Int. j. adv. multidisc. res. stud. 2022; 2(3):331-335

Received: 19-04-2022
Accepted: 29-05-2022

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Influence of Receivable turnover ratio on Earning Per Share: The Case of telecommunications technology firms listed on Vietnam stock market

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Abstract
The study investigates the influence of receivable turnover ratio on earning per share (EPS) in the telecommunications technology firms listed on the Vietnam stock market. The study employs a set of aggregated data from 33 telecommunications technology firms listed on the Vietnam stock market. The research uses both qualitative and quantitative research methods. For the quantitative research method, the supporting tool is Stata13 software. The research results show that, the factor receivable turnover ratio positive influence of the EPS of telecommunications technology firms listed on the Vietnam stock market. Based on the findings, some recommendations are given for receivable turnover ratio for improving EPS in the telecommunications technology firms listed on the Vietnam stock market.

Keywords: Receivable Turnover Ratio (RTR), Earning Per Share (EPS), Accounting, Finance, Telecommunications Technology

JEL Classification codes: M41, F65

1. Introduction

According to financial experts, receivables turnover or average collection periods fluctuates depending on credit policy of the firm. If the receivables turnover ratio is low, it is possible that capital efficiency is poor due to the fact that capital is over-occupied. On the contrary, if the receivables turnover ratio is too high, it means the competitive edge is undermined, which results in a decrease in revenue.

Receivables turnover ratio can be combined with other financial indicators to more precisely assess the firm's financial capacity, business efficiency, etc.

Earnings per share is one of the important factors to determine a firm's share price, which is the amount of profit per market share.

Also, according to professionals, to evaluate a firm's profit, it is necessary to consider many indexes related to earnings per share, including cash ratio, return on total assets (ROA), return on common equity (ROE), return on Sales (ROS), quick ratio, book value, price to Earing ratio (P/E).

Interest rate is one of the most important matters that any investor in the stock market would pay attention to. Earnings per share is thus a crucial index that investors need to be aware of.

Telecommunications technology is one of the leading industries of the economy, which plays an important element to boost the economy. In the particularly complicated setting of the COVID-19 pandemic, to fulfill the dual goals of both preventing the spread of the pandemic and sustain the economic growth, the authorities of all levels, industries, and localities, along with firms and factors, have promoted the application of information technology in all activities, including managing, directing, executing, manufacturing, business activities, commercial transactions, etc. Moreover, as the Industrial revolution 4.0 centers around innovative manufacturing with the boost of scientific and technological breakthroughs that are taking place around the globe. In this revolution, telecommunications technology firms play an important role. The elements of the industrial revolution 4.0 includes: Artificial Intelligence (AI), Big Data, Data Science, Internet of things (IOT), which are all based upon the technology foundation of telecommunications technology firms. However, due to the volatility of the economy, the productions of telecommunications technology firms are also affected; financial indicators in general and the EPS index in particular have not yet met the expectation of companies and investors.

Therefore, it is necessary to analyze and assess the influence of receivable turnover ratio on earnings per share.

2. Literature review and research hypothesis

Earning Per Share

EPS is an important financial indicator for stock investment. EPS reflects the profit after tax of a share (EPS = Profit after tax / Total number of shares outstanding) (Luu & Vu, 2011; Ministry of Finance, 2014) [8, 9].

EPS is the shortest version of profit after tax.

Basic EPS: EPS = (Net income - preferred dividends) / number of shares outstanding.

Diluted EPS is the EPS issued by the enterprise that has issued convertible bonds, preference shares, right to buy shares, ESOP, issued to strategic shareholders, etc. The shares should be diluted. Diluted EPS will be more accurate, as it reflects future events. Experts say that, with a good business rating, the EPS>1,500 VND and maintaining for many years, tends to increase.

Enterprise is stable when EPS is higher than 1,000 VND.

Earning Per Share (EPS) is also an important indicator. EPS shows how much interest a common share generates in the year, after tax.

EPS adjusted for outstanding shares (adjusted EPS) is an important indicator to assess a firm's capability as well as profitability per capital of shareholders; it shows the firm's internal ability to generate net profit for every share that shareholders have invested (Hung, 2008) [3].

With joint stock companies, indicators that are associated with shares play an important role, as they present the financial situation of the firm, which influences many stakeholders (Lan, 2016) [5].

Receivables turnover ratio

The receivable turnover ratio is an accounting calculation that measures how efficiently a firm collects customers' accounts receivable and debts. Based on this indicator, it is possible to make an assessment of the efficiency of the business when granting credit to customers and at the same time show the ability to collect short-term debts. The calculation of receivables turnover can be done by year/quarter/month.

Receivable turnover ratio can be calculated with the following formula:

Receivable turnover ratio = Net credit sales/Average accounts receivable

In which

1. Net credit sales = Total credit sales in the period - Credit sales that customers have paid in cash
2. Average of accounts receivable = Average of accounts receivable at the beginning and at the end of the period

A firm that has too many accounts receivable is similar to a company that gives out credit without being able to collect neither the principal nor the interest. Typically, as service and goods providers, companies are expected to attach a clause that requires the customer to pay the value of goods and services within 30 - 60 days.

Based on the Receivables turnover ratio, it is possible to make an initial assessment of the ability to collect debts of the firm or the effectiveness of credit granting at the enterprise at present. Based on this indicator, it is also possible to know the number of times the receivable is converted to cash in the firm.

Receivables turnover ratio is one of the factors that negatively affect the profitability of enterprises (ROA) (Padachi, 2006; Lazaridis & Tryfonidis, 2006) [11, 6]. The receivables turnover ratio has a negative effect on corporate profits (Napompech, 2012) [10]. Receivables turnover ratio has a negative impact on financial risk (Long, 2020) [7].

Inheriting the above studies and experts' opinions, hypothesis H1 is presented as follows; H1: Receivable turnover ratio positively affects Earning Per Share of telecommunications technology firms listed on Vietnam stock market.

3. Data collection and research methodology

3.1 Research sample

The research sample is an important factor that determines the success of a quantitative study. Generally, there are two methods to choose: Random sampling and haphazard sampling. The random sampling is more widely used and brings more objective results. In this article, we randomly selects telecommunications technology firms listed on Vietnam stock market. This sample source is reliable.

We collected financial indicators of 33 telecommunications technology firms listed on Vietnam stock market in the period 2015-2021 and within 2 months and collected 231 observed variables.

3.2 Research Model

Inheriting the above studies and experts' opinions, we built the research model as shown below (see figure 1):

Fig 1: Research model

3.3. Analysis approach

To test the research hypotheses, we used Stata software to perform the following analysis: Descriptive statistics; Correlation analysis; Regression; autocorrelation by VIF coefficient and heteroskedascity (estat hettest).

4. Results

4.1 Descriptive statistic

Table 1 show that the dependent variable includes 1 observed variables; the independent variable includes 1 observed variables. Each observed variable is described by 231 observations. Basic indicators such as mean, max, min, standard deviation (std), variance, skewness coefficient of variation, sum of variables, range, coefficient of variation (p50), coefficient of variation of each observed variable (cv) has been identified and these basic indices accurately reflect the current state of Earning Per Share (EPS) and the influence of receivable turnover ratio on the EPS of listed telecommunications technology firms.

Table 1: General descriptive statistics and detail descriptive statistics

General descriptive statistics					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Dependent variable					
EPS	231	1.341002	4.780845	-28.784	51.411
Independent variable					
RTR	231	3.616634	4.414298	.0047789	26.06026

Detail descriptive statistics		
stats	**EPS**	**RTR**
N	231	231
sum	309.7714	835.4425
range	80.195	26.05548
variance	22.85648	19.48602
cv	3.56513	1.220554
skewness	3.079757	2.585353
kurtosis	65.55703	10.27746
p50	.995	2.032353

4.2 Correlation analysis results

Table 2: Correlation analysis results of independent variable

	RTR	**EPS**
RTR	1.0000	
EPS	0.2311	1.0000

Table 2 shows the results of correlation analysis, also known as multicollinearity analysis. The results show that the absolute value of each correlation coefficient between 2 variables is less than 0.8; therefore, no multicollinearity occurs (Bryman & Cramer, 2001; Kohler & Kreuter, 2005; Torres-Reyna, 2007; Ditzen, 2018) [1, 4, 12, 2]. The remaining regression model has 1 independent variable with 1 observed variables, 1 dependent variable with 1 observed variables.

4.3 Regression Results

Regression results without control variables

Table 3: OLS regression results

OLS regression results for observed variable ROS of the dependent variable *(***regress EPS RTR)**						
Source	SS	df	MS		Number of obs = 231	
					F (1, 229) = 12.92	
Model	280.784447	1	280.784447		Prob > F = 0.0004	
Residual	4976.20633	229	21.7301587		R-squared = 0.0534	
Total	5256.99078	230	22.8564816		Adj R-squared = 0.0493	
					Root MSE = 4.6616	
EPS	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
RTR	.2503001	.0696315	3.59	0.000	.1130997	.3875005
_cons	.435758	.3968491	1.10	0.273	-.3461844	1.2177

With 95% confidence degree, Table 3 shows:
Value of F is equal to 12.92 > 1.96 and value of Prob is leeser than value of F (Prob > F) by 0.0004 (< 0.05). Thus, the model is consistent and statistically significant (Bryman & Cramer, 2001) [1]. Therefore, the research results are accepted (Bryman & Cramer, 2001; Kohler & Kreuter, 2005; Torres-Reyna, 2007; Ditzen, 2018) [1, 4, 12, 2].

Table 4: Result of the autocorrelation by VIF coefficient (estat vif) of RTR

Variable	**VIF**	**1/VIF**
RTR	1.00	1.000000
Mean VIF	1.00	

Table 4 shows that all the observed variables of the independent variables have VIF coefficients < 2, so it can be confirmed that 100% of all independent variables do not have autocorrelation (Bryman & Cramer, 2001; Kohler & Kreuter, 2005; Torres-Reyna, 2007; Ditzen, 2018) [1, 4, 12, 2].

Table 5: Results of heteroskedascity (estat hettest)

EPS
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of EPS
chi2(1) = 2.10
Prob > chi2 = 0.1477

Table 5 shows that Prob> chi2 > 0.05; Thus, there is no phenomenon of variable variance, ie the research model is consistent with the input data. Therefore, there is no need to use the model at a higher level (Bryman & Cramer, 2001; Kohler & Kreuter, 2005; Torres-Reyna, 2007; Ditzen, 2018) [1, 4, 12, 2].

With a significance level of 95%:
The regression equation of RTR affects EPS as follows:
EPS = .2503001 x RTR
The observed variable RTR has a positive impact on EPS. Therefore, hypothesis H1 was partially accepted.

5. Discussion and implications

To control the receivables, firms must determine the receivables turnover ratio.

The higher the receivables turnover ratio, the more effective the firm is to collect receivables and debts. A high ratio also shows that the cash flow of the firm increases after customers pay their debts. Firms do not have many bad debts and can guarantee the release of credit lines later.

A high receivables turnover ratio can also give an initial assessment of this enterprise, mainly based on cash. Firms are also very cautious before granting credit to customers. This will help firms prevent bad debt risks. However, it can make firms lose potential customers, bring them profits.

The low receivables turnover ratio shows that the debt collection ability of that firm is low, and the credit policy is not effective. The bad debt of the firm can increase, and the ability to control cash flow was poor. Customers are unable to pay their debts, so it is difficult for them to carry out future purchase and sale transactions.

If the firm has a low turnover ratio, it should consider modifying its credit policy to ensure the ability to collect receivables and debts from customers.

Experts believe that, as far as the receivable turnover ratio is concerned, besides making comparisons between the years and with other firms in the industry, firms should thoroughly consider individual receivable in order to find overdue debts and take measures to deal with them. Moreover, there are also some crucial points that needs to be considered when analyzing receivable turnover ratio: (i) firm's sale methodology: Normally, in retail firms that sell goods for immediate collection, the proportion of receivables is low, whereas in wholesale firms, the proportion of receivables account for a large percentage, due to the deferred payment policy of these firms. (ii) Sales credit policy of the firm, which is made visible through the credit period and the allowable credit limit for each customer. For firms with long credit terms and high standard debt balances, receivables account for a large proportion. Because sales credit is a method of stimulating consumption, it is necessary to consider and evaluate this indicator in relation to the sales revenue of the firm. (iii) Debt management and customers' solvency. This is also one of the factors affecting the value of this indicator. If receivables from customers accounted for a large proportion but the cause did not stem from the above two cases, it showed that the capital use was not good. Firms need to find out the causes in order to take timely corrective measures; such as: reducing the outstanding balance for overdue customers, stopping the provision of goods and services, selling debts to debt management companies, and asking for legal intervention.

Each industry would favor its distinct optimal receivable turnover ratio. Therefore, it is not possible to give a fixed answer to the question: How much is good for receivable turnover ratio? Firms need to compare the average collection days with the number of days to pay receivables to evaluate the effectiveness of the collection. In addition, it is necessary to compare with other firms in the same industry to know if the sales credit policy of the firm is effective or not.

To run the business, every firm needs means of labor, subjects of labor, and labor power, in which liquid assets mainly contribute as subjects of labor. Liquid assets are short-term assets that are constantly in circulation. Liquid assets allow firms to turn capital faster, reduce capital use costs, and improve business performance. Liquid assets include cash, inventory, receivables, short-term investments, etc. In order to ensure the continuity and efficiency of the firm operations of the enterprise, the management and use of these assets is necessary and has a great influence on the achievement of the overall goals of the firm. Thus, the manager's ability should know how to balance the amount of liquid assets for daily production and business activities that take place continuously with the amount of liquid assets that need to be reserved in case of unexpected situations.

In the course of business operations, firms often arise needs for both short-term and long-term capital for production as well as investment and development. The role of financial managers is to properly determine the capital needs for their business activities in each period, and actively choose the forms and methods of raising capital to ensure that the business operates smoothly and continuously with the lowest possible cost of raising capital. Timely mobilization of capital is very important for firms to seize business opportunities.

In the course of business operations, firms need to develop a reasonable policy to increase revenue but still control the costs related to receivables. Accordingly, the following basic factors should be noted: Credit standards, credit terms and collection policies. In order to shorten the time to collect sales, the administrator must closely monitor and supervise the receivables, analyze and evaluate the actual situation of the debt, on that basis, evaluate the effectiveness of the sales collection policy.

In short: This study has presented the influence of Receivable turnover ratio on EPS of telecommunications technology firms listed on Vietnam stock market. Receivable turnover ratio positively affects EPS.

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