Print ISSN: 2621-1963 / Online ISSN 2621-1505
https://doi.org/10.33096/atestasi.v3i2.578

Accounting Earning Response Coefficient: Synthesis of Earning Responses

Ratna Wijayanti Daniar Paramita[1*]

Abstract

The research objective was to compare the value of the Earnings Response Coefficient (ERC) with the Accounting Earnings Response Coefficient (AERC). Research on earnings response has been carried out with mixed results using the Earnings Response coefficient. Several researchers provide arguments and highlight the weaknesses of the ERC measure used to measure earnings quality. This study suspects that the size of the ERC may be different if cash flows are applied and not only earnings based on historical cost or accrual principles. The synthesis process is carried out to generate new concepts and then comparisons will be made of the ERC and AERC results. The study was conducted on 69 companies listed on the Indonesia Stock Exchange in 2014-2017. The results of the different test results for the ERC and AERC values on the Paired Sample Test value are significant (0.000), which means that the value obtained by adding CFO to the AERC equation is different from the ERC concept. These results indicate that the earnings quality resulting from the AERC regression by adding the CFO value to the AERC equation is the earnings quality after being corrected by CFO, so that the AERC value reflects the real earnings quality.

Keywords : Earning Response Coefficient; Accounting Earnings Response Coefficient; Operational Cash Flow; Earning Quality

1. Introduction

Research on ERC is mostly conducted on influencing factors such as: company characteristics, corporate governance and the level of completeness of financial statement disclosure. This suggests that the issue of financial reporting remains a matter of debate in the financial literature, and the market response is one that has been widely researched. The diverse and disparate findings and results of research on ERC provide an opportunity to examine and analyze various factors that influence market responsiveness. This problem is important to research in order to provide development in financial science, especially those related to earnings quality. Measurement of market response also continues to develop with the addition of variables to its measurement dimensions.

Earnings quality is not related to high or low reported earnings, but according to (Siegal et al., 1996) it includes understatement and overstatement of (net) earnings, stability of components in the income statement, realization of asset risk, maintenance of capital, and can be a predictor of earnings. future (Predictive value). A number of studies since the 1960s, (Foster & Jones, 1977), (Watts & Zimmerman, 1983), (Patell & Wolfson, 1984), (Siegal et al., 1996), (Ball, Kothari et al., 1999), (Beaver et al., 2012), (Lorek & Willinger, 2008), who tested the market reaction to corporate earnings announcements have shown that earnings announcements contain information, so that market players can react to earnings announcements. This reaction is reflected in the ups and downs of share prices and trading volume around the earnings announcement date.

ERC measures the amount of stock abnormal returns in response to the expected components of company reported earnings (Scott, 2015). Empirical research that examines the effect of company reporting quality on market reactions is always associated with influencing factors. The research results conclude that financial reports provide meaningful information value for investors in making investment decisions. Basically, investors take more advantage of the market situation to predict and evaluate a stock. So that the behavior of investors to buy shares is influenced by the availability of quality information that can be responded to by investors in making an assessment. Several studies on ERC state that the factors that influence ERC include earnings persistence, capital structure, stake or risk, growth opportunities and company size.

1 First Author and Corresponding Author. STIE Widya Gama Lumajang, Malang, Indonesia Email: pradnyataj@gmail.com

Investor behavior to buy shares is influenced by the availability of information that can be used in valuing a stock. However, it is still doubtful whether the availability of this information, namely earnings information, has been responded well by investors. Patatoukas (2014) research mainly discusses earnings quality with the dimensions of cash flow and discount rate which concludes that cash flow plays a significant role in influencing the quality of reported earnings. His research detects stock market reactions to news relevant to the value that is aggregated in accounting earnings to identify which components are more correlated with new information relevant to share value (income or expenses, accruals or cash flows).

Patatoukas found that there is a correlation between new information about cash flow and discount rates on changes in earnings on the stock market (Patatoukas, 2014). In addition, Mostafa & Dixon (2013) report that earnings and cash flow from operations contain incremental information. The results of this research on accounting information confirms that the information generated through the main financial statements is very relevant to explain the effect of earnings on stock prices.

Studies examining the factors that influence ERC show that there is still controversy over the empirical findings of many researchers examining market responses to earnings quality. Some researchers whose findings show contradictory opinions, among others, (Patatoukas, 2014) concluded that the traditional ERC regression model failed to detect stock market reactions, (Ball et al., 2013a) helped link conservatism theory with the use of accounting information to measure ERC and (Al-Baidhani et al, 2017) recommend using accounting information from the three main financial reports to assess ERC. Thus it is necessary to carry out further research to develop the concept of corporate earnings quality to better detect market response. This study presents a new concept by developing the ERC concept by adding an operational cash flow dimension.

Based on these thoughts, in this study, the measurement of the quality of accounting earnings is developed using the Accounting Earnings Response Coefficient (AERC), which is the development of ERC by adding a cash flow dimension. This is on the grounds that the size of the ERC might have been different if cash flows were applied instead of using only the profit figures based on historical cost and accrual principles. The synthesis process is carried out first to bring up a new concept and then the model is tested. The findings of this study compare the earnings response coefficient value using ERC and the earnings response coefficient value with a new concept of synthesis results, namely the Accounting Earnings Response Coefficient (AERC).

The new concept being developed is AERC which is an extension of the ERC which has previously been used to measure earnings quality. This update does not exist in previous research. The AERC concept is positioned as earnings quality, that quality earnings are informative earnings. AERC is a measure of the magnitude of earnings quality using the comulative abnormal return, unexpected earnings and operational cash flow.

The new concept is built on the premise of market response with mixed research results. The basic concept of AERC is rooted in two major theories, namely the Efficient Market Hypothesis (Fama, 1970) and the positive accounting theory (Watts & Zimmerman, 1983). This study also derives other equilibrium models (Treynor, 1961a), (Treynor, 1961), (Sharpe, 1964), and (Lintner, 1965b), (Lintner, 1965a) by deriving the asset price valuation model using a single model which is hereinafter known as with a capital asset pricing model (CAPM). CAPM is used to predict the balance of expected return and risk of an asset in equilibrium conditions. In the same decade, research conducted by (Ball, 1965) also developed to examine the relationship between earnings and stock prices using the dimension of Earning Per Share (EPS).

Another theory on the synthesis of the AERC concept is the positive accounting theory proposed by (Watts and Zimmerman, 1990) and (Whitley, 1988) describes three hypotheses that are applied to predictions in positive accounting theory regarding management's motivation to manage earnings. Kothari uses a positive theoretical basis, although there are several opposing views, they explain that quite a lot of research on ERC is based on the view that accounting information is very important for investors (Kothari and Short, 2003). found that there is a correlation between new information about cash flow and discount rates on changes in earnings on the stock market (Patatoukas, 2014). In addition, (Mostafa & Dixon, 2013) reported that earnings and cash flow from operations contain incremental information.

Earnings quality can be indicated as the ability of earnings information to respond to the market. In other words, reported earnings have a power of response. The strong market reaction to earnings information is reflected in the high Earnings Response Coefficients (ERC), indicating that the earnings are reported to be of quality. (Scott, 2015) states that the Earning Response Coefficient (ERC) measures how much stock returns are in response to the earnings figures reported by the companies that issue these securities. In other words, ERC is a reaction to earnings announced by the company which reflects the quality of the reported earnings by the company. The level of ERC is largely determined by the strength of responsiveness, which is reflected in the information (good / bad news) contained in earnings. ERC is a measure or proxy used to measure earnings quality (Collins & Kothari, 1989a).

The definition of Earnings Response Coefficient according to (Cho, 1991) is as follows: "Earnings Response Coefficient is defined as the effect of every dollar of unexpected earnings on stock returns, and is usually measured by the slopa coefficient in regression of stock abnormal returns and unexpected earnings." Cho & Jung classified the theoretical ERC approach into two groups, namely (1) an information economics based valuation model as developed by Holthausen & Verrecchia that the strength of investors' responses to earnings information signals is a function of future uncertainty (Holthausen & Verrecchia, 1988). The greater the noise in the company's reporting system (the lower the earnings quality), the smaller the ERC and (2) the valuation model based on time series earnings (time series based valuation model) (Beaver et al., 1980).

Beaver defines, ERC is the slope coefficient of earnings that measures the strength of share prices in response to accounting earnings. The accounting earnings coefficient can indicate the quality of the company's earnings. Scoot defines the Earnings Response Coefficient (ERC) as follows: “An earnings response coefficient measures the extent of a security’s abnormal market return in response to the unexpected component of reported earnings of the firm issuing that security”. (Scott, 2015:163)

Investors have initial beliefs about the expected return and risk of the company long before the financial statements are issued. In fact, this forecasting period can be up to 1 year to a moment before the submission of financial statements. By the time financial reports are issued, investors have more information to carry out an analysis of accounting earnings. When a company announces its financial statements, good news or bad news will occur. If the reported accounting profit is higher than investors' predictions, what happens is good news, investors will make upward revisions to the company's earnings predictions. Conversely, bad news can occur if the reported accounting profit is lower than investors' predictions, which causes investors to make downward revisions and is very likely to sell the company's shares (Ball, 1965).

Theoretically, the volume of shares is greatly affected as soon as the company announces its financial statements. If what happens is good news, investors will buy the company's shares, consequently the stock price will increase and if there is bad news the investor will sell the company's shares so that the stock price will decrease. The increase and decrease in share prices accumulate in the comulative abnormal return (CAR) in each company. The results of Ball and Brown's research show that the profit measuring variable gives almost the same results. The upper part shows the comulative abnormal return for announcing good news and the lower curve for announcements of earnings that experience bad news. The first variable uses net income as a measure of earnings with the accounting beta approach. The second variable uses Earnings Per Share (EPS) with the accounting beta approach. The third variable uses EPS with a time series approach. The difference between the actual return and the return obtained with the index model approach is an abnormal return which is a reflection of a certain event. Abnormal return can be measured by using a model of the difference between the actual return and the market return.

Unexpected Earnings (UX) is a measurement variable for the difference between realized accounting profit and expected accounting profit by the market. Unexpected Earning is measured using net income as a measure of earnings with the accounting beta approach or using EPS with the accounting beta approach or you can also use EPS with the time series approach. In ERC research, investors make predictions of earnings variables (EPS) which will be compared with actual EPS on the date of issuance of financial statements. Measurement of market response based on the relationship between information content on earnings and abnormal returns calculated by the linear slope model can be done in two ways, namely: First, cross sectional or what is called pool regression. ERC is the same for all companies in one industry. "Earnings Response Coefficients vary across firms many short-window accounting studies estimate earnings response coefficients using a pooled cross-sectional regression model which implicitly assumes that coefficients are identical across firms". (Teets & Wasley, 1996). Second, the time series or also known as firm specific ERC. Each company has one ERC number obtained from the forecast of the previous years. Time series requires data over a long period of time. In some studies this method is better than pool regression (Teets & Wasley, 1996).

This is in line with the efficient market theory which states that the market immediately reacts to new information on the market, so that just before and after the financial statements are published it will affect the market response. Ball and Brown found that the effect of abnormal stock returns on accrual earnings is average (Ball, 1965). This means that both companies that experience good news and bad news have positive abnormal returns on average. The results of his research state that there are variations in the ERC between one company and another which is the object of research.

However, annual earnings reports cannot be considered as an appropriate medium because most of the information is obtained from interim reports (monthly, quarterly or other period financial reports other than annual) which seem to be more important for price information, their subsequent research also found that the market responds to data sources. apart from the annual profit report. More than two decades later, (Ohlson, 1990) studied and synthesized valuations about firm valuations using accounting information. His research criticized the uncertainty and consistency of the inter-temporal model and concluded that there were a number of deficiencies in the theoretical constructs used in previous studies. Investors or analysts who do valuation must first gather all the necessary information. The information required is written information and is generally about the past.

Positive accounting theory appeared back in 1990 (Watts & Zimmerman, 1990). Following research published in 1978 and 1979, (Watts & Zimmerman, 1990) proposed three ways to improve the theory. First, the major improvement is to establish a closer relationship between theory and empirical. The second improvement is the development of an appropriate model that identifies endogeneity between regression variables, the third is trying to assess the model to help reduce measurement errors.

Sehgal & Pandey (2010) in assessing stock assets in their research estimated the value of these assets in the future. The discount approach states that the current share price is the result obtained by investors from the company in the future discounted against the company's cost of capital. Assume that all income (net income) is not given to investors so that the company value is what the company produces, namely the company's revenue. There are also companies that do not share all net income with investors because for investment purposes and the results obtained in the future are cash flow. Free cash flow that can be used is divided into two, namely free cash flow to equity (Free Cash-Flow to Equity) and free cash flow to the company (free cash flow to the firm) (Sehgal & Pandey, 2010).

In the next several decades several researchers provided arguments and highlighted the weaknesses of the ERC measure used to measure the quality of announced earnings and discussed the future expectations of ERC. Feltham & Ohlson (1995) argue that book value should equal market value. However, in reality market value is very different from book value. This research deals with the extent to which the size of the ERC is closer if the book value is equal to market value. It also depends on the nature of the company's operating activities and how to measure profit. Their research suggests that the size of ERC might be different if cash flow was applied and not just profit based on historical cost or accrual principle.

Patatoukas (2014) research as a whole highlights the informativeness and relevance of accounting earnings for valuations on the stock market. His findings highlight the importance of cash flow in evaluating accounting earnings information on the stock market. The market response coefficient shows how much the market responds to stock prices after the delivery of information on changes in earnings and cash flow. In each company, changes in profit rates, cash flow and discount rates have a significant effect on ERC (Patatoukas, 2014). Meanwhile, Dechow & Ge, (2006) provides a basis for explaining the relationship between changes in earnings and stock returns. The relationship between changes in earnings and stock returns does not only depend on the covariance of changes in earnings and cash flow but also on the covariate of changes in earnings with the remaining components of stock return realization.

In addition to using profit figures, investors also use other published information about the company. This information is used by investors to make predictions about the company, so that investors do not only depend on financial statement information. Investors will use all the information available in the market to analyze the company's performance and to make predictions (Scott, 2015). Operational Cash Flow is cash flow related to company operations such as; sales, general expenses, and administration. Cash flow statement information is useful for assessing the company's ability to generate cash and cash equivalents, and allows users to develop models to assess and compare the present value of future cash flows from various companies. The cash flow statement can provide sufficient information for investors to invest (Hecht & Vuolteenaho, 2006).

The amount of cash flow that comes from operating activities is an indicator that determines whether the organization's operations can generate sufficient cash flow to pay off loans, maintain the organization's operating capabilities, pay dividends, and make new investments without relying on outside sources of funding. Information about the specific elements of historical cash flows, together with other information, is useful in predicting future operating cash flows. Cash flows from operating activities are primarily derived from the main revenue-producing activities of the organization. Therefore, these cash flows generally come from transactions and other events that affect the determination of net profit or loss. Securities companies can have securities to trade so that they are equal to the inventory that is purchased for resale. Accordingly, cash flows arising from buying and selling in transactions or trading of these securities are classified as operating activities. Likewise, the provision of credit by a financial institution must also be classified as an operating activity, because it is related to the main income-producing activity of the financial institution.

Abdulah in his research found empirical evidence that the components of cash flow from operating and financing activities have a significant relationship in market response, while investment cash flow has no significant relationship with market response. The cash flow statement provides sufficient information for investors to invest their funds. Cash flow statement information is useful for assessing the company's ability to generate cash and cash equivalents, and allows users to develop models to assess and compare the present value of future cash flows from various companies (Abdullah, 2017).

Cash flow statements can provide information that allows users to evaluate changes in the company's net assets, financial structure and ability to influence the amount and timing of cash flows in order to adapt to changing circumstances and opportunities. The information content of the cash flow statement can be measured using the strength of the relationship between cash flow and stock prices or returns. Cash flow statement information will be said to have meaning if it is used as a basis for decision making by investors (Fuad, 2011).

Subsequent research was carried out by Collins & Kothari (1989a) who measured earnings quality using ERC through the Comulative Abnormal Return (CAR) and Unexpected Earnings (UX) index models to measure and analyze the validity of the semi-strong form efficient market theory by observing the CAR. The measurement of market response is based on the relationship between information content on earnings and abnormal returns calculated by the linear slope model, namely the slope coefficient known as the Earnings Response Coefficient (ERC) with the following equation: (Collins & Kothari, 1989b)

$$〖CAR〗_t=a+〖\beta UX〗_t+\varepsilon_t$$

CAR is a measurement of risk adjusted return for stocks that are accumulated over several periods.

The amount of Comulative abnormal return (CAR) is the abnormal return of a stock during a testing period. The formula used is:

$$CAR\ it=\sum_{(+t)}^{(-t)}〖AR\ t〗$$

CARt: the company's cumulative abnormal return during the observation period t (t day before publication date and t day after financial statement publication date)

ARt: the company's abnormal return on day t

Abnormal return, which is a reflection of a certain event measured by using a model of the difference between the actual return and the market return, the formula is as follows:

$$〖AR〗_{(t)}= R_{(t)}- R_{(m,t)}$$

Where ARt is the abnormal return at time t, Rit is the return obtained by shares at time t, and Rmt is the market return at time t which is calculated using the composite stock price index.

Unexpected Earnings (UX) is a measurement variable for the difference between realized accounting profit and expected accounting profit by the market. Unexpected Earning is measured using net income as a measure of earnings with the accounting beta approach or using EPS with the time series approach. In ERC research, investors make predictions of earnings variables (EPS) which will be compared with actual EPS on the date of issuance of financial statements. Here are the Unexpected Earnings when calculated using EPS using the time series approach (Ray Ball, 1965):

$$〖UX〗_t=((EPS\ t-EPS\ t-1))/(P\ t-1)$$

Positive Accounting Theory initiated by Watts and Zimmerman (1990) states that the purpose of accounting theory is to explain observable accounting practices and predict unobservable phenomena and link concepts in the form of hypotheses to be tested. (Watts, 2003) argues that the theory of accounting is difficult to draw justification for standard setting because of limited evidence about the relationship between accounting i.e. the amount of reported earnings and the magnitude of the actual change in the price of common stock in the market. Our review supports the view that accounting information is useful to equity investors as well as to financial accounting standards setters only if future research can help refine previous findings to achieve a stronger relationship between earnings and ERC.

Patatoukas (2014) research mainly discusses earnings quality with the cash flow and discount rate dimensions and concludes that cash flow plays a significant role in influencing the quality of reported earnings. His research concluded that the traditional ERC regression model failed to detect stock market reactions to news relevant to the aggregated value of accounting earnings due to the problem of omitted variables. Future research is expected to be able to describe changes in aggregate earnings to identify which components are more correlated with new information relevant to share value (income or expenses, accruals or cash flows).

This opinion explains the significant relationship between changes in earnings and the discount rate and cash flow. If the change in cash flow is positive, it will increase the change in stock prices in the market. Changes in aggregate earnings are significantly correlated with new contemporary information about cash flows and discount rates. According to this view, cross-sectional variation is required on the relationship between changes in earnings and news relevant to valuation at the stock market rate, news cash flow information and discount rate information on changes in aggregate income over time have the opposite effect on stock market prices.

Based on the description of the introduction and previous theoretical studies, a new concept proposed in research using the synthesis method is the Accounting Earnings Response Coefficient (AERC) which is a development of the previous ERC concept by adding accounting information through cash flow. The ERC value, which is the coefficient of CAR and UX, will change with the placement of the CFO in the equation. This is because CFO, which is the value of operating cash flows, will result in a change in the coefficient value, so this will cause the quality of reported earnings to better reflect the true value. Furthermore, the synthesis produces the following formula:

$$CARt = b0+b1UXt+ b2CFOt+\varepsilon t$$

CARt is abnormal return the company cumulative over the observation period t from the date of publication of the financial statements. In this study, abnormal return is calculated using a market adjusted model, which explains that the best securities return estimate is the current market return. To obtain abnormal return data, you must first look for daily stock returns and daily market returns. Unexpected Earnings (UX) is defined as the difference between the realized accounting profit and the expected market accounting profit. Unecpected Earning (UX) is calculated using EPS using the time series approach. Operational cash flow is operating cash flow that is generated and used in the company's operational activities. The unstandardized value of unexpected earnings is the AERC value. The value of CFO on the correlation between abnormal returns and unexpected earnings has the potential to provide information on the true quality of earnings.

This concept is built from the proposition of earnings quality, that quality earnings are informative accounting earnings. Based on the synthesis process above the propositions proposed in this study are as follows:

"Accounting Earnings Response Coefficient (AERC) is a measure of the quality of accounting earnings as measured by the slope of the regression coefficient of cumulative abnormal returns on stocks, unexpected earnings and operational cash flow."

3. Research Design and Method

This study compares the ERC and AERC results by using regression to see the coefficient value of both. The synthesis process was carried out first to bring up the new AERC concept. The quantitative data used are stock price data, composite stock price index (IHSG), earnings per share, daily stock returns and market return to measure the variable accounting earnings response coefficient in this study. This study uses secondary data sources, namely data that have been available and collected by other sources where the availability of data is not only used for the purpose of this study. The secondary data for this research comes from the Indonesian Stock Exchange and is taken through its official website

4. Results and Discussion

Statistical Analysis and Discussion

Accounting Earnings Response Coefficient (AERC) is a concept development of the Earnings Response Coefficient (ERC) by adding operational cash flow (CFO) to the regression equation to measure the market response coefficient. The market response coefficient shows how much the market responds to company profits after the delivery of information on changes in earnings and cash flow. Patatoukas' research states that in each company changes in profit rates, cash flow and discount rates have a significant effect on market response (Patatoukas, 2014). The concept conveyed to the ERC is that the higher the ERC value, the better the quality of the company's earnings, while the concept in AERC is that quality earnings are real profits which are reflected in the value of earnings after being corrected by CFO. The following are the results of the different test results for the ERC value and the AERC value which are presented in Table 1:

Table 1.

Differences in ERC and AERC values

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	AERC - ERC	24.69964	80.29782	4.83336	15.18455	34.21473	5.110	275	.000

Source: The results of data processing using Paired Sample Test results from SPSS software.
* = significance at α 5%

Based on the results of these calculations, the ERC value when compared with the AERC value, the findings of this study explain that the AERC concept provides confirmation of the Capital Assets Pricing Model (CAPM) which determines the relationship between returns and risks with the abnormal returns dimension. This concept was further developed by (Ray Ball, 1965) who examined the relationship between earnings and stock prices and earnings per share. Collins & Kothari (1989a) combine the two concepts that measure earnings quality using the earnings response coefficient. Patatoukas' research mainly discusses the quality of earnings with the dimensions of cash flow and discount rates and concludes that cash flow plays a significant role in influencing the quality of reported earnings (Patatoukas, 2014). Operational Cash Flow is cash flow related to company operations such as; sales, general expenses, and administration.

Cash flow statement information is useful for assessing the company's ability to generate cash and cash equivalents, and allows users to develop models to assess and compare the present value of future cash flows from various companies. Cash flow statements can provide sufficient information for investors to make investments (Hecht & Vuolteenaho, 2006). The amount of cash flow that comes from operating activities is an indicator that determines whether the company's operational activities can generate sufficient cash flow to pay off loans, maintain operating capability, pay dividends, and make new investments without relying on outside funding sources.

Information about the specific elements of historical cash flows, together with other information, is useful in predicting future operating cash flows. Cash flows from operating activities are primarily derived from the main revenue-producing activities of the company. These cash flows generally come from transactions and other events that affect the determination of net profit or loss. Securities companies may hold securities for trading. Cash flows arising from the purchase and sale of transactions or trading in these securities are classified as operating activities. The information content of the cash flow statement can be measured using the strength of the relationship between cash flow and stock prices or returns. Cash flow statement information will be said to have meaning if it is used as a basis for decision making by investors (Fuad, 2011).

This study presents the concept of the earnings response coefficient that has been used by investors for decision making and prediction by adding operational cash flow. The results of the different test results for the ERC and AERC values on the Paired Sample Test value are significant (0.000), which means that the value obtained by adding CFO to the AERC equation is different from the ERC concept. These results indicate that the earnings quality resulting from the AERC regression by adding the CFO value to the AERC equation is the earnings quality after being corrected by CFO, so that the AERC value reflects the real earnings quality.

This concept is built from the proposition of earnings quality in AERC, that quality earnings are informative accounting earnings. The theoretical findings of the results of this study provide support for research results (Patatoukas, 2014) that operational cash flow plays a role in assessing earnings quality, as well as reinforcing that the ERC regression model fails to detect stock market reactions to information relevant to the aggregate value of accounting earnings.

In the model test results, the parameter coefficient value and the bootstrapping test results on the model using AERC have a better R Square value, this indicates that the ERC and AERC variables have a significant difference and AERC provides a better value. The value of R Square in the ERC model is 0.054 which means that the contribution made by the

variables under study to ERC is 5%. Meanwhile, the value of R Square in the AERC model is 0.155 which means that the contribution given by the variables under study to AERC is 15%. The AERC calculation results show that 220 out of 276 (80%) companies have negative AERC values (-), this indicates that companies whose profits have decreased or increased but are relatively small, their shares are more desirable in the market. This condition is because investors in the capital market in Indonesia tend to have a conservative type (risk averse), namely investors who do not like to take risks and always want to protect the principal value of their investment. Investors have a tendency to invest with decent returns and tend to be predictable in advance. Only a small proportion of investors with the aggressive type (risk taker) dare to invest in high risk stocks. Companies with high-risk stocks tend to experience a high increase in profits but not stagnant, so that from time to time they will also experience losses.

Portfolio theory provides a model for how to invest in an efficient and optimal manner. An efficient portfolio is defined as a portfolio that can provide maximum returns at a certain level of risk or a portfolio that can provide minimal risk at a certain rate of return. Meanwhile, the optimal portfolio is a portfolio that is chosen by an investor from the many options available in a collection of efficient portfolios, according to their preference for the level of return and risk (Markowitz, 1952). AERC in this study provides confirmation of the efficient market theory (Fama, & French, 2015) which explains that the capital market in Indonesia is classified as semi-strong, meaning that all information can be conveyed to investors and responded well. Investors in semi-strong capital markets are rational by taking actions that can reduce risks in the capital market. However, the efficient market assumes that all investors have the capacity to manage the same information or rather that no investor has the expertise, even though none of the investors have the ability to predict stock prices or none of them accurately or accurately predict stock performance. in the future

5. Conclusions

Based on the discussion of the results of the study, the results of the quantitative analysis of this study conclude that the results of the different test results for the ERC and AERC values on the Paired Sample Test value are significant (0.000), which means that the value obtained by adding CFO to the AERC equation provides a difference with the ERC concept. These results indicate that the earnings quality resulting from the AERC regression by adding the CFO value to the AERC equation is the earnings quality after being corrected by CFO, so that the AERC value reflects the real earnings quality.

References

A.M. Al-Baidhani, A. Abdullah, M. Ariff, F.F. Cheng, Y. K. (2017). Review Of Earnings Response Coefficient S tudies. *Corporate Ownership & Control, 14*(3), 299–308. https://doi.org/10.22495/cocv14i3c2a

Ball, R., Kothari, S. P., & Nikolaev, V. V. (2013a). Econometrics of the basu asymmetric timeliness coefficient a nd accounting conservatism. *Journal of Accounting Research, 51*(5), 1071–1097. https://doi.org/10.1111/1475-679X.12026

Ball, R., Kothari, S. P., & Nikolaev, V. V. (2013b). On estimating conditional conservatism. *Accounting Review, 88*(3), 755–787. https://doi.org/10.2308/accr-50371

Ball, R., Kothari, S. P., Robin, A., & Ny, R. (1999). The Effect of International Institutional Factors On Properti es of Accounting Earnings by. *Journal of Accounting and Economics, 29*(1), 1–51.

Beaver, W., Lambert, R., & Morse, D. (1980). The information content of security prices. *Journal of Accounting and Economics, 2*(1), 3–28.

Cho, J. Y. dan K. J. (1991). Earnings Response Coefficients: A Synthesis of Theory and Empirical Evidence. *Jo rnal of Accounting Literature, 10*, 85–116.

Collins, D. W., & Kothari, S. P. (1989a). An analysis of intertemporal and cross-sectional determinants of earnin gs response coefficients. *Journal of Accounting and Economics, 11*(2–3), 143–181.

Collins, D. W., & Kothari, S. P. (1989b). An analysis of intertemporal and cross-sectional determinants of earnin gs response coefficients. *Journal of Accounting and Economics, 11*(2–3), 143–181. https://doi.org/10.1016/0165-4101(89)90004-9

Dechow, P. M., & Ge, W. (2006). The persistence of earnings and cash flows and the role of special items: Im plications for the accrual anomaly. *Review of Accounting Studies, 11*(2–3), 253–296. https://doi.org/10.1007/s11142-006-9004-1

Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Financ e, 25*(2), 383–417. https://doi.org/10.2307/2325486

Fama, E. F., & French, K. R. (2015). A five-factor asset pricing model. *Journal of Financial Economics, 116*(1), 1–22. https://doi.org/10.1016/j.jfineco.2014.10.010

Feltham, G. A., & Ohlson, J. A. (1995). Valuation and clean surplus accounting for operating and financial activ ities. *Contemporary Accounting Research, 11*(2), 689–731.

Foster, L. T., & Jones, K. G. (1977). Applied Geography: An Educational Alternative. *The Professional Geograp her, 29*(3), 300–304. https://doi.org/10.1111/j.0033-0124.1977.00300.x

Hecht, P., & Vuolteenaho, T. (2006). Explaining Returns with Cash-Flow Proxies. *Review of Financial Studies, 1 9*(1), 159–194. https://doi.org/10.1093/rfs/hhj001

Holthausen, R. W., & Verrecchia, R. E. (1988). The Effect of Sequential Information Releases on the Variance o f Price Changes in an Intertemporal Multi-Asset Market. *Journal of Accounting Research, 26*(1), 82. https: //doi.org/10.2307/2491114

Lintner, J. (1965a). The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets. *The Review of Economics and Statistics, 47*(1), 13–37.

Lintner, J. (1965b). Security Prices, Risk, And Maximal Gains From Diversification. *The Journal of Finance, 20*(4), 587–615. https://doi.org/10.1111/j.1540-6261.1965.tb02930.x

Lorek, K. S., & Willinger, G. L. (2008). Time-series properties and predictive ability of quarterly cash flows. *Ad vances in Accounting, 24*(1), 65–71. https://doi.org/10.1016/j.adiac.2008.05.010

Mendenhall, W., Beaver, R. J., & Beaver, B. M. (2012). *Introduction to probability and statistics*. Cengage Lear ning.

Mostafa, W., & Dixon, R. (2013). The impact of earnings extremity on information content of cash flow. *Revie w of Accounting and Finance, 12*(1), 81–104. https://doi.org/10.1108/14757701311295845

Ohlson, J. A. (1990). A Synthesis of security valuation theory and the role of dividends, cash flows, and earnin gs. *Contemporary Accounting Research, 6*(2), 648–676. https://doi.org/10.1111/j.1911-3846.1990.tb00780.x

Patatoukas, P. N. (2014). Detecting news in aggregate accounting earnings: implications for stock market valuatio n. *Review of Accounting Studies, 19*(1), 134–160. https://doi.org/10.1007/s11142-013-9221-3

Patell, J. M., & Wolfson, M. A. (1984). The intraday speed of adjustment of stock prices to earnings and divid end announcements. *Journal of Financial Economics, 13*(2), 223–252. https://doi.org/10.1016/0304-405X(84) 90024-2

Ray Ball, P. B. (1965). An empirical evaluation of accounting income numbers. *In Journal of Accounting Resear ch* (pp. 159–178).

Sehgal, S., & Pandey, A. (2010). Equity valuation using price multiples: evidence from India. *Asian Academy of Management Journal of Accounting and Finance, 6*(1), 89–108.

Sharpe, W. F. (1964). Capital Asset Prices. *The Journal of Finance, 19*(3), 425–442.

Siegal, W., Church, A. H., Javitch, M., Waclawski, J., Burd, S., Bazigos, M., Yang, T.-F., Anderson-Rudolph, K., & Warner Burke, W. (1996). Understanding the management of change: An overview of managers' persp ectives and assumptions in the 1990s. *Journal of Organizational Change Management, 9*(6), 54–80.

Teets, W. R., & Wasley, C. E. (1996). Estimating earnings response coefficients: Pooled versus firm-specific mod els. *Journal of Accounting and Economics, 21*(3), 279–295. https://doi.org/10.1016/0165-4101(96)00423-5

Treynor, J. L. (1961a). *Market Value, Time, And Risk. Modern Economy*, 7(2).

Treynor, J. L. (1961b). *Toward a Theory of Market Value of Risky Assets*. Modern Economy, 6.

Watts, R. L. (2003). Conservatism in Accounting Part I: Explanations and Implications. *Accounting Horizons, 17*(3), 207–221. https://doi.org/10.2308/acch.2003.17.3.207

Watts, R. L., & Zimmerman, J. L. (1983). Agency Problems, Auditing, and the Theory of the Firm: Some Evid ence. *The Journal of Law and Economics, 26*(3), 613–633. https://doi.org/10.1086/467051

Watts, R. L., & Zimmerman, J. L. (1990). Positive Accounting Theory: A Ten Year Perspective. *The Accounting Review, 65*(1), 131–156.

Whitley, R. D. (1988). The possibility and utility of positive accounting theory. *Accounting, Organizations and S ociety, 13*(6), 631–645. https://doi.org/10.1016/0361-3682(88)90037-2