JEAS | Journal of Economics and Administrative Sciences
E-ISSN: 2148-1792 P- ISSN: 1302-2024
Volume 5, Supplement Issue 2
www.jeasweb.org

Investigation of the Effect of the Number of Transaction in the Relationship between the Earnings Management and Stock Return in the Companies Listed in Tehran Stock Exchange

Gholam Reza Askarzadeh[*]
Department of Financial Management, Islamic Azad University, Yazd Branch, Yazd, Iran

Omid Kargar Shooroki
MSc. student of Financial Engineering and Risk Management, Islamic Azad University, Yazd Branch, Yazd, Iran

[*]*Corresponding author: Gholam Reza Askarzadeh (Department of Financial Management, Islamic Azad University, Yazd Branch, Yazd, Iran.*

ABSTRACT

Studies show that emotional intelligence is the single big factor impacting developmental rituals in life, Stock liquidity is one of the main advantages of the stock exchange market and the investors seek shares that can be transacted in the shortest time. Linear regression was used for data analysis. The data were collected from the audited financial statements of companies, as well as from the CODAL website and Rahavard Novin Software. The results indicated that there is an inverse and significant relationship between earnings management indices including optional and non-optional accruals and stock returns. In addition, the number of transactions and the optional and non-optional accruals has a direct and significant relationship with the stock return..
Keywords: Earnings management, non-optional accruals, number of transactions, optional accruals.
JEL Classification: G12, G14, G19

1. Introduction

Since liquidity has different aspects, several definitions have been provided for it. So far, the importance of liquidity has been noted as an investment risk factor. Then, it would be noted as a determining factor for stock return or in other words, an effective factor on the changes in stock price. Another aspect of liquidity is the ability of investors to the conversion of financial assets into cash at a price similar to the price of the

last transaction. In this definition of liquidity, the higher the stock liquidity, the higher volume of it can be converted into cash with the lowest effects on its price. Thus, the importance of liquidity calculation in this regard is also due to its effects on the asset price in the interval between the purchase orders (Zamani and Faghani Kondari, 2016). The stock liquidity in the financial markets can be defined as the ability to smoothly absorb sales orders. The ability to transact a large volume of stocks with low cost and price effects can be also defined as the liquidity in financial markets. The low price effect means that the price of the asset does not change much between the purchase order intervals. With this definition, liquidity, along with the return and risk, is among the most important factors determining the price of a company's stock or any other financial instruments. The stock liquidity of each company or stock exchange market complex is important from different aspects among which the importance of liquidity in market's development and growth, acting as the main index of market development, affecting the cost of capital, the factor for improvement of the companies' performance and the whole economy, ensuring the success in new shares' initial public offering, a factor considered in the portfolio management along with the risk and return, affecting the risk hedging tools, the pivotal role of liquidity in the formation of the prices, reduction in the cost and risk of underwriters and market makers, and the stability of financial systems can be named (Ahmadpour and Baghban, 2014). Earnings management occurs when the manager uses his personal judgment for reporting and does it to mislead some shareholders about the actual performance of the company or affect the contracts which depend on the accounting figures. The accounting earnings are reliable when the opportunistic behaviors of the managers are controlled by a monitoring system. The company's leadership mechanisms lead to the reduction of the managers' ability in earnings management (Aref Manesh and Amouzadi Rizi, 2020). Based on what was mentioned, the theoretical framework, related literature, methodology, and findings will be presented in the following.

2. Theoretical Framework and Related Literature:

The company's management is free to provide the accounting information and other information that facilitate and properly provide the users' needs. The companies may opt for voluntary disclosure to limit the investors' unfavorable perceptions and create awareness about the prospects of the company (Alipour and Jaberzadeh, 2016). The earnings management is also known as the public intervention of the management in the process of profit determination which is usually in line with the desired goals of the management. Earnings management is a method used by the management for the manipulation of the data. For example, smoothing profits to make investors more confident of profit stability is an instance of data manipulation. Such measures may drastically affect the data in the financial statements. There are several methods by which the management can abuse the book records. Most of the time, illegitimate records in the accounting books are used to cover up the financial abuse. On other occasions, they are used as a tool for earnings management. When applying the earnings management, the company's management clearly knows that the reason behind doing this is maintaining the company's resources against shareholders. Even on other occasions, the earnings management is fulfilled to obtain the reward allocated to the managers for protecting the company's interests as much as possible against the shareholders (Taheri *et al.*, 2019).

Facilitation, acceleration, and cost reduction in the process of financial assets conversion into cash and vice versa, i.e. conversion of cash into a financial asset, is one of the important functions of the financial markets especially the stock exchange market, which is called liquidity. Liquidity is the ability to buy and sell significant amounts of securities in the shortest time and with the lowest effects on the price. The liquidity rate in a stock exchange market is indicative of its success in the transparency of information and the proximity of the price of securities to their intrinsic value. This feature has been focused on by researchers in recent decades, both in terms of the market and individual aspects. The stocks with high liquidity have naturally a lower maintenance risk because their conversion-to-cash rate is faster. Therefore, the investors, due to the risk aversion nature, try to choose a stock with high liquidity, so that when necessary, they can sell the stocks in the shortest time and with the lowest change in price. In this case, estimation of a stock's liquidity using the data related to liquidity would be very useful. Generally, the study on the liquidity indices was initiated in the early 20th century, and from that time on, those assets that can be transacted in the shortest time and with the lowest costs, are known as liquid assets. There are numerous

criteria for the measurement of liquidity. These criteria include Amihud liquidity ratio, trading volume, bid-ask spread, depth, and the number of transactions. These methods can be divided into two categories, i.e. friction indicators and activity indicators, which are in fact two dimensions of liquidity. Friction has been defined as the price continuity for urgency, which reflects the transaction conditions. The bid-ask spread can be used as a criterion of friction. Due to the multi-dimensional characteristic of liquidity, the reflection of all its features in a single criterion would be difficult. In a categorization by Aitken and Camerton-Forde, the liquidity measurement criteria are categorized into order-based criteria and transaction-based criteria. The transaction-based criteria are retrospective rather than prospective, and thus, are not necessarily reflective of investors' ability for fast transactions and related costs. However, the emergence of electronic systems of transactions has led to access to more detailed data and consequently, newer liquidity criteria based on the orders in the market. These criteria investigate the fast execution of the transaction and its related costs, with more precision. Among the most important criteria in this regard is the bid-ask spread (Mansouri Mohammadabadi *et al.*, 2017).

Liquidity in the stock market also, like other financial markets, is greatly important. Higher liquidity in the secondary stock market leads to the popularity of initial public offering and a reduction in the risk cost of underwriters and marketers. In addition, the investors' costs are reduced by a reduction in volatility and trading costs, which subsequently lead to a decrease in the risk cost of underwriters and marketers. Therefore, from a macro perspective, the presence of liquid stock markets is necessary for the allocation of investment efficiency and allows for a reduction in the publishers' cost of capital. The liquidity as an effective factor on the securities' return, is of great importance since generally, the liquidity is indicative of the conditions of investment and macroeconomics. From a micro perspective, a liquid stock market allows for the absorption of different investors with various transaction strategies (Ahmadpour and Baghban, 2014).

In the short term, the expansionary monetary policy that increases the liquidity of the market, in sections with low price elasticity, creates fast price reaction, and in the sections with high price elasticity, creates a market of tradable goods and a mild price reaction. The effectiveness of the money and liquidity on the actual and nominal variables of the economy has been always among the most important economic problems discussed by the economic schools. In the early years of the new millennium, we have seen considerable evolutions in most developed and developing countries, with the drastic growth of liquidity being one of its symptoms. The monetary policies constitute a part of any country's economic policies by which the monetary authorities can control the society's liquidity flow, and by directing it towards the investment in the productive sector, affect the economic growth and development (Gholizadeh and Molavali, 2012). The related literature will be reviewed in the following.

2.1. Review of Related Literature

2.1.1. Global Studies Literature Review

Huang and Ho (2020) investigated the stocks liquidity, earnings management, and stock returns in China, during 1998-2018. The results indicated that with the decrease in earnings management degree, the liquidity of the stocks is increased. The stock's liquidity has an inverse and significant relationship with the earnings management and stock return.

Chu Khanh and Chu (2019) in a study entitled "stock liquidity and company's growth" examined the relationship between these two items. They studied the data from 132 companies with financial liquidity and evaluated their effects on the growth of companies. The results indicated that companies with high income show higher growth than other companies. Chen *et al.* (2018) in their study, dealt with the investigation of the "effects of stocks liquidity on the short-term vision of earnings management". They considered earnings management as a factor for the identification of managers' short-term vision. The results indicated that the stock's liquidity leads to a reduction in earnings management.

Ferramosca and Allegrini (2018) examined the complex role of family ownership in earnings management, based on the socioemotional wealth theory. The results indicated that there is an inverted u-shaped relationship between optional accruals and family ownership. Besides, there is a significant relationship between the profession and the experience.

2.1.2. Domestic Literature

Khazaei *et al.* (2021) investigated the moderating role of ownership structure in the relationship between comparability of financial statements and earnings management". The comparability is one of the qualitative features of accounting information, which can be influenced by several factors such as the management motives and earnings management. On the other hand, the ownership structure is one of the discussions in the corporate governance area, which affects different aspects of the company. This study aimed to investigate the moderating role of ownership structure in the relationship between the comparability of financial statements and earnings management. To achieve this objective, 120 companies from the companies listed in Tehran Stock Exchange during the 2005-2015 were chosen as the statistical population. The multiple regression pattern and compositional data (controlling the effects of years and industry) were used for data analysis and testing research hypotheses. The first hypothesis testing results indicated that comparability of the financial statements has a negative and significant relationship with the earnings management of the optional accruals. The results of the second hypothesis testing indicated that the increase in institutional ownership level leads to a weakened inverted relationship between comparability and earnings management. This result can be interpreted in a way that the higher the institutional ownership level, the lesser the negative effective earnings management on the comparability. The results of the third hypothesis testing indicated that the ownership concentration has no significant effects on the relationship between comparability and earnings management.

Taheri and Azimi (2019) investigated the effect of geographic dispersion based on accrual-based earnings management and real activity-based earnings management. Earnings management refers to the general management intervention in the profit determination process, which is often in line with the desired goals of management. In the accounting bibliography, the most common method for earnings management is earning management based on optional accruals and actual activities. This study dealt with the investigation of the effects of geographic dispersion on the earnings management options between the accrual-based and real activity-based earnings management. It was empirical-fundamental research in terms of purpose and correlational in terms of nature. The statistical population included the companies listed in Tehran Stock Exchange during the 2007-2015 period. The systematic removal sampling, the library-based method, and document mining were used for selection and the samples and data collection from the 105 companies selected from different industries. Two hypotheses were proposed in line with the research objective and were tested by the use of multivariate regression models and the Student's t-test method. The results indicated that companies geographically dispersed, have a lower level of earnings management based on both optional accruals and real activity.

Valizadeh Larijani *et al.* (2018) investigated the relationship between disclosure of internal control reports, agency costs, and earnings management. Implementation of internal control mechanisms and disclosure of the reports related to it is among the effective control instruments for shareholders' better monitoring of the managers' behavior and performance. Regarding the importance of the subject and also, for meeting the requirements of the Stock Exchange Organization about the implementation of internal control in the companies under the supervision of this organization during the recent years, this study aimed to investigate the relationship between disclosure of internal control reports governing the financial statements, agency costs, and earnings management in the companies listed in Tehran Stock Exchange. To achieve this objective, three hypotheses were formulated and tested by the data extracted from the sample companies listed in Tehran Stock Exchange during the 2007-2015. The results obtained from the statistical analysis of multivariate regression models indicated that there is a negative and significant relationship between the disclosure of internal control reports governing the financial statements and the earnings management. However, there was no significant relationship between the disclosure of internal control reports governing the financial statements and the agency costs, and between the earnings management and agency costs.

Ismailzadeh and Keyvanfar (2018) studied the relationship between management strength, earnings management, and corporate value. Based on the agency theory, the management strength is indicative of one of the most costly symbols of contrast between the shareholders and the managers. In this study, it was tried to, by the use of the data extracted from 135 companies listed in Tehran Stock Exchange, and the

compositional data and multivariate regression, investigate the role of management strength in the earnings management approaches and its effects on the corporate value. The results indicated that the management strength leads to the decrease in earnings management use and the reduction in the negative effect of earnings management on the corporate value.

3. Methods and Materials

3.1. Methodology

The current study is applied-correlational research. In the correlational methods, evaluation of the changes in one or more factors due to the change in other factors (s) is examined by calculation of the correlation coefficient. It is used when the number of actor variables in the experiment is high. The library-based and field methods have been used for data collection in the current study. The theoretical framework has been extracted from the specialist English and Persian websites, magazines, and books. The required financial data also have been collected from the Tehran Stock Exchange Market Website, the companies' financial statements, and Tadbir Pardaz and Rahavard Novin Software. First, the Jarque-Bera Test has been used to test the normality of data distribution. In addition, multivariate regression has been used as the statistical procedure. In the regression method, the main objective is to investigate whether there is a relationship between the dependent and independent variables. In addition, the data analysis in the descriptive statistics section was done by the use of measures of central tendency such as the mean and median, and the measures of dispersion such as the standard deviation, skewness, and kurtosis. The compositional data are also used for hypothesis testing. In the compositional data method, the F-Limer method is used to choose between the panel and pooled method. In case the panel method is selected, Hausman Test is used to choose between the constant or random-effects methods. The collected data are input in Excel, and after required modification and classification based on the variables under study, are transferred to the Eviews Software for final analysis. Finally, we would deal with confirmation or rejection of the research hypotheses by the use of results obtained from the software.

3.2. Statistical Population

The statistical population of the current study included the companies listed in Tehran Stock Exchange, active during the 2011-2020. The quality of the information of ease of access to the data in financial statements and other data are among the most important reasons for the selection of this population.

The companies under study were chosen by removal method, using the below criteria:

1- Have been listed on the Tehran Stock Exchange until the end of March 2020.

2- Their financial year should end at the end of March and no change has been made in the period under review.

3- From 2011 to 2020, there are not halted for a 3-month period.

The whole statistical population has been used for research. The companies under study should completely provide the data required for the conduct of the current study in the period of 2011 to 2020. According to these criteria, 110 companies were chosen as the statistical population.

3.3. Research Instruments

In the current study, the library-based method has been used for the extraction of the theoretical framework. To do so, the required data were collected by referring to the books, magazines, and specialist websites. The data collection method is document mining. To estimate the model and test the hypotheses, the required data were extracted from the financial statements and their associated data from 2011 to 2019, as well as the available information systems and databases such as the Rahavard Novin Software. After the data is collected, Office Ver.2010 was used for the computation and preparation of the variables. Descriptive and inferential statistics were also used in the current study to analyze the data. For data explanation and case summaries, the descriptive statistics (mean, variance, correlation, covariance, etc.), and for research hypotheses testing, inferential statistics will be used. The F-Limer and Hausman tests were used for the determination of the compositional data type, and the t-test was used to determine the significance of the relationship between the individual dependent and independent variables. Also, the F-test will be used with a slight difference to test the significance of the overall relationship of the regression equations, as well as the adjusted coefficient of determination R^2 for the relationship between dependent

and independent variables. The Excel and Eviews Software were also used for data analysis and extraction of the results.

3.4. Data Analysis

The Eviews-12 Software was used in the current study for data analysis and extraction of the results. Two fundamental techniques have been used in the current study for hypothesis testing, namely: 1- Statistical analysis, and 2- Regression. The multivariate regression based on the panel data was used to evaluate the relationship between the research variables.

4. Research Variables

4.1. Dependent Variable

4.1.1. Stock Return

Return on shares in the current study is the change in the price of ordinary shares in addition to all the benefits accrued to the share in the period in question. Share-based benefits include cash dividends paid, capital gains preference benefits, bonus stock benefits, or share dividends per share (Ghaemi et al., 2008).

$$R_t = \frac{(p_t - p_{t-1}) + D_t}{p_{t-1}}$$

4.2. Independent Variable

4.2.1. Earnings Management

The managers usually manage the earnings to mislead the shareholders about the real economic performance of the company. This earnings management which is done through manipulation of the accounting figures or alteration of real activities reduces the precision and authenticity of the information and increases the risk and uncertainty in people outside the organization. Also, probably due to the information asymmetry and reduction of investment efficiency, lead to the variation of the models used in the thematic literature for measurement of optional accruals. The accruals are divided into optional and non-optional accruals. The optional and non-optional accruals are determined under the influence of economic conditions and are constant over time. By the way, these accruals can be estimated by the use of some accounting variables (Alipour and Jaberzadeh, 2016).

Optional Accruals

To calculate the optional and non-optional accruals, first, the accruals of each year should be estimated using average sales and accruals for the past three years, as follows:

$$E_t(Acc_{i,t}) = \frac{\sum_{k-1}^{3} Acc_{i,t-k}}{\sum_{k-1}^{3} Sales_{i,t-k}} Sales_{i,t}$$

In which, $E_t(Acc_{i,t})$ is the estimation of optional accruals of the company i in the period t, $Sales_{i,t}$ is the company's sales, and k is the period 3 years before the current year. To calculate the numerator of this fraction, optional accrual of the 3 past years is calculated and the mean value of the 3 years is put in the numerator. Also, to calculate the denominator of the fraction, the mean sales of the past three years are used. Finally, the number obtained from this fraction is multiplied by the current year's sales.

Non-optional Accruals

To calculate the non-optional accruals, the optional accruals estimated in the above section, will be deducted from all accruals the current year (Huang and Ho, 2020).

$$NDA_{i,t} = E_t(Acc_{i,t}) - Acc_{i,t-1}$$

In which, $Acc_{i,t-1}$ is the optional accruals at the beginning of the period. To calculate the non-optional accruals, the optional accruals of the last year is deducted from the estimated optional accruals in the current year.

4.3. Moderating Variable

4.3.1. Number of Transactions

It is referred to the number of transactions in a specified period, in which the exchange of shares occurs. This criterion is calculated annually, or in other words, the number of transacted shares of the company in a year (Ghorbani *et al.*, 2014).

5. Research Hypotheses

5.1. Main Hypothesis

The number of share transactions has a significant effect on the relationship between the earnings management and stock return in the companies listed on Tehran Stock Exchange.

Secondary Hypotheses

- The number of share transactions has a significant effect on the relationship between the optional accruals and stock return in the companies listed on Tehran Stock Exchange.
- The number of share transactions has a significant effect on the relationship between the non-optional accruals and stock return in the companies listed on Tehran Stock Exchange.

6. Research Model

In the current study, for evaluation of the effects of the number of transactions on the relationship between the earnings management and the stock return in the companies listed in the Tehran Stock Exchange, the following model was extracted by the use of Huang and Ho (2020) research.

Main Model

$$R_{it} = \beta_0 + \beta_1 \text{ Earnings management}_{i,t} + \beta_2 \text{ Earnings management}_{i,t} * \text{NumberofTransaction}_{i,t} + \beta_3 \text{ NumberofTransaction}_{i,t} + \beta_4 \ lervrege_{i,t} + \beta_5 size_{i,t} + \beta_6 \ prof_{i,t} + \beta_7 Tang_{i,t} + \varepsilon_0$$

Secondary Models

$$R_{it} = \beta_0 + \beta_1 \text{ Optional Accrual }_{i,t} + \beta_2 \text{Optional Accrual }_{i,t} * \text{NumberofTransaction}_{i,t} + \beta_3 \text{ NumberofTransaction}_{i,t} + \beta_4 \ lervrege_{i,t} + \beta_5 size_{i,t} + \beta_6 \ prof_{i,t} + \beta_7 Tang_{i,t} + \varepsilon_0$$

$$R_{it} = \beta_0 + \beta_1 \text{ Non} - \text{Optional Accrual}_{i,t} + \beta_2 \text{Non} - \text{Optional Accrual}_{i,t} * \text{NumberofTransaction}_{i,t} + \beta_3 \text{ NumberofTransaction}_{i,t} + \beta_4 \ lervrege_{i,t} + \beta_5 size_{i,t} + \beta_6 \ prof_{i,t} + \beta_7 Tang_{i,t} + \varepsilon_0$$

In which, $\text{NumberofTransaction}_{i,t}$ is the number of transactions, $\text{Earnings management}_{i,t}$ is the earnings management, $\text{Optional Accrual }_{i,t}$ are the optional accruals, $\text{Non} - \text{Optional Accrual}_{i,t}$ are the non-optional accruals, R_{it} is the company's stock return, $\text{leverage}_{i,t}$ is the financial leverage, $\text{size}_{i,t}$ is the company's size, $\text{prof}_{i,t}$ is the company's profitability, $\text{Tang}_{i,t}$ are the company's tangible assets, β_0 is the y-intercept, and ε_0 is the error term.

7. Results

As seen in Table 1, the probability of F-statistics is indicative of the significance model at the 99% confidence interval. The adjusted coefficient of determination is equal to 0.60, i.e. about 60% of the changes in the dependent variable are expressed by the independent variable. The Durbin-Watson Statistics is equal to 2.082089. Since this value is placed between the critical values 1.5 to 2.5, there is no autocorrelation of residuals. The optional accruals coefficient is equal to -0.204904 with a significant number of 0.0000. Regarding the P-Value of this variable, the results are indicative of its significance at the 5% error level, and because the error coefficient of the optional accruals is 0.0000, which is lower than 0.05, these variables are significant. In addition, since the coefficient of the optional accruals variable is negative, it is indicative of an inverse and significant relationship between the optional accruals and the stock return, i.e. higher the value of optional accruals, the lower the value of the stock return. Also, the coefficient of optional accruals * the number of transactions is equal to 0.051621, with a significance level of 0.0000. Regarding the P-Value of this variable, the results are indicative of the significance of this coefficient at the 5% error level. Also, since the coefficient of optional accruals' error level*the bid-ask spread is equal to 0.0000, which is lower than 0.05, this variable is significant. in addition, because the coefficient of optional accruals variable*the number of transactions is positive, there is a direct and significant relationship between the coefficient of optional accruals variable*the the number of transactions and stock return, i.e. the higher the value of optional accruals*the number of transactions, the higher the stock return. In this regard, the VIF (Variance Inflation Factor) which evaluates the intensity of multicollinearity in ordinary least squares regression analysis is, in fact, an index that expresses how much of the changes in estimated coefficients is increased due to collinearity. Therefore, the intensity of multicollinearity can be analyzed with the evaluation of the VIF value. If the VIF statistic is close to one, it is indicative of a lack of collinearity. Meanwhile, the VIF statistic in Table 1 is indicative of a lack of collinearity in the model under study.

Table 1. Results of secondary hypotheses testing.

Dependent variable: stock return					
Variable	**Coefficients**	**Standard error**	**t-statistic**	**Significance level**	**VIF**
Optional accruals	-0.204904	0.018849	-10.87105	0.0000	1.887
Optional accruals*number of transaction	0.051621	0.004409	11.70759	0.0000	2.342
Number of transactions	0.124516	0.012561	9.912613	0.0000	2.443
Company size	1.065386	0.061177	17.41490	0.0000	2.783
Company's profitability	0.282983	0.020334	13.91695	0.0000	1.833
Tangible assets	0.032568	0.014741	2.209357	0.0273	1.931
Financial leverage	-1.136608	0.123670	-9.190685	0.0000	1.903
Constant	1.706565	0.105339	16.20073	0.0000	-
R^2	R^2_{adj}	Durbin-Watson statistic	F-statistic	Significance level	
0.608362	0.56772	2.082089	26.42022	0.0000	

As seen in Table 2, the probability of F-statistics is indicative of the significance model at the 99% confidence interval. The adjusted coefficient of determination is equal to 0.61, i.e. about 61% of the changes in the dependent variable are expressed by the independent variable. The Durbin-Watson Statistics is equal to 1.511452. Since this value is placed between the critical values 1.5 to 2.5, there is no autocorrelation of residuals. The non-optional accruals coefficient is equal to -0.061682 with a significant number of 0.0000. Regarding the P-Value of this variable, the results are indicative of its significance at the 5% error level, and because the error coefficient of the optional accruals is 0.0000, which is lower than 0.05, these variables are significant. In addition, since the coefficient of the non-optional accruals variable is negative, it is indicative of an inverse and significant relationship between the optional accruals and the stock return, i.e. higher the value of optional accruals, the lower the value of the stock returns. Also, the coefficient of non-optional accruals * the number of transactions is equal to 0.101822, with a significance level of 0.0000. Regarding the P-Value of this variable, the results are indicative of the significance of this coefficient at the 5% error level. Also, since the coefficient of non-optional accruals' error level*the bid-ask spread is equal to 0.0000, which is lower than 0.05, this variable is significant. In addition, because the coefficient of non-optional accruals variable*the number of transactions is positive, there is a direct and significant relationship between the coefficient of non-optional accruals variable*the number of transactions and stock return, i.e. the higher the value of non-optional accruals*the number of transactions, the higher the stock return. In this regard, the VIF (Variance Inflation Factor) which evaluates the intensity of multicollinearity in ordinary least squares regression analysis is. In fact, an index that expresses how much of the changes in estimated coefficients is increased due to collinearity. Therefore, the intensity of multicollinearity can be analyzed with the evaluation of VIF value. If the VIF statistic is close to one, it is indicative of a lack of collinearity. Meanwhile, the VIF statistic in Table 2 is indicative of a lack of collinearity in the model under study.

Table 2. Results of secondary hypothesis 2-2 testing.

Dependent variable: stock return					
Variable	**Coefficients**	**Standard error**	**t-statistic**	**Significance level**	**VIF**
Optional accruals	-0.061682	0.010159	-6.071346	0.0000	1.706
Optional accruals*number of transaction	0.101822	0.009954	10.22870	0.000	1.993
Number of transactions	0.563221	0.040389	13.94492	0.0000	1.982
Company size	0.025972	0.009874	2.630184	0.0087	1.183
Company's profitability	0.056318	0.020582	2.736297	0.0068	1.830
Tangible assets	2.183394	1.023354	2.133566	0.0334	1.340
Financial leverage	-0.739241	0.133901	-.5.520790	0.0000	7.901
Constant	0.084268	0.020272	4.156900	0.0000	-
R^2	R^2_{adj}	Durbin-Watson statistic	F-statistic	Significance level	
0.611786	0.57442	1.514152	19.17438	0.0000	

Table 3. Summary of hypotheses testing.

Number of hypotheses	Hypothesis (path)	Result
1	The number of transactions has a significant effect on the relationship between the optional accruals and stock return in the companies listed on Tehran Stock Exchange	Confirmed
2	The number of transactions has a significant effect on the relationship between the non-optional accruals and stock return in the companies listed on Tehran Stock Exchange	Confirmed

8. Suggestions

The secondary hypothesis 2-1 is that the number of transactions has a significant effect on the relationship between the optional accruals and stock return in the companies listed in Tehran Stock Exchange. The results indicate that there is a direct and significant relationship between the number of transactions*optional accruals and the stock return. In other words, with increasing the number of transactions*optional accruals, the stock return will be higher. Facilitation, acceleration, and cost reduction in the process of financial assets conversion into cash and vice versa, i.e. conversion of cash into a financial asset, is one of the important functions of the financial markets especially the stock exchange market, which is called liquidity. Earnings management is a method used by the management for the manipulation of the data. For example, smoothing profits to make investors more confident of profit stability is an instance of data manipulation. Such measures may drastically affect the data in the financial statements. There are several methods by which the management can abuse the book records. Most of the time, illegitimate records in the accounting books are used to cover up the financial abuse. On other occasions, they are used as a tool for earnings management. These results are in line with those obtained by Huang and Ho (2020), Chen *et al.* (2018), and Mansuri Mohammadabadi *et al.* (2017). The secondary hypothesis suggests that that the number of transactions has a significant effect on the relationship between the non-optional accruals and stock return in the companies listed in Tehran Stock Exchange. The results indicate that there is a direct and significant relationship between the number of transactions*non-optional accruals and the stock return. In other words, with increasing the number of transactions*non-optional accruals, the stock return will be higher. Liquidity is the ability to buy and sell significant amounts of securities in the shortest time and with the lowest effects on the price. The liquidity rate in a stock exchange market is indicative of its success in the transparency of information and the proximity of the price of securities to their intrinsic value. This feature has been focused on by researchers in recent decades, both in terms of the market and individual aspects. The stocks with high liquidity have naturally a lower maintenance risk. The company's management clearly knows that the reason behind doing this is maintaining the company's resources against shareholders. Even on other occasions, the earnings management is fulfilled to obtain the reward allocated to the managers for protecting the company's interests as much as possible against the shareholders. These results are in line with those obtained by Huang and Ho (2020), Chen *et al.* (2018), and Mansuri Mohammadabadi *et al.* (2017). According to the results, the number of transactions*optional/non-optional accruals has a significant and direct relationship with the stock return. Therefore, it is suggested that the companies pay special attention to the number of transactions and liquidity, to increase the stock return. With increasing the liquidity, the stock return will be higher. It would be true if the company, even in the case of application of earnings management, increases the liquidity to raise the stock return. The board members should prioritize measures to increase efficiency, increase liquidity, and reduce earnings management. Board members are also advised to resort to regulatory measures such as implicit audits to prevent earnings management. The limitations applied for the selection of the samples out of the statistical population make it difficult to generalize the research results to that group of companies listed on the Tehran Stock Exchange that have different characteristics from the samples in question. In addition, the generalization of the research results to the companies not listed on the Tehran Stock Exchange must be done cautiously.

References

Ahmadpour, A., and M. Baghban, 2014, Investigating the Relationship between Liquidity of Assets and Liquidity of Stocks in Tehran Stock Exchange, *Empirical Accounting Research* 4(2), pp. 61-77.

Alipour, H., and F. Jaberzadeh, 2016, The effect of qualitative characteristics of accounting information on the comprehensive income of companies listed on the Tehran Stock Exchange, in: *the Second National Conference on New Approaches in Management, Economics and Accounting*, Mazandaran - Babol, Scientific Research Institute of Koomeh Elm Avaran Danesh.

Aref Manesh, Z., and K. Amouzadi Rizi, 2020, Investigating the moderating role of the type of governmental ownership on the relationship between corporate governance mechanisms and earnings management (real and accrual) in companies listed on the Tehran Stock Exchange, *Empirical Accounting Research* 10(1), pp. 115-137.

Chen, Y., S. Ghon Rhee, M. Veeraraghavan, and L. Zolotoy, 2018, Stock liquidity and managerial short-termism, *Journal of Banking & Finance* 60, pp. 44-59.

Chu Khanh, L., and H. Chu, 2019, Is Too Much Liquidity Harmful to Economic Growth? *The Quarterly Review of Economics and Finance* 76(C), pp. 230-242.

Ferramosca, S., and M. Allegrini, 2018, The complex role of family involvement in earnings management, *Journal of Family Business Strategy*. https://doi.org/10.1016/j.jfbs.2018.01.001

Ghaemi, M.H., M. Fitasvand, and M. Tojki, 2008, The effect of earnings smoothing on stock returns of companies listed on the Tehran Stock Exchange, *Quarterly Journal of Accounting and Auditing Reviews* 33, pp. 133-150.

Gholizadeh, A.A., and T. Molavali, 2012, Investigating the effects of liquidity on housing price fluctuations in oil and non-oil countries, *Economic Research and Policy* 63, pp. 83-104.

Ghorbani, B., A. Mohammadi, and Z. Asgari, 2014, Quality of corporate governance and stock liquidity, *Quarterly Journal of New Research in Accounting* 2(3), pp. 87-97.

Huang, H.Y., and K.C. Ho, 2020, Liquidity, earnings management, and stock expected returns, *The North American Journal of Economics and Finance* 54, 101261.

Ismailzadeh, A., and M. Keyvanfar, 2018, The relationship between management strength, earnings management, and corporate value, *Financial Accounting and Auditing Research* 10(39), pp. 81-106.

Khazaei, M., H. Zalqi, and A. Aflatooni, 2021, The moderating role of ownership structure on the relationship between comparability of financial statements and earnings management, *Empirical Accounting Research* 11(1), pp. 1-22.

Mansouri Mohammadabadi, S., M.T. Taghavifard, M. Farjami, and M. Bishian, 2017, Analysis of stock liquidity indices in the stock market with technique, *Tasmim Engineering Quarterly* 7, pp. 41-69.

Taheri, M., and M. Azimi Yancheshmeh, 2019, The effect of geographic dispersion on earnings management based on accruals and earnings management based on real activities, *Empirical Accounting Research* 9(3), pp. 327-351.

Valizadeh Larijani, A., A. Rahmani, and Sh. Sadeh, 2018, Relationship between disclosure of internal control reports, agency costs, and profit management, *Management Accounting and Auditing Knowledge* 7(25), pp. 29-40.

Zamani, Sh., and P. Faghani Kondari, 2016, Calculating the liquidity of Tehran Stock Exchange stocks and examining the factors affecting it, *Financial Management Perspective* 15, pp. 61-80.