Studying the impacts of earnings quality on stock return: Experiments in Vietnam

Dang Ngoc Hung [1, *], Vu Thi Thuy Van [2]

[1]Faculty of Accounting and Auditing, Hanoi University of Industry, Hanoi, Vietnam
[2]School of Banking and Finance, National Economics University, Hanoi, Vietnam

A B S T R A C T

This paper examines the impact of earnings quality (EQ) on stock returns of listed companies on the Vietnam stock market using the generalized least squares (GLS) regression method and data at enterprises in the period of 2010-2018. The research has comprehensively measured EQ from various aspects. The findings have shown that EQ measured from such aspects of profit management, persistence, smoothness, variability, the value relevance of information, and timeliness that are positively related to stock return. Meanwhile, EQ, when being viewed from the aspect of accruals quality, has a negative impact on stock returns. In addition, we also consider that there is a negative impact on stock return, but when taking into account small-scale enterprises, it reveals that the scale has a negative effect on stock return but of no statistical significance. Based on the findings, the authors have put forth some recommendations for investors, businesses, and policymakers.

1. Introduction

Earnings quality (EQ) of a business is an important factor to minimize the information asymmetry and thus promote the development of financial markets. EQ can be seen as potential earnings growth of the business or the likelihood in which the business will obtain its expected earnings growth in the future. The value of enterprise stocks, therefore, depends not only on the returns of each stock but also on the expectation of future business performance and the reliability towards the expectations of earnings.

Earnings of the reporting enterprises might not be authentic compared to the real profit of the business. The cause lied in the distortion of the published earnings of the business arising from interest conflicts between managers and business owners as well as business accounting constraints such as errors in the process of forecasting and future value estimates or the use of inappropriate accounting methods that make the difference between projected earnings and those stated in the financial statements. EQ is an honest representation of forecasted and published earnings, and published earnings will be greatly helpful to users in making relevant decisions. According to the authors such as Richardson et al. (2001), the evaluation of EQ was based on the smoothness of future revenue and EQ. Beneish and Vargus (2002) also deemed that the smoothness in revenue of enterprises would demonstrate the EQ of businesses. Penman and Zhang (2002) defined EQ as the ability to predict the future earnings of the business. Investors or stakeholders in the capital market often relied on the information on the financial statements to assess the future cash flow of the business from which the expected earnings were estimated (Francis et al., 2004). Thus, to better predict the future cash flow, the earnings stated in the financial statements should be those of good quality.

There have been a variety of studies in the world examining the impacts of EQ, earnings management on stock returns, namely the studies conducted by Dechow et al. (1995), Sayari et al. (2013), Nuryaman (2013), Amadi and Amadi (2014), Perotti and Wagenhofer (2014), and Salehi et al. (2018).

In Vietnam, several studies researching the earnings management could be listed such as Lan and Anh (2016) that examined the impact of earnings management on stock returns, but they have only considered one aspect of EQ in terms of Earnings management without considering other aspects of earnings quality such as Accruals quality, earnings persistence, earnings smoothness, earnings

variability, value relevance of information and timeliness of information. Thus, the expansion and comprehensive consideration of the impact of EQ on stock returns will be of great significance for the Vietnam stock market.

2. Research overview

The studies of the impact of accruals quality on stock returns. According to initial international research literature, it was shown that the negative relationship of accruals accounting with the future stock returns and income could be generalized to other capital markets, revealing the abnormal accruals in the UK. Soares and Stark (2011) provided part of the evidence associated with the capacity to predict the return rate and exploited the income of accrual abnormalities. Leippold and Lohre (2012) reported the impact of accruals business strategy on the gross returns was of the statistical significance, but the extraordinary return was not statistically significant. In the study of the earnings management impact on stock returns, Sayari et al. (2013) measured the impact of accruals DA on stock returns. The variable of DA was measured through the improved Jones's (1991) model (Dechow et al., 1995). The findings showed that earnings management had a significant influence on stock returns of listed companies.

Unlike the above studies, Nuryaman (2013) provided the model of the impact of earnings management (represented by DA) on stock returns and considered the role of moderating variables as the audit quality for the above relationship. The author has come to the conclusion that earnings management has a negative effect on stock returns. The findings also indicate that audit quality is positively related to this relationship. A similar model was also given in the study of Birjandi et al. (2015), which revealed that there was a significant positive relationship between stock returns and earnings management and that the audit quality had a positive impact on the relationship between returns for stocks and earnings management. The research of Amadi and Amadi (2014) provided the same findings.

Dang et al. (2017a) studied the impact of earnings management (identified through the adjusted accrual variable) on the returns for the stock of listed companies in the food processing industry. The findings indicated that earnings management has a positive impact on the stock return. Lan and Anh (2016), Ha et al. (2019), and Dang et al. (2019) studied the impact of income management on future securities yields on the Vietnam stock market. The findings of the research showed that the total accruals and income management (measured by adjustable accruals) had a negative effect on stock yields and that the future additional stock yields and the stock market mispriced the components of the total accruals of current earnings. The results revealed that unregulated accruals and income management were the causes of accrual anomalies in Vietnam.

The studies of the impact of accounting information on stock return A variety of studies on the relationship between earnings and stock returns were conducted. Ball and Brown (1968) studied the usefulness of earnings information on investors' decisions through testing the impact of basic earnings per share on abnormal returns of a stock. Basu (1983) explored the relationship between return, market value, and stock returns. Freeman (1987) studied the relationship between securities returns and accounting profits of large-scale companies compared to small-scale ones. Collins and Kothari (1989) conducted research on factors affecting the relationship between returns and accounting information. Easton and Harris (1991) established a return model from income and return variables by testing the relationship between the current accounting profit divided by the stock price at the beginning of the period and the stock return rate. Lipe et al. (1998) demonstrated the nonlinear relationship between stock returns and accounting profits, the difference between capital loss and gain, and differences among firms. Dimitropoulos and Asteriou (2009) conducted a review of the relationship between information stated in the financial statements and financial indicators or stock price of listed companies performed on the Greek stock market. Cheng et al. (2013) used a time-series profit model to test the impacts of regular income on the role of earnings level and changes in earnings in clarifying stock returns by using unobservable component models to divide the earnings into regular and temporary profits.

3. Research hypothesis

Based on the study overview, the research of Oduma (2015) provided a model that studied the impacts of earnings management on the stock return through independent variables, which were adjustable accruals quality, firm size, and the ratio of market value to book value of the company. The author identified the behavior of earnings management with the improved Jones's (1991) model and came to the conclusions in which earnings management had a significant impact on stock returns.

Meanwhile, Cotten (2005) showed that there existed pieces of evidence of increasing stock returns that had an impact on earnings management, and the author believed that earnings management behavior made a contribution to the anomaly and weakened the market performance. The author clarified the above conclusions through a research model of the impact of the adjusted accruals variable DA, the owner's capital size, and the ratio of book value to the market value of the company on its annual stock return. Research by Nuryaman (2013) revealed that earnings management positively affected the stock return. Studies conducted by Perotti and Wagenhofer (2014), and Salehi et al. (2018)

demonstrated that EQ was positively related to stock returns. We have established the hypothesis as follows:

H₁: Earnings quality (in terms of each aspect) has an impact on stock return.

Furthermore, we also considered if the control variable that is the company size had an impact on stock returns. Various studies have indicated the relationship between the size of the company and stock returns. The impact of size is one of the focuses of studies by Fama and French (1992) that introduced the concept of "size effect" and determined the size of a company and stock returns were inversely related. Meanwhile, Easton and Zmijewski (1989) and Dang et al. (2017b) discovered pieces of evidence indicating that firm size had a positive impact on the relationship between earnings and returns. Collins and Kothari (1989) also demonstrated through their research that the relationship between earnings and returns varied with different company sizes. We have established the hypothesis as follows:

H₂: Company size has an impact on stock returns.

4. Research method

4.1. Measuring earnings quality

This study measured EQ from such aspects as earnings government, accruals quality, earnings persistence, predictability of earnings, earning smoothness, the value relevance of information, and earnings timeliness. The measurement of EQ components is shown as follows.

4.1.1. Earnings quality measured through earnings management

Among various ways to measure earnings quality through abnormal accruals/earnings management (EM), the authors adopted the model of Jones (1991). The earnings management variable measured through a proxy, which is the remainder of Eq. 1. EQ is reversely related to the remainder of Eq. 1:

$$ACC_{it} = \beta_0 + \beta_1 \left(\Delta REV_{it} - \Delta AR_{it} \right) + \beta_2 PPE_{it} + \varepsilon_{it}, \quad (1)$$

where: ΔREV_{it} is the turnover difference of enterprise i between year t and year t-1; ΔAR_{it} is the receivables difference of enterprises I between year t and year t-1; PPE_{it} is the primary price of fixed capital of enterprise I in year t; $\alpha_1, \alpha_2, \alpha_3$, are the parameters of each business?

All variables are divided by the total assets at the beginning of the period (A_{it-1} −Total assets).

The earnings management variable will be defined as the remainder ε_{it} from Eq. 1. Thus, ε_{it} is a measure of earnings management variable, the higher the deviation of ε_{it}, the lower the earnings quality. Therefore, EQ measured by earnings management is defined as $EQ\_EM = EM * (-1)$.

4.1.2. Earnings quality measured through accruals quality

To estimate the accruals quality, we adopted the model developed by Dechow and Dichev (2002) in which accruals quality was represented by working capital accruals regressed with the operating cash flow of the previous year, this year and the following year, all divided by the total assets at the beginning of the period.

An accruals quality variable (AQ) was generated to measure EQ as the standard deviation from the remainder (ε_{it}) of Eq. 2 after conducting regression.

$$CACC_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \varepsilon_{it}, (2)$$

where: $CFO_{it-1}, CFO_{it}, CFO_{it+1}$ are the operating cash flows in year t-1, year t, and year t+1, respectively. All variables are divided by the total assets at the beginning of the period (A_{it-1} −Total assets).

The higher value of accruals quality (AQ) indicates the poorer quality of accumulation because fewer changes of current accruals are explained by applying cash flow. As earnings are the sum of the accruals and cash flows, and the cash flow component is often considered to be objective, and without being manipulated, the earnings quality depends on accruals quality. Therefore, poorer accruals quality implies lower earnings quality. The variable of EQ measured by the accruals quality is defined: $EQ\_AQ = AQ * (-1)$.

4.1.3. Earnings quality measured through the earnings persistence

Li et al. (2014) conducted an EQ measurement from the aspect of persistence. For earnings persistence, he relied on the study of Kormendi and Lipe (1987). Based on the regression result from Eq. 3 between the current earnings and those of the previous year, the regression coefficients are estimated from the model to measure the earnings persistence.

$$EARN_{it} = \alpha + \beta_1 EARNi_{it-1} + \varepsilon_{it}, \quad (3)$$

where: $EARN_{it}$ is the net profit of the enterprise i before the extraordinary terms of year t; $EARNi_{it-1}$ is the net profit of the enterprise i before the extraordinary terms of year t−1; ε_{it} is the error.

All variables are divided by the total assets at the beginning of the period (A_{it-1} −Total assets).

To measure EQ by earnings persistence, EQ is determined based on the regression result from Eq. 3. The proxy variable that reflects EQ_PE is coefficient R^2 of Eq. 3.

4.1.4. Earnings quality measured through earnings smoothness

From this aspect, the earnings quality mentioned in this research is the possibility of an enterprise's adjustment and earnings manipulation in the financial statements. Specifically, according to Bigus and Häfele (2018), the earnings of the business should have been volatile when its operating cash flow fluctuated. Therefore, that the operating cash flow of enterprises fluctuates very strongly, but variability in its earnings is insignificant is a sign of earnings manipulation in the financial statements. The author estimates the standard deviation of earnings and that of the operating cash flow rate.

$$SMOOTH_{it} = \frac{\sigma(EARN\ it)}{\sigma(CFO\ it)}. \tag{4}$$

The standard deviation of earnings represents the variability level of earnings. The standard deviation of the cash flow rate represents the variability level of cash flow. The variability rate of earnings on the variability level of the cash flow implies how many times of the former will be generated by the latter. The smaller this ratio shown, the less changeable the earnings variability will be compared to the fluctuation of the cash flow. Therefore, the likelihood of an enterprise's earnings manipulation in the financial statements is higher. The variable of EQ measured through the smoothness is determined EQ_SM =SMOOTH*(-1).

4.1.5. Earnings quality measured through the earnings variability

Earnings quality is represented through earnings variability. The higher the standard deviation of earnings, the stronger the variability of corporate earnings. Businesses of strong earnings variability are implied with poor earnings quality (Francis et al., 2004; Francis and Wang, 2008; Dichev and Tang, 2009; Rezaee and Tuo, 2019).

$$VARIA_{it} = \sigma(EARNit) \tag{5}$$

To measure EQ through the earnings variability, EQ is determined based on the standard deviation of earnings, as per Eq. 5. The higher the standard deviation of the earnings, the lower the EQ, so the EQ measured through the defined earnings variability. $EQ\_VE = VARIA * (-1)$.

4.1.6. Earnings quality measured through the value relevance of the information

Based on the research model developed by Easton and Harris (1991) and adopted by such researchers to study the usefulness of accounting information as Chen et al. (2001) and Lang and Stulz (1994).

$$P_{it} = \beta_0 + \beta_1 EARN_{it} + \beta_2 \Delta EARN_{it} + \varepsilon_{it}, \tag{6}$$

where: P_{it} is the Stock price of the company i in year t; β_0 is Intercept; β_1, β_2, is coefficients; $EARN_{it}$ is Earnings per share of a company i in year t; $\Delta EARN_{it}$ is Change of earnings per share of the company i in year t; ε_{it} is Remainder.

To measure EQ from the aspect of value relevance of information, EQ is determined based on the regression result from Eq. 6. Thus, EQ from the aspect of value relevance of information EQ_RE is the coefficient R^2 from Eq. 6.

4.1.7. Earnings quality measured through the earnings timeliness

Based on the model of Basu (1997), stock prices are determined on the basis of compiling all information on the market in a timely manner from multiple sources, including the income statement of the business. Therefore, the change in stock price is the standard for evaluating the information obtained in each stage. Meanwhile, the income statement of the business is affected by the asymmetry in promptly recording information, commonly receiving bad information is faster than good news. The regression function of Basu (1997) is as follows:

$$EARN_{it} = \beta_0 + \beta_1 NEG_{it} + \beta_2 RET_{it} + \beta_2 + + \beta_3 NEG_{it} \times RET_{it} + \varepsilon_{it}, \tag{7}$$

where: β_0 is Intercept; β_1, β_2, and β_3 are Coefficients; $EARN_{it}$ is Earnings per share of company i in year t; RET_{it} is stock return of company i in year t; NEG_{it} is a false variable with the value of 1 in case of bad information; NEG_{it} is a false variable of 0 in the case of good information;

The slope of the model shows the level of asymmetry in timeliness in recording information into the company's earnings value. The timeliness of earnings information is positively related and is determined by the coefficient of R^2 from Eq. 7. The higher value of timeliness implies more timely earnings information and higher earnings quality. The variable of earnings quality measured by timeliness (EQ_TI) is determined from R^2 from Eq. 7.

4.2. Measurement of stock returns

Stock returns are the ratio measuring the actual percentage of stock income per each dong paid by an investor. This index is calculated by adding the total income obtained from the price difference to the number of dividends received in the year divided by the stock price at the beginning of the financial year. This calculation was frequently mentioned in studies of stock return, and the original model by Easton and Harris (1991) also adopted this formula.

$$STOCK\_RETURNs_{it} = \frac{(P_{it} - P_{it-1}) + D_{it}}{P_{it-1}}$$

where: P_{it-1} and P_{it} are the corresponding stock price of the company i at the end of the year (t-1) and year t; D_{it} is the dividend of the company I in the year t.

4.3. Research model

Based on the research overview and the hypotheses established, the research team developed the research model as follows:

$$SR_{it} = \beta_0 + \beta_1 EQ_{itk} + \beta_2 SIZE_{it} + \varepsilon_{it}, \qquad (8)$$

where: SR_{it} is a stock return of company i in year t; EQ_{it} is earnings quality of company i in year t, k is considering each aspect of EQ such as (Earnings management, accruals quality, persistence, smoothness, variability, the value relevance of information and timeliness); $SIZE_{it}$ is the size of the company i in year t.

4.4. Research data

This paper used data compiled from the Vietnam stock market from 2010 to 2018. Data were collected from audited financial statements of listed companies after excluding enterprises in the field of Banking, securities, insurance. After defining the indicators, the data used to perform the analysis and regression were 3910 observations. Surveyed data by each year and each industry are presented in Table 1.

We adopted the GLS method to regress Eq. 8. Using the GLS method will overcome such defects of the regression model as autocorrelation and variance change.

Table 1: Research data

Industry/Year	Real estate and Construction	Technology	Industry	Service	Consumer goods	Energy	Agriculture	Material	Health	Total
2010	103	7	32	38	31	29	30	24	10	304
2011	143	10	43	48	34	30	30	36	13	387
2012	160	12	47	52	35	34	28	41	15	424
2013	169	12	52	53	33	38	33	48	15	453
2014	176	11	51	52	35	39	35	47	13	459
2015	180	12	52	47	30	35	41	51	11	459
2016	184	11	53	49	28	38	40	47	12	462
2017	186	15	58	53	36	45	42	50	14	499
2018	174	16	54	51	29	39	39	44	17	463
Total	1.475	106	442	443	291	327	318	388	120	3.910

5. Research findings and discussion

Statistical data (Table 1) shows that the average stock return has a mean of 0.233, the lowest of -0.587, and the highest of 2,325. The earnings quality has mean by each aspect such as earnings management (EQ_EM) of 0.204, accruals quality (EQ_AQ) of 0.016, earnings persistence (EQ_PE) of 0.844, earnings smoothness (EQ_SM) of -0.860, earnings variability (EQ_VA) of -0.026, value

relevance of information (EQ_RE) of 0.405 and timeliness of information (EQ_TI) of 0.122.

The company size measured by the logarithm value of the average total asset is 27,085. Table 2 shows descriptive statistics. Fig. 1 indicates that stock return had a very strong variability in 2013 with an average annual rate of 76%, then adjusted sharply down to 21% in 2014. In 2018, the stock return was at a low level, only 2%.

Table 2: Descriptive statistics

Variables	Observation No.	Mean	Standard Deviation	Min	Max
SR	3910	0.233	0.502	-0.587	2.325
EQ_EM	3910	0.204	1.779	-6.892	10.693
EQ_AQ	3639	0.016	0.094	-0.324	0.176
EQ_PE	3910	0.844	0.158	0.609	1.128
EQ_SM	3910	-0.860	1.667	-14.278	-0.006
EQ_VA	3910	-0.026	0.029	-0.182	0.000
EQ_RE	3910	0.405	0.156	0.097	0.593
EQ_TI	3033	0.122	0.074	0.023	0.224
SIZE	3910	27.085	1.438	23.659	30.915

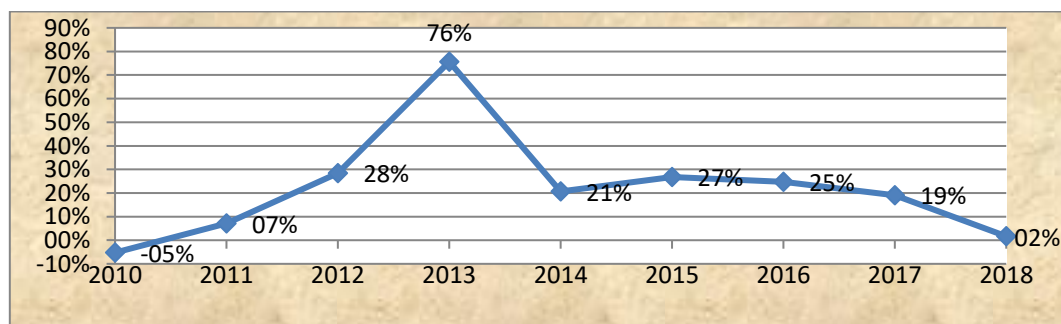*Source: calculated by authors using Stata 14.0*

Fig. 1: Stock return by year

When comparing the stock return of each industry (Fig. 2), the findings show that Health and

Services sectors have the highest stock returns of 31% and 30% respectively in the period of 2010-

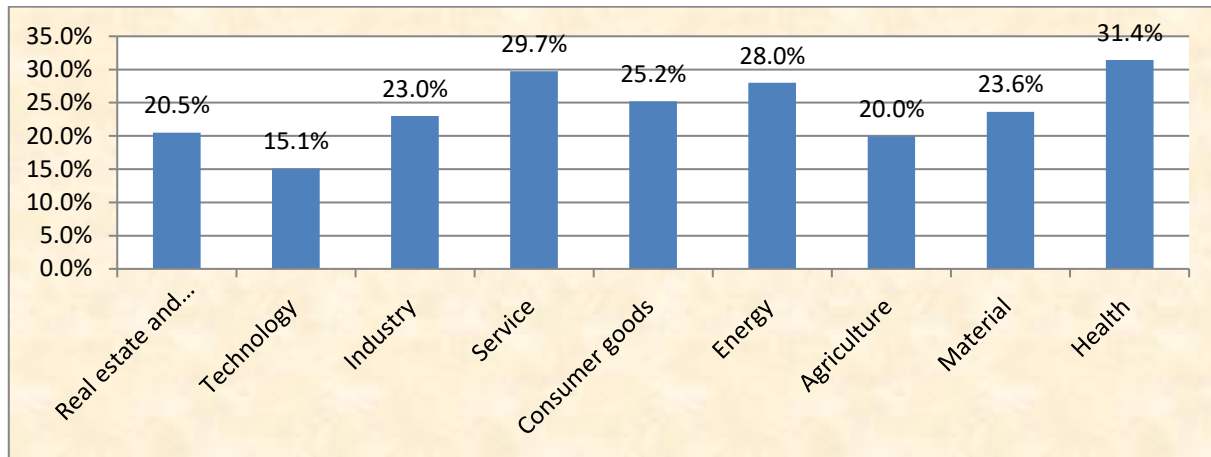2018, while the Technology of lowest stock return,   only 15% on average.

Fig. 2: Stock return by industry

Table 3 provided the results of the correlation coefficient among variables. The purpose of examining the close correlation between independent and dependent variables is to eliminate factors that can lead to a multicollinearity phenomenon before running the regression model. The relationship between the dependent variable of stock return and the independent variable of EQ from each aspect shows that they are all statistically significant, in which most aspects of EQ are positively related to stock return, excluding the EQ measured by accruals aspect. There is no pair of the correlation coefficient between the independent variables in the model greater than 0.8; therefore, the multicollinearity phenomenon is less likely to occur when using the regression model, authors adopted VIF for testing.

According to Table 4, EQ measured from the aspects of earnings management, earnings persistence, earnings smoothness, earnings variability, earnings relevance, and timeliness of information is positively related and statistically significant at 1%, which is in agreement with the study by Salehi et al. (2018). Meanwhile, EQ measured by accruals quality is inversely related to stock return and statistically significant at 1%.

For control variables which is the company size being inversely related to stock return and statistically significant at 1%, the findings of the study are in agreement with that by Fama and French (1992), but contrary to those of Easton and Zmijewski (1989) and Collins and Kothari (1989). However, when considering the size, we divided the data into two groups, which were large and small sizes (based on the median). The results show that small-scale enterprises do not affect stock return, while large businesses have a negative impact on stock return at the significance levels of 5% and 10%. Table 5 shows the results of large-scale multi-variable regression, and Table 6 shows the results of small-scale multi-variable regression.

Table 3: Correlation matrix

	SR	EQ_EM	EQ_AQ	EQ_PE	EQ_SM	EQ_VA	EQ_RE	EQ_TI	SIZE
SR	1								
EQ_EM	0.1401*	1							
EQ_AQ	-0.0533*	0.0274	1						
EQ_PE	0.1793*	0.0420*	0.0027	1					
EQ_SM	0.0447*	0.0209	0.0286	-0.0074	1				
EQ_VA	0.0490*	-0.0051	0.0108	-0.0602*	0.3552*	1			
EQ_RE	0.1224*	-0.1394*	0.0279	-0.2968*	0.014	0.1287*	1		
EQ_TI	0.0784*	0.0446*	0.0262	0.3843*	0.0211	-0.0491*	-0.0907*	1	
SIZE	-0.0639*	-0.0265	0.0593*	-0.0429*	-0.0121	0.0634*	0.0697*	-0.0754*	1

* p<0.05
Source: calculated by authors using Stata 14.0

Table 4: Results of multivariable regression

	EM	AQ	PE	SM	VA	RE	TI
EQ_EM	0.0391***						
EQ_AQ		-0.268***					
EQ_PE			0.563***				
EQ_SM				0.0132***			
EQ_VA					0.921***		
EQ_RE						0.411***	
EQ_TI							0.446***
SIZE	-0.0210***	-0.0206***	-0.0197***	-0.0221***	-0.0235***	-0.0254***	-0.0144***
_cons	0.794***	0.796***	0.290*	0.843***	0.893***	0.755***	0.484***
N	3910	3639	3910	3910	3910	3910	3033

* p<0.1, ** p<0.05, *** p<0.01
Source: calculated by authors using Stata 14.0

Table 5: Results of large-scale multi-variable regression

	EM	AQ	PE	SM	VA	RE	TI
EQ_EM	0.0401***						
EQ_AQ		-0.291**					
EQ_PE			0.553***				
EQ_SM				0.0141**			
EQ_VA					1.189***		
EQ_RE						0.466***	
EQ_TI							0.256*
SIZE	-0.0230*	-0,0204	-0,0169	-0.0231*	-0.0228*	-0.0288**	-0,00889
_cons	0.851**	0.789**	0,219	0.871**	0.880**	0.829**	0,348
N	1955	1781	1955	1955	1955	1955	1555

* p<0.1, ** p<0.05, *** p<0.01

Source: calculated by the author using Stata 14.0

Table 6: Results of small-scale multi-variable regression

	EM	AQ	PE	SM	VA	RE	TI
EQ_EM	0.0384***						
EQ_AQ		-0.244*					
EQ_PE			0.575***				
EQ_SM				0.0125*			
EQ_VA					0.722*		
EQ_RE						0.363***	
EQ_TI							0.664***
SIZE	-0.0211	-0.0192	-0.0182	-0.0208	-0.0232	-0.0238	-0.015
_cons	0.796**	0.759*	0.244	0.808**	0.879**	0.731*	0.474
N	1955	1858	1955	1955	1955	1955	1478

* p<0.1, ** p<0.05, *** p<0.01

Source: calculated by the author using Stata 14.0

6. Conclusions and recommendations

For experimental research findings, the authors used panel data with 3910 observations at enterprises listed on the Vietnam stock market from 2010 to 2018. According to the GLS regression analysis method, the earnings quality when being measured from most of the aspects has a positive relationship with stock returns, while EQ measured from the accruals quality aspects (EQ_AQ) is in a negative relation to stock returns. Based on the above findings, the research team has made some recommendations as follows:

- For investors, when making investment decisions in stocks, investors need to pay attention to the accounting information and earnings quality of the business as such information has an impact on stock return.
- Enterprises are required to fully and timely disclose financial statements as, according to the above recommendations, investors can rely on accounting information to make investment decisions. That is the reason why the business itself needs to ensure the quality of published financial statements to create and maintain the investors' confidence in the business. This not only creates the premises for investors' confidence in EQ or the financial situation announced by the business but also enables it to gain its position and enhance the value of the business to attract potential investors. The complete and timely disclosure of financial statements, audit reports, and reports of the Management Board will create confidence of investors in the transparency of information disclosure, which is a good signal to attract investors.

- Investors and shareholders always desire to audit the financial statements with high quality, which means auditors and auditing companies must comply with auditing standards to enhance the quality of auditing to detect earnings management behavior, and they also need to appreciate the planning of auditing to properly evaluate the likelihood of manipulation and earnings management having an impact on the quality of financial statements.

Besides, the findings also show that the size harms returns; therefore, businesses are recommended to be cautious with the adverse reaction to advantage by size and should focus on increasing business efficiency rather than pursuing size to expand business activities.

Funding

This study is funded by The Hanoi University of Industry, Vietnam.

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

References

Amadi FY and Amadi CW (2014). Earnings management and stock market returns. International Journal of Business, Economics and Management, 1(10): 272-290.

Ball R and Brown P (1968). An empirical evaluation of accounting income numbers. Journal of Accounting Research, 6(2): 159-

178.
https://doi.org/10.2307/2490232

Basu S (1983). The relationship between earnings' yield, market value and return for NYSE common stocks: Further evidence. Journal of Financial Economics, 12(1): 129-156.
https://doi.org/10.1016/0304-405X(83)90031-4

Basu S (1997). The conservatism principle and the asymmetric timeliness of earnings. Journal of Accounting and Economics, 24(1): 3-37.
https://doi.org/10.1016/S0165-4101(97)00014-1

Beneish MD and Vargus ME (2002). Insider trading, earnings quality, and accrual mispricing. The Accounting Review, 77(4): 755-791.
https://doi.org/10.2308/accr.2002.77.4.755

Bigus J and Häfele S (2018). Shareholder loans and earnings smoothing–Empirical findings from German private firms. European Accounting Review, 27(1): 37-74.
https://doi.org/10.1080/09638180.2016.1229206

Birjandi H, Hakemi B, and Sadeghi MM (2015). The study effect agency theory and signaling theory on the level of voluntary disclosure of listed companies in Tehran Stock Exchange. Research Journal of Finance and Accounting, 6(1): 174-183.

Chen CJ, Chen S, and Su X (2001). Is accounting information value-relevant in the emerging Chinese stock market? Journal of International Accounting, Auditing and Taxation, 10(1): 1-22.
https://doi.org/10.1016/S1061-9518(01)00033-7

Cheng ACS, Lee BS, and Yang S (2013). The value relevance of earnings levels in the return-earnings relation. International Journal of Accounting and Information Management, 21(4): 260-284.
https://doi.org/10.1108/IJAIM-04-2012-0019

Collins DW and Kothari SP (1989). An analysis of intertemporal and cross-sectional determinants of earnings response coefficients. Journal of Accounting and Economics, 11(2-3): 143-181.
https://doi.org/10.1016/0165-4101(89)90004-9

Cotten BD (2005). Stock returns, earnings management, and discretionary accruals. Ph.D. Dissertation, Florida State University, Tallahassee, USA.

Dang HN, Vu VTT, Ngo XT, and Hoang HTV (2019). Study the impact of growth, firm size, capital structure, and profitability on enterprise value: Evidence of enterprises in Vietnam. Journal of Corporate Accounting and Finance, 30(1): 144-160.
https://doi.org/10.1002/jcaf.22371

Dang NH, Hoang TVH, and Tran MD (2017a). Factors affecting earnings management: The case of listed firms in Vietnam. International Journal of Economic Research, 14(20): 117-134.

Dang NH, Hoang TVH, and Tran MD (2017b). The relationship between accounting information in the financial statements and the stock returns of listed firms in Vietnam stock exchange. International Journal of Economics and Finance, 9(10): 1-10.
https://doi.org/10.5539/ijef.v9n10p1

Dechow PM and Dichev ID (2002). The quality of accruals and earnings: The role of accrual estimation errors. The Accounting Review, 77(s-1): 35-59.
https://doi.org/10.2308/accr.2002.77.s-1.35

Dechow PM, Sloan RG, and Sweeney AP (1995). Detecting earnings management. Accounting Review, 70(2): 193-225.

Dichev ID and Tang VW (2009). Earnings volatility and earnings predictability. Journal of Accounting and Economics, 47(1-2): 160-181.
https://doi.org/10.1016/j.jacceco.2008.09.005

Dimitropoulos PE and Asteriou D (2009). The value relevance of financial statements and their impact on stock prices: Evidence from Greece. Managerial Auditing Journal, 24(3): 248-265.
https://doi.org/10.1108/02686900910941131

Easton PD and Harris TS (1991). Earnings as an explanatory variable for returns. Journal of Accounting Research, 29(1): 19-36.
https://doi.org/10.2307/2491026

Easton PD and Zmijewski ME (1989). Cross-sectional variation in the stock market response to accounting earnings announcements. Journal of Accounting and Economics, 11(2-3): 117-141.
https://doi.org/10.1016/0165-4101(89)90003-7

Fama EF and French KR (1992). The cross-section of expected stock returns. The Journal of Finance, 47(2): 427-465.
https://doi.org/10.1111/j.1540-6261.1992.tb04398.x

Francis J, LaFond R, Olsson PM, and Schipper K (2004). Costs of equity and earnings attributes. The Accounting Review, 79(4): 967-1010.
https://doi.org/10.2308/accr.2004.79.4.967

Francis JR and Wang D (2008). The joint effect of investor protection and Big 4 audits on earnings quality around the world. Contemporary Accounting Research, 25(1): 157-191.
https://doi.org/10.1506/car.25.1.6

Freeman RN (1987). The association between accounting earnings and security returns for large and small firms. Journal of Accounting and Economics, 9(2): 195-228.
https://doi.org/10.1016/0165-4101(87)90005-X

Ha TV, Dang NH, Tran MD, Van Vu TT, and Trung Q (2019). Determinants influencing financial performance of listed firms: Quantile regression approach. Asian Economic and Financial Review, 9(1): 78-90.
https://doi.org/10.18488/journal.aefr.2019.91.78.90

Jones JJ (1991). Earnings management during import relief investigations. Journal of Accounting Research, 29(2): 193-228.
https://doi.org/10.2307/2491047

Kormendi R and Lipe R (1987). Earnings innovations, earnings persistence, and stock returns. Journal of Business, 60(3): 323-345.
https://doi.org/10.1086/296400

Lan NTN and Anh LT (2016). Quản trị thu nhập và lợi suất chứng khoán tương lai: Kiểm chứng thực nghiệm tại thị trường Việt Nam [Earnings management and future stock return: Experimental in the Vietnamese market]. Tạp chí Kinh tế Đối Ngoại [External Economics Review], 85(1): 123-135.

Lang LH and Stulz RM (1994). Tobin's q, corporate diversification, and firm performance. Journal of Political Economy, 102(6): 1248-1280. https://doi.org/10.1086/261970

Leippold M and Lohre H (2012). Data snooping and the global accrual anomaly. Applied Financial Economics, 22(7): 509-535.
https://doi.org/10.1080/09603107.2011.631892

Li F, Abeysekera I, and Ma S (2014). The effect of financial status on earnings quality of Chinese-listed firms. Journal of Asia-Pacific Business, 15(1): 4-26.
https://doi.org/10.1080/10599231.2014.872963

Lipe RC, Bryant L, and Widener SK (1998). Do nonlinearity, firm-specific coefficients, and losses represent distinct factors in the relation between stock returns and accounting earnings? Journal of Accounting and Economics, 25(2): 195-214.
https://doi.org/10.1016/S0165-4101(98)00022-6

Nuryaman N (2013). The influence of earnings management on stock return and the role of audit quality as a moderating variable. International Journal of Trade, Economics and Finance, 4(2): 73-78.
https://doi.org/10.7763/IJTEF.2013.V4.263

Oduma CO (2015). Relationship between earnings management and stock market returns among companies listed in Nairobi Securities Exchange. Unpublished M.Sc. Research Project, University of Nairobi, Nairobi, Kenya.

Penman SH and Zhang XJ (2002). Accounting conservatism, the quality of earnings, and stock returns. The Accounting Review, 77(2): 237-264.
https://doi.org/10.2308/accr.2002.77.2.237

Perotti P and Wagenhofer A (2014). Earnings quality measures and excess returns. Journal of Business Finance and Accounting, 41(5-6): 545-571.
https://doi.org/10.1111/jbfa.12071
PMid:26300582 PMCid:PMC4540158

Rezaee Z and Tuo L (2019). Are the quantity and quality of sustainability disclosures associated with the innate and discretionary earnings quality? Journal of Business Ethics, 155(3): 763-786.
https://doi.org/10.1007/s10551-017-3546-y

Richardson SA, Sloan RG, Soliman MT, and Tuna A (2001). Information in accruals about the quality of earnings.
https://doi.org/10.2139/ssrn.278308

Salehi M, Tagribi M, and Farhangdoust S (2018). The effect of reporting quality on stock returns of listed companies on the Tehran Stock Exchange. International Journal of Productivity and Performance Management, 67(1): 4-19.
https://doi.org/10.1108/IJPPM-09-2015-0127

Sayari S, Omri A, and Finet A (2013). The impact of earnings management on stock returns: The case of Tunisian firms. Global Journal of Management and Business Research, 13: No 10-C.
https://doi.org/10.2139/ssrn.278308

Soares N and Stark AW (2011). Is there an accruals or a cash flow anomaly in UK stock returns?
https://doi.org/10.2139/ssrn.1734507