

# The Moderating Effect of Corporate Governance on The Relationship of Environmental Uncertainty and Capital Structure

Triyonowati<sup>1\*</sup>, Rizki Amalia Elfita<sup>2</sup>

<sup>1</sup> Faculty Name, Sekolah Tinggi Ilmu Ekonomi Indonesia Surabaya, Surabaya, Indonesia

<sup>2</sup> Fakultas Ekonomi dan Bisnis, Universitas Nahdlatul Ulama Surabaya, Surabaya, Indonesia

\*Corresponding Author: [author@university.ac.id](mailto:author@university.ac.id)

---

**Abstract:** Changes that occur in the external environment create environmental uncertainty for the company. Environmental uncertainty requires the right strategy from company management so that the company can maintain its operational sustainability. Currently, a study on the uncertainty of the business environment focuses more on company performance. These circumstances create research gaps due to the possibility of changes in the corporate capital structure in a condition of environmental uncertainty to maintain company performance. This study aims to find empirical evidence of the influence of environmental uncertainty on the corporate capital structure. Also, this study aims to determine the role of corporate governance during the uncertainty of the business environment and its impact on the corporate capital structure. The study was conducted at manufacturing companies listed on the Indonesia Stock Exchange for the 2014-2018 period. The data used in this study were analyzed using the moderated regression analysis. The results showed that environmental uncertainty affects the corporate capital structure and corporate governance will strengthen the influence of environmental uncertainty on the corporate capital structure. The results indicated that when environmental uncertainty is high, company managers tend to allocate larger debt in the corporate capital structure. Moreover, when environmental uncertainty is high, good corporate governance tends to support company management to allocate larger debt to the corporate capital structure.

**Keywords:** Corporate capital structure, environmental uncertainty, corporate governance

---

## 1. Introduction

The never-ending changes in the economic and market environment is the contingency factors faced by the company (Tsai and Yang, 2013). Two constructs of the business environment that are directly experienced by the company are environmental dynamics and environmental uncertainty (Ward et al., 1995). A dynamic environment is characterized by the constant rate of change in consumer demand, but the opportunities to create a new market and niche market are open. In this kind of environment, companies try to change products to meet changes in customer preferences and secure their competitive advantage (Lumpkin and Dess, 2001). This condition must be able to be read properly by company management due to fast-changing customer preferences is difficult to predict (Wang and Fang, 2012).

Uncertainty or instability in the market environment due to fast-changing customer needs creates environment uncertainty (Wang and Fang, 2012). Environmental uncertainty indicates changes in the composition of a niche market and their preferences (Wang and Fang, 2012). Environmental uncertainty that grows from changes in customer preferences and the composition of a niche market encourages company management to become more innovative in developing new ideas to create new products or processes that are different from competitors (Amelia and Sudaryati, 2014). Besides, environmental uncertainty is a manager's perception of the environment that is being faced and might affect company performance (Gordon and Narayan, 1984). This occurs due to fast-changing in uncertain conditions that might affect company performance. Environmental uncertainty requires management's

ability to accurately understand the external environmental conditions (Dwyer and Welsh, 1985). This is because there are difficulties in anticipating and assimilating environmental conditions simultaneously (Dwyer and Welsh, 1985).

Environmental uncertainty is often driven by intense competition and the unexpected pace of technological advances. In this kind of environment, product cycles are often short, forcing companies to invest more in technology to face competition (Song *et al.*, 2005; Atuahene-Gima *et al.*, 2006). In a competitive environment, which is characterized by the pace of technological change, investment in technology plays a significant role in achieving and maintaining a competitive advantage (Ganter and Hecker, 2013). Investing in technology helps companies increase their capacity and develop new products that are able to adapt to the uncertainty market (Ramirez *et al.*, 2018). Besides, companies are expected to understand changes in market trends and produce new products in a fast-changing business environment (Wang *et al.*, 2015).

Environmental uncertainty that grows from intense business competition encourages company management to become more innovative in developing new ideas to create new products or processes that are different from competitors (Atuahene-Gima *et al.*, 2006). This condition encourages company management to invest more in creating new products and processes from the ideas generated by company management. Also, a fast-changing technology condition must be well responded by company managers so that the technology owned by the company can be useful for the company to win the competition in an uncertain business environment. This encourages company managers to allocate greater investment in technology to win the competition (Ganter and Hecker, 2013). The uncertainty of the business environment results in the need for companies to invest in technology and research and development causing changes in the corporate capital structure. The uncertain business environment increases the company's debt in the corporate capital structure due to the large cost of investment required in a condition of environmental uncertainty (Ramirez *et al.*, 2018).

The large investments made by company management during times of high environmental uncertainty create a way for company management to take opportunistic actions. Therefore, a strong corporate governance role can limit the possibility of opportunistic actions taken by management. Corporate governance encourages company management to become more careful in managing the corporate capital structure in the environmental uncertain condition (Peng Chow *et al.*, 2018). However, the excessive caution done by corporate governance in times of environmental uncertainty provides a limit for company management to make changes in business strategy in dealing with environmental uncertainty. Corporate governance provides greater support to corporate managers in dealing with environmental uncertainty. This support assists company managers to make greater investments in technology and research and development on the environment does not guarantee a high environment. This condition results in debt payable in the corporate structure when corporate governance gives flexibility to managers to change business strategies in environmental uncertainty.

## 2. Literature Review

### Contingency Theory

The contingency approach is based on the premise that no accounting and financial system is universally the same for all organizations in all circumstances (Otley, 1980). This indicates that no accounting system can answer all company problems in different situations. Dynamic changes in the external environment create contingency problems for the company so that active management efforts are needed to solve contingent problems arising from changes in

the external environment. As the environment becomes more and more uncertain, more information needs to be processed by decision-makers. The variations in organizational characteristics reflect the strategies adopted by decision-makers to deal with different levels of uncertainty (Otley, 1980). The effort of company management in solving contingency problems that arise makes it easy for the company to make an inventory of all the needs that are needed to answer these contingency problems.

Lueg and Borisov (2014) argue that contingency theory has attracted a lot of attention, especially related to environmental uncertainty where these external factors can affect organizational performance, from planning and managing control to decision making. The concept of environmental uncertainty is to estimate the risk of problems from the present which will be useful for the benefit of overcoming risks in the future. This will affect the going concern concept. By using the perspective of contingency theory, we can see that nonfinancial factors play a significant role, especially in the relationship between organizational strategy and environmental strategy with organizational performance (Hoque, 2004).

Contingency formulations regarding environmental conditions and internal characteristics of the organization usually flow from a perspective of processing information (Galbraith, 1973). This shows that the decision made by the company must match between the level of processing information asked by the environment and the processing capability of the organization (Iqbal, 2002). Therefore, disclosure of the information is very important for company management in an uncertain business environment to make shareholders have trust in management's ability in managing the company (Abdullah et al., 2015). Hence, to provide an overview to stakeholders regarding management's effort in overcoming contingency problems, disclosure of corporate governance is required to provide an overview to company stakeholders regarding the efforts made by management in dealing with pressures due to contingency problems that occur (Abdullah et al., 2015).

### **Environmental Uncertainty and corporate capital structure**

Fast and gradual changes in technology, fast-changing consumer preferences, and fluctuations in product supply or demand of materials are contingent problems faced by companies at any time. These conditions create environmental uncertainty that can disrupt the sustainability of the company's life (Chan *et al.*, 2016). This indicates that environmental uncertainty is a contingent problem that can make it more difficult for company management to predict the sustainability of the company in the future due to changes in the external environment. Changes in the external environment encourage management to become more active in creating internal and external contingency factors in response to environmental changes (Tsai and Yang, 2013).

Environmental uncertainty is a condition that arises as a result of business changes, so the must be effective steps taken by company management to overcome environmental uncertainty (Lueg and Borisov, 2014). When a company is faced with an uncertain business environment, a leader must be able to understand how to anticipate by minimizing the impact of an uncertain business environment. The higher the environmental uncertainty, the less revenue the company will have, and the possibility of potential cash flow shortages (Baum et al., 2009). Therefore, the company will increase external funding to meet the cash flow needs as well as technology investment and research and development needs in a dynamic economic environment. Environmental uncertainty encourages management to become more aggressive in allocating debt to the corporate capital structure to meet the company's needs. Investment in research and development as well as in technology require large funding, so they are not met by internal funding.

H1. Environmental uncertainty has a positive impact on the corporate capital structure.

**Environmental Uncertainty, corporate governance and corporate capital structure**

Good corporate governance is able to predict or manage all the risks that the company might face in the future. The ability to predict or manage all the risks that might be faced by the company makes corporate governance more active in informing management about possible risks in the future, so that management becomes more confident that the decisions they have made are the right one (Abdullah et al., 2015). Uncertainty in the business environment is a condition that cannot be avoided, therefore company management must be able to manage the risks that might be faced by the company so that the company has the minimum possible impact due to the uncertainty of the business environment.

Companies are required to manage environmental uncertainty through innovative efforts to maintain the company’s position in a competitive environment (Moreira et al., 2017). Environmental factors provide opportunities, constraints, and threads, therefore influence the attractiveness and ability of the company to innovate (Tsai and Yang, 2013). To maintain the company’s position in a competitive environment, the company management strives to be more active in conditions of high environmental uncertainty by investing in research and development as well as in technology to keep up with changes caused by environmental uncertainty. Corporate governance is active to perform its functions properly in times of high environmental uncertainty. Corporate governance provides greater support to company managers to overcome environmental uncertainty. This support makes it easier for company managers to make greater investments in technology and research and development to have better management in high environmental uncertainty. This condition results in increased debt in the corporate capital structure when corporate governance allows managers to change the company’s business strategy in environmental uncertainty.

H2. Corporate governance strengthens the influence of business environment uncertainty on the corporate capital structure.

Picture 1 presents this research model.

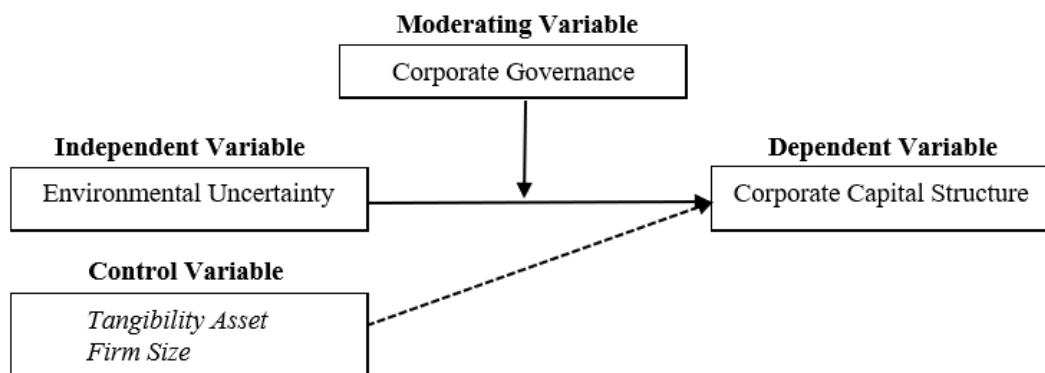


Figure 1: Conceptual Framework

**3. Method**

This study discusses 3 main problems, namely the uncertainty of the business environment, corporate governance, and the corporate capital structure. First, the following multiple linear regression (equation 1) is run to determine the relationship between environmental uncertainty and capital structure:

**Model 1 :**

$$DER = \beta_0 + \beta_1 EU + \beta_4 TANGIBLE + \beta_5 SIZE + \epsilon$$

DER is the corporate capital structure, EU indicates the environmental uncertainty, TANGIBLE represents corporate *tangibility*, SIZE shows the size of the company, and  $\epsilon$  is an error.

Next, this study uses the following panel data (equation 2) to examine the relationship between corporate governance and corporate capital structure:

**Model 2 :**

$$DER = \beta_0 + \beta_1 EU + \beta_2 CG + \beta_4 TANGIBLE + \beta_5 SIZE + \epsilon$$

The corporate governance index represented by CG

Finally, to examine the moderating effect of corporate governance on the relationship between environmental uncertainty and corporate capital structure, the following panel data models are used:

**Model 3 :**

$$DER = \beta_0 + \beta_1 EU + \beta_2 CG + \beta_3 EU*CG + \beta_4 TANGIBLE + \beta_5 SIZE + \epsilon$$

EU\*CG is a description of the interaction between environmental uncertainty and corporate governance.

The dependent variable (DER) is measured as total debt over total equity (Huang *et al.*, 2017). The independent variable of this study is environmental uncertainty over total equity (EU) which considers the volatility of the company's sales. The moderating variable of this study is corporate governance (CG) which adopt from some of the following studies as a proxy for corporate governance, that is:

- Board of Independency (BIND), which is defined as the percentage of independent directors on the composition of the board (Alves et al., 2015; Huang and Wang, 2015).
- Board Size (BSIZE), is a dummy variable, with a value of 1 if the board size is less than the median of the total boards of all sample companies, and 0 if vice versa (Liao, 2012).
- Blockholder Ownership (BHOWN), which is defined as the percentage of shares owned by blockholders whose ownership is more than 5 percent of the company's equity (Lu and Wang, 2015; Eling and Marek, 2014).
- Institutional Ownership (INOWN), which is measured as the percentage of shares owned by the largest institutional owner (Brown et al., 2006).

To measure the quality of corporate governance, we use a principal component analysis methodology to deal with the multidimensional aspects of governance mechanisms (Liao et al., 2015; Lu and Wang, 2015). It is used to combine individual governance characteristics to construct a single governance index. The corporate governance (CG) index is calculated based on a linear combination of the following individual governance measures:

$$GCG_{it} = \sum_{m=1}^n Loading_{im} Governance_{m,it}$$

Where  $Governance_m$ , it represents an individual measure of governance m from a company i in the year of t and  $Loading_{im}$  is the assignment for the individual governance measure m of a company i.

This study combines several company-specific control variables that were found to have a significant influence on the corporate capital structure decisions in previous studies. The company-specific control variables are tangibility asset (TANGIBLE) which is measured as the ratio of fixed assets to total assets (Sun et al., 2015; Harford et al., 2008), and company



size (SIZE) which is measured based on the natural logarithm of total assets (Liao et al., 2015).

The analysis used in this study is moderated regression analysis (MRA). MRA is used to examine the moderating effect of corporate governance on the effect of environmental uncertainty on the corporate capital structure.

**4. Result and Discussion**

**Descriptive Statistics**

A summary of descriptive statistics is presented in Table 1. Based on the results shown in Table 1, the average value of the corporate capital structure (DER) is 0,30413 with a standard deviation of 0,34254 yang which shows that manufacturing companies in Indonesia tend to use the equity in the corporate capital structure, which is indicated by an average value of less than 1. The average value of the uncertainty of the business environment is equal to 0.19325 with a standard deviation of 0.16858 which indicates that the level of uncertainty in the business environment (EU) is not too high, it can be seen from the average value of less than 1. The average value of corporate governance (CG) is 0,36268 with a standard deviation of 0,13660 which indicates the disclosure of corporate governance in manufacturing companies in Indonesia is not good because the mean value is less than 1. The average value of tangibility assets is 0,38732 with a standard deviation of 0,19406 which shows that the tangibility asset of manufacturing companies in Indonesia is quite large, meaning that it is easier for companies to pledge their assets to obtain debt. The average value of company size is 28,48741 with a standard deviation of 1,62767 which shows that the size of the manufacturing companies in Indonesia as the research sample is relatively the same.

**Table 1. Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
DER	528	0.000678	3.180172	0.30412786	0.342540221
EU	528	0.015418	1.633867	0.19325305	0.168582257
CG	528	0.077425	0.612875	0.36268471	0.136597691
TANGIBLE	528	0.000547	0.965787	0.38732425	0.194055354
SIZE	528	24.414157	33.473728	28.48741224	1.627665293
Valid N (listwise)	528				

**Source: Research Data, processed 2020.**

Table 2 describes the correlation between the main variables. The correlation between variables is relatively low as indicated by the Pearson correlation value which is less than 0,3. A moderate level of correlation occurs between company size and corporate governance, where the correlation value is equal to -0,545. Therefore, we conclude that multicollinearity is not a problem for regression.

**Table 2. Correlation Between Variabel**

	DER	EU	CG	TANGIBLE	SIZE
DER	1				
EU	0,080	1			
CG	-0,131	-0,063	1		
TANGIBLE	0,311	-0,077	-0,054	1	
SIZE	0,257	-0,158	-0,545	0,219	1

**Source: Research Data, processed 2020.**

**Main Regression Results**

Table 3 presents the main results of the empirical analysis. The analysis began by estimating the effect of environmental uncertainty on the corporate capital structure, then adds corporate governance as a moderation.

We started by estimating the effect of environmental uncertainty on a corporate capital structure in the presence of other control variables. In Model 1, the relationship between environmental uncertainty and corporate capital structure is significantly positive at the 1 percent level. This result supports H1. This implies that manufacturing companies tend to use more of their capital structure when they face increased volatility in an uncertain environment. The previous literature offers several possible explanations for this observation. For example, Baum, et al., (2009) argued that company managers used more debt during high times of environmental uncertainty to maintain their level of competition. Meanwhile, Chen (2010) shows that during volatile environmental conditions, companies experience lower discount rates of expected tax benefits from debt, which reduces the attractiveness of the corporate capital structure.

The next was estimating the effect of environmental uncertainty and corporate governance on the corporate capital structure in the presence of other control variables. In Model 2, the relationship between environmental uncertainty and corporate capital structure is significantly positive at the 1 percent level, while corporate governance does not affect.

Finally, this study estimated the relationship between environmental uncertainty and capital structure as moderated by corporate governance. In Model 3, the relationship between environmental uncertainty and corporate capital structure as moderated by corporate governance is significantly positive at the 5 percent level. Evidence suggested that better corporate governance will allow managers to use the corporate capital structure during times of high volatility, which supports contingency theory. The support from the corporate governance component made it easier for company managers to invest more in technology and research and development to manage high environmental uncertainty. This condition resulted in increased debt in the corporate capital structure when corporate governance allows managers to change the company’s business strategies in environmental uncertainty conditions.

The relationship between tangibility and corporate capital structure is significantly positive at the 1 percent level, which supports the trade-off theory. According to this theory, firms with higher intangibles have more fixed assets that can be offered as collateral loans. It also reduces the risk of the bank when making loans to such companies. As a result, companies with high tangible assets often find it easier to obtain debt financing. This is also appropriate with Dang et al. (2014) and Frank and Goyal (2009).

The coefficient of the company size is significantly positive at the 1 percent level. This is consistent with the trade-off theory, which states that large companies have more reputation and diversification, and have a smaller probability of bankruptcy. These factors allow large companies to use more of the corporate capital structure. This is also in line with Chakraborty (2013) and Frank and Goyal (2009).

Overall, the results show that manufacturing companies in Indonesia consider the volatility in environmental uncertainty when formulating their financial policies. Furthermore, the findings of this study can strengthen the important role of corporate governance as an effective mechanism to limit the use of corporate capital structure during times of high volatility.

**Table 3. Hypothesis Test Results**

Variable	Model 1		Model 2		Model 3	
	Coeff	Sig	Coeff	Sig	Coeff	Sig
Constant	-1,247***	0,000	-1,212***	0,000	-0,994***	0,003

EU	0,277***	0,001	0,276***	0,001	-0,231	0,374
CG			-0,021	0,861	-0,287	0,104
EU * CG					1,234**	0,040
TANGIBLE	0,482***	0,000	0,483***	0,000	0,487***	0,000
SIZE	0,046***	0,000	0,045***	0,000	0,041***	0,000

\*Significant at  $p$ -value < 0,1; \*\* Significant at  $p$ -value < 0,05; \*\*\*Significant at  $p$ -value < 0,01

**Source: Research Data, processed 2020.**

**5. Conclusions**

This study discusses how corporate governance moderates the influence between environmental uncertainty and corporate capital structure using unbalanced panel data from 528 manufacturing companies listed on the Indonesia Stock Exchange during the 2014-2018 period. The researcher applied the moderated regression analysis model to test the relationship of each variable in the research model. Environmental uncertainty is proxied by the volatility of sales volume. The results showed that environmental uncertainty has a significant positive effect on the decision of the capital structure of manufacturing companies. Moreover, this study finds that the overall effect of environmental uncertainty on company capital structure among companies with better governance is positive. Evidence suggested that better corporate governance supports the corporate manager’s effort to become increasingly aggressive in using the corporate capital structure during times of high sales volatility.

This study has limitations in discussing the role of each component of corporate governance in moderating the relationship of environmental uncertainty to the corporate capital structure. This study only examined the overall corporate governance of the existing components to see its effect on the relationship between environmental uncertainty and corporate capital structure.

Concerning the research implications, the findings of this study contribute to the literature on corporate capital structure and corporate governance by providing further evidence on how environmental uncertainty affects the decision of corporate capital structure, as well as how corporate governance moderates these relationships. These results may be useful for policymakers to formulate appropriate policies to reduce the adverse impacts caused by environmental uncertainty. This is important because environmental uncertainty may have a potentially destabilizing effect on a corporate company’s ability to form good investment, production, and financial decisions. Besides, the results show that the quality of good governance can act as a supervisor and encourage company management to ensure that companies use more leverage when they face volatility in the business environment. These findings can help reinforce the importance of coordination between company policymakers and company managers. Lastly, these findings can serve as an important guide for company managers and investors to enable them to formulate appropriate financing and investment decisions.



## References

- Abdullah, W. A. W., Percy, M., & Stewart, J., 2015. Determinants of Voluntary Corporate Governance Disclosure: Evidence From Islamic Banks in The Southeast Asian and The Gulf Cooperation Council Regions. *Journal of Contemporary Accounting Economics*, 11(3), 262-279.
- Alves, P., Couto, E. B., & Francisco, P. M., 2015. Board of Directors' Composition and Capital Structure. *Research in International Business and Finance*, 35, 1–32.
- Atuahene-Gima, K., Li, H., & Luca, L. M. D., 2006. The Contingent Value of Marketing Strategy Innovativeness For Product Development Performance in Chinese New Technology Ventures. *Industrial Marketing Management*, 35, 359–372.
- Baum, C.F., Stephan, A. and Talavera, O., 2009. The Effects of Uncertainty On The Leverage of Nonfinancial Firms. *Economic Inquiry*, Vol. 47 No. 2, pp. 216-225.
- Chakraborty, I., 2013. Does Capital Structure Depend On Group Affiliation? An Analysis of Indian Firms. *Journal of Policy Modeling*, Vol. 35 No. 1, pp. 110-120.
- Chan, K., Yee, R.W.Y., Dai, J. and Lim, M.K., 2016. The Moderating Effect of Environmental Dynamism On Green Product Innovation and Performance. *International Journal of Production Economics*, Vol. 181, Part B, pp. 384-391.
- Chen, H., 2010. Macroeconomic Conditions and The Puzzles of Credit Spreads and Capital Structure. *Journal of Finance*, Vol. 65 No. 6, pp. 2171-2212.
- Chow, Y. P., Muhammad, J., Bany-Ariffin, A. N., & Cheng, F. F., 2018. Macroeconomic Uncertainty, Corporate Governance and Corporate Capital Structure. *International Journal of Managerial Finance*.
- Dang, V.A., Kim, M. and Shin, Y., 2014. Asymmetric Adjustment Toward Optimal Capital Structure: Evidence From a Crisis. *International Review of Financial Analysis*, Vol. 33, pp. 226-242.
- Dwyer, F.R. and Welsh, M.A., 1985. Environmental Relationships of The Internal Political Economy of Marketing Channels. *Journal of Marketing Research*, Vol. 22 No. 2, pp. 397-414.
- Eling, M. and Marek, S.D., 2014. Corporate Governance and Risk Taking: Evidence From The UK and German Insurance Markets. *Journal of Risk and Insurance*, Vol. 81 No. 3, pp. 653-682.
- Frank, M.Z. and Goyal, V.K., 2009. Capital Structure Decisions: Which Factors are Reliably Important?. *Financial Management*, Vol. 38 No. 1, pp. 1-37
- Galbraith, J. R., 1973. Designing Complex Organizations. *Addison-Wesley Longman Publishing Co., Inc.*
- Ganter, A. and Hecker, A., 2013. Deciphering Antecedents of Organizational Innovation. *Journal of Business Research*, Vol. 66 No. 5, pp. 575-584.

Gordon, L. A., & Narayan, V. K., 1984. Management Accounting Systems, Perceived Environmental Uncertainty And Organization Structure: An Empirical Investigation. *Accounting, Organizations and Society*, 9, 33-47.

Harford, J., Li, K. and Zhao, X., 2008. Corporate Boards and The Leverage and Debt Maturity Choices. *International Journal of Corporate Governance*, Vol. 1 No. 1, pp. 3-27.

Hoque, Z., 2004. A Contingency Model of The Association Between Strategy, Environmental Uncertainty and Performance Measurement: Impact On Organizational Performance. *International business review*, 13(4), 485-502.

Huang, H., Sun, L., & Zhang, J., 2017. Environmental Uncertainty and Tax Avoidance. *In Advances in Taxation* (Vol. 24, pp. 83-124): Emerald Publishing Limited.

Huang, Y.S. and Wang, C.J., 2015. Corporate Governance and Risk-Taking of Chinese Firms: The Role of Board Size. *International Review of Economics and Finance*, Vol. 37, pp. 96-113.

Iqbal, M. Z., 2002. International Accounting: A Global Perspective. *International Thomson Education Group*.

Liao, L.K., 2012. Two Essays: Does Corporate Governance Affect The Adjustment Speed Towards Target Capital Structure? And Do Option Traders On REITs and Non-REITs React Differently To New Information?. *unpublished doctoral dissertation*, University of New Orleans, New Orleans.

Liao, L.K., Mukherjee, T. and Wang, W., 2015. Corporate Governance and Capital Structure Dynamics: An Empirical Study. *The Journal of Financial Research*, Vol. 38 No. 2, pp. 169-191.

Lu, J. and Wang, W., 2015. Board Independence and Corporate Investments. *Review of Finance Economics*, Vol. 24, pp. 52-64.

Lueg, R., & Borisov, B. G., 2014. Archival or Perceived Measures of Environmental Uncertainty? Conceptualization and New Empirical Evidence. *European Management Journal*, 32(4), 658-671.

Lumpkin, G.T. and Dess, G.G., 2001. Linking Two Dimensions of Entrepreneurial Orientation To Firm Performance: The Moderating Role of Environment and Industry Life Cycle. *Journal of Business Venturing*, Vol. 5 No. 5, pp. 429-451.

Moreira, M.R.A., Gherman, M. and Sousa, P.S.A. (2017), "Does innovation influence the performance of healthcare organizations?", *Innovation: Organization and Management*, Vol. 19 No. 3, pp. 335-352

Otley, D.T., 1980. The Contingency Theory of Management Accounting: Achievement and Prognosis. *Accounting, Organizations and Society*, 5, 413-428.

Ramirez, F.J., Parra-Requena, G., Ruiz-Ortega, M.J. and Garcia-Villaverde, P.M., 2018. From External Information to Marketing Innovation: The Mediating Role of Product and

Organizational Innovation. *Journal of Business & Industrial Marketing*, Vol. 33 No. 5, pp. 693-705

Song, M., Droge, C., Hanvanich, S., & Calantone, R., 2005. Marketing and Technology Resource Complementarity: An Analysis of Their Interaction Effect In Two Environmental Contexts. *Strategic Management Journal*, 26, 259–276.

Sudaryati, E., & Amelia, F., 2015. Analisis Perbandingan Kinerja Keuangan Perusahaan Prospector dan Defender. *Jurnal Riset Akuntansi Mercu Buana*, 1

Sun, J., Ding, L., Guo, J.M. and Li, Y., 2015. Ownership, Capital Structure and Financing Decision: Evidence From The UK. *The British Accounting Review*, Vol. 48 No. 4, pp. 1-16.

Tsai, K.-H., & Yang, S.-Y., 2013. Firm Innovativeness and Business Performance: The Joint Moderating Effects of Market Turbulence and Competition. *Industrial Marketing Management*, 42(8), 1279–1294.

Wang, M.C. and Fang, C.S., 2012. The Moderating Effect of Environmental Uncertainty On The Relationship Between Network Structures and The Innovative Performance of a New Venture. *Journal of Business & Industrial Marketing*, Vol. 27 No. 4, pp. 311-323.

Ward, P.T., Duray, R., Leong, G.K. and Sum, C., 1995. Business Environment, Operations Strategy, and Performance: An Empirical Study of Singapore Manufacturers. *Journal of Operation Management*, Vol. 13 No. 1, pp. 99-115.