

Risky Innovativeness: The Role of Myopic Management

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ABSTRACT

This study explores the relationship between innovativeness and corporate financial stability (as measured by Z-score) and the role of myopic management in moderating this relationship through the perspective of earnings pressure. There has been much debate about how companies benefit from innovativeness. However, past research has not given conclusive findings. This study empirically explores the role of myopic management in the relationship between innovativeness and corporate financial stability. Empirical results based on a sample of 145 most innovative Japanese listed companies reveal that innovativeness and corporate financial stability are inversely related, and that this relationship is strengthened by myopic management. This study bridges the debate with empirical findings and offers a basis for future research.

Keywords: Innovativeness; Financial stability; Z-score; Earnings pressure.

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1. INTRODUCTION

The financial literature has a large body of research on financial distress, which includes bankruptcy prediction models, analyses of corporate capital structure, and macroeconomic factors (e.g., Eisdorfer and Hsu, 2011). Moreover, despite the large number of studies on analyzing corporate innovativeness, there has been scant research on the relationship between innovativeness and financial distress.

Corporate innovativeness refers to a firm's capability to adopt new ideas in creating new products or services that can improve the firm's competitive advantage (e.g., Rubera and Kirca, 2012). As market competition intensifies and the pace of market changes accelerates, the importance of innovativeness increases for a firm to improve its competitive advantage (e.g., Tresna and Raharja, 2019). In contrast to a firm that fails to innovate and faces high risks of competition, an innovating firm is more likely to survive by successfully benefiting from its own innovativeness (e.g., Tsai, Hsieh and Hultink, 2011; Langerak *et al.*, 2004; Li and Calantone, 1998). This background provides a firm with an opportunity to become a market leader if it is able to grasp the

most innovative and well-adopted technologies. In general, the key aspect of innovativeness is research and development (R&D).

However, R&D involve high risks especially if the firm loses out in technological competition. Firms currently performing better than competitors in intensive knowledge search are likely to be eventually caught up by competitors in a later stage of the innovation cycle, which could make R&D to become a long-term financial burden to innovating firms. Apart from investing in innovativeness and R&D, it is essential for high-tech companies to maintain a team of qualified professionals, such as scientists and experienced engineers, to take the responsibility of R&D. In addition, these companies need a specialized department to deal with knowledge transfer and management. A firm's financial health can quickly deteriorate as the explicit and implicit costs of R&D build up during the technological competition process.

A survey conducted by Innovation Research Interchange (2019) suggests that companies' R&D expenditures are increasing because they need to successfully adapt themselves to the changing environments. According to this survey, the trend of fast-growing R&D expenditures has been continuing for many years, which indicates an increasing financial burden on the companies caused by their innovative activities. Nevertheless, the increasing financial burden necessarily arouses corporate managers' concerns because they need to meet profitability expectations from investors. For instance, financial analysts' earnings forecasts play an influential role in determining corporate managers' behavior because the forecasted results (e.g., poor financial performance) tend to affect the managers' employment prospects and financial rewards (Zhang and Gimeno, 2010). According to the agency theory (Jensen, 1986; Jensen and Meckling, 1976), the most important objective of a corporate manager is to maximize his/her personal interests rather than maximizing the shareholders' interests. In other words, a corporate manager tends to take actions that are aligned with he/her own incentives. A corporate manager is considered to be engaged in myopic management if he/she focuses on business strategies that over-emphasize short-term benefits rather than the company's long-term value (e.g., Bhojraj and Libby, 2005).

Consider Sharp Corporation's ambitious investment in the development of display panels and semiconductors by setting up pioneering production plants in the 2000s. The company was under heavy financial burden caused by its huge R&D expenditures and was unable to quickly recoup the costs of R&D from new products. As a result, Sharp's huge R&D expenditures very quickly forced this Japanese company into financial deficits in 2009. Along with a series of bad business decisions, the company eventually went into financial distress. In 2012, Sharp's 100th anniversary, the company announced a loss of JP¥376 billion (US\$4.7 billion), which was the worst performance record in the company's history. The company's financial performance continued to deteriorate until it was acquired by a competitor in October 2016. This real-world case inspires this study to investigate under what circumstances a manager's decisions on R&D investment create financial difficulties to the company especially when the returns to such investment are highly uncertain.

This study contributes to the literature by filling the gap in the existing knowledge about the relationship between innovativeness and financial stability. First, we provide empirical evidence for a negative relationship between innovativeness and corporate stability, which is in line with past studies showing that the potential costs and benefits of R&D are highly uncertain. Second, to the best of our knowledge, this study is the first to explore the relationship between innovativeness, corporate stability, and myopic management. This study offers empirical evidence for our hypothesis that a corporate manager's myopic management significantly moderates the negative relationship between innovativeness and financial stability.

The remainder of this article is organized as follows. Section 2 presents a literature review and this study's hypotheses. Section 3 describes the methodology for examining the relationship between innovativeness, financial stability, and myopic management. In Section 4, we perform empirical analyses using data on 145 leading Japanese enterprises over the period of 2012 to 2018. Finally, Section 5 presents the conclusions and discussions of the outcomes, implications, and suggestions for future research.

2. HYPOTHESES DEVELOPMENT

2.1 The relationship between innovativeness and financial instability

Nowadays, one of the most important business issues is innovativeness, i.e., firms' creation of new knowledge through research and development (R&D). Creating new knowledge is expected to improve the innovating firm's financial performance which eventually increases the firm's value. Although a large body of past research (e.g., Woolridge, 1988; Carden, 2005; Geroski, 2005) argued that R&D positively impact a firm's growth and performance, many empirical studies (e.g., Sundaram, 1996; Bottazzi, 2001) did not find significant evidence supporting the positive relationship between innovativeness and firm performance. Hence, the present study re-visits the relationship between innovativeness and firm performance from a more practical perspective. Specifically, we take into consideration the impacts of R&D expenditures on a firm's financial stability.

Many studies explored R&D as a type of a firm's investment (e.g., Bhagat and Welch, 1995). R&D expenditures comprise several components. For instance, a very large part of R&D expenditures is on financial and non-financial compensations for scientists and engineers to take the responsibility of R&D activities. According to Hall (2002), at least 50% of a firm's R&D expenditures is associated with R&D-related human resources. Critical knowledge and technologies possessed by a firm will be lost if scientists and engineers are leaving the firm; therefore, it is important to sustain a considerable level of R&D expenditures to retain the firm's talents in the long term. Past studies (e.g., Zantout and Tsetsekos, 1994; Yu *et al.*, 2010; Coad and Rao, 2008) pointed out that a long period of time is needed for a firm to commercialize new knowledge/technologies into new products and services. It is highly possible that a R&D investment project will not yield any payoff after a long period of investment because the outcome of R&D is

highly uncertain. As a result, the long-term commitment to investing in R&D will become the innovating firm's financial burden. However, high-tech firms are still taking the risks to invest in R&D because innovativeness can potentially maintain their existing competitive advantages and dramatically change the current market situations in the future (Greve, 2003). However, this also implies that a firm's innovativeness can potentially undermine the firm's financial stability.

Financial instability has been a well-studied topic in the corporate finance literature. In general, it refers to the possibility that a firm's current operation fails to continue in the future. Long-term financial instability may eventually result in bankruptcy, making investors to suffer from significant losses of assets. Therefore, financial instability is significantly related to the firm's possibility of bankruptcy and future structural reorganization (Hu and Ansell, 2005; Ameer, 2010). Past studies found that that majority of financial distress cases were linked to financial crises (John and John, 1992). However, some corporates' financial positions deteriorate even without any financial crisis. Some major causes are poor corporate performance, high leverage, and increasing market competition (e.g., Outecheva, 2007). Financial distress can result from a long-term trend of the firm taking actions that are harmful to its long-term operations, which eventually will lead to the firm's insolvency. As a matter of fact, there is recently an increasing awareness of the relationship between corporate governance and corporate stability probably due to the recent financial crisis. It is recognized that corporate stability plays an important role that cannot be neglected in both managerial practices and management theories. According to a European Central Bank (2010) publication, the antecedents of corporate stability are usually associated with corporate failure and weaknesses that includes potential problems with the long-term interests, incentives, and remuneration packages for top executives (Lupu, 2015). That is to say, financial distress and corporate stability are strongly related to the decision-makers' behavior.

In this study, we hypothesize that innovativeness has a negative impact on corporate stability because R&D increase the firm's financial burden:

Hypothesis 1: Innovativeness has a negative impact on the firm's financial stability.

2.2 The moderating role of myopic management

Based on their professional judgments, financial analysts forecast a company's future performance and then announce the forecasts to the public. Due to the complexity, uncertainty, and information asymmetry in a dynamic environment, investors and corporate managers heavily rely on financial analysts' forecast reports to evaluate the potential value of a company.

On the other hand, a corporate's operator develop an internal system to monitor the company's growth and to forecast the company's future earnings based on information including past financial data, comparisons with major competitors, and the operator's own estimation of internal and external conditions (Greve, 2003). Therefore,

differences in expectation may arise from a gap between financial analysts' earnings forecasts and the corporate operator's own expectation. Such an expectation gap between the actual operations and the market expectation will become an earnings pressure imposed on corporate managers. For instance, Jensen and Meckling's (1976) agency theory conjectures that a corporate manager's major concern is his/her personal interests rather than the company's/shareholders' interests. From the perspective of the agency theory, a corporate manager has strong incentives to take actions for his/her own short-term financial rewards. To improve the company's short-term performance, the manager may become opportunistic in seeking short-term returns rather than long-term value. Such myopic management may undermine the company's long-term financial performance.

Myopic management has attracted experts' and researchers' long-standing attention. A large body of research on myopic management based on the agency theory has been conducted in the literature. Following past studies (e.g., Bhojraj and Libby, 2005; Stein, 1989), managerial myopia is defined as a managerial behavior aiming to achieve a high corporate performance by inflating short-term earnings rather than pursuing long-term shareholder value. A strand of research on myopic management has been focusing on R&D and marketing behaviors. This strand of research considers myopic management as a phenomenon of a firm's manager making decisions that undermine the firm's long-term value, such as cutting back advertising and R&D expenditures and engaging in earnings management (Mizik, 2010). Note that earnings management involves accounting manipulations in terms of early recognition of sales and earnings (Ahearne *et al.*, 2016). However, the outcomes of empirical research on myopic management are sparse because it is practically difficult to measure the degree of managerial myopia. Past empirical research on this issue was typically based on a set of specific measures with narrow definitions, such as managerial actions related to accounting-based earnings management and capitalization of expenditures rather than expensing them in accounting statements. Managers engaging in earnings management tend to make decisions that emphasize short-term benefits at the expense of the company's long-term value.

We argue that myopic management (as indicated by the company's earnings pressure) strengthens the negative relationship between innovativeness and corporate stability as stated in the following hypothesis.

Hypothesis 2: The negative relationship between innovativeness and financial stability is strengthened if firm is under earnings pressure.

3. METHODOLOGY

3.1 Data and sample

This study's sample includes some of the most innovative enterprises in Japan. The sample comprises Japanese enterprises whose patents are most frequently cited over the period of 2012 to 2018 in 16 industries; namely: Fiber, Rubber, Pharmacy, Steel, Motor,

Precise machine, General constructor, House maker, Communicating, Game, Energy, Ceramics, Electronics, Chemical producers, Food manufacturing, and Heavy industrial machine industries. These industry categories are set by the Ministry of Internal Affairs and Communications with reference to the Japan Standard Industrial Classification. The sample excludes those firms not publicly traded in Japan's financial markets.

Patent count is a typical output-measure for the extent to which a firm engages in innovativeness activities. Patent data were obtained from the Patent-Result Database maintained by Patent Result Co., Ltd. Historical financial forecasts data of each firm were taken from the COMPUSTAT and I/B/E/S databases. We collected additional financial information from each firm's financial statements retrieved from the Tokyo Stock Exchange. It is essential to collect data on major factors affecting corporate stability, such as the characteristics of the board of directors, creative accounting, and corporate crime. Therefore, each firm's detailed information, such as the structure of the board of directors and corporate crimes, was extracted from each firm's annual securities report and the Nikkei Telecom 21 database.

After dropping inapplicable data, our final dataset contains 145 companies and 806 firm-year observations. This sample covers sufficient information allowing us to test for this study's hypotheses.

3.2 Dependent, independent, and control variables

3.2.1 Innovativeness

Patents data are commonly used by past studies related to innovation and technological changes. Although not all innovations are patented, patent counts and patent citations are still the most important and commonly used indicators of corporate innovativeness. There are several advantages of using patent data for research on innovativeness. Each cited patent represents a linkage between research collaborators, rivals, and other needs regarding new inventions. Most importantly, patent counts and patent citations enable us to quantify the intensity of innovativeness. Hence, a key variable in this study is the number of times a firm's patents have been cited by other patents in each year during the sample period. The count of patent citations reflects a firm's long-term ability in managing its innovativeness. This measure reveals the fact that the leading high-tech companies possessing the foremost technologies can benefit from their own innovations and at the same time prevent competitors from gaining access to their innovations. Based on patent data, this study's measure of innovativeness is defined as follows:

$$\text{Innovativeness} = \log N,$$

where, N = the number of citations received by the firm's patents

3.2.2 Financial stability

We measure corporate financial stability using Z-score, which is an accounting-based approach to measuring financial stability. Z-score is defined as the returns on assets plus the capital-asset ratio divided by the standard deviation of asset returns. Following Laeven and Levine (2009) and Fazio *et al.* (2015):

$$Z\text{-score} = \frac{ROA_{it} + Equ_{it}}{\sigma(ROA)}$$

Z-score measures how far a firm is from insolvency (Roy, 1952). Insolvency is the state in which the firm's losses exceed its equity. If profits are normally distributed, the inverse of the probability of insolvency is $(ROA + Equity)/s(ROA)$, where $s(ROA)$ is the standard deviation of ROA. Following past research, we define the inverse of the probability of insolvency as the Z-score, which in turn measures corporate stability.

3.2.3 Managerial myopia

Following past research (e.g., Chang, 2018; Gentry and Shen, 2013; Zhang, 2016, Zhang, 2010), managerial myopia is measured by earnings pressure that is calculated as the performance gap relative to financial analysts' forecasts:

$$Earnings\ pressure = \text{Analysts' Consensus Forecast of EPS} - \text{Potential EPS}$$

Following Zhang's (2010) method, we take the average of financial analysts' forecasts of the firm's earnings per share (EPS) as the "Analysts' Consensus Forecast of EPS". This method is consistent with the fact that corporate managers seldom consider only one analyst's forecast (Kasznik and McNichols, 2002) and that investors usually take the "consensus" as a reference for making their investment decisions. Moreover, the potential EPS represents a kind of internal expectation that the firm can potentially realize (see, for example, Chang, 2018; Zhang and Gimeno, 2016, Zhang, 2010). Earnings pressure increases with the gap between earnings forecasts and the firm's actual business situation, which represents the internal earnings pressure faced by the manager.

3.3 Statistical analysis

The final sample consists of 145 companies and 806 firm-year observations covering all the information needed to test for our hypotheses. Our hypotheses focus on exploring: (1) the relationship between innovativeness and corporate financial stability, and (2) the role managerial myopia in the above relationship and how it affects corporate innovation strategies. We first used yearly data to identify the trends of the variables and then conducted panel regression analysis that covers both intertemporal and cross-sectional effects. Following certain guidelines of model selection, we first applied F-test and then Hausman test to choose the best model. The outcomes suggest that the pooled-effect panel regression with unbalanced panel data is the most suitable model for this study.

4. EMPIRICAL RESULTS

Table 1 presents the sample distribution by year and industry. Table 2 presents the descriptive statistics. Table 3 presents the Pearson correlations of all the variables considered in this study. Finally, findings from the panel regression analysis are reported in Table 4.

Table 1. Sample distribution

	No. of observations	Percentage of sample
<i>Sample by year</i>		
2012	70	8.14%
2013	123	14.30%
2014	122	14.19%
2015	124	14.42%
2016	122	14.19%
2017	123	14.30%
2018	122	14.19%
Total	806	100%
<i>Sample by industry</i>		
Steel and metal	9	6.21%
General constructor and House maker	17	11.72%
Food manufacturing	13	8.97%
Motor	15	10.34%
Energy	9	6.21%
Drugs and chemical producers	14	9.66%
Ceramics	9	6.21%
Rubber and plastic	8	5.52%
Fiber and paper	10	6.90%
Games, Electronics, and communications	21	14.48%
Precise and Heavy industrial machine	20	13.79%
Total	145	100%

According to Table 1, the sample is concentrated in the period from 2013 to 2018, which represents more than 10% of our total observations each year. However, only 8.14% of the observations are 2012. If we further examine the details of the sample by industry, basically all of the observations are in manufacturing-related industries. As regards to the service-related industries, observations can be found in the categories of games, electronics, and communications.

Table 2. Descriptive statistics

	Mean	Med.	Min.	Max.	S.D.
1. Innovativeness	2.838	2.833	0.699	4.405	0.020
2. Corporate	4.469	3.425	-0.782	34.806	0.149
Stability					
3. Earnings	-0.100	0.029	-45.756	0.652	0.063
Pressure					
4. Headquarter	0.601	1	0	1	0.017
5. Female boards	0.869	1	0	4	0.032
6. Foreign ownership	0.991	1	0	1	0.003
7. State ownership	0.057	0	0	1	0.008
8. Firm age	54.95	65	1	73	0.661
9. Foreign CEO	0.019	0	0	1	0.139
10. Nikkei	0.6935	1	0	1	0.461
11. Change name	0.004	0	0	1	0.070
12. Creative accounting	0.006	0	0	1	0.078
13. Corporate crime	0.012	0	0	1	0.110

4.1 Descriptive statistics

The control variables include the number of female directors, firm age, and several instrumental variables including whether the headquarter is in the capital city, the presence of a foreign chief executive officer (CEO), the levels of foreign ownership and state ownership, change of company name, whether the firm is a component of the Nikkei index, and the presence of creative accounting and corporate crime. First, the headquarter variable has a mean of 0.601, indicating that approximately 60% of the sample firms have their headquarters located in the capital city (Tokyo). The number of female directors and the level of foreign ownership are on average 0.8669

and 0.991, respectively, indicating that the sample firms are characterized by considerably modern management features. However, the percentage of foreign CEO is only 1.9%. According to supplementary information collected by the authors, for those sample firms with a foreign CEO, the foreign CEO was appointed by the foreign holding company. In addition, the mean of state ownership is only 5.7%, suggesting that the sample firms' operations basically follow the free market mechanism. Finally, the mean of the Nikkei index indicator is 0.69, which means that approximately 30% of the leading high-tech companies in Japan are not components of the Nikkei 225.

4.2 Correlation analysis

Table 3 presents the Pearson correlations among the variables considered in our study. Overall, the correlations among the independent variables provide us with a good foundation for further analysis. For instance, innovativeness is found to be negatively correlated with corporate stability, which is consistent with this study's first hypothesis. The positive relationship between innovativeness and earnings pressure is consistent with our conjecture in the process of hypothesis setting. Moreover, both innovativeness and earnings pressure are negatively related to corporate stability, which is consistent with our arguments based on the agency theory and corporate stability.

4.3 Regression analysis results

Results of the panel data regression are presented in Table 4. In Model 1, the coefficient (Coef. = -0.626 , $p < 0.01$) on innovativeness is negatively related to the Z-score (i.e., the indicator of corporate stability). This negative relationship remains unchanged after the control variables are added in Model 2 (Coef. = -0.565 , $p < 0.05$). As such, this negative relationship between innovativeness and corporate stability empirically support the first hypothesis of this study.

Based on the baseline results, we test for the second hypothesis in Model 3 using the interaction term of innovativeness and managerial myopia (i.e., earnings pressure) as an additional independent variable. As shown in Model 3 where all the variables are simultaneously considered, the interaction term composed of innovativeness and earnings pressure has a statistically significant effect on corporate stability, with the sign of its negative coefficient the same as that for the effect of innovativeness on corporate stability. However, it is found that the intensity of this relationship (coef. = 0.947 , $p < 0.05$) becomes weaker in Model 3 compared with that in Model 2. In this regression analysis, all the control variables, except for corporate crime in Models 2 and 3, are statistically insignificant.

Table 3. Pearson correlation

	Mean	Med.	Min.	Max.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Innovation	2.838	2.833	0.699	4.405	1												
2. Corporate stability	4.469	3.425	-0.782	34.806	-0.163	1											
3. Earnings pressure	-0.100	0.029	-45.756	0.652	0.034	-0.0254	1										
4. Headquarter	0.601	1	0	1	0.093	-0.067	-0.052	1									
5. Female boards	0.869	1	0	4	0.064	-0.049	0.045	0.224871	1								
6. Foreign ownership	0.991	1	0	1	-0.068	0.041	-0.006	-0.07615	0.001447	1							
7. State ownership	0.057	0	0	1	-0.096	0.018	0.00198	0.003497	0.201425	0.023	1						
8. Firm age	54.95	65	1	73	0.262	-0.079	0.141	-0.1564	-0.08122	0.219	-0.109	1					
9. Foreign CEO	0.019	0	0	1	0.066	-0.009	0.009	-0.17493	-0.09922	0.013	-0.035	0.087	1				
10. Nikkei	0.6935	1	0	1	0.38	-0.174	-0.039	0.19	0.130021	-0.062	-0.01	0.38	0.0946	1			
11. Change name	0.004	0	0	1	0.005	-0.044	0.004266	0.057455	0.035442	0.00661	-0.017	-0.007	-0.01	0.046	1		
12. Creative accounting	0.006	0	0	1	0.071	-0.038	0.002	-0.0002	0.055	0.007395	-0.019	0.044	-0.011	0.052	-0.006	1	
13. Corporate crime	0.012	0	0	1	-0.051	-0.064	0.006	-0.0004	0.003	0.010491	-0.027	0.016	-0.015	0.025	-0.008	0.134	1

**In bold, the correlation is significant at the 5% level.
The value was transformed by taking the natural logarithm.**

Table 4. Results of panel regression analysis

Primary variables	Model 1	Model 2	Model 3
Cited patent count	-1.189***	0.565**	-0.626**
Earnings pressure			2.39*
Cited patent count x Earnings pressure			-0.947**
Control variables			
Headquarters		0.366	0.33
Female directors		-0.23	-0.21
Foreign ownership		1.237	1.016
State ownership		0.514	0.535
Firm age		0.005	0.008
Foreigner CEO		0.181	0.18
Nikkei 225		-0.469	-0.535
Name changed		-2.256	-2.215
Creative accounting		0.99	-1.074
Corporate crime		2.319*	-2.353*
Constant	7.845***	4.702***	4.968***
R ²	0.026	0.022	0.029
adj R ²	0.025	0.007	0.01
F	22.216	1.466	1.5998

* $p < .10$, ** $p < .05$, *** $p < .01$

To provide further details regarding the outcomes of Model 3, a simple slope figure is plotted in Figure 1 for demonstrating the moderating effect of earnings pressure. This figure reveals that earnings pressure moderates the relationship between innovativeness and corporate stability. The finding suggests that the relationship between innovativeness and corporate stability can be slightly positive if the company is not under high earnings pressure. However, as our hypothesis suggests, a company with a high-level of managerial myopia may excessively immerse in innovativeness for short-term benefits, which could significantly reduce corporate stability (Coef. = -0.33 , $p < 0.05$). Therefore, the second hypothesis is not entirely supported because the relationship between innovativeness and corporate stability can change direction, depending on the degree of managerial myopia.

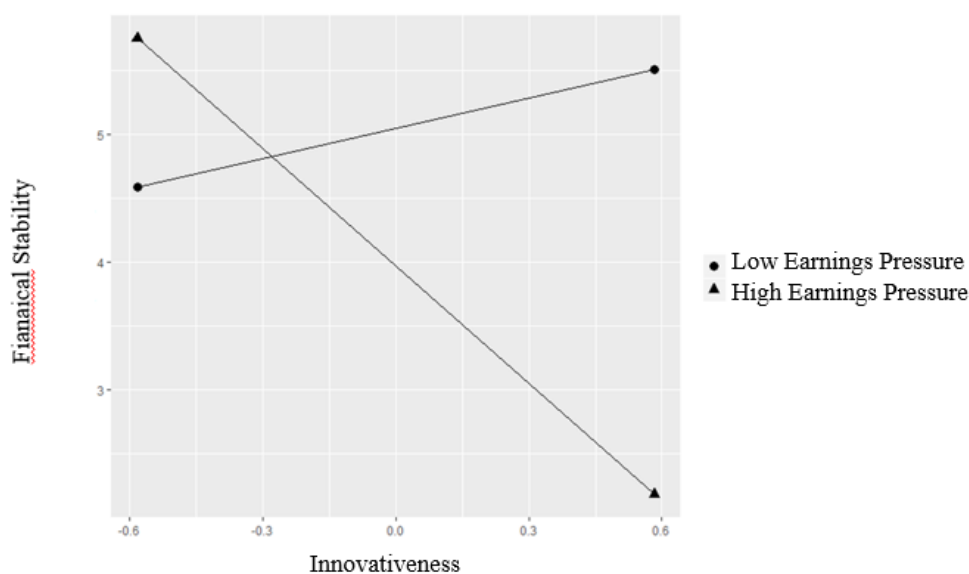


Figure 1. The moderating effect of managerial myopia

5. DISCUSSION

5.1 Conclusion

Despite the solid foundation established by numerous studies on the relationship between innovativeness and firm performance, our understanding of the long-term impacts of innovativeness on firm performance and corporate financial stability is limited. Although past studies suggested that innovative firms tend to outperform non-innovative ones, majority of these studies primarily focused on the moderating role of innovation in a dynamic environment.

In this study, we reviewed prior research on innovation strategies and corporate governance, and then explored the relationship between innovativeness and corporate financial stability from a new perspective, i.e., managerial myopia. After controlling for other firm-level characteristics like gender diversity, type of ownership, firm age, etc., we found that a firm's innovativeness has a significantly negative impact on its

financial stability. Considering a situation with myopic management, the findings suggest that the relationship between innovativeness and financial stability can be slightly positive if the company is not under high earnings pressure. The same relationship can change direction if the degree of managerial myopia increases beyond a certain level.

5.2 Contributions and implications

Findings from this study provide empirical evidence for the effect of earnings pressure on a firm's decision-making. The findings suggest that innovativeness can increase corporate financial stability if the company is not under high earnings pressure. However, innovativeness will become destabilizing if earnings pressure is high.

This study has two major implications for managerial practices and future research. First, the results show that, while innovativeness can generate long-term returns, corporate managers should be aware that over-focusing on innovativeness would expose the company to excessive risks especially when the company is under high earnings pressure. Second, this study provides further empirical support for past research findings by formulating organizational behavior and its interaction with the environment from the perspective of earnings pressure. For future research, it will be fruitful to incorporate earnings pressure in competitive dynamics.

5.3 Limitations and suggestions

This study has several limitations that may provide possible directions for future research. First, regarding our research sample, measuring innovativeness by patent counts and patent citations cannot totally represent explorative innovations because self-citations of a company's patent are not included in the measure. In addition, as a matter of fact, some creative companies do not file patents for all their innovations, and some creative companies are owned by holding companies or families and thus their operation and financial details cannot be easily accessed. We suggest that further research could consider an alternative approach to measuring innovativeness that would be useful to further investigation of innovation strategies.

Second, this study developed a new research foundation for the relationship between corporate governance and earnings pressure. The findings suggest a possibility of further research on the same issue. Future research may try to explore further details about the relationship between earnings pressure and corporate managers' decision-making with the agency theory incorporated in the model. Future research may also consider examining the impacts of earnings pressure on other managerial practices, such as earnings management, capital strategies, and corporate social responsibility.

REFERENCES

- [1] Ahearne, M. J., Boichuk, J. P., Chapman, C. J., and Steenburgh, T. J. (2016). Real earnings management in sales. *Journal of Accounting Research*, 54(5), pp. 1233-1266.
- [2] Ameer, R. (2010). Turnaround prediction of distressed companies: evidence from Malaysia. *Journal of Financial Reporting and Accounting*, 8(2), pp. 143-159.
- [3] Bhagat, S. and Welch, I. (1995). Corporate research & development investments international comparisons. *Journal of Accounting and Economics*, 19(2-3), pp. 443-470.
- [4] Bhojraj, S. and Libby, R. (2005). Capital market pressure, disclosure frequency-induced earnings/cash flow conflict, and managerial myopia (retracted). *The Accounting Review*, 80(1), pp. 1-20.
- [5] Bottazzi, G., Dosi, G., Lippi, M., Pammolli, F. and Riccaboni, M. (2001). Innovation and corporate growth in the evolution of the drug industry. *International Journal of Industrial Organization*, 19(7), 1161-1187.
- [6] Carden, S. D., Mendonca, L. T. and Shavers, T. (2005). What global executives think about growth and risk. *McKinsey Quarterly*, 2, pp. 16-25.
- [7] Chang, H. Y., Lee, C. Y. and Wong, Y. J. (2018). The impact of earnings pressure on exploratory innovation. *R&D Management*, 49(4), pp. 470-483.
- [8] Coad, A. and Rao, R. (2008). Innovation and firm growth in high-tech sectors: A quantile regression approach. *Research Policy*, 37(4), pp. 633-648.
- [9] European Central Bank. (2010). *EU Financial Integration Report*. [online] Frankfurt: European Central Bank. Available at: <http://www.ecb.europa.eu/pub/pdf/other/financialintegrationineurope201004en.pdf> [Accessed Day Mo. Year].
- [10] Eisdorfer, A. and Hsu, P. H. (2011). Innovate to survive: The effect of technology competition on corporate bankruptcy. *Financial Management*, 40(4), pp. 1087-1117.
- [11] Fazio, D. M., Tabak, B. M. and Cajueiro, D. O. (2015). Inflation targeting: Is IT to blame for banking system instability? *Journal of Banking & Finance*, 59, pp. 76-97.
- [12] Gentry, R. J. and Shen, W. (2013). The impacts of performance relative to analyst forecasts and analyst coverage on firm R&D intensity. *Strategic Management Journal*, 34(1), pp. 121-130.
- [13] Geroski, P. A. (2005). Understanding the implications of empirical work on corporate growth rates. *Managerial and Decision Economics*, 26(2), pp. 129-138.
- [14] Greve, H. R. (2003). A behavioral theory of R&D expenditures and innovations: Evidence from shipbuilding. *Academy of Management Journal*, 46(6), pp. 685-702.
- [15] Hall, B. J. and Liebman, J. B. (1998). Are CEOs really paid like bureaucrats? *The Quarterly Journal of Economics*, 113(3), pp. 653-691.
- [16] Hu, Y. C. and Ansell, J. (2005). Developing Financial Distress Prediction Models A Study of US, Europe and Japan Retail Performance.
- [17] Innovation Research Interchange. (2019). 2019 R&D Trends Forecast: Results from the Innovation Research Interchange's Annual Survey. *Research-Technology Management*, 62(2), pp. 21-30.
- [18] Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), pp. 323-329.

- [19] Jensen, M. C. and Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), pp. 305-360.
- [20] Kasznik, R. and McNichols, M. F. (2002). Does meeting earnings expectations matter? Evidence from analyst forecast revisions and share prices. *Journal of Accounting Research*, 40(3), pp. 727-759.
- [21] Laeven, L. and Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93(2), pp. 259-275.
- [22] Langerak, F., Hultink, E. J. and Robben, H. S. (2004). The impact of market orientation, product advantage, and launch proficiency on new product performance and organizational performance. *Journal of Product Innovation Management*, 21(2), pp. 79-94.
- [23] Li, T. and Calantone, R. J. (1998). The impact of market knowledge competence on new product advantage: conceptualization and empirical examination. *Journal of Marketing*, 62(4), pp. 13-29.
- [24] Lupu, I. (2015). The indirect relation between corporate governance and financial stability. *Procedia Economics and Finance*, 22, pp. 538-543.
- [25] Mizik, N. (2010). The theory and practice of myopic management. *Journal of Marketing Research*, 47(4), pp. 594-611.
- [26] Outecheva, N. (2007). *Corporate financial distress: An empirical analysis of distress risk*. Doctor Oeconomiae. University of St. Gallen.
- [27] Roy, A. D. (1952). Safety first and the holding of assets. *Econometrica: Journal of the Econometric Society*, 20(3), pp. 431-449.
- [28] Rubera, G. and Kirca, A. H. (2012). Firm innovativeness and its performance outcomes: A meta-analytic review and theoretical integration. *Journal of Marketing*, 76(3), pp. 130-147.
- [29] Stein, J. C. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *The Quarterly Journal of Economics*, 104(4), pp. 655-669.
- [30] Sundaram, L. M. (1996). 5,583,348.
- [31] Tsai, K. H., Hsieh, M. H. and Hultink, E. J. (2011). External technology acquisition and product innovativeness: The moderating roles of R&D investment and configurational context. *Journal of Engineering and Technology Management*, 28(3), pp. 184-200.
- [32] Tresna, P. W., & Raharja, S. U. J. (2019). Effect of Entrepreneurial Orientation, Product Innovation and Competitive Advantage on Business Performance in Creative Industries in Bandung City, Indonesia. *Review of Integrative Business and Economics Research*, 8, 51-60.
- [33] Woolridge, J. R. (1988). Competitive decline and corporate restructuring: Is a myopic stock market to blame? *Journal of Applied Corporate Finance*, 1(1), pp. 26-36.
- [34] Yu, H. C., Chen, C. S. and Hsieh, D. T. (2010). Keiretsu style main bank relationships, R&D investment, leverage, and firm value: Quantile regression approach. In: C.F. Lee, and J. Lee, eds., *Handbook of Quantitative Finance and Risk Management*. Boston, MA: Springer, pp. 829-841.
- [35] Zantout, Z. Z. and Tsetsekos, G. P. (1994). The wealth effects of announcements of R&D expenditure increases. *Journal of Financial Research*, 17(2), pp. 205-216.

- [36] Zhang, Y. and Gimeno, J. (2010). Earnings pressure and competitive behavior: Evidence from the US electricity industry. *Academy of Management Journal*, 53(4), pp. 743-768.
- [37] Zhang, Y. and Gimeno, J. (2016). Earnings pressure and long-term corporate governance: Can long-term-oriented investors and managers reduce the quarterly earnings obsession? *Organization Science*, 27(2), pp. 354-372.