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RESEARCH ARTICLE

DETERMINING THE RELATION OF STOCK PRICES WITH EXCHANGE RATES: A STUDY ON SAARC COUNTRIES

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ABSTRACT

Purpose: The study aims to determine and analyze if the prices of stock are related with exchange rates for the SAARC countries.

Methodology: GMM model is used by the researcher to seek if exchange rates and stock prices are related to each other for SAARC. This GMM methodology is adopted because our independent variable of exchange rate has the problem of endogeneity. The data for different variables used in the study will be obtained from yahoo finance and oanda.com.

Findings: The findings reveal a significant negative relationship between the two factors in case of Sri Lanka and India. However, in case of Pakistan, coefficient of exchange rates is positively and significantly correlated with stock prices.

Originality: The study suggests that both variables are significantly correlated with each other for the SAARC countries, however for India and Sri Lanka this relationship is found to be negative but positive for Pakistan.

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INTRODUCTION

This issue connected with no matter if inventory charges as well as swap rates are usually associated or perhaps don't you have received considerable awareness following the Eastern Oriental crises. Over the crises your international locations impacted found turmoil with equally currency exchange as well as inventory promotes. In the event that inventory charges as well as swap rates are usually associated and the causation works by swap rates to be able to inventory charges then crises inside inventory promotes may be prevented by curbing your swap rates. Additionally, acquiring international locations could take advantage of this type of connection to attract/stimulate dangerous profile investment decision into their very own international locations. Also, if your causation works by inventory charges to switch rates then regulators could concentrate on home-based monetary procedures to be able to become stable your stock exchange. Should the pair of markets/prices are usually associated then people can use these details to be able to predict your behavior of merely one industry with all the information on various other industry. Previously numerous researches have been conducted to seek if the prices of stock are related with exchange rates or not. This has not only been the matter of concern for the past researchers but also has been widely discussed in public sector by various professionals and businesspersons.

A research was carried out to understand the nature of the dependence existing between the both factors. It stated that movements should improve their ability of managing the acquaintance of foreign exchange (Ajayi and Mougoue, 1996). According to theoretical frame work of another research, the determination of exchange rates via "flow-oriented" models are also a good market tactics, supporting the fact that currency activities affect the competition in the international market and position of BOP which further influences the economic performance. This also leads to effect the returns of company stocks and its cash flows. From this point of view, changes in exchange rates are expected to give rise to stock prices and we label this approach the exchange rate-led stock price hypothesis.

Empirically, this hypothesis is categorized by unidirectional connection from exchange rates to stock prices. On the other hand, variations in stock prices may also affect rates of exchange centers. Equities, being a part of capital, may affect the behavior of exchange rates through the demand for money in accordance with monetarist models (Gavin, 1989). Similar findings were also reported via "stock-oriented" models/portfolio balance methods (Branson and Frankel, 1983). In latter, stock prices not only lead but also negatively correlate with rates. This underlying hypothesis is referred as stock price-led hypothesis (with abbreviation of SLE).

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As opposed, an optimistic partnership among inventory charges as well as swap rates using path associated with causation jogging through swap rates to inventory charges could be defined as follows: domestic for ex decline can make local organizations a lot more cut-throat, producing an increase in their exports. Thus increases their particular inventory charges. Some sort of weakened as well as not any organization in between stock options costs and also trade costs can also be postulated. The particular advantage market procedure for trade fee perseverance doggie snacks trade fee to become the in advantage the buying price. Consequently, such as costs regarding additional property the trade costs are generally dependant on expected foreseeable future trade costs. Almost any news/factors that will influence foreseeable future ideals regarding trade fee will certainly influence today's trade fee. The particular elements triggering improvements in costs of exchange might be different from the components that will result in improvements with stock options costs. Under this kind of circumstance, there should be not any hyperlink between explained factors.

The above discussion concludes that there can be neither empirical nor theoretical opinion on the fact that no matter what, share costs and trade rates are usually connected along with the path. It may involve causation because they are usually inter connected. Thus the researchers can find more evidence on the two issues. The item works by using monthly information coming from several Southern Asian countries, Pakistan, The Indian subcontinent, and Sri-Lanka, and employed corp. integration and problem modification modeling method of verify these types of difficulties. The papers are usually arranged as follows: Next segment all of us review many empirical studies. Section about three discusses empirical strategy and information, even though segment several found empirical final results. With segment several we offer deciding reviews.

Literature Review

Quantitative researches from past state that only SLE has a unidirectional connection from stock prices to exchange rates. If a market is subject to the impacts of both approaches at the same time, a response circle will prevail with a random sign of correlation. As a result, the other possible outcomes cannot be ignored, namely, that bidirectional connection (feedback) and impartial relationships exist between dependent and independent variable. The detailed discussions on ELS and SLE have been put forward by researchers in their studies. Whereas other numerous experimental studies like that of (Aggarwal, 1981); (Bahmani *et al.*, 1992); (Soenen and Hennigar, 1988); (Morley and Pentecost, 2000); (Nieh and Lee, 2001) and (Ratanapakorn and Sharma, 2007) have inspected the relation between dependent and independent variable, particularly in the advanced countries. In addition, an equally huge number of studies have studied the stock price-exchange rate relations for developing markets in 2005-2007 by Doong *et al.*, Hatemi-J and Roca, Phylaktis and Ravazzolo, Patra and Poshakwale). It is sad to mention here that these studies however, could not tolerate the effect of a great deal of condemnation. Firstly, the definitions from many previous

studies have been mixed and, for the most part, do not reach an agreement as to the fundamental relationship between them. Secondly, the fundamental models in these studies may very well have been misstated on account of the fact that the traditional Granger (1969) connection F-test in a regression context may not be effective if the variables in the system are combined, as the test statistic does not have a typical distribution (Toda and Phillips, 1993). Thirdly, maximum studies oversee the non-linear property in-built in stock and exchange rate markets but only relate the customary method in testing for the Granger connection (GC) of stock prices and exchange rates. In relation with the past literature, the goal of this paper is to define whether there is a non-linear important relationship in the stock price-exchange rate association for Organization for Economic Co-operation and Development (OECD) countries. The procedure used in the study varies from that in past studies in three ways. First, by its same nature, the stock price-exchange rate association is a long-run performance relationship whose analysis requires methodologies appropriate for estimating the long-run equilibrium. For that reason, the researcher uses more innovative unit root and integration techniques, which is the reason for operational breaks, to avoid the potential estimation bias. The researchers modeled the long-run relationship based on Pesaran's *et al.* (PSS, 2001) bounds test approach, and we extract critical values from Narayan (2005) and Turner (2006) that are specific to small samples. Co integration is preferred because of mainly two reasons:

- in this method dependent variables can be distinguished from independent variables
- Also because the models with integration less or equal to 1 can also use it.

Secondly, the researchers employed residual-based test for co-integration with regime shifts. Thirdly, unlike previous researches which investigated the relation between the two underlying factors of stock market and foreign exchange market, it did not assume that the dynamics of this relationship as linear (Gregory and Hansen, 1996). In addition to above methodology, the research used another modified non-parametric method from the past famous researches, which not only enabled the testing for non-linear GC but at the same time, also helped in avoiding spurious inferences. The empirical investigation also enables us to identify which hypothesis is most applicable to these OECD countries. The evidence gained from the empirical work on the lead-lag relationship helps us to determine the suitability of the theoretical explanation (Hiemstra and Jones, 1994) and (Diks and Panchenko, 2006).

Another research displays that the raise in get worse household stock cost incorporates a adverse short-run relation to household foreign currency price but also in this long-run raises in stock price ranges employ a beneficial relation to household foreign currency price. Nevertheless, foreign currency accounting allowance incorporates a adverse short-run relation to this stock market (Ajayi and Mougoue, 1996). Yu Qiao (1997) employed regular share price tag indices as well as place swap premiums from the particular financial market segments regarding Hong Kong, Tokyo, as well as

Singapore above the time period from January 3, 1983 to be able to August 15, 1994 to examine the particular possible discussion involving the parameters from finance. The results were found in line with the Granger findings where causality was analyzed and changes were presented throughout share price. The ranges are usually brought on by changes in return premiums throughout Tokyo as well as Hong-Kong market segments. However, simply no such causation ended up being discovered for that Singapore industry. Around the slow causality from share price ranges to exchange premiums, their final results present such causation for solely Tokyo industry in which lies no uni-directional partnership involving share earnings as well as changes in return premiums. They additionally works by using vector autoregressive model to research the long-run stable partnership involving share price ranges as well as swap premiums from the above Asian kitchenware financial market segments. The results discovered a powerful long-run stable partnership involving share price ranges as well as swap premiums upon amounts for those three market segments.

In the next part of the research paper the writer will throw light on the methodology used in the study where as the nest section will describe the results and findings. These findings then will be compared with the past researches in the nest part of the paper. The last part of the research will summarize the findings in form of conclusion.

MATERIALS AND METHODS

The data for different variables used in the study will be obtained from yahoo finance and oando.com. These sources are selected because the published information is contained in these sites are most reliable. The two variables are used in the study. The first variable is the exchange rates where as second variable is the price of stocks. "Exchange rates" will be termed as independent variable while the stock prices as the dependent variable. The researcher incorporates the monthly data for both the variables and years selected were from 1999 to 2013 in the study. This period was selected because the stock market went through the different phases of economic cycle during this period. The leading SAARC country that includes Pakistan India and Sri Lanka are selected for the analysis. However other SAARC countries are delisted for the non-availability of the data.

Base line regression model

The following dynamic panel data model adopting the methodology employed less than two SLS panel generalized method of moments.

$$LP_{i,t} = \alpha_0 + \beta_1 LX_{i,t} + \beta_2 LP_{i,t-1} + \epsilon_{i,t}$$

Where;

LP=log of closing price of index.
 I=cross sectional unit (in this study this is the country).
 t=time series.

LX=log of the exchange rate of the particular country represented as foreign currency in terms of local currency.

The GMM methodology is adopted because our independent variable of exchange rate has the problem of endogamy. The instrument is used for this estimation will be the lags of independent and dependent variable because lags are the best instrument that would be used for any endogenous variable. A part from panel data analysis we will estimate exchange rate and stock market prices behavior by using time series GMM analysis. Thus the following time series model will be estimated for each country.

$$Lp_t = \alpha + \beta_1 Lx_t + \epsilon_t$$

where

LP=log of closing price of index.

t=time series.

LX=log of the exchange rate of the particular country represented as foreign currency in terms of local currency.

RESULTS AND DISCUSSION

The empirical results showed in table 1, 2,3 and 4.

In Table 1 demonstrates the relationship in case of Pakistan. The results revealed a quite positive relation between the measuring variables.

Table 1. Results for Pakistan

Pakistan				
Dependent Variable: P				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	2.170945	1.038754	2.089952	0.0381
C	0.003045	4.901454	0.000621	0.9995

Table 2 demonstrates the relationship between the two variables for Sri Lanka. The results show that dependent variable correlates in a negative but significant manner with independent variable in Sri Lanka.

Table 2. Results for Sri Lanka

Sri Lanka				
Dependent Variable: P				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-54.8757	25.45255	-2.156	0.0325
C	45.59865	25.53699	1.785592	0.076

In Table 3 shows relation for one country, India. The results show that in India, there is a significant negative relation between dependent and independent variable.

Table 3. Results for India

India				
Dependent Variable: P				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-338.7448	89.88407	-3.768686	0.0002
C	64.52998	23.24884	2.775621	0.0061

Panel Result

In Table 4 the relationship in case of all the three countries is shown. The results and t values conclude relation to be positive and also significant in three countries.

Table 4. Results for all the three countries (Pakistan, Sri Lanka and India)

Dependent Variable: P				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
P(-1)	0.649440	0.101880	6.374555	0.0000
X	0.498059	0.202743	2.456602	0.0145
C	8.178415	21.26160	0.384657	0.7007

Conclusion

The empirical findings of the underlying research report two variables to correlate with each other for SAARC countries. They possess a negative relationship in case of Sri Lanka and India while the correlation is significantly positive in case of Pakistan. The important finding of the present study states if the exchange rates constantly increase then it will have a bad impact on our company and economy as well. When exchange rates are high our home currency will be depreciated and stock prices will also decrease due to this risk will be high and company may have to face loss or very low profit. When a currency depreciates in relation to other currencies, imports get expensive. This means your Currency/money will buy less of another foreign currency so that you cannot purchase foreign goods. One of the biggest disadvantages of higher exchange rates or a strong dollar may be that it leads to trade deficits. If the exchange rates are stable it will have a good impact on our company and our economy as well. Stable rates of exchange are beneficial in a way that they minimize the risk factors for investors as well as for businesses. It should be noted however that this can be ensured only with the establishment of credible low-inflation policy. Stable exchange rates will reduce the risk factor through which our company sales will be more. Stable exchange rates also promote international trade. Stable exchange rates not only ensure internal economic stabilization but also reduce the un-expected price fluctuations with in an economy.

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