

# Nepalese Journal of Insurance and Social Security

# NJISS

## In this issue

### **Illness, Healthcare, and Health Insurance: Socio-economic Perspective in Nepalese Context**

- *Devaraj Acharya, Bishnu Prasad Wagle, and Radha Bhattarai*

### **Using Expected Geometric Values to Calculate the Cost of Interest in Hyper-inflationary Environments: the Case of Venezuela**

- *J. Tim Query, and Evaristo Diz Cruz*

### **Factors Affecting Share Price of Nepalese Non-Life Insurance Companies**

- *Anamol Gautam and Nar Bahadur Bista*

### **Relationship between trading volume, stock return and return volatility: A case of Nepalese insurance companies**

- *Niraj Acharya and Sumit Pradhan*

### **Determinants affecting the buying of Life Insurance: A case of Kapilvastu District**

- *Govind Jnawali and Amrita Jaiswal*

### **Social Health Security Program in Nepal: Opportunities and Challenges**

- *Ruku Panday*

### **Perception among the Employees of Bank towards the Bancassurance in Nepal**

- *Urmila Joshi*



*An official publication of*  
**Nepal Insurance and Risk Management Association**  
Kathmandu, Nepal  
[www.nirma.com.np](http://www.nirma.com.np)

# Relationship between trading volume, stock return and return volatility: A case of Nepalese insurance companies

Niraj Acharya, Stock Analyst and associated to Snowball capital

email: [menirajscorpion@gmail.com](mailto:menirajscorpion@gmail.com) (Corresponding author)

Sumit Pradhan, Research Assistant in Uniglobe College, Pokhara University

email: [sumitpradhan@uniglobe.edu.np](mailto:sumitpradhan@uniglobe.edu.np)

---

## Abstract

*This study examines the relationship of trading volume with stock return and return volatility in the context of Nepalese insurance companies. The study is based on secondary data of 19 insurance companies with 114 observations for the period from 2013/14 to 2018/19. The result shows that trading volume and past trading volume have positive impact on stock return. It indicates that increase in trading volume and past trading volume leads to increase in stock return. Similarly, the result reveals that the market capitalization and firm size have positive impact on stock return. On the contrary, book values per share and turnover rate have positive impact on the return volatility. Similarly, past trading volume has a negative impact on return volatility. It indicates that increase in past trading volume leads to decrease in return volatility. The study concludes that trading volume and past trading volume have significant impact on the stock return and return volatility of insurance companies. The study also concludes that past trading volume followed by turnover rate is the most dominant factor that explains the changes in stock return in the context of Nepalese insurance companies. This study would enable the present investors to settle on informed choices since they would almost certainly foresee the patterns in share price movements just as profits of the organizations. This would include considering the trading volume and the stock return to improve the investor wisdom to invest in NEPSE.*

**Keywords:** *Stock return, trading volume, past trading volume, volatility, turnover rate, market capitalization, firm size and book value per share.*

## 1. Introduction

One of the contentious issue in the market microstructure has been the volatility and stock expected returns. This issue has received considerable attention both in developed and developing countries due to important implication for investors' portfolio positioning and liquidity of their investment portfolio (Ahmed *et al.*, 2005). There is substantial interest in how trading volume is related to price movements in the stock market. Clearly, positive trading volume is needed to generate observed market prices. A naive view of the market is that the greater the level of volume, the greater the price movement. However, instances can be found where a low level of volume is associated with large price movements and conversely, a high level of volume is associated with no change in price (Bessembinder and Seguin, 1992).

According to Tripathy (2010), pricing of securities depends on volatility of each asset. Therefore, price changes indicate the average reaction of investors to news. The arrival of new information makes investors to adapt their expectations and this is the main cause for price and return changes. Trading volume and volatility are indicators of the current stock market activity on one hand and a potential source of information for the future behavior of stock market on the other hand. Deeper understanding of the role of trading volume and volatility in the dynamics of stock prices may help investors to identify future patterns of the stock market which can be exploited in their investment decisions (Andersen, 1996).

Most of the past studies have affirmed the presence of positive relationship between trading volume and stock returns. Most of studies have confirmed contemporaneous and causal connection between trading volume and stock returns. In developed stock markets, an enormous number of studies have appeared contemporaneous and causal relationship between stock returns and trading volume. They additionally featured that Volume has predictive power to stock return volatility, paying little mind to the measure of volatility utilized. The relationship between trading volume and stock return is asymmetrical. The market volatility was negatively related to stock returns and positively related to trading volume. Despite the fact that there has been broad examination into the exact and hypothetical parts of the stock return-volume relationship in developed markets, not many has been

looked so far into emerging stock markets, similar to that of Nepal. The vast majority of the past studies were worried about developed markets particularly US, Japan, and UK. Not enough consideration was given on the relationship among trading volume, stock price volatility and stock returns in emerging capital markets. Moreover, the studies led on developing markets have given different outcomes. Given the blended experimental outcomes among price and trading volume in developing markets setting, progressively observational research from other rising financial markets is expected to more readily comprehend the price-volume relationship.

## 2. Review of literature

Ying (1966) suggested that there are positive relations between the absolute value of daily price changes and daily volume for both market indices and individual stocks. Likewise, Smirlock and Starks (1988) found a strong positive lagged relationship between volume and absolute price changes using individual stock data. Fama (1991) revealed that past security prices cannot be used to predict the future price changes and hence, technical analysis tools have no value. Similarly, Jegadeesh and Titman (1993) revealed that stock returns are positively related to the contemporary change in trading volume. Similarly, the study also found that past trading volume change and stock returns are negatively correlated. Saatcioglu and Starks (1998) found that volume led stock prices changes in four out of the six emerging markets.

Chan *et al.* (2000) found that trading volume for foreign stocks is strongly associated with NYSE opening price volatility. In addition to this, Lee and Swaminathan (2000) used monthly returns and daily trading volume of all the firms listed on NYSE and American Exchange (AMEX). The study revealed that momentum and trading volume appear to predict subsequent returns in the US equity market. Moreover, Bekaert and Wu (2000) not only support this finding, but also suggested that negative shocks generate a greater response in volatility than positive shocks of an equal magnitude. Omran and McKenzie (2000) analyzed the relationship between total trading volume and volatility persistence for 50 UK stocks. Even though the results are consistent with Lamoureux and Lastrapes (1990), diagnostic tests show that the generalized autoregressive conditional heteroskedasticity (GARCH) model cannot fully capture the volatility persistence. Likewise, Gervais *et al.* (2001) found that individual stocks, whose trading volumes are usually large over period of a day or a week, tend to experience large returns over the subsequent month.

Similarly, Miyakoshi (2002) investigated the effects of total trading volume on conditional volatility persistence for both individual stocks and the market index of the Tokyo Stock Exchange. The results showed that trading volume reduces the GARCH effect, both for individual stocks and the market index. The results are consistent with the view that total trading volume is a good proxy for information flow. Chordia *et al.* (2002) examined the dynamic relationship between trading volume, volatility, and stock returns in the international stock markets. The study found no evidence of the trading volume affecting the serial correlation of stock market returns. Likewise, Bohl and Henke (2003) assessed the relationship for 20 Polish stocks between 1999 and 2000. The study observed a decline in conditional volatility persistence after including total trading volume in the model. The study also argued that the results are consistent with the previous studies done in developed stock markets. In addition to this, Wang *et al.* (2005) examined the relationship between total trading volume and volatility for both Chinese individual stocks and the stock market index. The study found that trading volume can be a proxy for information flow for individual stocks, but not for the market indices.

Wagner and Marsh (2005) analyzed the relationship by using seven major stock market indices (those of France, Germany, Holland, Hong Kong, Japan, the UK, and US) over the period between 1988 and 1997. The study found that there is a significant positive relationship between surprise trading volume and conditional volatility. Moreover, the study observed that there is an asymmetric relationship between surprise volume and conditional volatility. It means that compared to negative surprise volume, positive surprise volume has a significantly greater effect on conditional volatility. However, Arago and Nieto (2005) investigated the changes in conditional volatility persistence by using seven major stock market indices (those of France, Germany, the UK, the US, Italy, Japan, Spain, and Switzerland) between 1995 and 2000. However, the findings contradict with the findings of Wagner and Marsh (2005). The inclusion of neither total volume nor its predictable and unpredictable components leads to a considerable reduction in volatility persistence. Likewise, De Medeiros and Doornik (2006) assessed the empirical relationship between stock returns, return volatility and trading volume using data from the Brazilian stock market. The study found out there is a contemporaneous and dynamic relationship between return volatility and trading volume and return volatility contains information about upcoming trading volumes. Furthermore, Griffin *et al.* (2006) investigated the dynamic relation between market-wide trading activity and returns in 46 markets. The study reported strong positive relationship between turnover and past returns.

Atmeh and Dobbs (2006) investigated the performance of moving average trading rules in the Jordanian stock market and found that technical trading rules can help to predict market movements. Moreover, Al-Khouri and

Ajlouni (2007) reported that the price-limit technique was effective in reducing the volatility in the Amman stock exchange. In addition, Floros and Vougas (2007) used GARCH and GMM method to investigate the relationship between trading volume and returns in Greek stock index futures market. The study found that trading volume was used as the indicator of prices. Hussainey *et al.* (2010) indicated that change in stock price was explained by firm's growth rate, debt level and size.

In Nepalese context, stock market has positive impact on economic development of Nepal (Joshi, 2010). The organization information, absence of profitability of the organization, market operation framework and government arrangement with respect to speculation are gave off an impression of being the significant reasons for insufficiency in the Nepalese stock market (Pradhan and Upadhyay, 2004). Late advancements in the Nepalese stock market have demonstrated that investors' involvement towards stock market can increase whenever definite information about proficient financial market is accessible. The small and medium investors can be driven to spare and invest resources into the stock market just if their stocks in the market are priced well. The vast majority of the investors lose their earnings capacity in a number of situations. Hence, estimating the effect of the relationship between trading volume, stock return and return volatility in NEPSE has been a fascinating question (Bhattarai and Joshi, 2007). Dhaugoda *et al.* (2016) found a positive impact of earning yield, dividend yield and price earnings ratio on stock return, whereas a negative impact of book to market ratio on stock returns. Similarly, Bhattarai (2014) found that earnings per share and price earnings ratios have significant positive association with share price, while dividend yield has significant inverse association with share price. In addition, the study also revealed that dividend yields, earnings per share and price earnings ratio are the most influencing factors in determining share price in Nepalese commercial banks. Pradhan (1993) examined the stock market and concluded larger stocks have larger price earnings ratio and large market value to book value. The above discussion reveals that there is no consistency in the findings of various studies concerning the trading volume and its relationship with stock return and return volatility.

The major purpose of this study is to analyze the relationship of trading volumes with stock return and return volatility in Nepalese insurance companies. More specifically, it examines the impact of trading volume, market capitalization, book to market ratio, firm size, turnover rate and book value per share on stock return and return volatility in Nepalese insurance companies.

### 3. Hypothesis

#### Trading volume

Chordia and Swaminathan (2000) examined the predictability of short term stock returns based on trading volume. The study concluded that high volume stocks respond promptly to market wide information. Likewise, Pathirawasam (2011) found a contemporary trading volume change is positively related to the stock returns. Similarly, Medeiros and Doornik (2008) investigated the empirical relationship between stock returns, return volatility and trading volume using data from the Brazilian stock market. The study found that there is a contemporaneous and dynamic relationship between return volatility and trading volume. Based on it, this study develops the following hypothesis:

*H<sub>1</sub>: There is a positive relationship of trading volume with stock return and volatility.*

#### Past trading volume

Past trading volume is one of the important indicators which helps determine the future stock prices (Jegadeesh and Titman, 1993). Woodruff and Sencha (2009) revealed that stock returns are positively related to the contemporary change in trading volume. Smirlock and Starks (1985) indicated that the learning of past trading volume improves transient figures of present and future developments in stock prices and stock volatility is determined by past trading volume. According to Huang and Heian (2010), portfolios with high trading volume tended to be followed by high returns and vice versa. Based on it, this study develops the following hypothesis:

*H<sub>2</sub>: There is a positive relationship of past trading volume with stock return and volatility.*

#### Book to market ratio

Chaoprichaet *et al.* (2007) indicated that stock return has a positive relationship with book to market ratio in Chinese stock markets. Similarly, Fama and French (2008) found that higher the book to market ratio, higher would be the stock return and vice-versa. Likewise, Kothari and Shanken (1997) showed that there is a positive relationship between book-to-market ratio and stock return. In addition, Auret and Sinclair (2006) concluded that there is a positive and significant impact of book to market ratio on the stock performance. Based on it, this study develops the following hypothesis:

*H<sub>3</sub>: There is a positive relationship of book to market ratio with stock return and volatility.*

**Market capitalization**

Manandhar (1998) found a positive significant relationship between stock return and market capitalization. In addition, Amihud(2002) revealed that there is a significant positive relationship between stock return and market capitalization. Choand Pucik(2005) concluded that there is a significant positive relationship of profitability and market capitalization with stock return. Furthermore, Rouwenhorst (1999) showed that stocks with little market capitalization have higher normal turnover and volatility than stocks with huge market capitalization. Based on it, this study develops the following hypothesis:

*H<sub>4</sub>: There is a positive relationship of market capitalization with stock return and volatility.*

**Firm size**

Martaniet al. (2009) indicated that there is a significant positive relationship between firm size and stock price volatility. Similarly, Hussaineyet al. (2010) indicated that change in stock price was explained by firm's growth rate, debt level and size. Likewise, Zakariaet al. (2012) found that leverage, growth, size and dividend yield have positive impact on share price volatility. Based on it, this study develops the following hypothesis:

*H<sub>5</sub>: There is a positive relationship of firm size with stock return and volatility.*

**Book value per share**

Sharma (2011) showed that there is a significant positive relationship of dividend per share, earnings per share and book value per share with stock price. Similarly, Omran and McKenzie (2000) concluded a positive and significant association between dividend per share, price earnings ratio, firm size, stock return and book value per share. Geetha and Swaaminathan (2015) found that firm's book value per share and earnings per share have a significant positive impact on market price of share. Based on it, this study develops the following hypothesis:

*H<sub>6</sub>: There is a positive relationship of book value per share with stock return and volatility.*

**Turnover ratio**

Griffin et al. (2006) demonstrated a positive effect of turnover ratio on the returns of stocks. Similarly, Chordia and Swaminathan (2000) indicated that the returns on high-volume portfolios modify quicker to market wide information than the returns on low-volume portfolios. Likewise, Ying (1966) concluded that there is positive relationship between stock return and turnover ratio. Based on it, this study develops the following hypothesis:

*H<sub>7</sub>: There is a positive relationship of turnover ratio with stock return and volatility.*

**4. Methodology**

The study is based on the secondary data which were gathered from 19 insurance companies in Nepal from 2013/14 to 2018/19, leading to a total of 114 observations. Out of 30 insurance companies, 19 insurance companies were selected as samples. The study used stratified sampling method to select the samples. The main sources of data include Insurance Statistics published by Nepal Beema Samiti and annual reports of the selected insurance companies. This study is based on descriptive and causal comparative research designs. Table 1 shows the number of insurance companies selected for the study along with the study period and number of observations.

**Table 1: List of insurance companies selected for the study along with the study period and number of observations**

S.N.	Name of Insurance Company	Study Period	Observations
1	Asian Life Insurance Company Limited	2013/14 to 2018/19	6
2	Gurans Life Insurance Company Limited	2013/14 to 2018/19	6
3	Life Insurance Corporation Nepal Limited	2013/14 to 2018/19	6
4	National Life Insurance Company Limited	2013/14 to 2018/19	6
5	Nepal Life Insurance Company Limited	2013/14 to 2018/19	6
6	Prime Life Insurance Company Limited	2013/14 to 2018/19	6
7	Surya Life Insurance Company Limited	2013/14 to 2018/19	6

8	Everest Insurance Company Limited	2013/14 to 2018/19	6
9	Himalayan General Insurance Company	2013/14 to 2018/19	6
10	Lumbini General Insurance Limited	2013/14 to 2018/19	6
11	NECO Insurance Company Limited	2013/14 to 2018/19	6
12	Nepal Insurance Company Limited	2013/14 to 2018/19	6
13	NLG Insurance Company Limited	2013/14 to 2018/19	6
14	Premier Insurance Company Limited	2013/14 to 2018/19	6
15	Prudential Insurance Company Limited	2013/14 to 2018/19	6
16	Sagarmatha Insurance Company Limited	2013/14 to 2018/19	6
17	Shikhar Insurance Company Limited	2013/14 to 2018/19	6
18	Siddhartha Insurance Limited	2013/14 to 2018/19	6
19	United Insurance Company (Nepal) Limited	2013/14 to 2018/19	6
<b>Total number of observations</b>			<b>114</b>

Thus, the study is based on 114 observations.

**The model**

The model used in this study assumes that return volatility and stock return depend on different factors. The selected independent variables in this study are trading volume, book value per share, book to market ratio, firm size, market capitalization, past trading volume and turnover rate. Therefore, the model takes the following forms:

$$\text{Stock market} = f(\text{TV}, \text{PTV}, \text{BTM}, \text{BVPS}, \text{MCAP}, \text{FS}, \text{TR})$$

More specifically,

$$\text{SR}_{it} = \beta_0 + \beta_1\text{TV}_{it} + \beta_2\text{MCAP}_{it} + \beta_3\text{PTV}_{it} + \beta_4\text{BTM}_{it} + \beta_5\text{FS}_{it} + \beta_6\text{BVPS}_{it} + \beta_7\text{TR}_{it} + e_{it}$$

$$\text{VTY}_{it} = \beta_0 + \beta_1\text{TV}_{it} + \beta_2\text{MCAP}_{it} + \beta_3\text{PTV}_{it} + \beta_4\text{BTM}_{it} + \beta_5\text{FS}_{it} + \beta_6\text{BVPS}_{it} + \beta_7\text{TR}_{it} + e_{it}$$

Where,

- SR = Stock return is defined as sum of dividend yield and capital yield, in percentage.
- VTY = Return volatility is the percentage of change in the stock return, in percentage.
- TV = Trading volume is defined as number of shares transacted every year.
- MCAP = Market capitalization of the company at the end of the year, Rs in billion.
- PTV = Past trading volume is defined as number of shares transacted last year.
- BTM = Book to market ratio is the ratio of book value to market value of the company, in percentage.
- FS = Firm size is measured by the total assets of the bank, Rs in billion.
- BVPS = Book value per share represents the minimum value of the equity of a company, in Rupees.
- TR = Turnover ratio is the ratio of the number of shares traded to the number of shares outstanding, in percentage.

**3. Results and discussion**

Table 2 presents the descriptive statistics of selected dependent and independent variables during the period 2013/14 to 2018/19.

**Table 2: Descriptive statistics for selected Nepalese insurance companies**

Variables	Minimum	Maximum	Mean	Std. Deviation
TV	0.15	28.65	9.48	6.11
PTV	0.12	27.64	8.17	6.09
MCAP	0.60	2.93	1.74	0.46
BVPS	76	327	186	53
BTM	2.85	68.40	21.48	12.12
FS	0.39	2.84	1.31	0.63
TR	1.28	74.92	18.13	15.35
SR	-6.08	0.80	-0.64	1.54
VTY	20.48	86.93	59.62	16.71

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed and the results are presented in Table 3. More specifically, it shows the correlation coefficients of dependent and independent variables for selected Nepalese insurance companies.

**Table 3: Pearson's correlation coefficients matrix**

Variables	TV	PTV	MCAP	BVPS	BTM	FS	TR	SR	VTY
TV	1.0								
PTV	0.55**	1.00							
MCAP	0.45**	0.31**	1						
BVPS	-0.10	-0.14	-0.23*	1					
BTM	-0.27**	0.03	-0.68**	0.20*	1				
FS	0.33**	0.37**	0.84**	-0.43**	-0.43**	1			
TR	0.44**	-0.03	-0.21*	0.31**	-0.19*	-0.42**	1		
SR	0.09	0.56**	0.16	-0.09	0.28**	0.31**	-0.34**	1	
VTY	0.17	-0.31**	-0.14	0.11	-0.30*	-0.33**	0.41**	-0.62**	1

Notes: The asterisk signs (\*\*) and (\*) indicate that the results are significant at one percent and five percent levels respectively.

The result shows that past trading volume has a positive relationship with stock return. It reveals that increase in past trading volume leads to increase in stock return. Similarly, market capitalization has a positive relationship with stock return. It indicates that higher the market capitalization value, higher would be the stock return. Similarly, book to market ratio has a positive relationship with stock return. It indicates that higher the book to market ratio, higher would be the stock return. Furthermore, firm size have a positive relationship with stock return. It indicates that the larger the firm size, higher would be the stock return. However, book value per share has a negative relationship with stock return. It reveals that the higher the value of book value per share, lower would be the value of stock return. Likewise, turnover ratio also has a negative relationship with stock return. It indicates that increase in turnover ratio leads to decrease in stock return.

Similarly, the result also shows that trading volume has a positive relationship with return volatility. It indicates that higher the trading volume ratio, higher would be the return volatility. Similarly, book value per share and turnover ratio have a positive relationship with return volatility. It indicates that higher the book value per share and turnover ratio, higher would be the return volatility. However, past trading volume has a negative relationship with return volatility. It reveals that increase in past trading volume leads to decrease in return volatility. Likewise, market capitalization has a negative relationship with return volatility. It indicates that increase in market capitalization leads to decrease in return volatility. Similarly, book to market ratio and stock return have a negative relationship with return volatility. It reveals that higher the book to market ratio and stock return, lower would be the return volatility.

Having indicated the Pearson's correlation coefficients, the regression analysis has been computed and the results are presented in Table 4. More specifically, it shows the regression results of trading volume, past trading volume, market capitalization, book value per share, book to market ratio, firm size and turnover ratio on stock return.

**Table 4: Estimated regression results of trading volume, past trading volume, market capitalization, book value per share, book to market ratio, firm size and turnover ratio on stock return**

Model	Intercept	Regression coefficients of							Adj. R_bar <sup>2</sup>	SEE	F-value
		TV	PTV	MCAP	BVPS	BTM	FS	TR			
1	-0.64 (2.41)*	0.01 (0.02)							0.01	1.55	0.02
2	-1.79 (8.91)**		0.14 (7.15)**						0.30	1.28	51.23
3	-1.59 (2.82)**			0.54 (1.74)					0.01	1.52	3.05
4	-0.14 -0.26				-0.26 (0.97)				0.02	1.54	0.94
5	-1.40 (4.95)**					0.36 (3.10)**			0.07	4.48	9.65
6	-1.63						0.76		0.08	1.47	12.06

	(5.13)**						(3.47)**				
7	-0.02							-0.34	0.10	1.45	14.60
	-0.09							(3.82)**			
8	-1.26	0.01							0.09	1.54	0.47
	-0.20	(0.05)									
9	-1.62		0.14	0.05					0.29	1.29	16.80
	(2.21)*		(6.75)**	(0.18)	(0.20)						
10	-1.04		0.14					0.10	-0.41	0.40	26.5
	(2.88)**		(7.15)**					(0.50)	(4.22)**		
11	-7.00	0.05		2.88	-0.39	0.11			-0.01	0.31	11.16
	(5.11)**	(1.62)		(4.51)**	(1.44)	(5.57)**			(0.99)		
12	-6.92	0.18	0.17	2.62	-0.37	0.09		0.09	-0.03	0.58	23.34
	(6.35)**	(5.72)**	(8.30)**	(3.84)**	(1.57)	(5.63)**		(0.26)	(2.89)**		

Notes:

- i. Figures in parenthesis are t-values.
- ii. The asterisk signs (\*\*) and (\*) indicate that the results are significant at one percent and five percent levels respectively.
- iii. Stock return is the dependent variable.

Table 4 shows that beta coefficients for trading volume are positive with stock return. It indicates that trading volume has a positive impact on stock return. This finding is similar to the findings of Pathirawasam (2011). Similarly, the result reveals that the beta coefficients for past trading volume are positive with stock return. This reveals that past trading volume has a positive impact on stock return. This finding is similar to the findings of Smirlock and Starks (1985). Likewise, the beta coefficients are positive for market capitalization with stock return. It indicates that market capitalization has a positive impact on stock return. This finding is consistent with the findings of Amihud (2002). However, the result reveals that the beta coefficients for book value per share are negative with stock return. It indicates that book value per share has a negative impact on stock return. This finding contradicts with the findings of Geetha and Swaminathan (2015).

The estimated regression results of trading volume, past trading volume, market capitalization, book value per share, book to market ratio, firm size and turnover ratio on stock volatility in the context of Nepalese insurance companies are presented in Table 5.

**Table 5: Estimated regression results of trading volume, past trading volume, market capitalization, book value per share, book to market ratio, firm size and turnover ratio on return volatility**

Model	Intercept	Regression coefficients of							Adj. R <sup>2</sup>	SEE	F-value
		TV	PTV	MCAP	BVPS	BTM	FS	TR			
1	57.57 (19.84)**	0.21 (0.83)							0.02	16.73	0.69
2	66.77 (26.71)**		-0.87 (3.56)**						0.19	15.90	12.72
3	68.67 (11.21)**			-5.21 (1.529)					0.01	16.61	2.33
4	53.71 (9.33)**				3.178 (1.067)				0.01	16.70	1.13
5	68.49 (22.36)**					-0.41 (3.32)**			0.18	16.01	11.03
6	71.41 (20.84)						-8.98 (3.81)**		0.21	15.79	14.57
7	51.44 (23.16)**							0.45 (4.81)**	0.26	15.28	23.18
8	63.25 (10.27)**		-0.85 (3.43)**		1.79 (0.62)				0.08	15.95	6.52



9	61.22 (13.86)**		-0.76 (3.14)**				-2.06 (0.79)	0.40 (4.11)**	0.25	14.46	13.59
10	122.66 (8.40)	0.73 (1.91)		-29.68 (4.36)**	4.01 (1.36)	-1.134 (5.40)**		0.08 (0.51)	0.33	13.63	12.34
11	105.20 (9.63)**	0.88 (3.29)**	-0.73 (2.77)**	-11.56 (1.50)	0.12 (0.04)	-0.76 (4.75)**	-8.46 (1.79)		0.40	12.94	13.54
12	117.13 (8.31)**	1.30 (3.15)**	-0.80 (2.97)**	-17.44 (1.97)*	1.59 (0.52)	-0.94 (4.55)**	-9.01 (1.90)	0.21 (1.33)	0.44	12.90	11.94

Notes:

- i. Figures in parenthesis are t-values.
- ii. The asterisk signs (\*\*) and (\*) indicate that the results are significant at one percent and five percent levels respectively.
- iii. Stock volatility is the dependent variable.

Table 5 shows that beta coefficients for trading volume are positive with return volatility. It indicates that trading volume has positive impact on return volatility. This finding is similar to the findings of Medeiros and Doornik (2008). The result also reveals that the beta coefficients for firm size are negative with return volatility. It indicates that firm size has a negative impact on return volatility. This finding is similar to the findings of Omran and McKenzie (2000). Likewise, the beta coefficients are negative for book to market ratio with return volatility. It indicates that book to market ratio has a negative impact on return volatility. This finding is consistent with the findings of Atmeh and Dobbs (2006). However, the result reveals that the beta coefficients for market capitalization are negative with return volatility. It indicates that market capitalization has a negative impact on return volatility. This finding contradicts with the findings of Arago and Nieto (2005).

#### 4. Summary and conclusion

Pricing of securities depends on volatility of each asset. Therefore, price changes indicate the average reaction of investors to news. The arrival of new information makes investors to adapt their expectations and this is the main cause for price and return changes. Trading volume and volatility are indicators of the current stock market activity on one hand and a potential source of information for the future behavior of stock market on the other hand. Return on stock prices and trading volume are two prime indicators of trading activities in a stock market. These factors are jointly determined by the same market dynamics and may contain valuable information about a security.

This study attempts to examine the relationship of trading volume with stock return and stock volatility in Nepalese insurance companies. This study is based on secondary data of 19 insurance companies with 114 observations for the period from 2013/14 to 2017/19.

Trading volume has some impact on stock return and return volatility of Nepalese insurance companies. Higher volumes have been seen in practice whenever the stock market gains popularity, where it goes bearish or bullish. As an investor, it is important to know whether volume creates positive or negative returns. The study revealed that there is positive impact of trading volume and past trading volume on stock return of insurance companies under this study. Similarly, positive impacts of book to market ratio and firm size on stock return have been seen. Conversely, the findings of this study suggest a negative impact of turnover rate on stock return of Nepalese insurance companies. Furthermore, the study found positive impact of turnover rate on stock volatility, whereas negative impact of past trading volume, book to market ratio and firm size on stock volatility of Nepalese insurance companies. The study concludes that firm size followed by market capitalization is the most influencing factor that explains the changes in stock return. The study also concludes that the most dominant factor to influence stock volatility is firm size followed by market capitalization in Nepalese insurance companies.

This study will empower the investors to reveal whether the price-volume connection in the NEPSE displays various attributes from those in created markets. Truth be told, the various qualities of the NEPSE concerning information streams and institutional structure can give new understanding into the price volume connection. With regards to Nepal, however the stock market is rising, anyway the quantity of looks into in this field is exceptionally less. Accordingly, the investors are putting resources into stock market without having satisfactory learning, market examiners are unfit to do suitable expectation of stock return, strategy producers are unfit to detail legitimate approaches and so forth. Thus, this sort of study will be extremely advantageous.

#### 5. Scope for future research

The study is entirely based on secondary data and does not include the preference of different investors and other stake holders. Therefore, future studies can be based on using primary data or both primary and secondary data.

There are other macroeconomic variables like GDP, inflation, foreign direct investments, interest rates, etc. that may have impact on stock return. Thus, the future studies can include these variables that will give a new insight to the study. Finally, future studies can use some advance statistical tools. For example, the future studies can use non-linear statistical tools and bidirectional causality tools.

## References

- Ahmed, H. J. A., Hassan, A., and Nasir, A. M. (2005). The relationship between trading volume, volatility and stock market returns: A test of Mixed Distribution Hypothesis for a Pre and Post crisis on Kuala Lumpur Stock Exchange. *Investment Management and Financial Innovations*, 3(3), 146-158.
- Al-Khouri, R. S., and Ajlouni, M. M. (2007). Narrow price limit and stock price volatility in emerging markets: Empirical evidence from Amman stock exchange. *The International Journal of Business and Finance Research*, 1(1), 104-120.
- Amihud, Y. (2002). Illiquidity and stock returns: cross-section and time-series effects. *Journal of Financial Markets*, 5(1), 31-56.
- Andersen, T. G. (1996). Return volatility and trading volume: An information flow interpretation of stochastic volatility. *The Journal of Finance*, 51(1), 169-204.
- Arago, V., and Nieto, L. (2005). Heteroskedasticity in the returns of the main world stock exchange indices: volume versus GARCH effects. *Journal of International Financial Markets, Institutions and Money*, 15(3), 271-284.
- Atmeh, M. A., and Dobbs, I. M. (2006). Technical analysis and the stochastic properties of the Jordanian stock market index return. *Studies in Economics and Finance*, 23(2), 119-140.
- Auret, C. J., and Sinclair, R. A. (2006). Book-to-market ratio and returns on the JSE. *Investment Analysts Journal*, 35(63), 31-38.
- Bekaert, G., and Wu, G. (2000). Asymmetric volatility and risk in equity markets. *The Review of Financial Studies*, 13(1), 1-42.
- Bessembinder, H., and Seguin, P. J. (1992). Futures-trading activity and stock price volatility. *The Journal of Finance*, 47(5), 2015-2034.
- Bhattarai, R. C., and Joshi, N. K. (2015). Dynamic relationship among stock market and the macro economic factors: Evidence from Nepal. *South Asia Economic Journal*, 10(2), 451-469.
- Bhattra, R. Y. (2014). Determinants of share price of Nepalese commercial banks. *Economic Journal of Development*, 17(18), 187-198.
- Bohl, M. T., and Henke, H. (2003). Trading volume and stock market volatility: The Polish case. *International Review of Financial Analysis*, 12(5), 513-525.
- Chan, K., Hameed, A., and Tong, W. (2000). Profitability of momentum strategies in the international equity markets. *Journal of Financial and Quantitative Analysis*, 35(2), 153-172.
- Chaopricha, P., Chan, P., and Pollard, D. (2007). Firm characteristics and stock return. *International Business and Management*, 14(2), 1-7.
- Cho, H. J., and Pucik, V. (2005). Relationship between innovativeness, quality, growth, profitability, and market value. *Strategic management journal*, 26(6), 555-575.
- Chordia, T., and Swaminathan, B. (2000). Trading volume and cross auto-correlations in stock returns. *Journal of Finance*, 55(1), 913-935.
- Chordia, T., Roll, R., and Subrahmanyam, A. (2002). Order imbalance, liquidity, and market returns. *Journal of Financial Economics*, 65(1), 111-130.
- De Medeiros, O. R., and Doornik, B. F. N. V. (2006). The empirical relationship between stock returns, return volatility and trading volume in the Brazilian stock market. *International Journal of Economics and Finance*, 4(4), 182-192.
- Dhaugoda, C., Ravi, D., Pandey, K., Thapa, K., and Upadhayaya, K. (2016). Stock return predictability with financial ratios in Nepalese commercial banks. *Nepalese Journal of Business*, 3(3), 140-147.

- Fama, E. F. (1991). Efficient capital markets: II. *The Journal of Finance*, 46(5), 1575-1617.
- Fama, E. F., and French, K. R. (2008). Dissecting anomalies. *The Journal of Finance*, 63(4), 1653-1678.
- Floros, C., and Vougas, D. (2007). Trading volume and returns relationship in Greek stock index futures market: GARCH vs. GMM. *International Research Journal of Finance and Economics*, 12(1), 98-115.
- Geetha, E., and Swaaminathan, M. (2015). A study on the factors influencing stock price A comparative study of automobile and information technology industries stocks in India. *International Journal of Current Research and Academic Review*, 3(3), 97-109.
- Gervais, S., Kaniel, R., and Mingelgrin, D. H. (2001). The high-volume return premium. *The Journal of Finance*, 56(3), 877-919.
- Griffin, J. M., Nardari, F., and Stulz, R. M. (2006). Do investors trade more when stocks have performed well? Evidence from 46 countries. *The Review of Financial Studies*, 20(3), 905-951.
- Huang, Z., and Heian, J. B. (2010). Trading-volume shocks and stock returns: An empirical analysis. *Journal of Financial Research*, 33(2), 153-177.
- Hussainey, K., Oscar Mgbame, C., and Chijoke-Mgbame, A. M. (2011). Dividend policy and share price volatility: UK evidence. *The Journal of risk finance*, 12(1), 57-68.
- Jegadeesh, N., and Titman, S. (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *The Journal of finance*, 48(1), 65-91.
- Joshi, R. (2012). Effects of dividends on stock prices. *NRB Economic Review*, 24(2), 1-15.
- Kothari, S. P., and Shanken, J. (1997). Book-to-market, dividend yield, and expected market returns: A time-series analysis. *Journal of Financial Economics*, 44(2), 169-203.
- Lamoureux, C. G., and Lastrapes, W. D. (1990). Persistence in variance, structural change, and the GARCH model. *Journal of Business and Economic Statistics*, 8(2), 225-234.
- Lee, C. M., and Swaminathan, B. (2000). Price momentum and trading volume. *The Journal of Finance*, 55(5), 2017-2069.
- Manandhar, K. D. (1998) A study of dividend policy and value of firm in small stock market: A case of Nepal. *Management Dynamics*, 8(1), 15-20.
- Martani, D., Khairurizka, R., and Khairurizka, R. (2009). The effect of financial ratios, firm size, and cash flow from operating activities in the interim report to the stock return. *Chinese Business Review*, 8(6), 44-55.
- Medeiros, O. R., and Van Doornik, B. F. N. (2008). The empirical relationship between stock returns, return volatility and trading volume in the Brazilian Stock Market. *Brazilian Business Review (English Edition)*, 5(1), 63-80.
- Miyakoshi, T. (2002). ARCH versus information-based variances: evidence from the Tokyo stock market. *Japan and the World Economy*, 14(2), 215-231.
- Omran, M. F., and McKenzie, E. (2000). Heteroskedasticity in stock returns data revisited: volume versus GARCH effects. *Applied Financial Economics*, 10(5), 553-560.
- Pathirawasam, C. (2011). The relationship between trading volume and stock returns. *Journal of Competiveness*, 3(1), 41-49.
- Pradhan, R. S. (1993). Stock market behaviour in a small capital market: A case of Nepal. *The Nepalese Management Review*, 9(1), 23-49.

- Pradhan, R. S., and Balampaki, B. S. (2004). Fundamentals of stock returns in Nepal. *Research in Nepalese Finance*, 9(1), 2-20.
- Rouwenhorst, K. G. (1999). Local return factors and turnover in emerging stock markets. *The Journal of Finance*, 54(4), 1439-1464.
- Saatcioglu, K., and Starks, L. T. (1998). The stock price-volume relationship in emerging stock markets: the case of Latin America. *International Journal of Forecasting*, 14(2), 215-225.
- Sharma, S. (2011). Determinants of share price in India. *Journal of Arts, Science and Commerce*, 2(4), 51-60.
- Smirlock, M., and Starks, L. T. (1985). A further examination of stock price changes and transaction volume. *Journal of financial Research*, 8(1), 217-225.
- Smirlock, M., and Starks, L. T. (1988). An empirical analysis of the stock price-volume relationship. *Journal of Banking and Finance*, 12(1), 31-41.
- Tripathy, N. (2010). The empirical relationship between trading volumes and stock return volatility in Indian stock market. *European Journal of Economics, Finance and Administrative Sciences*, 24(1), 59-77.
- Wagner, N., and Marsh, T. A. (2005). Surprise volume and heteroskedasticity in equity market returns. *Quantitative Finance*, 5(2), 153-168.
- Wang, P., Wang, P., and Liu, A. (2005). Stock return volatility and trading volume: Evidence from the Chinese stock market. *Journal of Chinese Economic and Business Studies*, 3(1), 39-54.
- Woodruff, C. S., and Sencha, A. J. (1988). Intradaily price-volume adjustments of NYSE stocks to unexpected earnings. *The Journal of Finance*, 43(2), 467-491.
- Ying, C. C. (1966). Stock market prices and volumes of sales. *Econometrica: Journal of the Econometric Society*, 34(1), 676-685.
- Zakaria, Z., Muhammad, J., and Zulkifli, A. H. (2012). The impact of dividend policy on the share price volatility: Malaysian construction and material companies. *International Journal of Economics and Management Sciences*, 2(5), 1-8.