Differentiation Strategy and Market Competition as Determinants of Earnings Management

Retnaningtyas Widuri*
Tax Accounting Department
Petra Christian University
Surabaya, East Java, Indonesia
widuri@petra.ac.id

Jennifer Evelin Sutanto
Tax Accounting Department
Petra Christian University
Surabaya, East Java, Indonesia
jennifersutanto07@gmail.com

***Abstract*—this study examines the relationships among differentiation strategy, market competition, and earnings management. This study focuses on real earnings management used by many companies to manipulate earnings. We perform cross-sectional regression for each manufacturing sub-sector and year where there are at least ten firms to measure the abnormal values of real earnings management. Using 65 manufacturing firms listed in Indonesia Stock Exchange from 2011 to 2015, we use regression analyses to investigate our research questions. Our results show that firms adopt differentiation strategy are less likely to engage real earnings management. Moreover, the interaction between differentiation strategy and market competition exhibits negative relationship with earnings management. Results of this study provide evidence that differentiation strategy has significant impact in determining management decisions on real earnings management. We also find that market competition and differentiation strategy can jointly affect real earnings management. Although real earnings management can help firms achieve certain financial goals, it will give negative impact on firm's future performance. Firms that use differentiation strategy still have great financial performance even without using earnings management. Considering the sustainability of firm's performance, management should consider using differentiation strategy to achieve financial goals than engaging in real earnings management.**

Keywords—Differentiation; market competition; earnings management

I. Introduction

Higher market competition can threaten the sustainability of a firm. Increase in market competition also causes firm encounter financial distress, where higher market competition reduces firms' probability to increase their profitability through their businesses. Most of firms believe that earnings management can be one of the best solutions to survive in the market by manipulating their financial performance. The needs of external financing will motivate managers to improve firms' performance using earnings management. These improvements in financial performance may attract investors and creditors to fund firms' business operations [1]. Many firms prefer to use real earnings management that has lower detection risk than accrual earnings management. Even though real earnings management has greater cost as it can harm the firms in long-term run, managers are willing to engage real earnings management to meet short-term financial goals. They believe if they use accrual earnings management, they will bear greater costs in the short-term run due to scrutiny from regulators and auditors. Real earnings management also decrease firm value in the long-term run because it has negative impact on firm's future performance [2].

A business strategy is needed in order to run business operation. Differentiation strategy has been believed that can bring firms more sustainable performance in the long-term run [3]. Firms that use differentiation strategy as their business strategies can achieve certain financial goals due to their high profit margin and competitive advantages built by the firms. They are also able to maintain their position in the market by their sustainability of business performance even in higher market competition. High profitability and ability to survive in the market make firms improve their business performance even without engaging real earnings management. Thus, making firms that pursue differentiation strategy less motivated to use real earnings management. The main focus of firm that use differentiation strategy is customer satisfaction and successful products' performance, leading to lower earnings management.

This main purpose of this paper is to investigate whether differentiation strategy has significant role in determining earnings management, and the interaction of differentiation strategy and market competition can bring an impact on earnings management. This paper uses sample of Indonesia manufacturing firms from 2011 to 2015. Differentiation strategy will be measured with profit margin. Higher profit margin indicates that a firm are more likely to use differentiation strategy [4] [5]. Market competition is measured by Herfindahl–Hirschman Index used by many studies that indicates industry level of market competition. Higher HHI Index means lower market competition [5] [6]. We will measure real earnings management by deriving abnormal values from three methods used by firms to engage real earnings management through their business operations, that are abnormal production costs by overproducing units, abnormal cash flows from operations by manipulating sales, and abnormal discretionary expenditures by cutting discretionary expenditures [2] [7].

II. LITERATURE REVIEW AND HYPOTHESIS

A. Differentiation Strategy

Business strategy is needed by a firm to conduct their business operations in order to improve the profitability of a firm. Differentiation strategy is one of Porter's typology of business strategies that focuses on creating unique and high quality products to differentiate their products from their competitors, giving advance benefits to the customers, offering their products with premium price, and investing more in research and development activities [8]. Firms that use differentiation strategy will need technology, specialized assets, and high knowledge workers to distinguish their products from their competitors. Differentiation strategy is able to enhance profitability of a firm from the high profit margin created by providing firm's products.

B. Market Competition

Market competition has significant role in determining whether a business entity can survive in the market. Higher market competition will reduce firm's probability to obtain earnings, where every firms attempt to increase their competitive advantages to survive in the market [5]. Increase in market competition makes firms seek ways to maintain their sustainability by increasing firms' performance. Higher market competition also leads firms to higher threat of liquidation, encouraging firms to manipulate their short-term financial performance to acquire external financing and survive in the market [9] [10].

C. Earnings Management

Earnings management occurs when managers manipulate their financial performance to mislead the stakeholders in order to achieve firms' certain goals [11] [12]. This paper will focus on real earnings management that has direct impact on firm's cash flow. Even though real earnings management has lower detection risk than accrual earnings management, real earnings management has higher cost than accrual earnings management [13] [14]. Real earnings management also has negative impact on firms' future performance [15].

Real earnings management can be categorized into three methods as follows [2]:

1. Increasing price discounts and providing more lenient credit terms to increase the volumes of sales
2. Reducing discretionary expenditures
3. Increasing production units than necessary to lower cost of goods sold per unit

These real earnings management activities will have negative impact on firms' cash flows. Although increasing price discount and lenient credit terms will enhance the sales volumes in current year, it will make customers demand for such opportunities in the future, causing lower cash flow in the future. Reducing discretionary expenditures in the current year will increase the probability of higher cash outflows in the future. Also, increasing production units will increase the holding cost of inventories that are not covered by sales in the current year.

D. Hypothesis Development

1) The Relationship of Differentiation Strategy and Earnings Management

Firms that use differentiation strategy in their business activities will focus on creating high quality and unique products to differentiate themselves from their competitors. Competitive advantage built by these firms attracts customers who are less price sensitive to buy their products. Customers are willing to pay higher price to obtain the products' superior values that are distinct from other products. Differentiation strategy gives a firm ability to offer premium price that outweighs the cost of differentiating, resulting in higher profit margin. High profit margin not only helps a firm survive in unexpected decline in economic or business but also achieve certain financial goals to meet the investment needs [5].

Differentiators have greater needs of investment in research and development due to create innovative products, making firms riskier than other firms. Differentiators' assets are also difficult to be used as collateral to creditors because most of their assets are less valuable outside the firms [16]. Thus, firms adopt differentiation strategy often have greater financing cost than other firms. Based on the pecking order theory, to decrease cost of financing, a firm will prefer using internal financing from firm's business profit to external financing from debt and equity [17] [18]. Firms will be less motivated to attract investors and creditors using earnings management.

Managers are also less motivated to maximize their compensations from engaging earnings management since their compensations are mostly based on non-financial measures [19], such as customer satisfaction. Managers believe that they will bear greater losses if they choose to engage earnings management rather than improve non-financial performance [20]. Based on the explanations above that indicate differentiators tend to reduce earnings management, our first hypothesis can be stated as follows:

H1: Differentiation Strategy has an influence on earnings management.

2) The Relationships of Differentiation Strategy, Market Competition, and Earnings Management

Firms adopt differentiation strategy are more sustainable than other firms, where the uniqueness and differentiation of their products cannot be easily duplicated by others [3]. To secure their positions in the market, differentiators not only provide high quality products but also improve the relationships with customers and suppliers by maintaining good reputations and building their brands. These business activities will create competitive advantages that cannot be easily imitated by their rivals. [21]. Good reputations and skills in offering the products will make difficult for new entrants to compete with existing firms that pursue differentiation strategy [2]. These firms also have high profit margin that can help firms to avoid financial distress.

Even though higher market competition will prevent firms to increase their profitability through their business, firms that use differentiation strategy can survive in the market. These firms also tend to focus on enhancing the reputation and creating innovative products than manipulating earnings. Thus, in higher market competition, sustainable business performance and competitive advantages built by firms make firms less motivated to be involved in earnings management activities. Based on the explanations above, our second hypothesis can be stated as follows:

H2: The interaction of differentiation strategy and market competition has an influence on earnings management.

III. METHODOLOGY

A. Research Model

Based on our explanation above, we presented our research model as below:

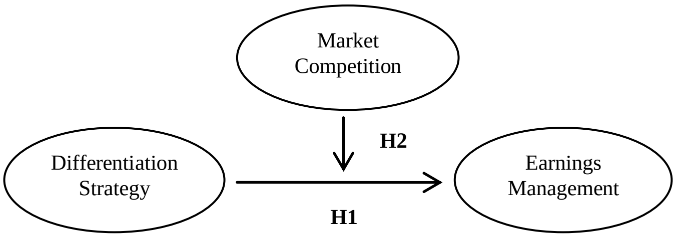

Fig. 1. Research Model

B. Sample Selection

This paper uses sample of manufacturing firms listed in Indonesia Stock Exchange from 2011 to 2015. Criteria for sample that used in this paper are firms that belong to sub-sector that has at least ten firms, firms that issue shares in Indonesia Stock Exchange before year 2010, and firms that consistently publish their annual reports during the observation periods. We narrow down our sample to 65 manufacturing firms with total of 325 firm-year observations, that are 12 firms from automotive and components sub-sector, 12 firms from food and beverages sub-sector, 16 firms from metal and allied products sub-sector, 10 firms from plastics and packaging sub-sector, and 15 firms from textile and garment sub-sector.

C. Regression Model

This paper investigates the impact of differentiation strategy on earnings management and the impact of interaction between differentiation strategy and market competition on earnings management using regression analyses. This following empirical model is used to test our hypotheses:

$$RM = a_0 + b_1PM + b_2CHHI + b_3PMxCHHI + e \quad (1)$$

D. Variable Measurement

For the dependent variable, consistent with [2] model, we derive abnormal values of three real earnings management methods that are measured by residual values from cross-sectional regression for each manufacturing sub-sector and year where there are at least ten firms. We obtain the residual values from these following estimated models:

1. Production costs (PROD)

$$PROD_t/A_{t-1} = a_0 + b_1 1/A_{t-1} + b_2 S_t/A_{t-1} + b_3 (S_t - S_{t-1})/A_{t-1} + b_4 (S_{t-1} - S_{t-2})/A_{t-1} + e \quad (2)$$

2. Cash flows from operations (CFO)

$$CFO_t/A_{t-1} = a_0 + b_1 1/A_{t-1} + b_2 S_t/A_{t-1} + b_3 (S_t - S_{t-1})/A_{t-1} + e \quad (3)$$

3. Discretionary expenditures (DISX)

$$DISX_t/A_{t-1} = a_0 + b_1 1/A_{t-1} + b_2 S_{t-1}/A_{t-1} + e \quad (4)$$

Where A is the total assets of the firm, S is the sales of the firm, PROD is the sum of cost of goods sold, and DISX is the sum of selling, general, and administration expenses.

Then, we combine the residual values obtained from the three estimated models that are abnormal values of production costs (APROD), abnormal values of cash flows from operations (ACFO), and abnormal values of discretionary expenditures (ADISX) into one proxy by subtracting ACFO and ADISX from APROD [14].

We measure our independent variable that is differentiation strategy as profit margin. Profit margin (PM) can be formulated as total of operating income and research and development expenditures divided by sales. This formula indicates that firms adopt differentiation strategy not only have high profit margin but also invest more in research and development activities [23] [24].

Our moderating variable, that is market competition (CHHI), is measured by HHI Index using total of the square of market shares of all firms in a sub-sector. Market share will be defined as sales of a firm divided by total sales of all firms in a sub-sector [25]. We multiplied the HHI Index by minus one so that the higher amount indicates higher market competition [5].

IV. RESEARCH RESULTS AND ANALYSIS

This paper examines the research questions using regression analysis. With total of 325 firm-year observations, we perform several statistical tests using IBM SPSS 23 software, which are descriptive statistics, autocorrelations, and goodness of fit to test our hypotheses and the validity of regression model. The following table shows the descriptive statistics of the variables used in the regression analysis:

TABLE I. DESCRIPTIVE STATISTICS

Variable	N	Min	Max	Mean	Std. Dev.
PM	325	-2.9171	0.4068	0.384	0.233
CHHI	325	-3.0655	-0.7077	-1.537	0.795
RM	325	0.0008	0.9419	0.140	0.136

Table I shows that the mean value of RM is 0.140. The minimum value of RM is 0.0008 owned by IMAS Company from automotive and components sub-sector. Meanwhile, the maximum value of RM is 0.9419 owned by DLTA Company from food and beverages sub-sector. SIMA Company from plastics and packaging sub-sector has the lowest profit margin that is -2.9171, while DLTA Company from food and beverages sub-sector has the highest profit margin that is

0.4068. The little differences between the mean value and maximum value of PM indicate some of manufacturing firms in Indonesia have already used differentiation strategy.

We also conduct autocorrelation test using Durbin-Watson test. The purpose of this test is to examine whether a linear regression model has error correlations from equation in current year and prior year. A well-designed regression model is free from correlations across periods. A regression model is considered to have no correlations if the Durbin-Watson values are between -2 and 2. Our Durbin-Watson value is 1.066, indicating that the regression model has no correlations.

TABLE II. R SQUARED RESULTS

Variable	R-squared
PM	0.027
CHHI	0.012
PMxCHHI	0.029

R-squared test is conducted to examine the extent of the independent variables that can explain the dependent variables. From the table above, we can know that the R-squared value of PM is 0.027, meaning the large percentage influence of differentiation strategy on earnings management is 2.7%, while the remaining 97.3% is explained by other variables. The R-squared value of CHHI is 0.012. This value shows that the large percentage influence of market competition on earnings management is 1.2% and the remaining 98.8% is explained by other variables. Lastly, the variable PMxCHHI has R-squared value of 0.029, meaning that the large percentage influence of the interaction between differentiation strategy and market competition on earnings management is 2.9%, while the remaining 97.1% is explained by other variables.

We also test the R-squared of all the independent variables and obtain the R-squared value of 0.089. That means the large percentage influence of all the independent variables on dependent variable is 8.9%, while the remaining 91.1% is explained by other variables.

TABLE III. STATISTICAL RESULTS OF ANOVA TEST

	F	Sig.
Regression model	10.455	0.000***[a]

[a.] Predictors: PM, CHHI, PMxCHHI
***significance at the 0.01 level

The purpose of Anova test is to examine whether the independent variables simultaneously impact the dependent variable. Anova test also ensures whether the regression model is valid. Therefore, we perform Anova test by using F test in IBM SPSS program. Results of Anova test show that our regression model has F score of 10.455 with significant value of 0.000 at 0.01 level. These results can lead to conclusion that all of the independent variables, that are differentiation strategy, market competition, and the interaction of differentiation strategy and market competition simultaneously impact earnings management as the dependent variable. Results of this test also conclude that our regression model is valid.

TABLE IV. STATISTICAL RESULTS OF T TEST

Variable relationship	t	Sig.
PM → RM	-3.185	0.002***
CHHI → RM	4.606	0.000***
PMxCHHI → RM	-3.920	0.000***

***significance at the 0.01 level

We use regression model to predict the influences of our independent variables on dependent variable. Therefore, we use t test by IBM SPSS program to test the regression analysis. We also conduct this t test to see whether our hypotheses are supported. Table IV presents our results about the t test from IBM SPSS program. Results show that the impact of differentiation strategy on earnings management in equation analysis is -3.185 with significant value of 0.002. The t value of -3.185 indicates that differentiation strategy has negative relationship with earnings management. These results are consistent with prior literature who conclude that firms adopt differentiation strategy are less motivated to engage real earnings management as they can obtain higher profit margin and survive in the market [5], while they have lower demand of external financing [17] [18]. Managers will also decrease the level of real earnings management in order to meet the non-financial criteria for maximizing their compensations [19]. The significant value of 0.002 indicates that differentiation strategy has significant influence in determining real earnings management conducted by firms. That means our first hypothesis is supported.

Our results also show that the impact of market competition on earnings management in equation analysis is 4.606 with significant value of 0.000. Although this impact is not our main focus in this paper, but from these results we can know that market competition not only plays a role as moderating variable but also turns out to be independent variable that significantly impacts real earnings management. The equation analysis of 4.606 shows that market competition has positive relationship with earnings management, meaning the higher market competition generates higher level of earnings management. These results are consistent with [9] who concludes that in higher market competition, firms tend to manipulate their short-term financial performance in order to attract external financing and survive in the market. The significant value of 0.000 indicates that market competition has significant impact on real earnings management that means it can impact on dependent variable solely as an independent variable.

Table IV also shows that the impact of interaction between differentiation strategy and market competition on earnings management in equation analysis is -3.920 with significant value of 0.000. These results indicate that market competition can enhance the influence of differentiation strategy on real earnings management. The equation analysis of -3.920 shows that the interaction between differentiation strategy and market competition exhibits negative relationship with real earnings management, meaning that in higher market competition, firms that use differentiation strategy tend to decrease real earnings management more. These results are consistent with prior literature stated that firms adopt differentiation strategy have more sustainable performance as they have high profit margin and competitive advantages that cannot be easily imitated by other firms [3] [21]. Increase in market competition also makes firms that use differentiation strategy more focus in enhancing the firms' reputation and brand-building, leading to lower real earnings management. The significant value of 0.000 indicates that market competition can moderate the influence of differentiation strategy on real earnings management. That means the interaction of differentiation strategy and market competition has significant influence in determining real earnings management by firms, supporting our second hypothesis.

Based on the results above, we can conclude that the analysis results support all of our hypotheses. Our results also meet the significant level of 5%, where our predictive variables reach significance at 0.01 level. That means all of our independent variables has significant influences on our dependent variable.

V. CONCLUSION

This study investigates whether differentiation strategy has significant influence in determining management decisions of real earnings management. This study also investigates further the impact of interaction between differentiation strategy and market competition on real earnings management. Based on the results of the statistical tests, we find that differentiation strategy has significant negative relationship with real earnings management, meaning that firms adopt differentiation strategy are less likely to use real earnings management. We also find that the interaction of differentiation strategy and market competition has significant negative relationship with real earnings management. This finding means that firms adopt differentiation strategy are also less likely to use real earnings management in higher market competition.

Our findings conclude firms that use differentiation strategy are more sustainable due to their high profit margin and competitive advantages built by firms which cannot be easily duplicated by their rivals. These advantages of possessing differentiation strategy make firms survive in the market even in higher market competition. Although real earnings management can help firms to achieve certain financial goals in the short-term run, but it will harm the firms in the long-term run, resulting in decreased firm value. Differentiation strategy can be defined as a key to survive in the market due to high probability to have sustainability of performance in the long-term run. As we find that market competition may increase the level of real earnings management, firms will seek ways to avoid the financial distress. This issue can be avoided by firms that use differentiation strategy by their sustainable business performance even without engaging real earnings management. These firms are still able to achieve financial goals and meet the investment needs. These findings should be considered by managers that tend to use real earnings management to meet their financial goals. In order to achieve the long-term success and sustainability of firms' performance, managers should consider using differentiation strategy to meet financial goals than engaging real earnings management.

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