Effect of Exchange Rate on Shares Turnover of Karachi Stock Exchange

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Abstract

This study examines exchange rate and its effect on shares turnover of KSE. The motivation of the schoolwork is to explore the association involving the variables i.e. exchange rate and shares turnover that how a single unit variation in exchange rate manipulates the overall trading volume of the stock market. Data consisting on daily quotes which has been extracted for the period 2009 to 2013 from official sites of KSE and SBP. In order to stumble on the association Regression and Correlation analysis tools were adopted. Domino effect point out that there is significant relationship exist between the variables which express that trading volume of the stock market is subject to deviation in the exchange rate.

Key Words: Exchange rate, Shares Turnover.

Investment is one foremost flourishing indicator for the sustainable escalation of a country. Countries having large volume of investment at hand retain vast span of business activities, eventually which contributes in making strengthen the basic economic fundamentals of a country. For instance, Gross Domestic Product (GDP), Foreign Reserve (FR), strengthen of Currency value in respect to dollar and Interest rate (IR) etc.

Principally investment is the raped of funds over one or more assets with the intention of some return over a time. There are mainly two techniques by which investment can be made like say for instance investment in financial assets (i.e. stocks or debt

instruments) or investment may be in real assets (i.e. gold, silver, diamond and real estate).

Stock exchange is the place where funds are invested in stocks under the regulatory body of security exchange commission (SEC). Further stocks are traded in two major markets i.e. Primary market and Secondary market, first place where shares are bought and sold for the first time for instance initial public offering (IPO) while the former is the place where stocks are traded on second time.

Investors attempts to predict the performance of the stocks either by broker or by self in order to plan their investments that have a large cushion from risk and have a more tendency toward normal return. Keeping in mind these two factor i.e. (Risk and Return) and to maintain the investment at equilibrium investors buy and sale the particular stocks or shares. Sometimes such buying and selling is at peak or sometimes very low, this act of investors termed as turnover of shares in stock market/stock exchange.

Behavior of stocks doesn't merely dependent to their associated returns called dividend, there are also a large number of factors that may also influence the expected returns and share prices like say for instance political events, monetary policy, fiscal policy, discount rate, foreign reserve, company performance and exchange rate. Therefore every investor looks after the all factors and then finally decides that either to make investment in stocks or not.

Exchange rate means the proportion of one currency to switch in other currency at a given rate also known as Forex rate. Stock exchange provides a means to investors to scrutinize the business prototypes in a country. In the context of Pakistan there are three stock exchanges are in function i.e. Karachi Stock Exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE) in which shares of listed companies are traded.

As U.S dollar is known as internationally trade currency therefore this research emphasizes on identifying the relationship between exchange rate (U.S dollar) and shares turnover of the Pakistan largest stock exchange i.e. Karachi Stock Exchange. If

there is any significant relation exist between these two variables it will be very useful for analyzing the expected behavior of market as a single unit change exists in exchange rate of a country it is because the strength of a currency can be predict carefully by knowing the proportion of converting one into another which is expressed as exchange rate.

Research question

Research question of this study is to examine that *"There is any relationship exists between exchange rate and shares turnover of KSE or not."*

Limitation of the study

Later on are the boundaries that researcher faced in conducting this study.

1. There are a lot of factors that may also influence the shares turnover but this research is limited to the exchange rate only, other factors are out of the scope from this study.
2. Availability of data observations at secondary available sources for not more than 04 years. However daily quotes were taken.

LITERATURE REVIEW

Meaning of Foreign Exchange

Foreign exchange is well defined by H.K. Evitt as "The norms and methods by which rights to wealth expressed in term of the currency of another country are known as foreign exchange. In simple words foreign exchange manipulates all such techniques, proportions, forms and structure through which the switch over of the currencies takes place or transformed.

Exchange rate influence on Stock market

Two portfolio models explain the relation between exchange rate and stock market volatility. Primary, the "Flow-Oriented"

model (Dornbusch and Fischer, 1980 and Gavin, 1989) – in which exchange rate movement affects output levels of firms and also the trade balance of an economy. The subsequent is the "Stock-Oriented" model (Branson, 1983 and Frankel, 1983). In which stock market exchange rate link is clarified through a country's capital accounts. In this model the exchange rate associates with demand and supply for assets (bonds and stocks). Therefore prospect of comparative currency movements have a momentous impact on price movements of financially held assets. Consequently stock price movements may influence or be influenced by exchange rate movements.

According to Schwert (1988) volatility in stock markets is directly associated with the major economical crunch. As more as stock unpredictability reduces stocks prices will go up. In view of that, there is slight basis to judge that public policies can control stock volatility. Pan et al. (2007) no co-integration linked is observed between exchange rate and the Malaysian stock market in a long term, nevertheless unidirectional causality is there from the exchange rate to the stock market in the dumpy lope. Engle and Rangel (2005) also examined the link between the unconditional volatility and a number of macroeconomic variables.

Rizwan and Khan (2007) further explained importance of domestic macroeconomic variables and their relationship between stock returns and volatility in Karachi stock exchange. A decline in exchange rate uncertainty also enhances price transparency also increasing the efficiency of price mechanisms at international level (De Grauwe, 2005; Schnabl, 2007). Mukherjee and Naka (1995) disclose that the rate of inflation, money growth, interest rates, industrial production, reserves, and exchange rates are the most popular significant factors in elaborating the stock market movement. According to Mehrabanpoor, Bahador and Jandaghi (2010) in case of Tehran Stock Exchange, investors have limited choices. Making portfolio is the key to make secure investment rather than using derivative securities. This diversification is the origin of turnover which increases more by stock buying and selling.

Results also prove that there is positive relationship between exchange Market turnovers and also with market indices.

According to Aggarwal (1981), Soenen and Hennigar (1988) there is a significant relation exist between exchange rate and stock returns because any variation in the exchange rate affects the operations of overseas firms and its profit as well which have directly impact on stock prices and its future returns. It was Maysami-Koh(2000), observed that interest rate and exchange rate are the major forces which have a great influence on stock prices and returns. Apparently this inconsistency in exchange rate induces investor to move on for better returns in result demand for shares also drops.

There is not any significant element that must influenced on the shares turnover over in the stock market like expected return and arrival of any cluster of clues regarding market, shares turnover also depends upon the trading of the stock itself. (French 1986).

According to Pagano (1996), the higher degree unambiguousness in the trading process of the stock market is also affect the stock market performance because of the reason that it reduces the opportunity of getting advantage of professional participants over those who are less informed about the future behavior of the stocks.

According to Farid (1995) stock market is more volatile in relationship with stock prices as compare to rest of the variables i.e. expected return, stock trading. Therefore investors carefully follow their own portfolio plans to move and survive in the market.

Share trading volume also dependent to the growth rate of the industrial sector in the country. Finding the relationship between the stock prices and macroeconomic variables i.e. Consumer price index (CPI), Foreign exchange rate, money supply by using data of KSE from the period of 1974 to 2004. Applying Grange causality test results shows casual relationship between the stock prices and macroeconomic variables. There are a lot of determinants that may affect stock market by examining the exchange rate and oil prices

comparatively in relation to stock market it is found that there is no any significant impact of exchange rate and oil prices aggregately exist on stock market performance. (Robert, 2008).

In Pakistan stock markets are always to be consider unpredictable in nature because of unstable situation in the country for instance Law and order, Currency devaluation, Political instability and day by day discontinuation of the business activities. Shabaz et al, (2008) observed the behavior of the stock market and as a result proves a lon-run relationship between the stock market development and economic growth of the country.

Some of studies shows significant negative correlation between stock market and local currency (Solnik; 2000) further some of studies proves weak or no relationship between these two variables. (Bodart & Reding; 1999).

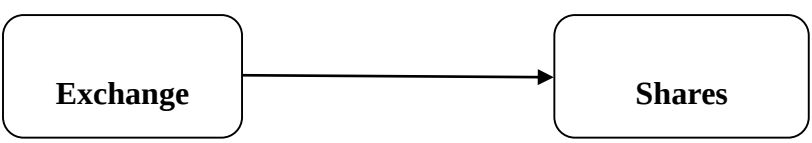
Theoretical framework

Independent Variable

In context of the research exchange rate is to be taken as an independent variable in order to elaborate its influence and magnitude/dimension on dependent variable.

Dependent Variable

Shares turnover of KSE is to be consider as a dependent variable in this research to know the relationship that how stock market behaves as exchange rate changes, however other forces are kept constant.



Hypothesis Development

Null Hypothesis (Ho)

There is no meaningful association between exchange rate and shares turnover of KSE.

Alternate Hypothesis (H_A)

There is a meaningful association between exchange rate and share turnover of KSE.

Research Methodology

Data

Data is secondary source data which is extracted from the sites of SBP and KSE. Daily quotes of exchange rate and share turnover has been taken in this study from year 2009 to 2013. For the study data is obtained from the relevant resources that includes KSE 100 index, International financial and economical research papers, daily exchange rate from SBP, Cases of national and international stock markets, Financial Accounting Standard Boards (FASB) and National Bureau of Statistics of Pakistan.

Tools for data analysis

Simple linear regression analysis

The technique used for this study in order to find the dependency of one factor (dependent variable) over the subsequent factor (independent variable) is simple linear regression analysis.

$$Yi = \beta_o + \beta_1 X_1 + \mu$$

So far in this study it can be become as follow;

$$\mathbf{Yi = \beta_o + \beta_1(Exchange\ rate) + \mu}$$

Y = affected variable by X i.e. Share Turnover.

I = index observation on the data pairs (x,y).

β_o, β_1 = Parameters represent the y-intercept and slope of the relationship.

X = the affecting variable i.e. Exchange rate.

μ = Factors that could also cause influence the share turnover at KSE also called the error terms.

Pearson Correlation analysis

Analyzing the association between the variables correlation analysis is made for the better conclusion.

Formula for Pearson Correlation is:

$$Rxy = \frac{\Sigma(X-\dot{X})(y-\bar{y})}{\sqrt{\Sigma(X-\dot{X})^2 (y-\bar{y})^2}}$$

Data Analysis and Results

Testing of Hypothesis H_O:

H_O: There is no meaningful association between exchange rate and shares turnover of KSE.

Null hypothesis (H_o) is an attempt to find out no remarkable relationship between the variables. For the motive to validate this relationship, firstly correlation analysis was carried out. Results are as under the table 1.

Table1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Exchange rate	925	80.42	98.48	88.0260	4.88674
Shares Turnover	925	.00	576823011.00	135073927.3643	82618885.18797
Valid N (list wise)	925				

Table2

Correlation Analysis between Exchange rate and Shares Turnover

		Exchange Rate	Shares Turnover
Exchange Rate	Pearson Correlation	1	.191**
	Sig. (1-tailed)		.000
	N	925	925
Shares Turnover	Pearson Correlation	.191**	1
	Sig. (1-tailed)	.000	
	N	925	925

**. Correlation is significant at the 0.01 level (1-tailed).

Results of the table 2 explicitly represent the significant and markedly positive nature association between the variables. Pearson

correlation using 1 – tailed test is statistically remarkable (r = 0.191, p = 0.000) which means that exchange rate and shares turnover are directly proportional to each other and vice versa.

Subsequent to indicating significant relationship second procedure for data analysis is to test the significant effect between the variables, simple linear regression analysis was carried out since study having only one independent and dependent variable.

Table 4

Model Summary

Model	R	R Square	Adjusted R Square
1	.191[a]	.036	.035

Predictors: (Constant), Exchange Rate

Table 4 model summary statistically explain to 3.5% (Adjusted R-Square) which interpret that 3.5% variance is reported in the dependent variable (Shares Turnover) by the predictor (Exchange rate).

Table 5

ANOVA

Model		Sum of Squares	df	F	Sig.
1	Regression	229292249884486592.000	1	34.821	.000[b]
	Residual	6077821045400496100.000	923		
	Total	6307113295284982800.000	924		

Dependent Variable: SharesTurnover

Predictors: (Constant), Exchange Rate

Table 5 indicates that independent variable i.e. exchange rate accounted significant influence on dependent variable i.e. shares turnover F (1, 923) = 34.821, p = 0.000. Consequently current results of data point out that exchange rate really have an effect on the shares turnover.

Table 6

Coefficients

Model	Un standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

1	(Constant)	-148685758.101	48161120.421		-3.087	.002
	Exchange Rate	3223589.658	546283.609	.191	5.901	.000

a. Dependent Variable: Shares Turnover

Table 6 of the study convey variables and their consequences, as the study has only one reliant and predicting variables therefore value of standard coefficient beta is same as to value of correlation. Results explain that exchange rate is significant ($t = 5.901$, $p = 0.000$). Overall impression of the test specifies a significant conclusion of exchange rate on shares turnover.

Findings

Following are the finds of the study in the lights of results,

Table 7
Findings

Hypothesis	Description	Remarks
H_O:	There is no meaningful association between exchange rate and shares turnover of KSE.	Rejected
H_A:	There is a meaningful association between exchange rate and share turnover of KSE.	Accepted

Conclusion

The study was conducted to observe the relationship and its effect of exchange rate on shares turnover of KSE. Data has been taken from the sources of KSE and SBP for the period May 2009 to April 2013.

Theory of this study rejects the null hypothesis and states that shares turnover is dependent to exchange rate which implies that there positive significant relationship exists between the variables.

Moreover, researcher hopes that in future this study will be help full for the stock market analysts, investors, financial institutions and regulatory bodies. Taking other considerable variables study can be extended in coming endeavor and the useful information may be use in order to predict the behavior of the stock market from one to another.

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