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The Impact of Earnings Management on the Relationship between Managerial Ability and Debt Choice

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Abstract

Purpose: The primary objective is to explore the influence of earnings management on the relationship between managerial ability and debt choice in Iran's capital market.

Method: To achieve the research objectives, financial data from 128 companies listed on the Tehran Stock Exchange over a 12-year period (2011–2022, covering 1,536 firm-years) were utilized. The study's hypotheses were tested using multivariate regression methods.

Findings: The statistical analysis revealed a significant negative relationship between managerial ability and debt choice. Additionally, real earnings management was found to intensify this relationship. Sensitivity analyses confirmed the robustness of the initial results, demonstrating that the negative and significant relationship persists even when alternative methods are employed to measure bank debt.

Conclusion: The findings indicate that managerial ability negatively affects a firm's reliance on bank financing and loans. Furthermore, earnings management amplifies this relationship. In firms with higher levels of earnings management, lower managerial ability leads to greater dependence on bank loans.

Contribution: The findings of this research can contribute to optimizing corporate financing and reducing unnecessary financial costs by employing competent managers, thereby alleviating pressures on the banking system to control liquidity in the economy.

Keywords: Debt Choice, Corporate Financing, Real Earnings Management.

Research Article

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Introduction

Baik et al. (2018) and Demerjian et al. (2013) argue that firms led by highly capable managers benefit from superior informational quality, as these managers possess enhanced skills in gathering, processing, and reporting financial data. Their ability to enhance financial transparency reduces information asymmetry, thereby facilitating investment and lending decisions.

The debt choice theory based on information asymmetry posits that banks, compared to bondholders, have superior access to private information about borrowing firms (Fama, 1985, p. 29; Liao, 2015, p. 1373). Additionally, banks exhibit greater proficiency in collecting and processing financial information than other financial intermediaries (Diamond, 1991, p. 709). As a result, firms operating in weaker informational environments are more inclined to seek bank financing as a means of mitigating adverse selection costs (Dhaliwal et al., 2011, p. 293). Similarly, Li et al. (2019) highlight that firms facing higher levels of information asymmetry show a stronger preference for bank financing.

Given that managerial ability helps reduce information asymmetry and adverse selection costs, it is expected that firms with highly capable managers will implement more effective measures to mitigate informational risks for public debt holders. Ultimately, this should lead to lower costs associated with issuing public debt. Based on information-based arguments, it is hypothesized that firms with higher managerial ability rely less on bank debt.

H1: Holding other factors constant, managerial ability reduces firms' dependence on bank debt.

This study further argues that highly capable managers require less oversight due to fewer agency problems. Consequently, public debt holders may be more willing to provide financing to firms managed by such individuals. This perspective suggests that firms with more capable managers are likely to use bank debt less frequently. However, some evidence suggests that highly capable managers may engage in more opportunistic behaviors. As a result, public debt holders, who typically have weaker monitoring capabilities compared to private lenders, may be less inclined to extend credit to these firms. Consequently, firms with more capable managers might rely more on bank financing. Therefore, the relationship between managerial ability and bank debt remains ambiguous.

H2: Earnings management intensifies the relationship between managerial ability and firms' reliance on bank debt.

Materials and Methods

The research population comprises companies listed on the Tehran Stock Exchange from 2011 to 2022. Due to certain selection constraints, a total of 128 firms from eight industries were chosen, resulting in 1,536 firm-year observations. The study employs regression analysis to examine the impact of managerial ability on debt choices. corporate debt choice is measured as the ratio of bank debt to total debt with a maturity obligation (Bank/Total Debt). The primary variable of interest is managerial ability (Mgr. Ability), which is measured using the managerial ability score developed by Demerjian et al. (2012). Additionally, control variables are: Total Assets (firm size), Growth (firm expansion rate), Leverage (financial leverage), Return on Assets (ROA) (profitability), Tangibility (proportion of tangible assets), Altman's Z-score (Distress) (financial distress indicator), Credit Rating (firm's creditworthiness), Industry Competition (competitive pressure within the industry).

Results and Discussion

To test the first hypothesis, the research model was examined twice: once without control variables and once with the inclusion of all control variables. In the first test, where control variables were excluded, the results indicate a significant negative relationship between managerial ability and corporate debt choice. The estimated coefficient for managerial ability is -0.1670, with a p-value of 0.0000, confirming statistical significance. The adjusted R-squared value for this model is 0.6088, suggesting a strong explanatory power. Additionally, the F-statistic is 109.1643 with a p-value of 0.0000, further supporting the model's overall significance.

In the second test, where all control variables were included, the results still indicate a negative and statistically significant relationship between managerial ability and corporate debt choice. In this case, the estimated coefficient is -0.0669, with a p-value of 0.0489, maintaining significance at conventional levels. These findings reinforce the hypothesis that firms with more capable managers tend to rely less on bank debt for financing.

Table1 Results of Hypothesis 1 Testing

Variable	Without Control Variables			All Variables		
	Coefficient	t-Statistic	Significance	Coefficient	t-Statistic	Significance
Mgr.Ability	-0.1670	-8.3330	0.0000	-0.0669	-1.9712	0.0489
Total Assets				0.0382	2.5485	0.0109
Growth				-0.0003	-0.2711	0.7863
Leverage				0.0936	4.8707	0.0000
Return on Assets				0.0134	0.4714	0.6375
Tangibility				0.1951	3.9255	0.0001
Distress				0.0048	0.3174	0.7510
Rating				-0.1115	-4.4585	0.0000
Competition				0.3972	1.7827	0.0748
φ		Yes			Yes	
λ		Yes			Yes	
R^2		0.6088			0.6183	
F-Statistic		109.1643			83.5620	
Prob (F)		0.0000			0.0000	

To test the second hypothesis, the selected sample was divided into two groups based on the median value of earnings management: High earnings management and Low earnings management. A separate regression analysis was conducted for each group, and to compare the significance of the results, Paternoster et al. (1995)

t-test for coefficient differences was applied to the managerial ability variable. The results in Table 2 indicate the following: In the low earnings management sample, the managerial ability coefficient is 0.0219, but it is not statistically significant. In the high earnings management sample, the managerial ability coefficient is -0.1683, which is significant at the 1% level (p-value = 0.0002). Additionally, using the Paternoster et al. (1995) t-test, the difference between the two coefficients is found to be statistically significant (p-value = 0.0127), confirming that earnings management strengthens the relationship between managerial ability and firms' reliance on bank debt. These findings support the hypothesis that earnings management moderates the relationship between managerial ability and debt choice, reinforcing the idea that in firms with high earnings management, more capable managers tend to rely less on bank debt.

Table 2 Results of Hypothesis 2 Testing

Variable	Low Earnings Management Sample			High Earnings Management Sample		
	Coefficient	Std. Error	Significance	Coefficient	Std. Error	Significance
Mgr.Ability	0.0219	0.0616	0.7225	-0.1683	0.0448	0.0002
Total Assets	0.0198	0.0200	0.3218	0.0727	0.0235	0.0021
Growth	-0.0047	0.0022	0.0363	0.0003	0.0015	0.8540
Leverage	0.1362	0.0373	0.0003	0.0617	0.0302	0.0412
Return on Assets	0.0134	0.0850	0.8746	0.0418	0.0371	0.2594
Tangibility	0.2675	0.0702	0.0002	-0.0478	0.0766	0.5329
Distress	-0.0293	0.0216	0.1747	0.0143	0.0219	0.5147
Rating	-0.0509	0.0437	0.2451	-0.1654	0.0382	0.0000
Competition	0.3311	0.2781	0.2341	0.2311	0.3069	0.4517
φ		Yes			Yes	
λ		Yes			Yes	
R^2		0.5567			0.5555	
F-Statistic		33.1054			32.9471	
Prob (F)		0.0000			0.0000	
Paternoster T (Mgr.Ability) p-value			2.4959 0.0127			

Conclusions

This study aimed to examine the impact of earnings management on the relationship between managerial ability and debt choice in the Iranian capital market. Based on theoretical foundations, it was predicted that firms with higher managerial ability would rely less on bank debt. Utilizing a sample of 1,536 firm-years, consistent evidence was found in support of this prediction.

The findings indicate that as managerial ability increases, firms tend to reduce their reliance on bank loans and credit facilities. From an economic perspective, this finding is highly significant. The results align with Alam et al. (2024), who also found a significant relationship between managerial ability and debt choice. Furthermore, the study revealed that firms with higher earnings management practices are more likely to depend on bank loans, which is consistent with Alam et al. (2024).

These results highlight that the information environment can play a crucial role in reducing managers' dependence on bank financing, which, in turn, has economic implications for firms and the broader economy.

Policy Recommendations

1. Regulatory Measures: The Stock Exchange Organization or Central Bank should establish a managerial ability assessment index to rank managers in listed companies.
2. Banking Policies: Banks should consider managerial ability as a key factor in credit policies, requiring firms with weaker management to provide higher collateral or face stricter loan conditions.

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