.917	0.000
FAGE	0.162	0.068	2.366	0.018
MKTB	0.005	0.002	2.359	0.018
ROA	0.229	0.210	1.090	0.275
Intercept (C)	1.128	0.309	3.649	0.0003
R-squared	0.374	Adjusted R-squared	0.367	
Durbin-Watson statistic	1.724			
F-statistic	51.200		Probability of F-statistic	0.000

Estimating the second model to test hypotheses 2 and 4:

The results presented in Table 4 indicate that the p-value of the F-test is 0.000, which is less than 0.05. Since the F-statistic represents the overall validity of the model, it can be concluded with 95% confidence that this model is statistically significant and possesses high credibility. Additionally, the adjusted R-squared of the model is approximately 0.463. This value suggests that 46% of the variation in the dependent variable is explained by the explanatory variables of the model. Furthermore, the Durbin-Watson statistic for this model is 1.803, which falls between 1.5 and 2.5, indicating the absence of autocorrelation in the model. The results in Table 4 also show that the calculated p-value for the variable PROM (0.049) is less than 0.05, and its estimated coefficient (0.631) is positive. Therefore, it can be stated that management ownership has a significant positive impact on firm value. Based on this, the second hypothesis of the study, which asserts that management ownership significantly affects firm value, is accepted with 95% confidence. Additionally, the results indicate that the calculated p-value for the variable PROM × HHI (0.186) is greater than 0.05, and its estimated coefficient (0.721) is positive. Therefore, it can be concluded that market product competition does not have a significant impact on the relationship between management ownership and firm value. Based on this, the fourth hypothesis of the study, which posits that market product competition significantly affects the relationship between management ownership and firm value, is rejected at the 95% confidence level.

Table 4: Results of the Estimation of the Second Model

Variable	Coefficient	Std. Error	t-Statistic	Prob
PROM	0.631	0.321	1.966	0.049
HHI	0.578	0.161	3.591	0.000

Variable	Coefficient	Std. Error	t-Statistic	Prob
PROM×HHI	0.721	0.720	1.002	0.186
LEV	0.422	0.260	1.619	0.105
FSIZE	0.126-	0.024	5.129-	0.000
FAGE	0.670	0.105	6.365	0.000
MKTB	0.173	0.037	4.606	0.000
ROA	6.714	0.346	19.393	0.000
Intercept (C)	1.364	0.571	2.388	0.017
R-squared	0.468	Adjusted R-squared	0.463	
Durbin-Watson statistic	1.803			
F-statistic	81.514		Probability of F-statistic	0.000

V. Conclusion

The aim of the present study is to examine the impact of market competition on the relationship between managerial ownership and stock price risk and firm value. The statistical population of the research includes all companies listed on the Tehran Stock Exchange, and through screening, 141 companies were selected as the research sample and studied over a 7-year period from 2015 to 2022. In this study, logistic regression tests were used to either confirm or reject the research hypotheses as appropriate. The results of testing the first hypothesis indicate that managerial ownership has a significant negative effect on stock price risk. Therefore, the first hypothesis of the research, which suggests that managerial ownership has a significant impact on stock price risk, is accepted at a confidence level of 95%. Managers with significant ownership in companies generally aim to preserve the value of their shares over the long term. This can lead to strategic decisions and investments aimed at maintaining and increasing the company's value. Managers with significant ownership in the company can exert control over strategic and managerial decisions, thus preventing decisions that could increase stock price risk. Furthermore, their ownership may significantly contribute to establishing appropriate financial systems and rigorous control over the company's financial performance, thereby reducing the risk of stock price declines. In general, managers with significant ownership in the company typically seek to preserve shareholder value and enhance company performance, which may ultimately lead to a reduction in stock price risk. This finding is consistent with the findings of Bankrim and colleagues (2022).

The results of testing the second hypothesis also indicate that managerial ownership has a significant positive effect on firm value. Therefore, the second hypothesis of the research, which suggests that managerial ownership has a significant impact on firm value, is accepted

at a confidence level of 95%. Managers with significant ownership in companies generally aim to preserve and increase the company's value over the long term. This long-term commitment can contribute to building trust among investors, customers, and other stakeholders of the company and enhance its overall value. Managers with significant ownership can exert control over strategic and managerial decisions, thereby preventing decisions that could potentially decrease the company's value. Furthermore, their ownership may enable greater influence and control over the company's activities, ensuring decisions that enhance the company's value. Managers with significant ownership may also play a crucial role in establishing and implementing appropriate financial systems and maintaining strict control over the company's financial performance, which can lead to increased company value. In summary, managers with significant ownership in the company typically seek to preserve and enhance the company's value, which may result in a significant positive impact on firm value. Therefore, managerial ownership has a positive and significant effect on firm value. This finding is consistent with the results of the study by Anjou and Am (2023).

In this regard, the analysis of the third hypothesis testing reveals that competition in the product market does not have a significant effect on the relationship between managerial ownership and the risk of stock price decline. Therefore, the second hypothesis of the research, which posits that competition in the product market has a significant impact on the relationship between managerial ownership and the risk of stock price decline, is rejected at a confidence level of 95%. In competitive environments, managerial owners may focus more on improving performance and increasing market share rather than maintaining stock prices. This focus can reduce the effectiveness of mitigating the risk of stock price decline in competitive conditions. This finding contradicts the results of the study by Bankrim and colleagues (2022). Lastly, the results of testing the fourth hypothesis also indicate that competition in the product market does not have a significant impact on the relationship between managerial ownership and firm value. Therefore, the fourth hypothesis of the research, which suggests that competition in the product market has a significant effect on the relationship between managerial ownership and firm value, is rejected at a confidence level of 95%. In competitive conditions, managerial owners may prioritize innovation development and improving company performance over increasing firm value. This focus can diminish the impact on firm value. This result contrasts with the findings of the study by Anjou and Am (2023).

Based on the confirmation of the second and fourth hypotheses in this study, the following practical recommendations can be proposed:

Firstly, since managerial ownership has been found to have a significant negative impact on the risk of stock price decline, it is advisable for companies to encourage and foster greater managerial ownership. This can align the interests of managers more closely with those of shareholders, thereby promoting long-term value creation and stability in stock prices. Secondly, considering the significant and positive impact of managerial ownership on firm value, organizations should incentivize and support substantial managerial ownership. This ownership structure can empower managers to make strategic decisions aligned with long-term company goals, enhancing transparency, accountability, and ultimately, shareholder value. In both scenarios, fostering a culture that supports substantial managerial ownership can potentially mitigate risks associated with stock price declines while bolstering overall firm value. This approach not only aligns managerial incentives with shareholder interests but also enhances corporate governance and strategic decision-making processes. It promotes stability and investor confidence, crucial for sustained growth and competitiveness in the market.

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