



**Website:**

[ejournal.umm.ac.id/index.php/jrak](http://ejournal.umm.ac.id/index.php/jrak)

**\*Correspondence:**

gloria.putri.naftali-  
2018@feb.unair.ac.id

**DOI:** 10.22219/jrak.v11i2.17558

**Citation:**

Surbakti, G.P.N., & Sudaryati, E. (2021). Does Environment Uncertainty Affect Earnings Management?. *Jurnal Reviu Akuntansi Dan Keuangan*, 11(2), 294-305.

**Article Process**

**Submitted:**

July 28, 2021

**Reviewed:**

August 10, 2021

**Revised:**

August 26, 2021

**Accepted:**

August 27, 2021

**Published:**

August 7, 2021

**Office:**

Department of Accounting  
University of  
Muhammadiyah Malang  
GKB 2 Floor 3.  
Jalan Raya Tlogomas 246,  
Malang, East Java,  
Indonesia

P-ISSN: 2615-2223

E-ISSN: 2088-0685

Article Type: Research Paper

## DOES ENVIRONMENT UNCERTAINTY AFFECT EARNINGS MANAGEMENT?

Gloria Putri Naftali Surbakti<sup>1\*</sup>, Erina Sudaryati<sup>2</sup>

**Afiliation:**

<sup>1,2</sup>Faculty of Economics and Business, Universitas Airlangga,  
Surabaya, East Java, Indonesia

### ABSTRACT

This research is aimed to examine the effect of environment uncertainty towards earnings management. This study is a quantitative study with sample all of manufacturing companies that are listed in Indonesian Stock Exchange (IDX) from period 2013 -2018 and publish the financial statement consecutively during period 2013-2018. The sample is selected by using purposive sampling techniques with total of 455 companies. This study uses secondary data that derived from the financial statements of manufacturing companies during that period. By using regression analysis and SPSS in processing research data, the study finds that environment uncertainty has positive impact to financial distress. It indicates when companies are facing an environment uncertainty, it will impact to their performance especially financial performance which leads to the financial distress condition. Companies in higher financial distress condition are more likely to manage their earnings by using earnings management which are measured by discretionary accruals. This research is useful for investor as one of consideration before making financial decision especially when companies are in uncertain environment.

**KEYWORDS:** Discretionary Accruals; Earnings Management; Environmental Uncertainty; Financial Distress.

---

## INTRODUCTION

295

The business conditions that have occurred in recent years are heavily influenced by environmental uncertainty. Environmental uncertainty is a condition that results in dynamic changes in various conditions in the market, such as changes in technology, consumers and competitors that can affect the performance, strategy and value of the company. The trade war that occurred between China and the United States is one example of environmental uncertainty that not only has an impact on the economy of the two countries, but also has an impact on the economy of other countries including Indonesia. One of the perceived impacts is a decline in economic growth caused by a decrease in investment. This phenomenon causes uncertainty in the business environment.

Environmental uncertainty is influenced by various external factors, such as macroeconomics, market conditions, technology, consumers, suppliers, business competition, government regulations, distributors, to other factors that are not easily predictable. This environmental uncertainty will affect the condition and performance of the company which will have an impact on stakeholders, including investors. The existence of this environmental uncertainty requires a company to adapt and take preventive steps so that they are able to survive in the business environment. Managers have flexibility in responding to changes that occur in their environment so that they will use various strategies when facing environmental uncertainties such as internal resource efficiency and earnings management.

Organizations can achieve good performance when the organization is market-oriented (Song, Wang, & Cavusgil, 2015), However, the existence of environmental uncertainty can affect organizational performance, especially financial performance which can result in the organization experiencing financial distress. Previous research has shown that companies experiencing financial distress will tend to carry out earnings management. When company face financial distress, they tend to manipulate the earnings to meet investor's expectation (Ranjbar & Amanollahi, 2018).

Financial distress has become a problem that has attracted the attention of investors and the public. Financial distress can impact to the firm's performance and if it is prolonged, it can resulted in company's bankruptcy (Li, Li, Xiang, & Djajadikerta, 2020). Companies will face various consequences such as declining company reputation, reduced employee bonuses, to employees who lose their jobs. This condition encourages management to carry out earnings management where this resulted in the information provided by the company in its financial statements that are not in accordance with the company's actual conditions.

Earnings management is an act of manipulating accounting earnings to meet the interests of certain managers or shareholders (Sun & Al Farooque, 2018). There are various factors that cause companies to carry out earnings management, one of which is market reaction. When a company reports actual earnings that are lower than its expected earnings, this can have an impact on the company's stock price in the capital market. In addition, when there are variations in the company's profits continuously over several periods, this can raise questions regarding the stability and going concern of the company. Besides, the management's desire to achieve expected profit margin and bonuses are the factors for manipulating the earnings (Hassanpour & Ardakani, 2017).

Several researchers have examined the effect of environmental uncertainty on earnings management. Research from Agrawal and Chatterjee (2015) examine relationship between

financial distress and environmental uncertainty with a sample of firms from India. This study uses discretionary accruals as a proxy for earnings management and the cross-sectional modified Jones model to estimate the value of discretionary accruals. The results show that companies that experience less financial distress will carry out greater earnings management. Companies that have greater cash flow coverage (CFC) will have lower incentives to manage their income by using discretionary accruals. The results indicate that companies which have lower levels of financial distress are likely to tend to hide their true financial condition.

Research from Campa (2015) also examine the impact of financial distress to earnings management for Small Medium Enterprise (SME) which operated in code finding law. This result of this study shows that company in higher financial distress will tend to earnings management by using the manipulation of real transaction instead of accruals and vice versa. Research from Bisogno and De Luca (2015) shows that companies experiencing financial distress will be more likely to adjust earnings and report fraudulent financial reports in order to meet shareholder's expectation. The research examines the relationship between financial distress and earnings management for company in Italy.

Agency theory explains the relationship between the owner of the company (principal) and management (agent) where the owner assigns the task to management to manage the company and expects management to be able to manage the company in accordance with the objectives of the shareholders. (Bendickson, Muldoon, Liguori, & Davis, 2016). Parker, Dressel, Chevers, and Zeppetella (2018) stated that Agency problems arise because of differences in interests between principal and agent where management is required by owners to be able to manage company resources well and maximize company profits in the form of profits, while management has an interest in getting high bonuses. Agency theory explains the difference in interests between principal and agent due to information asymmetry and opportunity (Reim, Sjödin, & Parida, 2018).

Agency theory argues that when there is a conflict of interest between the principal and agent, the agent will tend to maximize the benefits obtained such as access to information in achieving their goals. (Agoglia, Hatfield, & Lambert, 2015). The management's interest in getting the maximum bonus is one of the reasons for management to carry out earnings management so that the company generates profits in accordance with the wishes of the owner of the company. (Bendickson et al., 2016). Several ways can be taken to minimize the emergence of agency problems, such as conducting audit procedures and having good internal corporate governance. (W. Huang, Boateng, & Newman, 2016).

**Environment Uncertainty.** Environment uncertainty is the variability of changes originating from consumers, suppliers, competitors, and regulations. The company theory developed by Child in 1972 and Williamson in 1975 states that changes that occur to the environment pose a large enough limitation that various effective ways of managing companies are needed to minimize the negative impacts of environmental uncertainty. This has led to the emergence of various strategic opportunities prepared by managers in responding to environmental uncertainty. Environmental uncertainty caused by external factors affects the company's performance. Environmental uncertainty also affects the company's internal control system, increasing the budget, causing adjustments in resources so that in the long term it can affect the company's going concern. In responding to environmental uncertainty, the organization will develop strategies such as reorganizing or creating a new organizational structure (Elmassri, Harris, & Carter, 2016).

**Earnings Management.** Ghazali, Shafie, and Sanusi (2015) states that earnings management occurs when managers use various alternatives and methods in financial reporting. This causes the information contained in the financial statements does not reflect the actual condition of the company. Managers use earnings management to show the financial performance expected by the stakeholders, namely the stakeholders. (Obigbemi, Omolehinwa, Mukoro, Ben-Caleb, & Olusanmi, 2016). Earnings management reports financial conditions that tend to overestimate and tend to favor certain managers (Martínez-Ferrero, Banerjee, & García-Sánchez, 2016). Earnings management can be legal or not, where illegal earnings management is an effort made by managers that causes fraud in financial reporting that can mislead users of financial statements. Managers who tend to be in situations under pressure tend to do earnings management (Campa, 2015).

In managing earnings, the use of the accrual method is needed. However, not all accruals relate to earnings management. Accruals are divided into two, non-discretionary accruals and discretionary accruals. Non-discretionary accruals are referred to as normal accruals based on management estimates based on the performance of the company, while discretionary accruals are accruals managed by management based on the constraints of accounting principles so that discretionary accruals are used to determine earnings management. Research from Ghazali et al. (2015) use discretionary accruals as a proxy for earnings management.

**Financial Distress.** Level of financial distress of an organization is very important to determine the level of financial health of the organization (Liang, Tsai, & Wu, 2015). Companies that experience financial distress tend to experience bankruptcy in the long term (Rezende, Montezano, Oliveira, & Lameira, 2017). Organizations tend to be in financial distress when they cannot fulfill their obligations in the near future. Organizations are in financial distress condition when their debt ratio is greater than 1, which indicates that their liabilities are greater than the total assets they own. Besides debt ratio, organizations also tend to be in financial distress situation when the company's interest coverage ratio is smaller than 1, which indicates that the company's operating cash flow is smaller than the minimum condition.

When a company experiences financial problems, the company will have difficulty meeting the expectations of investors which can result in a decrease in stock prices and company value (Li et al., 2020). Financial conditions that continue to deteriorate significantly can result in bankruptcy which is detrimental to creditors and investors. Besides that, when the company experiences financial distress, company managers have the risk that they do not get bonuses according to their expectations, the risk of lay off, and damage the company's reputation.

The company's financial performance may decline due to a recession (Li et al., 2020). In addition to the recession, the company's performance can decline due to higher competition and internal problems within the company. There are three factors that cause companies to experience financial distress, which are due to the company's declining financial condition, declining industry performance, and increasing levels of company leverage. Companies that have a high level of leverage have a tendency to decrease cash flow and increase debt.

**Earnings Management and Financial Distress.** The performance of companies that experience significant financial declines continuously can cause the company to experience financial distress which in the long term can affect the survival of the company and the risk of bankruptcy. (Supriyanto & Darmawan, 2018). When a company

experiences financial distress, investors and creditors will be affected financially and decline the company's reputation. In addition, companies experiencing financial distress will also have an impact on the future of employees, such as the risk of cutting employees, cutting bonuses and reducing incentives received.

When the company experiences financial distress, management will carry out various strategies to restore the condition and image of the company such as increasing sales by using different strategies, reducing employees, and performing earnings management. When companies do earnings management, companies can use not only earnings management accruals which are carried out by applying various different accounting methods, but companies can also use actual earnings management that comes from the company's operational activities that actually occur (Mao & Renneboog, 2015); (Dinh, Kang, & Schultze, 2016).

When companies that are experiencing financial distress do earnings management, these companies do not report their actual financial condition which has a negative impact on investors, creditors and other users of financial statements, where they cannot fully rely on the information contained in the financial statements. When the company performs real earnings management, the company does not need to disclose relevant information related to the company's performance so that the risk of the company performing earnings management will be detected by the auditor will be smaller. This is in contrast to accrual earnings management where in this condition the company makes adjustments in accounting values that must be disclosed in the financial statements so that the risk of companies doing earnings management will be higher to be detected by auditors.

**Environment Uncertainty and Earnings Management.** Environmental uncertainty is a condition where there is variability in the level of competition with competitors, variability of consumers, suppliers and regulations. Based on research from Sharma, Leung, Kingshott, Davcik, and Cardinali (2020), Environmental uncertainty is a subjective dimension which comes from various sources that are difficult to measure. When facing environmental uncertainty, managers have flexibility in determining strategies to survive and achieve company goals (H. Huang, Sun, & Zhang, 2017). Environmental conditions that are difficult to predict can continuously affect the company's performance. The survival of the company and bankruptcy can be a threat to the company when management is not able to deal with situations of environmental uncertainty. The impacted financial performance and the declining value and shares of the company can cause the company to experience financial distress.

Previous research has proven that when experiencing financial distress, companies tend to do earnings management. Earnings management is a condition when management manipulate the accounting profits for some reasons such as to meet stakeholder's expectation or to gain more bonuses (Ranjbar & Amanollahi, 2018). When the company performs earnings management, the financial condition disclosed in the financial statements does not reflect the actual condition of the company so that it can be detrimental to users of financial statements.

Several previous studies have examined the relationship between environmental uncertainty and earnings management. Research from Yung and Root (2019) shows that environment uncertainty, in this case is policy uncertainty, has positive relationship to earnings management. The result shows that the earnings management's practice in company will be higher when company is in policy uncertainty and vice versa. Another research from Cui, Yao, Fang, and Wang (2020) also shows the similar result with Yung

and Root (2019). Cui et al. (2020) examine the relationship between Economic Policy Uncertainty (EPU) towards earnings management with sample of Chinese firms. The result indicates that EPU are associated with earnings management. When EPU is higher, managements are preferably to do earnings management to manipulate earnings, especially for company with weaker external monitoring control.

Research from da Silva Roma, Louzada, da Silva Roma, Goto, and Souma (2020) examine the effect of Economic Policy Uncertainty (EPU) and the firm life cycle towards earnings management. The sample is publicly traded companies in two countries, which are USA and Brazil. This research shown two different results between USA and Brazil, where in USA the Economic Policy Uncertainty (EPU) affect earnings management which depends on the firm's life cycle. Different result shown in Brazilian samples, where based on the research there is no combined effect between EPU and firm life cycle towards earnings management.

Ghani, Azemi, and Puspitasari (2017) examine the effect of environment uncertainty and information asymmetry towards earnings management with the sample is company that run technology business and listed in Malaysia Stock Exchange during 2011 to 2012. The result shows that there is no significant relationship between environment uncertainty and information asymmetry towards earnings management, which means that those variables are not considered by stakeholders for their decision making. Another result from Kim and Yasuda (2021) examine the effect of Economic Policy Uncertainty (EPU) towards earnings management. This research specifically examines the company listed in Japan. The result shows that EPU has negative relationship with earnings management. It means that when EPU is higher, than managements tend to reduce the earnings management, and vice versa.

This study aims to examine the effect of environmental uncertainty on earnings management with a sample of manufacturing companies listed on the Indonesia Stock Exchange in 2013-2018. Many researches have been conducted to examine earnings management, but there are still few of them that examine the impact of environment uncertainty towards earnings management. Environment uncertainty is a condition that has been occurred in recent years and has been impacted globally. Thus, it's very important for stakeholders to see this factor as one of the considerations before making decisions, especially for financial decision.

*H<sub>1</sub>: Environment Uncertainty has positive relationship to Earnings Management.*

## METHOD

This study is a quantitative study that uses secondary data derived from the financial statements of manufacturing companies listed on the Indonesia Stock Exchange in the period 2013 to 2018. Manufacturing companies are used as samples in this study because manufacturing companies have a large segmentation in the number of companies listed on the Indonesian Stock Exchange so that changes in the industry are expected to reflect the general condition of all companies. In addition, manufacturing companies are closely related to technological sophistication and changes in technology can cause environmental uncertainty that has an impact on the performance of manufacturing companies. Manufacturing companies also have high variability in the level of consumers and competitors, which can also lead to environmental uncertainty.

The sample in this study was selected based on the criteria set by the researcher, which is purposive sampling method with the criteria of companies listed on the Indonesia Stock Exchange from 2013 to 2018 and companies that published financial statements on the Indonesia Stock Exchange consecutively from 2013 to 2018. 2019. Based on these criteria, sample of 455 manufacturing companies was obtained.

**Variable Measurement.** This study uses environmental uncertainty as independent variable and earnings management variable as the dependent variable. Based on research done by H. Huang et al. (2017), environmental uncertainty are measured by using total sales divided by total assets and measured in the last five years. Environmental uncertainty is a coefficient of change in total sales divided by total assets and is measured in the last five years.

$$CV(S_i) = \frac{\sqrt{\sum_{i=1}^5 \frac{(S_i - S_{mean})^2}{5}}}{S_{mean}}$$

In the measurement above, CV is the coefficient of variation in sales, while  $S_i$  is the sales of the company (divided by total assets) and  $S_{mean}$  is the average sales (divided by total assets) within a 5 years study period.

The dependent variable in this study is earnings management, where the researcher uses discretionary accruals as a proxy for earnings management. To calculate discretionary accruals, this study uses the Jones measurement model. Total accruals are divided into discretionary and nondiscretionary accruals. The calculation of earnings management begins with calculating the total accruals with the following formula:

$$TAC = Nit - CFO$$

In the above equation, TAC is the total accruals, Nit is the net profit of company  $i$  for period  $t$ , CFO is the cash flow from the main business activities, after calculating TAC, the total accruals are estimated in the OLS regression equation below (Dechow, Sloan, & Sweeney, 1995):

$$\frac{T_{Ait}}{A_{it-1}} = \beta_1 \left( \frac{1}{A_{it-1}} \right) + \beta_2 \left( \frac{\Delta REV_{it}}{A_{it-1}} - \frac{\Delta REC_{it}}{A_{it-1}} \right) + \beta_3 \left( \frac{PPE_{it}}{A_{it-1}} \right) + e$$

$DA_{it}$	= Discretionary accruals for company $i$ in $t$ period
$TA_{it}$	= Total of accrual for company $i$ in $t$ period
$A_{it-1}$	= Assets of company $i$ in $t-1$ period
$\Delta REV_{it}$	= Income difference for company $i$ in $t$ period and $t-1$ period
$\Delta REC_{it}$	= Receivables difference for company $i$ in $t$ period and $t-1$ period
$PPE_{it}$	= Fixed asset of company $i$ in $t$ period
$e$	= error

The value of discretionary accruals is obtained from the residuals of the regression equation above. After obtaining the residual value above, the researcher absolute the value of the discretionary accruals. If the absolute value of discretionary accruals is getting bigger, this indicates that earnings management practices are getting bigger. This research uses regression analysis method using SPSS to process data and variables. The following is an equation model used to test the hypothesis:

$$DA = \beta_0 + \beta_1 EU + e$$

DA is discretionary accruals which in this study is used as a proxy for earnings management and EU is environment uncertainty,  $\beta_0$  is *intercept* and  $e$  is error.

**RESULTS AND DISCUSSION**

**Classical Assumption Test.** The classical assumption test used in this study includes the normality test, heteroscedasticity test, and multicollinearity test. The first stage used was to perform a normality test to assess whether the data were normally distributed. The method used in the normality test is the Kolmogorov-Smirnov (K-S). The results of the normality test can be seen in table 1.

The normality test in table 1 shows the Kolmogorov-Smirnov test value of 0.324, this indicates that the data in this research model has been normally distributed. This is evidenced by the significance value (Sig) in this model (0.324) which is greater than 0.05.

After performing the normality test, the next step in the classical assumption test is to perform a heteroscedasticity test. The results of the heteroscedasticity test in this study are summarized in table 2.

		Unstandardized Residual
N		455
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	.07088089
Most Extreme Differences	Absolute	.045
	Positive	.039
	Negative	-.045
Kolmogorov-Smirnov Z		.953
Asymp. Sig. (2-tailed)		.324

**Table 1.**  
Normality Test One-Sample Kolmogorov-Smirnov Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	.052	.003		17.155	.000
	DA	.021	.014	.071	1.507	.132

**Table 2.**  
Heteroscedasticity Test



Heteroscedasticity test shows that the significance value (Sig) in this research model is 0.132 and is greater than 0.05 so that it can be concluded that the regression model of this study does not experience heteroscedasticity problems. This shows that all the independent variables in the regression model of this study have different error variants.

**Table 3.**  
Multicollinearity  
Test

Model	Collinearity Statistics	
	Tolerance	VIF
1	(Constant)	
	DA	1.000 1.000

After conducting normality and heteroscedasticity tests, the next step is to perform a multicollinearity test. This test is used to see whether this study has symptoms of multicollinearity or not. The results of the multicollinearity test can be seen in table 3 as follows.

Multicollinearity test shows that the independent variable has a tolerance value of 1 and the VIF value is less than 10, so it can be concluded that the data has symptoms of multicollinearity. The independent variables in this regression model have a perfect correlation with each other.

**Hypothesis Test.** Hypothesis testing was carried out using regression analysis with the following research results (Table 4).

The results of the hypothesis test in table 4 show a significance value (Sig) of environmental uncertainty of 0.000 with a positive coefficient direction. The significance value in this study (0.000) which is smaller than the 1% significance level indicates that environmental uncertainty is related to earnings management which in this study is measured by discretionary accruals. The direction of the positive 0.000 significance coefficient indicates that environmental uncertainty is positively related to earnings management. The results of the study are in accordance with the hypothesis built in this study, which is the greater the environmental uncertainty, the greater the earnings management.

**Table 3.**  
Hypothesis Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	-.097	.026		-3.701	.000
	EU	.649	.121	.202	5.344	.000***

\*\*\* significant at the 1% level

**The Effect of Environment Uncertainty Towards Earnings Management.** The results of the hypothesis test show that environmental uncertainty is positively related to earnings management, where the greater the level of environmental uncertainty, the greater the earnings management practices carried out by the companies. The results of the hypothesis test can be seen from the significance value in table 4. The significance value (Sig) in this study is 0.000 where this value is smaller than the 0.01 significance value, which indicates that environmental uncertainty is related to earnings management which in this study is measured by discretionary accruals.

The result indicates when company is in a condition of high environmental uncertainty, the company will take various ways to keep its performance stable. The impact of environmental uncertainty can be seen from firm's performance, where in this study seen from changes in total sales divided by total assets in the last five years. When the

company's performance is increasingly affected by conditions of environmental uncertainty, this can cause the company to go bankrupt and threaten the survival of the company in long term. The value and shares of companies that are affected and experience a continuous decline can cause the company to experience financial distress. When companies experience deteriorating financial conditions as a result of environmental uncertainty that continues to occur, companies are required to have various strategies in order to survive in business. One of the steps taken by management is to do earnings management.

The result of this research are supported by previous research from Yung and Root (2019) and Cui et al. (2020). The result from Yung and Root (2019) also shows that environment uncertainty, in this case is policy uncertainty, has positive relationship towards earnings management where the earnings management will be higher when company are faced the policy uncertainty condition and vice versa. The research is conducted for 18 countries that listed in BBD index and the samples are examined by using regression method. In this research, the earnings management used is accrual-based earnings management. Result from Yung and Root (2019) add policy uncertainty is one of uncertainty factors beside economic, legal, national culture and firm-level factors that also affect earnings management. This indicates that in research done in another countries also shown same result where environment uncertainty is one of main factors that can affect earnings management.

Research from Cui et al. (2020) examine the relationship between environment uncertainty, in this case Economic Policy Uncertainty (EPU), towards earnings management with sample of Chinese firms. The result shows that EPU is associated positively with earnings management, especially for company that have weak external monitoring control system. In addition, the effect of EPU towards earnings management is more likely happened for company in financial distress condition, a condition for company with high leverage. The study from Cui et al. (2020) also add EPU as one of consideration for stakeholders when making financial decision.

Environment uncertainty are conditions that are unpredictable and become main priority nowadays. In the past recent years, business can't be separated from environment uncertainty where this condition also affects the business globally. To overcome with this condition, stakeholders need to take this variable as consideration when making financial decision, to be more skeptical with financial information that are disclosed by company, especially when company still in environment uncertainty condition.

## CONCLUSION

Based on the results of hypothesis testing, it can be concluded that environmental uncertainty has a positive relationship with earnings management. These results indicate that the higher the level of environmental uncertainty, the greater the tendency of company managers to carry out earnings management. Environmental uncertainty that occurs continuously and cannot be predicted can cause the company's financial performance to deteriorate which if allowed to continue can cause financial distress. One of the steps taken by management is to carry out earnings management so that the company's performance in the financial statements looks in accordance with the expectations of users of financial statements. The condition of environmental uncertainty that tends to occur in recent years is an inseparable phenomenon, so that in future research it is hoped that this environmental uncertainty variable can be tested with other variables to assess its impact and influence on company performance.

The implication of this research can be done for investor and stakeholders as their consideration when making financial decision, where they need to consider environment uncertainty as one of indicators that could affect earnings management where it will impact to the financial information that are disclosed by company. The limitation of this research is this research conducted for manufacturing-based sector only where for future research, it is possible to conduct the same research for all of company's sector such as mining and financial services industry to know whether it will result the same result with current research.

## REFERENCES

- Agoglia, C. P., Hatfield, R. C., & Lambert, T. A. (2015). Audit team time reporting: An agency theory perspective. *Accounting, Organizations and Society*, 44, 1-14.
- Agrawal, K., & Chatterjee, C. (2015). Earnings management and financial distress: Evidence from India. *Global Business Review*, 16(5\_suppl), 140S-154S.
- Bendickson, J., Muldoon, J., Liguori, E., & Davis, P. E. (2016). Agency theory: the times, they are a-changin'. *Management decision*.
- Bisogno, M., & De Luca, R. (2015). Financial distress and earnings manipulation: Evidence from Italian SMEs. *Journal of Accounting and Finance*.
- Campa, D. (2015). The impact of SME's pre-bankruptcy financial distress on earnings management tools. *International Review of Financial Analysis*, 42, 222-234.
- Cui, X., Yao, S., Fang, Z., & Wang, H. (2020). Economic policy uncertainty exposure and earnings management: evidence from China. *Accounting & Finance*.
- da Silva Roma, C. M., Louzada, L. C., da Silva Roma, P. M., Goto, H., & Souma, W. (2020). Earnings management, policy uncertainty and firm life cycle stages: evidence from publicly traded companies in the USA and Brazil. *Journal of Financial Economic Policy*.
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *Accounting review*, 193-225.
- Dinh, T., Kang, H., & Schultze, W. (2016). Capitalizing research & development: Signaling or earnings management? *European Accounting Review*, 25(2), 373-401.
- Elmassri, M. M., Harris, E. P., & Carter, D. B. (2016). Accounting for strategic investment decision-making under extreme uncertainty. *The British Accounting Review*, 48(2), 151-168.
- Ghani, E. K., Azemi, N., & Puspitasari, E. (2017). The Effect of Information Asymmetry and Environmental Uncertainty on Earnings Management Practices among Malaysian Technology-Based Firms. *International Journal of Academic Research in Economics and Management Sciences*, 6(1), 178-194.
- Ghazali, A. W., Shafie, N. A., & Sanusi, Z. M. (2015). Earnings management: An analysis of opportunistic behaviour, monitoring mechanism and financial distress. *Procedia Economics and Finance*, 28, 190-201.
- Hassanpour, S., & Ardakani, M. N. (2017). The effect of pre-bankruptcy financial distress on earnings management tools. *International Review of Management and Marketing*, 7(3).
- Huang, H., Sun, L., & Zhang, J. (2017). Environmental uncertainty and tax avoidance. In *Advances in taxation*: Emerald Publishing Limited.

- Huang, W., Boateng, A., & Newman, A. (2016). Capital structure of Chinese listed SMEs: an agency theory perspective. *Small Business Economics*, 47(2), 535-550.
- Kim, H., & Yasuda, Y. (2021). Economic policy uncertainty and earnings management: Evidence from Japan. *Journal of Financial Stability*, 100925.
- Li, Y., Li, X., Xiang, E., & Djajadikerta, H. G. (2020). Financial distress, internal control, and earnings management: Evidence from China. *Journal of Contemporary Accounting & Economics*, 16(3), 100210.
- Liang, D., Tsai, C.-F., & Wu, H.-T. (2015). The effect of feature selection on financial distress prediction. *Knowledge-Based Systems*, 73, 289-297.
- Mao, Y., & Renneboog, L. (2015). Do managers manipulate earnings prior to management buyouts? *Journal of Corporate Finance*, 35, 43-61.
- Martínez-Ferrero, J., Banerjee, S., & García-Sánchez, I. M. (2016). Corporate social responsibility as a strategic shield against costs of earnings management practices. *Journal of Business Ethics*, 133(2), 305-324.
- Obigbemi, I. F., Omolehinwa, E. O., Mukoro, D. O., Ben-Caleb, E., & Olusanmi, O. A. (2016). Earnings management and board structure: evidence from Nigeria. *Sage Open*, 6(3), 2158244016667992.
- Parker, D. W., Dressel, U., Chevers, D., & Zeppetella, L. (2018). Agency theory perspective on public-private-partnerships: International development project. *International Journal of Productivity and Performance Management*.
- Ranjbar, S., & Amanollahi, G. (2018). The effect of financial distress on earnings management and unpredicted net earnings in companies listed on Tehran Stock Exchange. *Management Science Letters*, 8(9), 933-938.
- Reim, W., Sjödin, D., & Parida, V. (2018). Mitigating adverse customer behaviour for product-service system provision: An agency theory perspective. *Industrial Marketing Management*, 74, 150-161.
- Rezende, F. F., Montezano, R. M. d. S., Oliveira, F. N. d., & Lameira, V. d. J. (2017). Predicting financial distress in publicly-traded companies. *Revista Contabilidade & Finanças*, 28, 390-406.
- Sharma, P., Leung, T. Y., Kingshott, R. P., Davcik, N. S., & Cardinali, S. (2020). Managing uncertainty during a global pandemic: An international business perspective. *Journal of business research*, 116, 188-192.
- Song, J., Wang, R., & Cavusgil, S. T. (2015). State ownership and market orientation in China's public firms: An agency theory perspective. *International Business Review*, 24(4), 690-699.
- Sun, L., & Al Farooque, O. (2018). An exploratory analysis of earnings management practices in Australia and New Zealand. *International Journal of Accounting & Information Management*.
- Supriyanto, J., & Darmawan, A. (2018). The effect of financial ratio on financial distress in predicting bankruptcy. *Journal of Applied Managerial Accounting*, 2(1), 110-120.
- Yung, K., & Root, A. (2019). Policy uncertainty and earnings management: International evidence. *Journal of business research*, 100, 255-267.