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Predictive Analysis of Financial Statement Fraud with Fraud Triangle Perspective

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Abstrak

Penelitian ini bertujuan untuk menganalisis prediksi kecurangan laporan keuangan denganperspektif fraud triangle. Variabel independen yang digunakan dalam penelitian ini adalah stabilitas keuangan, tekanan eksternal, lingkungan industri, efektivitas pengawasan, dan rasionalisasi. Populasi dalam penelitian ini adalah 58 perusahaan Property, Real estate danBuliding contruction yang terdaftar di Bursa Efek Indonesia (BEI) selama periode 2011–2015. Pengambilan sampel dengan metode purposive sampling, dihasilkan sampel sebanyak 32 perusahaan. Pengujian penelitian ini dilakukan dengan teknik analisis regresi logistik dengan bantuan program IBM SPSS Statistics 21. Hasil penelitian ini menunjukkan bahwa stabilitas keuangan, lingkungan industri, dan rasionalisasi berpengaruh positif terhadap prediksi kecurangan laporan keuangan. Sedangkan tekanan eksternal dan efektivitas pengawasan tidak berpengaruh signifikan terhadap prediksi kecurangan laporan keuangan.

Abstract

The purpose of this study was to analyze the prediction of fraudulent financial statements by fraud triangle perspectibve. The independent variables of this research are of financial stability, external pressure, industrial environment, monitoring effectiveness, and rationalization. The population of this research were 58 listed Property, Real estate and Buliding construction firms in Indonesia Stock Exchange (IDX) for the period 2011-2015. Data were selected by purposive sampling, it obtained 32 firms for the sample of the research. Logistic Regression Analysis technique was used to analyse data, and it was helped by IBM SPSS Statistics 21 software. The findings showed that financial stability, industrial environment, and rationalization had significant effect toward fraudulent financial statements. Meanwhile external pressure and monitoring effectiveness did not have significant effect toward fraudulent financial statements.

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INTRODUCTION

Financial statements are one of the important instruments that play a big role to support the sustainability of a company, especially for companies that have gone public that is to communicate their financial information to outsiders. According to Subramanyam and Wild (2012) many individuals and companies use financial statements to improve business decisions. Companies that go public ideally always want a description of the company's condition in the best state in order to attract profits for the company, this which can cause some business people to commit fraud on the financial statements. According to the standard of auditing, the factor that distinguishes fraud and error is whether the action underlying, which results in misstatements in the financial statements, is intentional or unintentional action. The occurrence of fraudulent act of financial statements that is done intentionally but cannot be detected by an auditor may have adverse and disabling effects on the financial reporting process (Koroy, 2008).

Financial statement fraud is an important issue, so that the auditor as the responsible party for the audit of the financial statements must be able to detect fraudulent activity before it eventually develops into a very detrimental accounting scandal. Accounting scandals related to financial statements fraud have grown widely. There is a disclosure of violations committed by companies in the United States related to financial statements fraud that have caused a crisis of trust in the capital markets such as Enron and Worldcom cases. Fraud cases of financial statements also occur in Indonesia, namely the cases of PT. Waskita Karya in 2009 and PT Pakuwon Jati in 2011. The increasing number of accounting scandals cases causes various parties speculating that management had committed fraud in the financial statements (Skousen et al., 2009).

According to Skousen et al. (2009) in order to provide a solution to the weaknesses in the fraud detection procedures in the world, American Institute Certified Public Accountant (AICPA) publishes Statement of Auditing Standards no. 99 (SAS No. 99) concerning Consideration of Fraud in a Financial Statement Audit in October 2002. The objective of SAS No. 99 is to increase the effectiveness of auditors in detecting fraud by assessing on the risk factors of corporate fraud. The fraud risk factors adopted in SAS No.99 are based on Cressey's fraud risk factor theory (1953). According to Cressey's theory (1953), there are three conditions that are always present in the fraud action namely pressure, opportunity and rationalization called as fraud triangle. These three conditions are fraud risk factor in various situations. The component of fraud triangle cannot be studied directly so that the development of variables and proxies is needed to measure it.

The use of proxies in the fraud triangle is based on previous studies of Tiffani and Marfuah (2015) and Skousen et al. (2009) that is pressure with variables of financial stability and external pressure, opportunity with variables of industry environment and supervision effectiveness, and rationalization with accrual total variable. Financial stability is a stable state or situation of a company. When the financial stability of a company is good, it can increase the value of the company in public view. Tiffani and Marfuah (2015) argue management is often under pressure to show that the company has been able to manage assets well so that generating profits and high returns for investors. For this reason, management makes use of financial statements as a tool to cover up the conditions of bad financial stability by committing fraud. Then pressure can also come from outside the company. External pressure is an excessive pressure for management to meet the requirements or expectations of third parties. According to SAS No.99, when excessive pressure from external parties occurs there is a risk of fraud to financial statements (Skousen et al., 2009).

Opportunity factor of fraud triangle can be seen from Nature of industry. Industrial environment is the ideal state of a company in the industry. In the financial statements there are certain accounts where the amount of the balance is determined by the company based on estimation, such as accounts of bad debts and obsolete inventory accounts (Tiffani and Marfuah, 2015). According to Summers and Sweeney (1998) state that managers will focus on both accounts if intending to manipulate the financial statements. A good supervision mechanism also has a role to reduce financial statements fraud. With the existence of board of independent commissioners, it is expected that supervision of the company is more effective and the practice of fraud can be minimized. The third factor is rationalization, According to Skousen et al. (2009) the ratio of total accruals can be used to describe the rationalization related to the use of accrual principle by management. Accrual basis in the financial statements provides an opportunity for managers to modify the financial statements because this accrual principle is related to decision-making by management. Theoretical framework that can be described in this study is as follows.

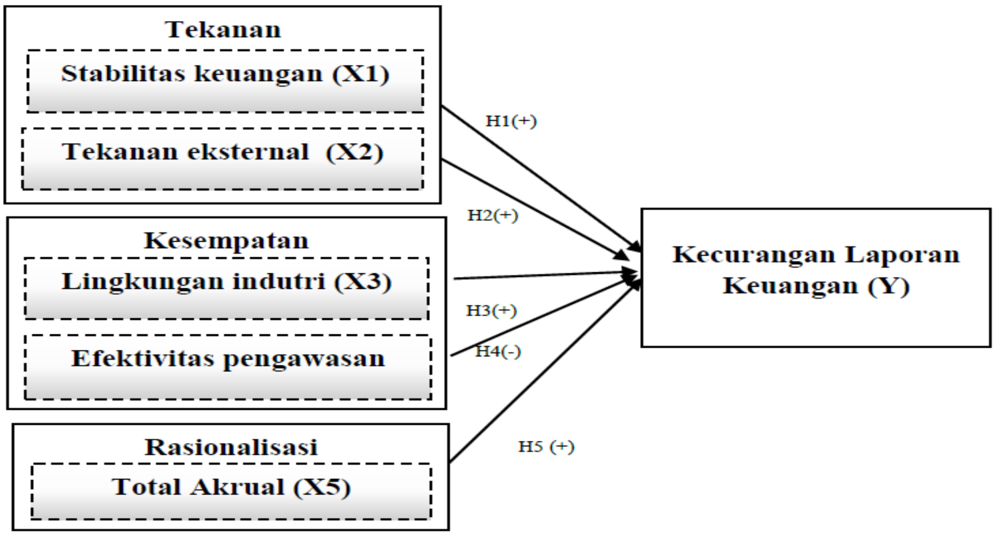

Figure 1. Theoretical Framework

Based on the theoretical framework presented above, the hypothesis proposed in this research are:

H1: Financial stability with proxy of total asset changes has a positive effect on the risk prediction of financial statements fraud

H2: External pressure with leverage proxy has a positive effect on the risk prediction of financial statements fraud

H3: Industrial environment with receivable proxy has a positive effect on the risk prediction of financial statements fraud

H4: The effectiveness of supervision with proxy of the proportion of board of independent commissioners has a negative effect on the risk prediction of financial statements fraud

H5: Rationalization with total accrual proxy has a positive effect on the risk prediction of financial statements fraud

METHODS

This research was a quantitative research. The data used in this study was secondary data in the form of financial statements from the companies of Property, Real estate and Building construction that have been listed on the Indonesia Stock Exchange (IDX) in 2011-2015 and have been published. The object of this research was the companies of Property, Real estate and Building Construction listed on the Indonesia Stock Exchange (IDX) in 2011-2015 with a total population of 58 namely 48 companies of Property and Real estate, and 10 companies of Buliding construction.

From that amount, only 32 company samples that were in accordance with predetermined criteria. With a 5-year observation, the analysis unit was 160 observations. The variables used in this research were financial statements fraud, financial stability, external pressure, industrial environment, supervision effectiveness, and rationalization. The operational definition of variables in this study could be seen in Table 1 below.

Table 1. Operational Definition of Variables

No	Variable	Operation Definition	Measurement
1	Financial statements fraud risk .	Misstatement or deliberate disappearance of amount or disclosure in the financial statements	Beneis M-Score Model
2	Financial Stability	The condition of company's financial stability	(ACHANGE) : $\frac{\mathbf{TotalAsset} - \mathbf{TotalAsset}_{\mathbf{t-1}}}{\mathbf{TotalAsset}}$
3	External Pressure	Company's pressure for the need of additional debt	(LEV) : $\boldsymbol{Total}$Debt : $\boldsymbol{TotalAsset}$
4	Industrial Environment	Ideal condition of a company within industry	REC : (Credit-sales$\boldsymbol{t}$) – (credit$\boldsymbol{t-1}$sales$\boldsymbol{t-}$)
5	Supervisory Effectiveness	Effectiveness of board of independent commissioner in monitoring the company	(IND) : Numberofboardofindependentcommissioner: Numbertotalofboardofcommissioner
6	Rationalisation	Accrual principles related to management decision making	(TACC) : $(\boldsymbol{IBX-CFO})$: $\boldsymbol{totalasset}$

Source: Various Sources.

Data collection technique used in this study was the method of documentation. Data in the form of audited financial statements of Indonesian manufacturing companies for the period of 2011-2014 were obtained from the Representative Office of Indonesian Stock Exchange (KP BEI) in Semarang and the official website of Indonesia Stock Exchange (IDX) namely www.idx.co.id. The method of analysis used including data analysis technique of descriptive statistics and inferential statistics. Descriptive statistics analysis technique provided an overview or description of data seen from the mean, standard deviation, maximum value, and minimum value. Meanwhile, inferential statistics was used to examine the research hypothesis with logistic regression analysis technique with the help of IBM SPSS Statistic 21. In regression testing, the researcher also performed the model overall test, the feasibility of regression model, coefficient of determination, classification matrix, and multicolonierity test.

RESULTS AND DISCUSSION

The variable of financial statements fraud was a dummy variable that could not be determined the maximum, minimum, mean, median or standard deviation values. Then it could only be explained using the frequency distribution table of the analysis unit. Here was Table 2 frequency distribution of financial statements fraud variable.

Table 2. Frequency Description of Financial Statements Fraud Variable

	Frequency	Percent	Valid Percent	Cumulative Percent
Non Fraud	113	70,6	70,6	70,6
Valid Fraud	47	29,4	29,4	100,0
Total	160	100,0	100,0	

Source : Output of SPSS 21, 2016

Table 2 above, it could be described that from a total of 160 data analysis units, consisting of 47 companies' data indicated by financial statements fraud and 113 companies' data that were not indicated by financial statements fraud. This showed that companies of Real Estate and Property and Building Construction listed on Indonesia Stock Exchange in the year 2011-2015 there was 29.4% from 100% of companies whose financial statements were indicated committing fraud. The following was Table 3 showed the number of companies that conducted fraud and did not commit fraud.

Table 3. Result of Descriptive Statistics Test

	N	Minimum	Maximum	Mean	Std. Deviation
Achange	160	-,319	,783	,16631	,140223
Lev	160	,070	,850	,47047	,178168
Rec	160	-,445	,405	,00032	,095013
Bdout	160	,143	,800	,39971	,119952
Tata	160	-,953	,616	,00509	,140074
Valid N (listwise)	160				

Source: Output of SPSS 21, 2016

Financial stability with the proxy of changes in company assets (Achange), obtained the minimum value of -0.319 owned by Nusa Konstruksi Enjiniring Tbk (DGIK) in 2011. Meanwhile for the maximum value of 0.783 was owned by Cowell Development Tbk in 2012 (COWL). As well as it was obtained the average value of 0.16631 and standard deviation of 0.140223. External pressure with leverage proxy (Lev) had minimum value of 0.070 owned by MNC Land Tbk (KPIG) in 2011. Meanwhile, for maximum value of 0.850 was owned by Adhi Karya (Persero) Tbk (ADHI) in 2012. As well as it had the average value of 0.47047 and standard deviation of 0.178168.

Industrial environment with receivable proxy (Rec) obtained the minimum value of -0.445 owned by Megapolitan Developments Tbk (EMDE) in 2013. Meanwhile, for the maximum value of 0.405 was owned by Danayasa Arthatama Tbk (SCBD) in 2014. As well as obtained the average value of 0.00032 and standard deviation of 0.095013. Supervisory effectiveness with proxy of the proportion of the board of commissioners (Bdout) obtained the minimum value of 0.143 owned by Total Bangun Persada Tbk (TOTL) in 2015. Meanwhile, for the maximum value of 0.800 was owned by Lamicitra Tbk (LAMI) in 2011. As well as obtained the average value of 0.39971 and a standard deviation of 0.119952. Rationalization with total accrual proxy obtained the minimum value of -0.953 owned by Total Bangun Persada Tbk in 2011 (TOTL). Meanwhile for the maximum value of 0.616 was owned by Gowa Makassar Tourism Development Tbk (GMTD) in 2013. As well as obtained the average value of 0.00509 and the standard deviation of 0.140074.

Inferential analysis included assessing the overall model, the feasibility of the regression model, the coefficient of determination, classification matrix, multicolonierity test and hypothesis testing. Based on the test results, then the model used in this study showed a good regression model or fit with the data. Then for hypothesis testing or regression coefficient test was presented in Table 3 below.

Table 4. Regression Coefficient Test

		B	S.E.	Wald	df	Sig.	Exp(B)
	Achange	3,439	1,610	4,562	1	,033	31,144
	Lev	-,303	1,256	,058	1	,810	,739
	Rec	13,779	3,998	11,879	1	,001	963710,642
Step 1a	Bdout	-,938	2,015	,217	1	,642	2,555
	Tata	17,812	3,590	24,624	1	,000	54423988,063
	Constant	-2,442	1,175	4,315	1	,038	,087

Source: Output of SPSS 21, 2016

Based on table 4 above, H1 which stated financial stability with the proxy of total asset changes had a positive effect on the risk prediction of financial statement fraud was accepted due to the significance value was 0.033 <0.05. The result of this study was relevant to the research conducted by Tiffani and Marfuah (2015), Sihombing and Rahardjo (2014) and Skousen et al. (2009). This result indicated that the higher the total asset changes indicating the company's financial condition was unstable, then the possibility of companies committing financial statement fraud was also higher. Large asset changes each year indicated financial instability in the company. Financial instability that occurred in this company triggered management to commit financial statements fraud in order to remain in demand by users of these financial statements.

H2 which stated that external pressure with leverage proxy had a positive effect on risk prediction of financial statements fraud was denied, because the significance value was 0,810> 0,05. The result of this study supported the research conducted by Ardiyani and Utaminingsih (2015), Sukirman and Sari (2013), which stated that external pressure did not have a significant effect on financial statements fraud. The reason for this hypothesis was rejected because when a company had a high leverage ratio it showed the greater the investment funded by loans. This high level of debt conditions made the company more cautious in committing fraud because the creditor, investor, and shareholder would always see the performance of the company. And also the possibility of the company had the ability to return the debt so it did not become a pressure for management to manipulate.

H3 which stated industrial environment with receivable proxy had a positive effect on risk prediction of financial statements fraud was accepted, because the significance value was 0,001 <0,05. Balance determination of an account based on the estimation was capable of causing a risky condition and result in a subjective judgment in estimating it such as accounts receivable. The results of this study supported the research conducted by Sihombing and Rahardjo (2014) and Widyashanti (2015) whose research result showed a significant effect between industrial environment proxied with receivable and financial statements fraud. The result of this study was also in line with the research conducted by Summers and Sweeney (1998) who reviewed accounts receivable and found that the conditions of accounts receivable was different between companies that conducted fraud and companies that did not conduct fraud.

H4 which stated the effectiveness of supervision with proxy of the proportion of board of independent commissioners negatively affected on risk prediction of financial statements fraud was rejected, because the value of significance was 0,642> 0,05. The result of this study was not in accordance with the theory which stated that the more effective the supervision seen from the proportion of board of independent commissioners, it could reduce the occurrence of fraud. This could happen because the appointment of board of independent commissioners just to meet the regulations only at least 30% of the total board of commissioners. According to Sihombing and Rahardjo (2014) it would be different if there was an intervention to the board of independent commissioners that resulted in the non-objective supervision conducted by a board of independent commissioners so that the number of board of independent commissioners within a company was not a significant factor in the improvement of the company's operational supervision. The result of this study supported the research conducted by Skousen et al. (2009), Sihombing and Rahardjo (2014) and Nugraha and Henny (2015) which failed to find any significant effect on the effectiveness of supervision as measured by the proportion of board of independent commissioners towards the financial statements fraud trend.

H5 which stated Rationalization with total accrual proxy affected positively on the risk prediction of financial statements fraud was accepted, because the significance value was 0,000 <0.05. The ratio of total accruals was the ratio of the company's accruals compared to the total assets owned by the company. Vermeer (2003) in Skousen et al. (2009) stated that total accrual was a reflection of the company's overall activities and argued that accrual represented management in decision-making and provided insight on the rationalization of the company's financial statements. The level of company's accruals would vary depending on the management's decision regarding a certain policy. According to Skousen et al. (2009) the ratio of total accruals could be used to describe rationalization associated with the user of accrual's principle by management. The results of this study supported the research conducted by Sihombing and Rahardjo (2014) and Rani (2016) who managed to find that total accruals affected on financial statements fraud.

CONCLUSIONS

Conclusions resulting from the results of this study are financial stability, industrial environment, and rationalization have a positive effect on the prediction of financial statements fraud. Meanwhile external pressure and the effectiveness of supervision do not significantly affect the prediction of financial statements fraud. Further research is suggested to add another independent variable outside fraud triangle. In this study, measurement of dependent variable uses dichotomous variable that is only indicate company that do fraud or not. Further research can use other measurement in detecting fraud based on levels such as the F-Score model, that is measures the level of misstatement risk of financial statements (High Risk, Substantial Risk, Abnormal Risk, Low Risk or Normal Risk).

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