

## Article

# Earnings Management, Board Composition and Earnings Persistence in Emerging Market

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**Abstract:** Income data are useful for making economic decisions and anticipating future revenues. Earning quality, or the utility of earnings in making decisions, is determined by real economic performance. Firms with greater performance should, on average, have higher profits quality. Managers, investors, and scholars are interested in the influence of earnings management (EM) on earnings persistence (EP). This study evaluates the relationship between these variables in terms of accrual, real EM, board composition, and EP. We conducted quantitative research using GMM regression on a sample of 228 listed businesses in the Vietnamese stock market from 2014 to 2017. Our findings indicate that accrual earnings management (AEM) is associated with a negative connection with EP, but real earnings management (REM) is associated with a mixed association with EP. Additionally, the data indicate that board of directors (BODs) play a critical role in EP. Our research contributes to the existing body of knowledge by establishing a foundation for future research in this subject and by proposing some feasible options for functional government agencies and enterprise management interested in enhancing EP.

**Keywords:** accrual earnings management; real earnings management; board composition; earnings persistence



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## 1. Introduction

Income information is helpful for economic decision making and forecasting future earnings [1,2]. Earnings quality, or the decision usefulness of earnings, results from actual economic performance [1]. Firms with higher performance should, in general, be associated with higher earnings quality [3]. According to the Financial Accounting Standards Boards' (FASB) conceptual framework, earnings information should assist users in determining the amount, timing, and uncertainty of future cash flows (Statement of Financial Accounting Concepts No. 1). As a result, high earnings quality is a significant contribution to long-term persistence and sustainability of a firm and the effectiveness of the financial market. However, because each proxy assesses a distinct variable component and supports different judgments, there is no single adequate measure for earnings quality [1]. Therefore, in this paper, we decided to use EP to measure earning quality as one of the most off-cited approaches.

EP is not a new topic, but it is of interest to a large number of investors, and there are several research studies on the subject worldwide. EPs are defined as the durability and repetition of earnings and indicate the extent to which present profits may be sustained in

the future [4–6]. Numerous prior research studies have established a relationship between the quality of earnings reported in financial statements and EP [6–9]. Earnings quality may be worse, and earnings may be unsustainable, as observed by lower EPs [10]. There are many research studies related to AEM [11–21]. In addition, numerous studies have been conducted on REM [22–27]. This form of profit management affects a company's actual operations and might have long-term effects [28]. Previous studies indicated that there is a negative correlation between manipulating earnings through discretionary accruals and earning persistence [11,15,29,30]. In addition, the prior results about the relationship between REM and EP is still quite ambiguous. To conclude, research on the use of AEM and REM to EP is relatively restricted, particularly in emerging markets such as Vietnam. In recent year, there are many research studies related to board composition that also affect EP [31–35].

In Vietnam, the stock market is a capital market that operates on the idea of free and open competition, attracting capital to profitable and secure investment possibilities. Enterprises that perform well in business and, more significantly, have strong governance will be attractive investment destinations for domestic and foreign investors. The stock market is an essential capital attraction channel for the Vietnamese economy. Governance is not only a necessary condition but also a requirement for successful and long-term capital attraction. Following ASEAN Corporate Governance Scorecard (ACGS) [36], the Vietnam stock exchange first opened its doors in 2000, and after more than two decades of growth and development, the Vietnam stock exchange has a long list of accomplishments and extraordinary growth in terms of both size and volume. There are 319 firms registered on the Ho Chi Minh Stock Exchange and 374 companies listed on the Hanoi Stock Exchange as of 31 December 2016.

Listed firms representing Vietnam's stock market, listed on Ho Chi Minh and Hanoi Stock Exchanges, contain 403 VNX Allshare companies in the April 2020 period. These firms are divided into 50 large capitalization, 150 medium capitalization, and 203 small-capitalization companies by capitalization group. With the addition of governance standards and practices in the ASEAN area and the OECD scorecard, CG in Vietnam has progressed more than 2 years ago in 2020.

Many circulars and decrees have been issued because of the expansion of Vietnam's stock market, such as Decree No. 155/2020/ND-CP on the implementation articles of the securities law. Circular No. 116/2020/TT-BTC is considered as a guideline on CG applicable to public businesses. Circular 116/2020/TT-BTC was effective on 15 February 2021, which supersedes Circular 95/2017/TT-BTC. Since its establishment, Circular 116/2020/TT-BTC has aided in overcoming the limits of prior circulars as well as establishing a stronger legal corridor for the stock market. It helps improve governance compliance when Vietnam has some companies listed on the stock exchange.

With the direct and indirect effects of the COVID-19 pandemic, 2020 will be a tumultuous year for the global economy, including Vietnam. Furthermore, the impact of the epidemic still impacts the Vietnamese economy in 2021. The advent of new circulars and decrees in 2020 influenced information governance disclosure. As a result, the study's data were collected from 2014 to 2017, before the regulatory change and the pandemic's impact.

In Vietnam, some research studies were conducted and are related to this subject, such as board diversified, EM, and income sustainability. The more diversified the board, the higher the quality of earnings [37]. Furthermore, companies with foreign shareholders typically have lower EM, more stable income, and more transparent financial statements [38]. According to Do and Pham [39], depending on the period, the income sustainability of companies is different. For example, 2008–2010 was a year of low sustainable earnings in Vietnam.

The reason why this study considers the relationship between AEM, REM, board composition, and EP is that Vietnam's stock markets are still in their infancy [40], and the quality of public information is relatively low [41]. In addition, there is still have a huge gap in the effectiveness of corporate governance (CG) mechanisms in Vietnam compared

to other countries in ASEAN [36] and the legal frameworks on CG are incomplete [42]. As a result, the findings can serve as a guide for governance authorities, company managers, and investors in considering and evaluating the economic situation in order to make sound judgments.

This article comprises the following sections: Section 2 provides information about the overview of the literature. Section 3 discusses the hypothesis, with the goal of instilling confidence in the correlation of quantities. Section 4 is focused on research design and how to quantify variables and models. Section 5 contains results and discussion, which summarize the findings for hypothesis constructions. Finally, Section 6 discusses the consequences of the report's findings for users.

## 2. Literature Review

The literature on the association between EM and EP is ambiguous when the previous findings showed mixed results in this association. In addition, the number of prior studies that explored the EM–EP relationship is still limited. Hung and Jiang [8] conducted their study with a sample of 15,546 U.S commercial banks from 1986 to 2013. From the economic competition theory perspective, they suggested a positive relationship between EM and persistence. However, Subramanyam [17] showed evidence that AEM's behavior measured by using discretionary accruals can improve earnings quality and EP. His findings are robust by using various additional checks with data from 2808 companies in 20 years (1973–1993) available on CSRP 1992 and Compustat 1992 databases.

In contrast, Pernamasari [43] conducted research within the Indonesian context and found an implied negative correlation between EM and EP. The literature review process found that very few studies investigated the relationship between EM and EP with AEM as the indicator representing EM. In terms of the REM method, Nera and Murwaningsari [44] used data from Singapore and Indonesian listed firms from 2004 to 2013; they found that earnings quality and REM were positively and negatively related to firm performance, respectively. In addition, Li [22] discovered that REM related to abnormal reductions in discretionary expenses is related to decreased earnings quality when examining at the influence in discretionary expenditures on EP. Utilizing a sample that includes companies from more than 80 countries in a long period (1975–2016), the study had a significant contribution to the existing literature about EM and EP. It is evident that there is still a huge gap in the literature about EM and EP [22]; thus, this study fills the gap by exploring the EM–EP relationship in the Vietnamese context by using both AEM and REM methods.

This study examines the effect of EM on EP using agency theory and asymmetric information theory as supporting theories. Agency costs begin with a disagreement between owners and managers who should be in charge of maximizing the owner's benefits [45–47]. The representative receives bonuses and advantages based on the profit target, which results in a variety of interests, benefits, and purposes. As a result, managers are more likely to prioritize their own personal gains and wellbeing. Thus, the owner's objective is unlikely to be realized, and the benefits of stakeholders such as investors and creditors are unlikely to be maximized, resulting in effects on EP.

Moreover, when two parties need to make decisions, information plays an important role. According to asymmetric information theory, one party has adequate and timely information while the other party lacks information, resulting in inappropriate decision making or it may be detrimental to the interests of the decision maker [48,49]. In detail, investors and creditors who are outside the entity are unlikely to fully understand information related to the financial health of companies, However, sufficient information that is not provided may cause decisions that are unsuitable. The BOD implements EM to maximize their benefits without caring about users, resulting in enhanced information asymmetry and effects on EP [50].

### 3. Hypothesis Development

According to Schipper [51], EM is the deliberate conduct of financial statement preparation and presentation process for personal benefits. EM is classified into two types: AEM and REM. Prior studies refer to REM [22–27]. REM is the separation of EM from traditional accrual-based EM [22,25–27]. The income statement is designed to manipulate earnings for the current period by altering certain information linked to company operations. REM can assist organizations in adjusting to unexpectedly low cash flow from operational activities. This is because the company has a policy of lowering prices or extending credit terms in order to boost revenue in the present time. However, revenue stability is jeopardized in the long run as a result of the strategy of extending credit terms, which raises receivables, which implies that the danger of not obtaining money is fairly significant. This demonstrates unequivocally that there is a link between income stability and profit adjustment in terms of how the CFO is affected. Moreover, REM by abnormally reducing discretionary spending undermines the relationship between current earnings and future cash flows [22].

Another way firms can control costs is by deferring research and development expenses (R&D) [22,25,27,52–54]. Cost cuts in R&D, advertising, sales, and administration are intended to help boost revenue in the short term. The manager's willingness to cut research and development, advertising, and maintenance expenditures enables them to meet their current period profit targets. Following Li [22], Graham and Harvey [28], Mizik and Jacobson [55], and Baber and Fairfield [56], greater earnings usually have lower marketing expenses than average, implying that these firms are controlling marketing expenses to boost current earnings. Additionally, companies are experiencing abnormally high production costs because of the cost of goods sold reductions, which raises marginal revenue for the present time [22]. EP is harmed when real earnings are managed through anomalous production costs [11]. Consequently, the study constructs the following hypothesis.

**Hypothesis 1 (H1).** *Real earnings management has a positive relationship to earnings persistence.*

EM is the practice of managers who employ discretionary accrual across several accounts to adjust earnings after tax in order to meet their disclosure objectives [11–17,19–21,57]. There is a negative correlation between manipulating earnings through discretionary accruals and earning persistence [11,15,29,30]. This is due to the manager's desire to manipulate earnings in order to obtain an advantage, which decreases the stability of future earnings. As a result, the research outlines the following hypothesis.

**Hypothesis 2 (H2).** *Accruals earnings management has a negative relationship to earnings persistence.*

According to previous research, the BOD has two primary functions: monitoring and advising [58,59]. The monitoring role entails overseeing management to ensure that management's interests are aligned with those of shareholders, whereas the advising role entails assisting management in identifying, formulating, and implementing long-term growth strategies, as well as providing advice in other areas of top-level decision making. The monitoring position has traditionally been the subject of much investigation.

Our study considers two elements of board composition: board size and board independence [60,61]. As the BOD grows in size, there will be more members, which may result in divergent viewpoints. When there are too many divergent viewpoints at a shareholders' meeting, it becomes difficult to agree on a plan of action. Conflicts on the BOD might affect the sustainability of earnings. In line with the above arguments, smaller boards promote more effective communication and decision-making processes thanks to smoother information flows [24,62]. Consequently, many studies suggest a negative relationship between the size of the board and EP [62,63].

On the other hand, a larger and more independent BOD can assist the company in reducing monitoring expenses for the entity, therefore increasing the unit's operational

efficiency. This significantly contributes to revenue sustainability. In addition, outside directors are better monitors, according to Dechow and Sloan [18] and Beasley [64], who found that a larger number of outside directors is inversely related to accounting fraud. As a result, many studies prove a positive relationship between board independence and EP or earnings quality [65,66]. However, in Taiwan and Hong Kong, Kao and Chen [67], and Jaggi and Leung [68] found considerable evidence of a negative relationship between EM and the presence of a larger portion of outside directors. This shows that having a larger percentage of outside directors on the BOD provides better management supervision, reducing EM activities. In Canada, however, where the ownership structure is highly concentrated and a huge block holder controls the publicly listed enterprises, Park and Shin [69] failed to establish empirical support for a link between profits management and board independence. Consequently, several studies implied a negative or insignificance relationship between board independence and EP or earnings quality [62,63,70–72].

Overall, earlier studies also have produced mixed findings for the relationship between earnings persistence and board compositions [31–34,73]. Therefore, the study constructs the following hypotheses.

**Hypothesis 3a (H3a).** *The size of the board has a mixed relationship to earnings persistence.*

**Hypothesis 3b (H3b).** *The proportion of independent directors on the board affects earnings persistence.*

#### 4. Methodology

We discuss the environment of the research sample and the projected research model. Then, we evaluate all model components in order to provide a clear picture of how to address the research hypothesis.

##### 4.1. Data Collection

In Vietnam, we collected and analyzed data from 228 firms registered on HOSE and HNX. Currently, both exchanges have around 735 firms listed, although there are a few new ones. Financial, insurance, and investment firms are always treated as independent study samples due to their distinct business features [74]. Following the removal of the aforementioned samples, the author then eliminates firms from the final sample that have incomplete data or are missing too much. After the process, a total of 228 businesses were picked.

##### 4.2. Research Models

We construct the following model to examine the influence of accrual-based and real-activity EM on EP:

$$\text{PERSISTENCE}_{i,t} = \beta_0 + \beta_1 \times \text{AEM/REM}_{i,t} + \beta_2 \times \text{BOARDSIZE}_{i,t} + \beta_3 \times \text{BOARDIN}_{i,t} + \beta_4 \times \text{CEOOWNERSHIP}_{i,t} + \beta_5 \times \text{SIZE}_{i,t} + \beta_6 \times \text{DEBT}_{i,t} + \beta_7 \times \text{COD}_{i,t} + \varepsilon_{i,t} \quad (1)$$

where PERSISTENCE is a dependent variable that measures the persistence of firms. The measure of EM, AEM/REM, is an independent variable. Board size (boardsize), CEO ownership rate (ceoownership), company size (size), debt ratio (debt), and cost of debt (cod) are all control factors.

Dependent variable

EP is based on the components of financial statements and may be observed in the main report as a whole [61,75–81]. After using OLS regression relative to Equation (2), the author will obtain the  $\beta_1$  coefficient, which represents EP:

$$\text{Earnings}_{i,t+1} = \alpha + \beta_1 \times \text{Earnings}_{i,t} + \varepsilon \quad (2)$$

where  $Earnings_{i,t+1}$  and  $Earnings_{i,t}$  represent the firm's earnings per share (EPS) in years  $t + 1$  and  $t$  and times stock prices in years  $t + 1$  and  $t$ , respectively.

Independent variable

Accrual-based earnings management

The Jones model and the Kothari model are used to assess accrual-based earnings management in this study [13,19]. Discretionary accruals (DA) are calculated as residuals from this model as follows:

$$\frac{TAC_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (3)$$

$$\frac{TAC_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{\Delta(REV_{i,t} - AR_{i,t})}{A_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \beta_4 ROA_{i,t} + \varepsilon_{i,t} \quad (4)$$

where  $TAC$  is total accruals defined as net income minus cashflow minus operation;  $DA$  denotes discretionary accruals,  $NDA_{i,t}$  denotes non-discretionary accruals;  $A_{i,t-1}$  denotes total assets;  $\Delta REV_{i,t}$  denotes change in revenues;  $\Delta AR_{i,t}$  denotes changes in accounts receivables that are less receivable;  $PPE_{i,t}$  denotes business gross properties, plants, and equipment;  $ROA_{i,t}$  is the lagged total assets scaled net income;  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ , and  $\beta_5$  are specific parameters; and  $\varepsilon_{i,t}$  is proxied for DA.

Total accrual minus non-discretionary accruals is used in both Models (3) and (4) to estimate discretionary accrual, which shows the extent of AEM.

Real earnings management

Abnormal levels of cashflow from operations (R\_CFO) are described as follows:

$$\frac{CFO_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{REV_{i,t}}{A_{i,t-1}} + \beta_3 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (5)$$

where  $CFO_{i,t}$  denotes cash flow from operation;  $\varepsilon_{i,t}$  is a residual term that measures the amount of aberrant cash flow (R\_CFO) generated by entity  $i$  in year  $t$ ;  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are firm-specific parameters.

Production costs (R\_PROD) are described as follows:

$$\frac{PROD_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{REV_{i,t}}{A_{i,t-1}} + \beta_3 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \beta_4 \frac{\Delta REV_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (6)$$

where  $PROD_{i,t}$  denotes the sum of cost of goods sold and change in inventory;  $\Delta Rev_{i,t-1}$  denotes change in firm sales;  $\varepsilon_{i,t}$  denotes a residual term that measures the level of abnormal production costs (R\_PROD) of firm  $i$  in year  $t$ ;  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  are firm-specific parameters.

Discretionary expenses (R\_DISX) are described as follows:

$$\frac{DISCEXP_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{REV_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (7)$$

where  $DISEXP_{i,t}$  denotes the total of firm  $i$ 's selling and marketing expenses, as well as its general and administrative expenses;  $\varepsilon_{i,t}$  denotes a residual term that captures the level of abnormal discretionary expenses (R\_DISX) of firm  $i$  in year  $t$ ;  $\beta_1$  and  $\beta_2$  are firm-specific parameters.

From the remainder of the three equations above, the author obtains variables representing REM. The author uses a fourth composite variable to assess the robustness of research results by using the average of three representative variables.

Board Composition

There have been many measurement studies on board composition, and the author used two representative variables in this study [60,61]. The natural logarithm of the number of board members is used to calculate board size. The number of direct non-

executive members divided by the total number of BOD members is used to determine the BOD's independence.

#### Control variables

The control variables in the model are inherited from some previous studies [10,82,83]. The natural logarithm of the book value of total assets is used to determine firm size. Large businesses are more sensitive to earning fluctuation risks than smaller firms [10]. As a result, large enterprises' profits persistence will be lower than that of smaller businesses. On the other hand, larger businesses are predicted by [84] to pick less hazardous investments in order to avoid government involvement, which will be linked with greater and longer-term returns. We predict a positive indication of this variable in the direction based on these research studies [10,83].

Divide the total debt by total assets to obtain the debt-to-asset ratio (DEBT). The debt ratio is used as a control variable because firms with a high debt ratio are more likely to have financial problems, resulting in a low level of EP. Vichitsarawong and Pornupatham [10] investigated debt ratios and found that it was negatively related to EP.

#### 4.3. Methodology

In order to deal with endogenous phenomena, the author employs a regression approach using instrumental variables, which is suited for small samples and allows study results to be impartial. The author addresses this issue by including more instrumental factors in the model, such as the lag of control variables. The number of instrumental variables employed is more than the number of endogenous variables.

## 5. Research Results and Discussion

### 5.1. Descriptive Statistics

The research variables of the article are shown in Table 1 with basic parameters. Specifically, persistence is shown with the maximum and minimum values of 2.426 and  $-4.169$ , respectively, and the mean value has a positive sign indicating the trend of income smoothing. Two representative variables of AEM both have negative signs, showing that businesses show the direction of manipulating income reduction. The three variables that represent REM are mainly positive, except for the variable  $r_{prod}$ . This represents how manipulation differs between actual transactions and through manipulation of accounting policies. The size of the BOD is mainly in the number of five members, and the CEO's ownership rate is low, which is less than 5% is the majority. The BOD's independence is spread reasonably equal, with a minimum independence ratio of roughly 20%. Most of the companies are evenly distributed in the size in the sample, and the debt ratio is quite high with an average value of more than 50%, and the cost of debt is quite low.

**Table 1.** Descriptive statistics of variables.

| Variable     | Obs | Mean    | Std. Dev. | Min     | Max     |
|--------------|-----|---------|-----------|---------|---------|
| persistence  | 552 | 0.2436  | 0.4497    | -4.1685 | 2.4262  |
| aem_jones    | 552 | -0.0131 | 0.1227    | -0.5540 | 0.4597  |
| aem_kothari  | 552 | -0.0119 | 0.1219    | -0.5380 | 0.4623  |
| r_cfo        | 552 | 0.0099  | 0.1324    | -0.5247 | 0.5168  |
| r_prod       | 552 | -0.0111 | 0.1701    | -0.7565 | 1.0322  |
| r_disx       | 552 | 0.0083  | 0.1014    | -0.2604 | 0.8136  |
| rm_proxy     | 552 | 0.0072  | 0.1399    | -0.4314 | 1.1563  |
| boardsize    | 552 | 1.6726  | 0.1670    | 1.0986  | 2.3026  |
| boardin      | 552 | 0.644   | 0.1540    | 0.1666  | 0.888   |
| ceoownership | 534 | 1.9750  | 4.7990    | 0.0100  | 37.8200 |
| size         | 552 | 27.1274 | 1.4925    | 23.4406 | 31.0266 |
| debt         | 552 | 0.5305  | 0.2095    | 0.0404  | 0.9439  |
| cod          | 552 | 0.0299  | 0.0318    | 0.0000  | 0.4997  |

Source: Author's calculations from research sample.

### 5.2. Correlation Analysis

The correlation matrix of the variables in the research model is presented in Tables 2 and 3. The proxies of the independent variables of AEM/REM have a rather high correlation, which is consistent with the convergence of conceptual measures. The pairs of variables are correlated with each other at not more than 0.8, and this helps the model to not have multicollinearity.

**Table 2.** Pearson's correlation coefficient matrix with AEM.

|              | Pesistence | aem_jones | aem_kothari | Boardsize | Boardsin | Ceoownership | Size   | Debt  | Cod |
|--------------|------------|-----------|-------------|-----------|----------|--------------|--------|-------|-----|
| pesistence   | 1          |           |             |           |          |              |        |       |     |
| aem_jones    | 0.023      | 1         |             |           |          |              |        |       |     |
| aem_kothari  | −0.002     | 0.987     | 1           |           |          |              |        |       |     |
| boardsize    | −0.091     | 0.036     | 0.0308      | 1         |          |              |        |       |     |
| boardin      | −0.027     | 0.015     | 0.003       | 0.101     | 1        |              |        |       |     |
| ceoownership | −0.025     | 0.004     | 0.023       | 0.031     | −0.185   | 1            |        |       |     |
| size         | −0.036     | 0.158     | 0.166       | 0.291     | 0.167    | −0.207       | 1      |       |     |
| debt         | −0.146     | 0.015     | 0.087       | 0.043     | −0.07    | −0.021       | 0.366  | 1     |     |
| cod          | −0.0004    | 0.050     | 0.061       | 0.017     | −0.022   | 0.042        | −0.007 | 0.043 | 1   |

**Table 3.** Pearson's correlation coefficient matrix with REM.

|              | Pesistence | r_cfo  | r_prod | r_disx | rm_proxy | Boardsize | Boardin | Ceoownership | Size   | Debt  | Cod |
|--------------|------------|--------|--------|--------|----------|-----------|---------|--------------|--------|-------|-----|
| pesistence   | 1          |        |        |        |          |           |         |              |        |       |     |
| r_cfo        | 0.039      | 1      |        |        |          |           |         |              |        |       |     |
| r_prod       | −0.097     | −0.406 | 1      |        |          |           |         |              |        |       |     |
| r_disx       | 0.075      | 0.127  | −0.647 | 1      |          |           |         |              |        |       |     |
| rm_proxy     | −0.027     | 0.545  | 0.362  | 0.059  | 1        |           |         |              |        |       |     |
| boardsize    | −0.092     | −0.005 | 0.016  | 0.016  | 0.026    | 1         |         |              |        |       |     |
| boardin      | −0.03      | 0.01   | −0.033 | 0.005  | −0.02    | 0.100     | 1       |              |        |       |     |
| ceoownership | −0.025     | −0.057 | 0.149  | −0.029 | 0.103    | 0.030     | −0.186  | 1            |        |       |     |
| size         | −0.036     | −0.135 | 0.144  | −0.152 | −0.063   | 0.291     | 0.168   | −0.207       | 1      |       |     |
| debt         | −0.146     | −0.249 | 0.287  | −0.107 | 0.036    | 0.043     | −0.073  | −0.021       | 0.366  | 1     |     |
| cod          | −0.0004    | −0.077 | 0.069  | −0.198 | −0.132   | 0.017     | 0.096   | 0.043        | −0.007 | 0.043 | 1   |

### 5.3. Main Results

Regression analysis results were divided into two tables for the AEM and REM proxies. GMM C tests hypothesis H0 that AEM/REM is an exogenous variable. The test results show that hypothesis H0 is accepted; therefore, the independent variables are considered exogenous. This overcomes the disadvantage of a small sample size. In addition, the author uses the Hansen test (J-test) to test the hypothesis that additional tools are exogenous. Additional instrument results are exogenous. It may be concluded that the application of instrumental variables can alleviate the problem of biased and incorrect regression findings, resulting in regression results that are highly reliable and relevant for statistical interpretation.

Research results show that AEM proxies have a negative impact on EP with regression coefficients of  $-0.226$  and  $-0.251$ , respectively, at 1% significance level. The study results are consistent with the results of previous studies [11,15,29,30]. Managers apply AEM to fulfill their advantages, and these distortions reduce the predictability of future cash flows and reduce the quality of financial information [85]. In addition, AEM affects investor perception, significantly influencing the decision to buy the company's shares. As a result, this influence can skew the company's actual earnings status in the eyes of investors and reduce the efficiency of the financial market. Suppose the firm's earnings cannot peak the expected values. In that case, managers use AEM to align expectations with that of the market and even increase the persistence of earnings [17] in order to hide the enterprise's poor operating results. Consequently, these activities can induce misunderstandings on the part of the shareholder with respect to the operation results of companies. Alternatively, manipulating earnings by using AEM usually happens when the period closes and before publishing financial statements to meet managers' goals since they lose the opportunity to control real-world events [86]. Firms also use more accrual operations when their stocks are overvalued to keep the price stable for longer, reducing earnings quality.

The amount of EP is influenced by a variety of factors. Furthermore, many of the model's variables have statistical significance. Furthermore, all variables had  $p$ -values of

less than 0.05. The proxies of REM and the average of proxies are statistically significant to EP. Representative variables of REM all have a positive impact on EP except for the variable *r\_prod*. This can explain the fact that variable REM is affected by actual economic operations. The variable *r\_prod* has a negative average value; thus, it tends to cut production costs to manipulate profits contrary to other variables.

The findings indicate that there is a link between EM and earnings persistence, which is consistent with findings from prior research [11,22]. Applying REM through economic decisions such as accelerating sales through more lenient credit terms and higher discounts to clients [23]; timing the sale of long-term assets and investments during periods of low earnings [87] or manipulating discretionary expenses such as research and development, advertising, selling, and administrative expenses [88,89] appears to be more straightforward than choosing to overproduce in order to reduce fixed costs [90]. Changing the conditions to manipulate earnings through a change in cash-flow or period costs is easier than changing the entire producing process. It requires complex activities carried out with the production process and the supply side with respect to overproduction to decrease the fixed cost per unit, while managers need to use simple activities to distort sales or discretionary expenses such as SG&A or R&D. In addition, Gunny [91] shows that when a business uses actual EM to reach some standards, it has a favorable impact on future performance and improves its market reputation. As a result, applying REM with a suitable magnitude by altering the sales process or cutting period costs could increase earnings persistence. Prior research has shown that REM negatively affects future financial performance and firm value [24,28]. Consequently, over abusing REM could result in a decrease in EP. Our results indicate that managers in the Vietnamese context prefer applying REM by altering cash-flow or using an abnormal reduction in discretionary expenses than overproduction to decrease the unit cost. The choice would depend on the complexity and impact of each kind of action on the operating business. While accelerating sales and reducing discretionary expenses are easier to conduct, the change in the production process requires much effort. It could induce detrimental effects on a business's operation in the long term. As a result, managers decide to trade-off between increasing revenue through easing credit terms or reducing period costs and reducing unit costs per product to ensure a positive impact of applying REM to EP overall.

Tables 4 and 5 show the same results when board composition is negatively related to EP. In terms of the size of the board, our findings are consistent with the studies of Ahmed and Hossain [62] and Aishah Hashim and Devi [63] and contradictory to Egbunike and Odum [71] and Waheed and Malik [72]. Some studies denoted that the small board can abolish the disadvantages of a large board, which wastes time for making decisions, processes, and procedures. Therefore, a small-size board can render hierarchy simple, make decisions more quickly in an emergent situation, alleviate processing problems, and, hence, become more effective [92,93] and improve earnings quality. Moreover, according to Beasley [64], the possibility of financial statement fraud diminishes as the board size becomes smaller. From the studies of Kao and Chen [67] and Abdul Rahman, Haniffa [94], the size of the BOD has a favorable relationship with the level of EM, resulting in enhanced earnings quality. Compared to a smaller board, a bigger board increases EM since they cannot supervise management adequately. As a result, the board with a smaller size would improve EP. The Vietnamese context with an incomplete legal framework and CG is ineffective [42]. Thus, our results are suitable for the Vietnamese context; therefore, the smaller the board size, the fewer delays there are in the decision-making process and conflicts in meetings.

**Table 4.** Results of regression analysis with AEM.

| Variables    | Model 1                | Model 2                |
|--------------|------------------------|------------------------|
| aem_jones    | −0.289 ***<br>(−4.92)  |                        |
| aem_kothari  |                        | −0.299 ***<br>(−5.39)  |
| boardsize    | −0.138 **<br>(−2.43)   | −0.137 **<br>(−2.39)   |
| boardin      | −0.168 ***<br>(−3.71)  | −0.190 ***<br>(−4.66)  |
| ceoownership | 0.002 **<br>(2.04)     | 0.002 ***<br>(3.13)    |
| size         | 0.039 ***<br>(6.15)    | 0.040 ***<br>(6.40)    |
| debt         | −0.552 ***<br>(−17.43) | −0.533 ***<br>(−16.15) |
| cod          | 0.222 ***<br>(2.67)    | 0.244 ***<br>(3.02)    |
| _cons        | −0.208<br>(−1.16)      | −0.232<br>(−1.33)      |
| R-sq         | 0.057                  | 0.059                  |
| Industry     | Yes                    | Yes                    |
| GMM C Test   | 0.3905                 | 0.2661                 |
| Hansen test  | 0.1641                 | 0.1559                 |

\*\* and \*\*\* denote the level of significance of 5 and 1%, respectively; t-statistics in brackets.

By considering the board's independence, the results suggest that the proportion of outside directors is negatively related to earnings persistence. Our findings are in line with Aishah Hashim and Devi [63], Egbunike and Odum [71], and Waheed and Malik [72] and inconsistent with Ahmed and Hossain [62] and Alves [66]. According to agency theory, independent directors play a critical role in CG by improving monitoring and scrutiny of the company's management and operations [47]. It is expected that the interests of diverse stakeholders would be safeguarded and that the company's value will be increased through more transparent information with the participation of highly independent directors [95]. Furthermore, independent directors enable corporations to provide information about social and environmental operations in order to demonstrate that the company is focused not only on increasing financial performance but also on improving social welfare. However, outside directors may not be involved in the company's day-to-day operations, or they may have minimal credentials and are selected solely based on their relationship with the CEO. In addition, Vietnamese independent directors might lack expertise, skills, and knowledge to understand financial reporting details, which explains the negative correlation between board independence and EP. Another notion to explain our results is that inside directors' dominance on the board in Vietnam raises concerns about the competence and responsibility of independent directors, especially when some of them are not actually independent of management. Compared to other ASEAN nations, Vietnam's market has a poor CG process and a legislative framework for CG that is incomplete.

**Table 5.** Results of regression analysis with REM.

| Variables    | Model 1                | Model 2                | Model 3                | Model 4                |
|--------------|------------------------|------------------------|------------------------|------------------------|
| r_cfo        | 0.396 ***<br>(14.12)   |                        |                        |                        |
| r_prod       |                        | −0.215 ***<br>(−3.00)  |                        |                        |
| r_disx       |                        |                        | 0.311 ***<br>(3.04)    |                        |
| rm_proxy     |                        |                        |                        | 0.296 ***<br>(7.93)    |
| boardsize    | −0.171 ***<br>(−4.05)  | −0.129 **<br>(−2.53)   | −0.130 **<br>(−2.40)   | −0.162 ***<br>(−2.96)  |
| boardin      | −0.152 ***<br>(−9.76)  | −0.183 ***<br>(−4.95)  | −0.163 ***<br>(−4.48)  | −0.153 ***<br>(−3.79)  |
| ceoownership | 0.002 ***<br>(11.06)   | 0.003 ***<br>(3.17)    | 0.002<br>(1.56)        | 0<br>(0.30)            |
| size         | 0.039 ***<br>(8.42)    | 0.032 ***<br>(6.72)    | 0.027 ***<br>(6.12)    | 0.034 ***<br>(6.04)    |
| debt         | −0.459 ***<br>(−23.68) | −0.515 ***<br>(−16.82) | −0.518 ***<br>(−17.27) | −0.542 ***<br>(−19.76) |
| cod          | 0.250 ***<br>(8.56)    | −0.089 ***<br>(−2.92)  | 0.027<br>(0.56)        | 0.255 ***<br>(4.24)    |
| _cons        | −0.203<br>(−1.45)      | −0.035<br>(−0.23)      | 0.105<br>(0.75)        | −0.043<br>(−0.26)      |
| R-sq         | 0.057                  | 0.062                  | 0.062                  | 0.050                  |
| Industry     | Yes                    | Yes                    | Yes                    | Yes                    |
| GMM C Test   | 0.1064                 | 0.6648                 | 0.0954                 | 0.1589                 |
| Hansen test  | 0.2568                 | 0.2147                 | 0.1791                 | 0.1994                 |

\*\* and \*\*\* denote the level of significance of 5 and 1% respectively.

#### 5.4. Robustness Tests

For the instrumental variables to be meaningful, they need to significantly correlate with the model's dependent variable and not with the random error fraction. Table 6 shows statistical indicators to help assess the explanatory level of instrumental variables.

**Table 6.** The explanatory level of the instrumental variables test.

| Variables   | R-Squared | Adjusted R-Sq. | Partial R-Sq. | Robust F(95,130) | Prob > F |
|-------------|-----------|----------------|---------------|------------------|----------|
| aem_jones   | 0.687     | 0.2534         | 0.660         | 108.995          | 0.000    |
| aem_kothari | 0.6852    | 0.250          | 0.652         | 22.2887          | 0.000    |
| r_cfo       | 0.767     | 0.444          | 0.726         | 40.6301          | 0.000    |
| r_prod      | 0.836     | 0.610          | 0.806         | 8393.64          | 0.000    |
| r_disx      | 0.980     | 0.954          | 0.979         | 28,716.7         | 0.000    |
| rm_proxy    | 0.667     | 0.2261         | 0.646         | 241.079          | 0.000    |

R2 (R-sq.), Adjusted R2 (Adjusted R-sq.), and Partial R2 (Partial R-sq.) are all large indices. The F-test has great statistical significance when the  $p$ -value (Prob > F) is equal to 0.0000. When instrumental factors have a large correlation with the variable they explain, the instrumental regression model will be less biased. The Chi-squared test measures the model's overall fit; it checks if the regression coefficients of the independent variables are all zero at the same time. The regression model has statistical significance when  $p$ -value =  $0.000 < 0.05$  (95 per cent confidence level).

All control variables of the model have statistical significance at the 1 and 5% level, including board size, CEO ownership rate (ceoownership), firm size (size), debt ratio (debt), and cost of debt (cod), in which board size and debt ratio have a negative impact on persistence, and the remaining variables have a positive impact on the dependent variable. These trends are consistent for both Tables 4 and 5. The higher the variables for size, CEO ownership, and cost of debt, the more stable the firm's income is and vice versa. Board size and large debt ratio reduces income stability when the enterprise faces many business risks, and the opinions of the BOD may not be unanimous.

## 6. Conclusions and Implications

This paper explores the impact of accrual-based and real activities EM and board composition on EP in developing country stock markets. Research results show that accrual-based EM has a negative impact on persistence, whereas real activities EM has a positive impact on persistence except for the proxies of production costs. The control variables of the model representing ownership at the enterprise, control mechanism, and business characteristics all have an impact on the persistence with statistical significance.

With the goal of creating value for shareholders with sustainable development, business managers need to develop strategies in order to effectively exploit the resources of the business to achieve set goals. Consideration should be given to properly assessing the level of control over profit manipulation and having a business plan in line with reality. Managers need to reduce accounting policy changes that are not consistent with the reality of the business.

The article has some limitations as follows. Firstly, the article has rather limited time data because the research scope is consistent with the stability of accounting policy over a period in the Vietnamese market. Secondly, historical figures may not reflect the market value of corporate assets. From there, future studies can consider research in the time period after the impact of COVID-19 in order to compare research results. Furthermore, the study could also be extended to firms in unofficial listings (UPCOM).

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