

Real Earnings Management And Firm Value: Examination Of Costs Of Real Earnings Management

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Abstract: The objective of this research is to find the evidence of (1) REM towards firm value and (2) the moderating role of costs of REM which are market share, financial health, and effective tax rate between REM and firm value. Research samples are manufacturing firms listed on the Indonesian Stock Exchange 2018-2020. REM includes abnormal CFO, abnormal production, and abnormal discretionary expenses. Data analysis uses a white regression test. Based on data analysis, REM has a negative effect on firm value which indicates that REM reduces economic value. Market share and financial health weaken the negative effect of REM on firm value, indicating that REM is a signal where the firm has strong industry and financial advantages to increase firm value. The effective tax rate has no moderating effect between REM and firm value, indicating that low effective tax rate can be both efficient tax planning such as tax avoidance and aggressive tax planning such as tax evasion. Research contribution gives academics, financial statement users, and regulatory bodies an additional literature of REM as a signaling tool of industry and financial health advantages.

Keywords: Firm Value; Real Earnings Management; Information Signaling.

Abstrak: Penelitian ini bertujuan untuk (1) menguji pengaruh REM terhadap nilai perusahaan dan (2) menguji pengaruh pangsa pasar, Kesehatan keuangan, dan tarif pajak efektif terhadap hubungan REM dan nilai perusahaan. Penelitian ini menggunakan perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia 2018-2020 sebagai sampel penelitian. REM diukur dengan total arus kas abnormal, produksi abnormal, dan beban diskresioner abnormal. Analisis data menggunakan uji *white regression*. Secara umum, hasil menunjukkan bahwa REM berpengaruh negatif terhadap nilai perusahaan yang mengindikasikan REM dapat mengurangi nilai ekonomi. Pangsa pasar dan kesehatan keuangan memperlemah pengaruh negatif REM terhadap nilai perusahaan yang mengindikasikan REM dapat memberikan sinyal mengenai keunggulan kompetitif bahwa perusahaan memiliki posisi industri dan kondisi keuangan yang baik untuk meningkatkan nilai perusahaan. Tarif pajak efektif tidak berpengaruh terhadap hubungan antara REM dan nilai perusahaan yang mengindikasikan adanya kemungkinan bahwa tarif pajak efektif yang rendah bukan berasal dari *efficient tax planning* tapi dari *aggressive tax planning*. Penelitian ini berkontribusi terhadap akademisi, pengguna laporan keuangan, dan regulator sebagai literatur REM dapat digunakan untuk pensinyalan pangsa pasar dan kesehatan keuangan.

Kata Kunci: Nilai Perusahaan; Manajemen Laba Riil; Pensinyalan Informasi.

INTRODUCTION

In terms of the financial field, the core objective of the firm is the maximization of shareholders' wealth. Shareholders' wealth is an indicator of firm value. Firm value depends on the firm valuation. In the context of a listed firm, firm valuation occurs in the stock market and it is reflected by stock market price as the form of shareholders' responses to the value of the firm (Bhagwat et al., 2020). Shareholders' responses are the assessment of firm valuation by valuing the firm ability to maximize the shareholders' wealth through stock market value improvement or dividends (Marsha and Murtaqi, 2017). Shareholders' wealth could be seen by market value or dividends through the maximization of earnings.

Earnings have important role to demonstrates the financial performance (Enyi, 2018). It refers to the bottom-line item of the income statement which explains the firm's ability to generate superior financial performance and contribute to the shareholder's wealth. It also assesses the conditions of financial health and industry position of the firm. Investor tend to make investment in the firm that has higher earnings which can lead to higher stock prices. Since earnings can determine the stock prices, management tend to achieve specific targeted earnings (Mostafa, 2017). Management interferes earnings reporting legally or illegally so they can beat earnings goals. The management behavior refers to earnings management.

Earnings management includes accruals earnings management and real earnings management (hereafter REM). Accrual earnings management is the behavior to manage earnings by exploiting the loopholes of accounting standard while REM tend to manage earnings by executing abnormal operating business (Susanto, 2017). Accruals management does not relate to business activities but relate more to the selection of accounting methods and estimations while REM transforms the normal activities into the abnormal level to increase reported earnings (Susanto, 2017).

Earnings management is important issues in the accounting literature and research. There are some current cases of earnings manipulation. In 2015, Toshiba has a case of earnings manipulation by marking up the profit up to USD 1.2 billion in 7 years (Prasetya and Gayatri, 2016). Earnings manipulation by Toshiba causes a value reduction of USD 13.4 billion in the stock. In 2016, there is a case of *PT Hanson International* where they manipulate their reported sales in the financial report and get penalties from the Indonesian Financial Service Authority (*Otoritas Jasa Keuangan*) (Idris, 2020). In 2020, there is a case of manipulation by *PT Jiwasraya*. Since 2006, *PT Jiwasraya* has already engaged in earnings manipulation and leads its former CEO to prison (Putri, 2020).

The known-well case of manipulation in the earnings management literature is the Enron case. Enron is bankrupted in 2002 by manipulating earnings in order to disguise financial difficulties (Sendyona, 2020). Earnings management in Enron case is the example of negative consequences of earnings manipulation behavior. It causes the delivery of the Sarbanes-Oxley Act (SOX). SOX regulates the ethical behavior to enhance auditor role so earnings management can be suppressed (Järvinen and Myllymäki, 2016). During Post SOX period, there is a reduction in accounting fraudulent (Järvinen and Myllymäki, 2016).

On one hand, SOX can only suppress accrual earnings management (Järvinen and Myllymäki, 2016). On the other hand, there is an exploitation of REM after SOX regulation. REM is the better choice for management since regulator and auditor have no

specific methods to reduce REM (Goh et al., 2013). (Susanto, 2017) suggests that auditors have more techniques and procedures to detect and reduce accrual earnings management more than REM since they only aim to ensure earnings are reported based on GAAP instead of adjust the abnormal business activities misleading optimal business activities (Commerford et al., 2016). In this case, SOX implementation brings the REM to change the place of accrual earnings management (Järvinen and Myllymäki, 2016). REM aims to evade losses and to achieve positive earnings (Susanto, 2017). Previous studies give evidences of REM behavior. (Darmawan et al., 2019; Filip et al., 2015; Järvinen & Myllymäki, 2016; Leggett et al., 2015; Susanto, 2017; Vorst, 2016).

REM has an effect on firm value. On one hand, REM has a negative effect on firm value. (Roychowdhury, 2006) explains that REM can increase the current earnings but there are negative consequences for future performance such as uncollectible receivable from over sales, higher inventory costs from overproduction, and opportunity lost from expenses cutting. In this case, shareholders will assess the firm value lower since shareholders also consider the future performance of the firm (Susanto, 2017). (Roychowdhury, 2006) also explains that REM makes earnings information not reflect the real condition of the firm. When shareholders are not able to assess the real performance, they tend to let go of firm stock from their investment scheme which leads to stock price decreasing and lower firm value (Darmawan et al., 2019). REM raises some economic costs (Leggett et al., 2015) as well as bring future lost (Darmawan et al., 2019). (Susanto, 2017) shows that the REM activities such as over sales by providing price discounts or lean credit can reduce future sales when products are at the normal price or increases the costs of credit sales. Also, (Susanto, 2017) shows REM activities of overproduction can boost up the storage costs.

On the other hand, information signaling factors can make REM support firm value increasing. By engaging in REM, the firm gives a signal that the firm has the ability to increase future performance. For example, over sales and discretionary expenses cutting activities are the signal that a firm can create a higher market share by giving lean credit sales or price discounts or decreasing the research and development expenses for new products, while overproduction is the signal that a firm has the higher financial health to make more investment for production (Simamora, 2018, 2019). In this case, REM can be the good news for shareholders and leads to higher stock market value. (Al-Shattarat, 2022) gives evidence that REM can be a tool to predict future earnings. Earnings target achievement also has the role to reduce the bad consequences of REM on future earnings (Embong and Hosseini, 2018; Vorst, 2016). Different from opportunistic behavior, REM is the signaling tool where firm can communicate the better future performance (Al-Shattarat et al., 2022).

Inconsistencies about 'bad' or 'good' of REM happen because previous research did not include information that could be a good signal of REM. In Indonesia, the study of earnings management reaches the significant concern. (Suprianto and Setiawan, 2017) reported that there is significant growth of earnings management research from 13 studies in period of 1999-2007 to 54 studies in period of 2008-2016 in the big six accounting journal in Indonesia (*Jurnal Akuntansi dan Auditing Indonesia*, *Jurnal Akuntansi dan Keuangan Indonesia*, *Jurnal Ekonomi dan Bisnis Indonesia*, *Journal of Economics, Business, and Accountancy Ventura*, *Jurnal Keuangan dan Perbankan*). The absence of motivation behind earnings management behavior contribute to previous finding gap

(Simamora, 2019). This research contributes to examine the opportunist and signaling motivation of earnings management by involving the costs of REM which are market share, financial health, and effective tax.

This research examines the role of costs of REM (market share, financial health, and effective tax rate) as moderating roles of REM and firm value. The market share shows the firm's advantage in the industry. (Sellami, 2015) states that industrial advantage is a competitive advantage for firm to engage in REM so that firm can increase their level of business operations. On the other hand, firm with low market share will further reduce their industry position if they are involved in REM (Sellami, 2015). High market share helps firms sell products resulting from over sales activities. In this case, market share leads firm to engage more in REM, for example over sales activities, to ensure that they can sell more products to more customers in the market. It shows that over sales activities have been achieved effectively. It is also costly for firm to engage in REM when firm has financial problems. (Sellami, 2015). When firm faces weak financial health, firm cannot achieve optimal operation by using REM. Higher effective tax rate can also limit firm to engage in REM since the increasing of earnings from REM is also the object of taxation. (Sellami, 2015). Only firm with low effective tax rate can engage in REM. In this case, firm with industry advantages, healthy financial condition, and lower tax rate that can involve in REM, other than that, it will be costly to do REM. When firm bears more costs of REM and firm still do REM then there is possibility that management tend to engage in opportunist REM. On the other hand, when firm with less REM costs do the REM then management tend to engage in efficient or signaling REM. This research aims to examine REM on firm value and also examine the moderating role of market share, financial health, and effective tax rate between REM and firm value. The contribution of this research is to give evidence of REM costs that can be indicators of signaling tool and increases firm value since previous findings do not determine REM to increase firm value in the context of signaling concept (Al-Shattarat et al., 2022; Leggett et al., 2015).

THEORETICAL REVIEW

Agency theory. Agency theory is defined as a theory that explain the relationship between management as an agent and owner as a principal (Jensen and Meckling, 1976). The theory explains a lot about agency conflict where agent has an interest conflict with principal about wealth maximization of themselves. Earnings management is one of the forms of the conflict where management as an agent tend to manipulate reported earnings especially when information asymmetry exists (Simamora, 2018, 2019). Based on agency conflict, earnings management is included in opportunistic behavior to mislead the owner evaluation of firm profitability. When agency conflict is lower, earnings management can be transformed into signaling mechanism about market share, financial health, and effective tax planning.

This research focuses more on REM as dysfunctional behavior of management than other manipulation activities such as accruals earnings management. First, management can engage REM throughout the year (Roychowdhury, 2006). Management does not need to wait until the end of the year when the firm compiles the financial reporting to manage reported earnings. Different from REM, accruals earnings management can only be done at the end of the year by making the selection of accounting methods and estimation for

financial reporting. Second, REM is not the focus of regulators and auditor awareness (Roychowdhury, 2006). Since SOX, management engages more in REM than accruals earnings management because SOX strengthens the role of the auditor such as the implementation of auditor rotation to ensure auditor independence (Roychowdhury, 2006). Although regulators and auditors have the ability to detect REM, they cannot give adjustments or corrections since REM is based on firm business activities and does not violate any regulation or accounting standard. In this case, management engages more in REM than accruals earnings management.

Earnings management as information signaling. Earnings management becomes opportunistic behavior when it aims to fulfill management interest of bonuses, debt violation, and political costs (Scott and O'Brien, 2019). Earnings management becomes signaling mechanism when it provides contract efficiency to anticipate potential costs in the future flexibly (Scott and O'Brien, 2019). Earnings management can be used as reflection of performance value such as by using discretionary components to explain future earnings or cash flow (Simamora, 2018, 2019). Earnings management as information signaling is responded positively by the market. (Simamora, 2018, 2019) suggests that signaling earnings management give more informative earnings.

(Roychowdhury, 2006) suggests that REM is a technique to deviate business activities from the normal level to avoid losses and beat earnings targets. (Simamora, 2018, 2019) explains that REM can be a tool for future performance predictability. (Herbohn et al., 2010) give findings that earnings management promotes earnings value-relevant. (Al-Shattarat et al., 2022) also give evidence of REM to predict future performance. (Vorst, 2016) also finds that REM can predict future earnings by using earnings target beating behavior as moderating variable. In the Association of Southeast Asian Nations (ASEAN), (Liu, 2016) finds the ability of REM to explain firm value added.

Some factors need to be included in order to explain whether earnings management is signaling mechanism or opportunistic behavior. First, earnings target beating can explain the signaling REM either to support the positive effect of REM (Al-Shattarat et al., 2022) or to mitigate the negative effect of REM on future earnings (Vorst, 2016). (Embong and Hosseini, 2018) give findings of earnings target beating can explain better future performance. On the other hand, earnings target beating can also be an opportunistic behavior. (Cupertino et al., 2016) give evidence of worse performance when firm do analyst target beating. To analyze meeting or beating earnings benchmark, (Al-Shattarat, 2022) suggests that earnings target beating has to be involved in signaling mechanism.

Second, bankruptcy and default risk can determine signaling earnings management. (Agustia et al., 2020) give findings of bankruptcy risk to explain future performance Research by (Agustia et al., 2020) also show that high bankruptcy risk could be the factor to determine earnings management as an opportunistic act because it could not predict future cash flow. (Wongchoti et al., 2020) use transparency and insider trading as signaling factors and found that firms with higher insider trading and lower transparency lead earnings quality to have a negative effect on stock prices. Further, (Wongchoti et al., 2020) found that the absence of insider trading mitigates the bad consequences of earnings management. In this case, the firm condition determine how earnings management can support information signaling. As information signaling, earnings management is used to shows the quality of superior condition of the firm which lead to firm value added. As an

opportunistic act, earnings management is used to cover firm's problems which lead to firm value decreasing.

Real earnings management. REM is management actions to diverges the normal level of operating business to meet specific earnings margin (Susanto, 2017). The firm's management prefers to do REM than accrual earnings management. REM could be done during the financial reporting period, compares to accrual earnings management which only could be done at the end of the financial reporting period. (Simamora, 2018, 2019) stated that accrual earnings management can be detected by auditors more than REM. (Commeford et al., 2016) stated that the main role of the auditor is to find inappropriate reporting according to GAAP, instead of misleading optimal business activities. (Anissa et al., 2019) found evidence that high-quality auditors will constrain accrual earnings management, and firms will shift earnings management through real activity manipulation. (Järvinen and Myllymäki, 2016) explains that auditor improvement that is offered by SOX causes the accrual earnings management behavior to slide to REM. Management prefers to use REM since it become less awareness concern for regulator and auditors than accrual earnings management (Goh et al., 2013). REM includes sales manipulation which described as over sales, reduction of discretionary expenditures which described as discretionary expenses cutting, and overproduction (Simamora, 2019). (Al-Shattarat et al., 2022) examines whether REM relates to earnings target beating and find that and the results indicate that after controlling for size, performance, and market-to-book, REM relates to earnings target beating behavior. (Järvinen and Myllymäki, 2016) found the existence of REM post-SOX because of the improved role of the auditor. There is evidence of the existence of REM in non-profit hospitals as well, when non-profit organizations reach lower target, management will avoid the activities of non-operating and non-revenue-generating, decreases spending for operating activities, and sell assets to achieve gains (Wen et al., 2019).

Hypotheses. Two ways to look at earnings management are the opportunistic act and information signaling. As an opportunist act, earnings management is done to cover a bad firm's condition. (Irani and Oesch, 2016) propose that managers use REM to decorate short-time period overall performance in reaction to analyst pressure. (Markarian and Santolo, 2014) look at theoretically the impact of product marketplace opposition at the incentives to have interaction in income manipulation, and indicates how manipulating income is especially profitable in extra aggressive markets because the raise withinside the marketplace price of reporting suitable income is specially crucial. In a further analysis, (Markarian and Santolo, 2014) discovered that the impact of opposition on income manipulation is especially crucial for corporations that appear to be underperforming their competitors. The goal of manipulating income is to cowl the marketplace dangers of corporations. Another opportunist income control is to cowl awful overall performance round pro fairness offering (SEO) to reinforce the proportion price. Underperforming corporations enticing REM, via reducing discount of fees on R&D and selling, general, and administrative sports results in overvaluation on the time of SEO (Kothari et al., 2016). Earnings control is used to keep away from financial ruin reviews as well, income control earlier than financial ruin reduces the chance of plan affirmation and the emergence of a

'Chapter 11' reorganization plan can be showed via way of means of a financial ruin court (Fisher et al., 2016).

The opportunistic act of REM has a negative effect on future performance, firm value, and share price. In the short-term, opportunist REM can increase the current earnings, however, in the long-term, there are future consequences of sales reduction when price discount in over sales activities is changed into the normal price, higher costs of inventory from overproduction activities, and opportunity lost from research and development cutting activities (Roychowdhury, 2006). Sales reduction and higher costs in the future lead to lower future profitability. In this case, shareholders assess the firm at a lower value as there is a negative prospect in the future for shareholders' wealth contribution, such as future earnings or dividends for shareholders. It causes lower stock prices.

Revenue management lowers a company's stock price and market value for selfish motivation (Gill et al., 2013), and responds to analysts' earnings expectations through revenue management rather than true revenue forecasting (Eiler et al., 2021) thereby reducing the user's confidence in that information in equity investment decisions (Ogundajo et al., 2021). REM reduces corporate value, especially in industrially diversified enterprises (Farooqi et al., 2014). Earnings management destroys economic value by making a bankrupt company look like a survival company (Fisher et al., 2016). Reducing discretionary investment (Vorst, 2016) and avoiding impairment perceptions (Filip et al., 2015) mean that reducing discretionary investment will result in potential losses in future investment and will incur economic costs in real terms. Therefore, it affects future performance degradation (Leggett et al., 2015) and causes problems in the future (Darmawan et al., 2019). By reducing the internal costs of developing or purchasing patents, REM disrupts innovation strategies and further reduces corporate value (Hwang et al., 2014). (Sitompul et al., 2017) discovered that performance had declined when providing experienced stock to companies engaged in REM. Companies that use REM to exceed analysts' expectations will have lower investment and equity market performance the following year than companies that fall below analysts' expectations without revenue management (Cupertino et al., 2016). REM adversely affects future earnings (Filip et al., 2015; Leggett et al., 2015; Vorst, 2016). (Vorst, 2016) found that discretionary investment cuts lead to the loss of future investment opportunities, so REM through discretionary investment cuts impacts future performance degradation. (Filip et al., 2015) show that avoiding recognition of impairment, REM has found to reduce future growth opportunities.

As an information signal, revenue management enhances the ability of revenue to reflect economic value and has a positive impact on future development and corporate value. Innate accruals (business model-based accrual management) improve the quality of earnings (Musa and Aziz, 2018), showing that anomalous accruals can predict future cash flows, and anomalous accruals are part of the accrual estimation process. It suggests that it is not just noise (Suprianto and Setiawan, 2020). (Herbohn et al., 2010) suggests that management is expecting future performance improvements (deterioration) through a decrease (increase) in unrecognized deferred tax assets (losses).

REM as information signaling has been studied, such as REM has a positive effect on future earnings (Al-Shattarat et al., 2022), suspect firms of REM (firms that meet or beat zero earnings) weaken the negative effect of REM on future earnings (Vorst, 2016). Simply meeting benchmarks through involvement in REM can bring benefits to the

organization that demonstrate management capabilities or future organizational performance (Al-Shattarat et al., 2022). (Liu, 2016) found that there is a positive link between REM and economic value added in ASEAN.

H1: REM has an effect on firm value.

As information signaling, earnings management practices need to consider several factors to distinguish as opportunistic or information signaling. Achieving or exceeding the earnings benchmark is one factor that yield management can present as an information signal. Simply meeting benchmarks through REM can give the company the benefit of improving future performance (Al-Shattarat et al., 2022; Embong and Hosseini, 2018) and reducing the negative impact of REM on future profits (Vorst, 2016).

There is evidence that meeting or exceeding the earnings benchmark can also be an opportunistic act. (Cupertino et al., 2016) show that companies that exceed analysts' expectations using REM will perform worse in investment and stock market performance over the next three years than companies that fall below analysts' expectations without revenue management. (Al-Shattarat, 2022) suggests that in order to analyze whether the income benchmark is met or exceeded, only meets the income benchmark through involvement in REM and the positive link between future performance is management ability signaling and it suggests that it needs to be correlated. On the other hand, previous studies have also shown that there is no correlation between incidence and REM and equity returns (Cruz and Luiz, 2015).

Inconsistencies of previous research about REM and firm value happen because previous research did not include information that could be good signaling of REM. To split earnings management from opportunistic behavior to signaling mechanism, analysis of earnings management has to use fundamental condition such as bankruptcy risk and financial default risks (Agustia et al., 2020), transparency, and insider trading risk (Wongchoti et al., 2020). The costs of REM become the determinant factors of signaling REM.

(Sellami, 2015) explains that market share is one of the REM costs. Better market share help firm to mitigate bankruptcy and financial default risks so firm can create value added (Bhattacharya et al., 2021) and market performance (Chen et al., 2020). The market share brings firm to have better position in the competitive industry. (Sellami, 2015) stated that as long as REM is executed based on optimal business idea, REM can be done if firm have better benefits in the industry. However, if managers do REM when they face difficulties in market share achievement, REM can be a costly strategy (Sellami, 2015). Since REM with lower market share is the opportunist REM (Markarian and Santalo', 2014), it brings firm value lost. On the other hand, REM with better market share is signaling REM (Sellami, 2015) which generates a low risk of value lost. Signaling REM communicates management competencies (Al-Shattarat et al., 2022), for instance, to explain managers can reach strong market benefits. For example, REM of over sales and overproduction activities propose higher volume of sales if only firm is at the top market position. It causes no future sales reduction since firm hold more market share so the firm have no worry about price shifting from discounts to normal one. Although auditors can detect the over-sales and overproduction activities, they can only adjust the accounting record and recognition. Auditors cannot mitigate the higher sales volume that comes from

the business impact of over sales. Although auditors also can offer adjustment of depreciation method selection in overproduction activities, they still cannot change that fixed-costs per unit will be smaller for higher product units. REM of the cutting of R&D or advertisement expenses (expenses that support the level of sales) can also have no effect on future sales reduction because firm hold more customers. In this case, there is no auditor contribution to the accounting adjustment of R&D or advertisement expenses since the firm cut the expenses by eliminating the R&D or advertisement activities.

H2: Market share weakens (strengthens) negative (positive) effect of REM on firm value.

A company's healthier financial position leads to higher performance (Hermansjah et al., 2021) and higher market value (Syamni et al., 2018). (Sellami, 2015) shows that the financial position is the cost of REM. The high risk of bankruptcy leads to opportunistic revenue management (Fisher et al., 2016; Sellami, 2015). Opportunistic revenue management tends to cover the problem of bankruptcy (Fisher et al., 2016). Marginal costs that deviate from optimal business strategies can be high for poorly financed companies (Sellami, 2015). In this case, management may consider REM to be relatively expensive, as REM's primary goal is to improve operations (Sellami, 2015). As an information signal, REM conveys management skills such as sound financial conditions (Al Shattarat et al., 2022). For example, a company engaged in REM through over-sales and over-production activities indicates that the company is in good financial condition to support high sales and production activities while reducing research and development and advertising costs (). Spending to increase sales and production level support).

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H3: Financial health weakens (strengthens) negative (positive) effect of REM on firm value.

Tax rate is indicator of the performance of tax planning (Ftouhi et al., 2015; Lestari and Wardhani, 2015). A low tax rate describes the higher performance of tax planning, further, it promotes tax savings where shareholders will responses positively since tax saving increases net income (Assidi et al., 2016). (Sellami, 2015) shows that the effective tax rate is the cost of REM. REM generates higher taxable income so firm need to have lower tax rate to execute REM efficiently (Sellami, 2015). Effective tax saving help firm to improve firm value by engaging in REM to improve earnings. For example, if firm do

over sales or expenses reduction, firm tend to give information the quality of tax planning. Although tax planning can be an object of audit, for example, an object for tax auditors, as long as the firm does the tax planning by engaging in tax avoidance without violating any tax regulation then it will be the good news for shareholders and increase firm value. Different from tax avoidance, firms that engage in tax evasion by violating regulations tend to engage in more aggressive strategies than REM such as accounting fraud and crime (Kourdoumpalou and Karagiorgos, 2012).

H4: Effective tax rate strengthens (weakens) negative (positive) effect of REM on firm value

METHODS

Research sample. The research sample is manufacturing companies listed on the Indonesian Stock Exchange 2018-2020. This research use manufacturing companies to mitigate the different characteristics of industries to engage in REM behavior. Manufacturing characteristics support all REM activities of over sales, overproduction, and discretionary expenses cutting. Sample selection considers some criteria that are needed in this research which are: (1) firm contains positive equity value, (2) firm stock is in active trading condition, (4) effective tax rate is range of zero to one to avoid outliers (Sellami, 2015), (5) have complete data. The total research sample is 247 manufacturing firms-years. The sample selection process can be seen in table 1.

Table 1. Research sample

Sample Criteria	Firm	Firm-Year
Manufacturing firms listed in the Indonesian Stock Exchange 2018-2020	130	390
Less: Negative equity	(9)	(27)
Inactive stock traded	(1)	(3)
Incomplete data	(5)	(15)
Outliers		(98)
Total		247

Variables. The dependent variable is firm value. Firm value describes the shareholders' wealth in the form of stock market value. The firm value is occurred by using Tobin's q (Assidi et al., 2016; Ftouhi et al., 2015; Gill et al., 2013):

$$Tobin's\ q_t = \frac{Total\ debt_t + (Outstanding\ share_t \times Closing\ share\ price_t)}{Total\ assets_t} \dots\dots\dots (1)$$

The independent variable is REM. REM defines as the behavior to diverge normal business activities to abnormal ones to beat earnings target (Susanto, 2017). REM consists of sales manipulation, overproduction, and discretionary expenses cutting. Sales manipulation is estimate in equation (1) (Susanto, 2017).

$$CFO_t = a + b0 \frac{1}{Assets_{t-1}} + b1 \frac{Sales_t}{Assets_{t-1}} + b2 \frac{\Delta Sales_t}{Assets_{t-1}} + e_t \quad \dots \quad (2)$$

where:

- CFO_t = Current operating cash flow relative previous total assets
- Sales_t = Current sales
- ΔSales_t = Current growth of total sales

Abnormal operating cash flow (abnormal CFO) describes the sales manipulation. The value of e_t from equation 2 is indicator of abnormal CFO. REM occurs when abnormal CFO is negative (Järvinen and Myllymäki, 2016).

To estimate overproduction activity, the equation 3 that will be used as follow (Susanto, 2017):

$$Prod_t = a + b0 \frac{1}{Assets_{t-1}} + b1 \frac{Sales_t}{Assets_{t-1}} + b2 \frac{\Delta Sales_t}{Assets_{t-1}} + b3 \frac{\Delta Sales_{t-1}}{Assets_{t-1}} + e_t \quad \dots \quad (3)$$

where:

- Prod_t = (Current growth of inventory minus current cost of goods sold) relative to previous total assets
- Sales_t = Current sales
- ΔSales_t = Current growth of total sales
- ΔSales_{t-1} = Previous growth of total sales

Abnormal production (abnormal PROD) describes the overproduction. The value of e_t from equation 3 is indicator of abnormal PROD. REM occurs when abnormal PROD is positive (Järvinen and Myllymäki, 2016).

Discretionary expenses cutting is determined by the equation 4 as follow (Susanto, 2017):

$$Discretionary\ expenses_t = a + b0 \frac{1}{Assets_{t-1}} + b1 \frac{Sales_t}{Assets_{t-1}} + e_t \quad \dots \quad (4)$$

where:

- Discretionary Expenses_t = Current Sales, General, Administration, Research and Development relative to previous total assets
- Sales_t = Current sales
- ΔSales_t = Current growth of total sales

Abnormal discretionary expenses (abnormal DISEXP) describe the discretionary expenses cutting. The value of e_t from equation 4 is indicator of abnormal DISEXP. REM occurs when abnormal DISEXP is negative (Järvinen and Myllymäki, 2016).

Engagement of each REM activities individually will also bring management to engage in other REM activities (Järvinen and Myllymäki, 2016; Simamora, 2018, 2019). Aggregate of REM activities is relevant to be used as a comprehensive REM behavior. Aggregate of REM activities is calculated as in equation 5 (Järvinen and Myllymäki, 2016; Simamora, 2018, 2019):

$$REM = -\text{standardized abnormal CFO} + \text{standardized abnormal PROD} - \text{standardized abnormal DISEXP} \quad (5)$$

Standardized value is used to adjust the different level of REM in each observation. Standardized value is calculated by the difference value between observed and average values relative to standard deviation.

This research use costs of REM as moderating variables. Costs of REM includes the capacity of firm market share, the condition of firm financial health, and the level of effective tax rate. Market share is occurred by calculating the firm sales relative to industry group sales (based on three digits of the industry code in Indonesian Stock Exchange) in the previous year (Sellami, 2015). Financial health is occurred by calculating the financial distress performance of z value of Altman in the previous year. (Maturungan et al., 2017) stated that the z score of Altman has the prediction power of evaluating the financial distress of Indonesian manufacturing companies at 87.8 percent (including in the good category). It shows that this research could use the z score of Altman to measure financial health. Higher z value describes the healthier condition of the firm. The value of Z can be calculated as in equation 6 (Agustia et al., 2020):

$$z = 1.2 Y1 + 1.4 Y2 + 3.3 Y3 + 0.6 Y4 + 0.999 Y5 \quad (6)$$

Where:

- Y1 = working capital relative to firm assets
- Y2 = retained earnings relative to firm assets
- Y3 = earnings before interest and tax relative to firm assets
- Y4 = the market value of equity divided by total liabilities
- Y5 = sales relative to firm assets

REM generates more taxable income (Sellami, 2015). In this case, lower effective tax rate engages more in REM than the higher one. The effective tax rate is calculated at the beginning period as follows (Sellami, 2015):

$$\text{Effecyive Tax Rate}_{t-1} = \frac{\text{All taxes payment}_{t-1}}{\text{Earnings before tax}_{t-1}} \quad (7)$$

with constraint,

$$0 \leq \text{effective tax rate} \leq 1 \quad \dots\dots\dots (8)$$

Control variables includes firm profitability, the level of firm growth, operating cash flow, and leverage. Firm profitability and the level of firm growth control the firm performance as the motivation of REM (Susanto, 2017). Firm profitability is occurred by calculating the return on assets (ROA). The level of firm growth is occurred by calculating the ratio of market-book value (MBV_{t-1}). This research uses MBV_{t-1} because shareholders could enjoy the result of growth opportunities in the future (in period t) and could increase shareholders' wealth as a firm value indicator. Operating cash flow controls the tax payment. This research determines operating cash flow relative to total assets. Leverage controls the use of debt as the pressure to engage in earnings management. Leverage is occurred by calculating the debt-equity ratio (DER). (Markonah et al., 2020) stated that ROA and DER affect firm value. (Willim, 2015) stated that a high MBV has an attractive market valuation and leads to firm value increasing, while a high CFO indicates high internal fund resources and leads to firm value increasing.

Analysis model. Hypothesis test is examined by using panel regression. Equation 9 describes the regression model:

$$q_t = \alpha + \beta_1 REM_t + \beta_2 REM_t * MS_{t-1} + \beta_3 REM_t * z_{t-1} \quad \dots\dots\dots (9) \\ + \beta_4 REM_t * ETR_{t-1} + \beta_5 MS_{t-1} + \beta_6 z_{t-1} \\ + \beta_7 ETR_{t-1} + \beta_8 MBV_{t-1} + \beta_9 ROA_t \\ + \beta_{10} CFO_t + \beta_{11} DER_t + e$$

where:

- q_t = Firm value in the current year
- REM_t = Real earnings management in the current year
- MS_{t-1} = Market share in previous year
- z_{t-1} = Financial health in previous year
- ETR_{t-1} = Effective tax rate in previous year
- MBV_{t-1} = Market to book value in previous year
- ROA_t = Return on assets in the current year
- CFO_t = Operating cash flow in the current year
- DER_t = Debt-equity ratio in the current year

RESULTS

Table 2. Descriptive of interest variables

	Minimum	Maximum	Mean	Standard Deviation
Firm Value	0.340	18.640	2.007	2.544
REM_CFO	-0.820	0.300	-0.022	0.122
REM_PROD	-1.780	0.790	-0.045	0.282
REM_DISEXP	-2.520	0.560	-0.021	0.236
REM Index	-10.740	7.130	-0.446	2.380
Market Share	0.000	1.000	0.145	0.220
z	-214.090	38.470	4.558	15.081
ETR	0.000	0.990	0.291	0.188
MBV	-0.760	53.590	2.965	5.780
ROA	-0.170	0.620	0.083	0.106
CFO	-0.240	0.900	0.090	0.127
DER	0.040	7.370	1.007	0.960
REM_CFO	= Sales manipulation			
REM_PROD	= Overproduction			
REM_DISEXP	= Discretionary expenses cutting			
REM	= Real earnings management			
z	= Financial health			
ETR	= Effective tax rate			
MBV	= Market to book value			
ROA	= Return on assets			
CFO	= Operating cash flow			
DER	= Debt to equity ratio			

Descriptive statistics. Table 2 shows that, on average, REM through abnormal production cost is the lowest (-0.045), REM through abnormal CFO is the second low (-0.022), and REM through abnormal discretionary expenses has the highest value (-0.021) of REM. The result gives finding that sample tend to do the discretionary expenses cutting. The firm with the lowest level of REM has a value of -10.74, while the firm with the highest level of REM has a value of 7.13. On average, sample avoids REM behavior since they have a negative mean value of REM (-0.046) since the positive value of REM indicates the firm is engaging in REM activities.

Table 3. Feasibility Test

Feasibility Test	Findings	Additional Notes
The examination of Kolmogorov-Smirnov test	Below 0.05 ^a	Data have no normal distribution
	Above 0.05 ^b	Data have normal distribution
The examination of Breusch-Pagan-Godfrey test	Below 0.05	Heteroskedasticity problem is exist ^s
The examination of Durbin-Watson test	Value of DW = 1.987943	Have no autocorrelation problem
The examination of Variance Inflation Factors test	VIF below 10 ^c	Have no multicollinearity problem ^s

a Data are not transformed yet

b Data are transformed by change the value of q become the value of Ln q

- c Moderating effect of z value has multicollinearity problem
- d The white regression is relevant to heteroskedasticity problem
- e Hartono (2018) suggests multicollinearity does not exist in moderating effect.

Feasibility Test. Table 3 provide the findings where significant of Kolmogorov-Smirnov is below 0.05. It describes that data have no normal distribution. After the value of q is transformed to logarithm natural of q (ln q), significant of Kolmogorov-Smirnov is above 0.05. The significance of Breusch-Pagan-Godfrey is below 0.05 which describes the existence of heteroskedasticity. The Durbin-Watson test has the value of 1.987943, which describes the absence of autocorrelation. The Variance Inflation Factors test provides the VIF of below 10, which describes the absence of multicollinearity. The condition of heteroskedasticity leads this research to run the white regression that relevant to heteroskedasticity condition.

Table 4. White Regression

Independent Variables	Coefficient Value	Value of t	Significance
REM	-0.141	-3.479	0.000***
REM*MS	0.207	4.049	0.000***
REM*z	0.008	3.943	0.000***
REM*ETR	0.015	0.149	0.881
MS	0.108	0.780	0.435
Z	0.047	4.097	0.000***
ETR	-0.202	-1.353	0.177
MBV	0.082	4.747	0.000***
ROA	2.006	2.590	0.010**
CFO	-0.887	-1.394	0.164
DER	0.085	2.352	0.019**
Constant	-0.267	-2.678	0.007***
Dependent variable	Ln q		
Adjusted R-squared	0.680		
F-statistic	48.636		
Sig. (F-statistic)	0.000***		
***Significant in 1 percent, **Significant in 5 percent			
Ln q	= Logarithm natural of Tobin's q		
REM	= Real earnings management		
MS	= Market share		
z	= Financial health		
ETR	= Effective tax rate		
MBV	= Market to book value		
ROA	= Return on assets		
CFO	= Cash flow from operating activities		
DER	= Debt to equity ratio		

White regression. Based on table 4, REM has a coefficient value of -0.141 and a significance value of 0.000 (significant in 1 percent). The finding leads the conclusion that REM has a negative effect on firm value. The result indicates that REM in Indonesia focuses more on opportunistic behavior. Opportunist REM can give a negative impact on future performance. Over sales can lead to higher uncollectible receivables in the future, and overproduction can lead to higher inventory costs. Discretionary expenses cutting can

lead to an opportunity lost. Shareholders will assess firm valuation by also considering the future performance of the firm. In the case of opportunist REM, shareholders tend to sell firm stock which leads to lower stock market price and firm value reduction.

Interaction between REM with the level of market share provides the coefficient value of 0.207 and a significance value of 0.000 (significant in 1 percent). The finding put the conclusion that market share weakens the negative effect of REM on firm value. Interaction between REM and financial health has a coefficient value of 0.008 and a significance value of 0.000 (significant in 1 percent). This result shows that financial health weakens the negative effect of REM on firm value. The interaction between REM and the effective tax rate has a coefficient value of 0.015 and a significance value of 0.881 (no significant). This result shows that the effective tax rate does not moderate the effect of REM on firm value.

Sensitivity analysis. This research provides alternatives analysis by proposing other measurements of REM. It is used to prove whether the alternative analysis have the consistent findings with the main one. This research uses each component of REM including over sales, overproduction, and discretionary expenses cutting individually.

This research also uses other measurement combination of REM as in the study by (Firmansyah and Febriyanto, 2018). First, the combination of discretionary expenses cutting and overproduction. Second, the combination of discretionary expenses cutting and over sales. Overproduction and over sales are irrelevant to be combined since overproduction also gives impact to over sales so the combination will be redundant (Firmansyah and Febriyanto, 2018).

The main REM motivation includes mitigating negative earnings and beating earnings target (Al-Shattarat et al., 2022). (Al-Shattarat, 2022) determine beating earnings target is assumed as REM suspect. In this case, this research will use the meet or beat earnings benchmark as the picture of REM practices. REM suspects include sample with maximum of 5 percent positive earnings relative to total assets (Al-Shattarat et al., 2022). REM suspect is measured by a dummy variable where score 1 for REM suspect and score 0 for non-suspect.

Table 5. Comparison between REM measurements

	Coefficient					
	Alternative (1)	Alternative (2)	Alternative (3)	Alternative (4)	Alternative (5)	Alternative (6)
	REM = REM_CFO	REM = REM_PROD	REM = REM_DISEXP	REM = REM_DISEXP + REM_CFO	REM = REM_DISEXP + REM_PROD	REM = Suspect Firms
REM	-2.736***	-1.491***	-1.252**	-1.379**	-0.767***	0.104
REM*MS	1.477	0.267	1.545***	1.512***	0.793***	0.546
REM*z	0.141***	0.055***	0.0171	0.050	0.0414***	0.030***
REM*ETR	-2.478	1.143	0.781	-0.200	-0.015	-0.771
MS	-0.085	-0.010	0.028	0.055	0.012	-0.143
Z	0.023***	0.062***	0.003	0.012	0.049***	0.001
ETR	-0.084	-0.257	-0.229	-0.199	-0.229	-0.041
MBV	0.062***	0.038***	0.064***	0.065***	0.052***	0.063***
ROA	3.635***	2.022***	2.807***	3.096***	2.303***	3.045***
CFO	-1.976**	-0.396	-0.252	-0.915	-0.307	-0.260
DER	0.053*	0.119***	0.012	0.047	0.103***	0.002
Constant	-0.154*	-0.313***	-0.052	-0.115	-0.291***	-0.107
Dependent variable	Ln q	Ln q	Ln q	Ln q	Ln q	Ln q
Adjusted R-squared	0.677	0.722	0.608	0.657	0.696110	0.593
F-statistic	48.085	59.348	35.691	43.871	52.22763	33.641

Sig. (F-statistic)	0.000***	0.000***	0.000***	0.000***	0.0000***	0.000***
Sig. (Kolmogorov-Smirnov)	0.947	0.433	0.204	0.197	0.283	0.392
Sig. (Breusch-Pagan-Godfrey) ^a	0.004***	0.092*	0.000***	0.000***	0.067**	0.000***
VIF value	below 10	below 10	below 10	below 10	below 10	below 10
Durbin-Watson	1.949	1.887	2.003	1.943	1.918	1.933

***Significant in 1 percent, **Significant in 5 percent, * Significant in 10 percent, ^a Because of heteroskedasticity problems, this research will perform the test of white regression with conditional-heteroskedasticity

Ln q = Logarithm natural of Tobin's q
 REM = Real earnings management
 REM_CFO = Negative value of abnormal CFO
 REM_PROD = Positive value of abnormal PROD
 REM_DISEXP = Negative value of abnormal DISEXP
 Suspect firms = Score 1 if the firm meets or beats earnings benchmark, 0 otherwise
 MS = Market share
 Z = Financial health
 ETR = Effective tax rate
 MBV = Market to book value
 ROA = Return on assets
 CFO = Cash flow from operating activities
 DER = Debt to equity ratio

Table 5 gives evidence that first to fifth REM alternatives are consistent with the main findings where REM affect firm value negatively. On the other hand, sixth REM alternative does not affect firm value so REM is sensitive to the REM suspect measurement. (Al-Shattarat et al., 2022) stated there is the possibility that the firm meets or beats the earnings target can be non-REM suspect. REM is not the only method to beat earnings target (Al-Shattarat et al., 2022).

Interaction between REM for alternative three until five respectively have the coefficient values of 1.545 (significant in 1 percent), 1.512 (significant in 1 percent), and 0.793 (significant in 1 percent). The third to fifth alternatives of moderating role of market share are consistent with the main findings. On the other hand, the first, second, and sixth alternatives of moderating role of market share are not occurred which leads to inconsistent findings with the main. It shows that moderating effect of market share is sensitive to the relationship between each activity of REM and firm value. The firm with a higher market share tends to engage more in discretionary expense cutting than over sales and overproduction activities. Over sales and overproduction are related. Over sales aims to increase sales volume with support by higher product volume that comes from overproduction. In this case, a higher market share can ensure the firm to sells the product with higher volume without over sales and overproduction activities. The firm needs to cut its expenses, by engaging in discretionary expenses cutting, since higher sales volume can also be supported by higher expenses. Market share also does not moderate the suspect of REM on firm value since earnings target beating are not always suspect of REM but can also firm with positive earnings that manage earnings downwardly to provides reserves for the future period (Al-Shattarat et al., 2022). The market share could weaken the negative effect of REM on firm value if there are discretionary expenses cutting included in REM activities. It is supported by (Islami et al., 2020) that stated sales leaders rather to manage expenses downwardly than revenues upwardly.

The first, second, fifth, and sixth alternatives of moderating role of financial health are consistent with the main findings. On the other hand, the third and fourth alternatives of moderating role of financial health are not occurred which leads to inconsistent findings with the main. It shows that moderating effect of financial health is sensitive to the relationship between each activity of REM and firm value. Financial health could weaken

the negative effect of REM on firm value if there are over sales and overproduction included in REM activities. It is supported by (Mainardes et al., 2020) that stated low financial health reflects the degradation of production and loss of important customers so that financial health is more related to customer sales and production activities than managing expenses. Finally, all alternatives of moderating role of effective tax rate are consistent with the main findings.

DISCUSSION

The result shows that H1 is accepted where REM has an effect on firm value. It confirms previous findings of (Ogundajo et al., 2021) who find earnings management mitigate value added. The result also shows that H2 is accepted. Market share weakens the negative effect of REM on firm value. REM, as information signaling, communicates better market advantage of industry. The result also shows that H3 is accepted. Financial health weakens the negative effect of REM on firm value. REM, as information signaling, communicates good condition of firm financial.

On the other hand, the result also shows that H4 is rejected. The effective tax rate does not have moderating role between REM and firm value. It can be seen by the statistical result where the t-statistic value of interaction between REM and the effective tax rate is 0.149 (insignificant). As for efficiency purposes, a low effective tax rate communicates the ability to reduce tax payment and save the cash outflow (Lestari and Wardhani, 2015). However, a low effective tax rate can be generated by aggressive tax planning which having higher risks and costs (Payne and Raiborn, 2018). It shows that the effect of a low effective tax rate does not always increase firm value and leads to information signaling REM. A low effective tax rate can come from both tax avoidance and tax evasion. In this case, only tax avoidance (legal strategy) can increase firm value by reducing tax risk (such as tax penalties or sanctions) (Blaufus et al., 2019). On the other hand, tax evasion decreases firm value since it is an aggressive and illegal tax planning strategy by violates tax regulations (Blaufus et al., 2019). This research does not determine whether low effective tax rates come from tax avoidance or tax evasion.

CONCLUSION

This research objective is to (1) examine the effect of REM on firm value and (2) examine the moderating effect of REM costs between REM and firm value. Based on data analysis, REM has a negative effect on firm value. It indicates that REM reduces value added. Market share weakens the negative effect of REM on firm value which explains that REM is a signaling mechanism to provide information of industry benefits. Financial health weakens the negative effect of REM on firm value which describe the role of REM as signaling mechanism to provide information of good financial condition. The effective tax rate does not have the moderating role between REM and firm value. This research has contributed to academics, financial statement users, and regulatory bodies as additional literature on REM as information signaling of market share and financial health. This research also contributed to agency theory where lower market share and weaker financial health explain the existence of opportunist REM that comes from higher agency conflict between owners and management. The limitation of this research is does not include the

mechanism of signaling earnings management downwardly. This research also has no consideration of tax avoidance and tax evasion motivation.

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