Effect of Foreign Exchange Rates on Price per Share

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Abstract. The aim of this research was to examine the interaction between stock prices and exchange rates in Kenya with regards to the period from January 1st 2012 to December 31st 2013. The findings have implications for investors, investment managers, regulators, listed companies, financial institutions and other market players. The economic theory points to the relationship between stock price and exchange rates but does not properly define the direction of the relationship. This research used the Pearson product-moment correlation coefficient method to determine the degree of correlation between stock prices and exchange rates. The results indicated that there was a positive relationship between exchange rates and share prices. The analyzed data was presented in the form of statistical charts, graphs, frequency tables and percentages.

Key Words: Foreign Exchange, Stock Prices, Central Bank of Kenya.
1. INTRODUCTION
Many factors, such as enterprise performance, dividends, stock prices of other countries, gross domestic product, exchange rates, interest rates, current account, money supply, employment, their information etc. have an impact on daily stock prices (Kurihara, 2006). Especially, the continuing increases in the world trade and capital movements have made the exchange rates to be one of the main determinants of business profitability and equity prices (Kim, 2003).

The relationship between stock prices and exchange rates has preoccupied the minds of economists since they both play important roles in influencing the development of a country’s economy. In the recent years, because of increasing international diversification, cross-market return correlations, gradual abolishment of capital inflow barriers and foreign exchange restrictions or the adoption of more flexible exchange rate arrangements in emerging and transition countries, these two markets have become interdependent.

These changes have increased the variety of investment opportunities as well as the volatility of exchange rates and risk of investment decisions and portfolio diversification process. Thus, understanding this relationship will help domestic as well as international investors for hedging and diversifying their portfolio. Also, fundamentalist investors have taken into account these relationships to predict the future trends for each other (Phylaktis and Ravazzolo, 2005; Mishra et al, 2007; Nieh and Lee, 2001; Stavárek, 2005).

Although, economic theory suggests that foreign exchange changes can have an important impact on the stock price by affecting cash flow, investment and profitability of firms, there is no consensus about these relationship and the empirical studies of the relationship are inconclusive (Joseph, 2002; Vygodina, 2006). However, the linkage between these financial variables can be established through the instruments of wealth, demand for money, interest rates etc. (Mishra, 2004).

According to traditional approach, exchange rates lead stock prices. On the other hand, portfolio balance approach states that exchange rates are determined by
market mechanism. In other words, changes in stock prices might have impact on exchange rate movements. This approach states that stock price is expected to lead exchange rate with a negative correlation since a decrease in stock prices reduces domestic wealth, which leads to lower domestic money demand and interest rates. Also, the decrease in domestic stock prices leads foreign investors to lower demand for domestic assets and domestic currency. These shifts in demand and supply of currencies cause capital outflows and the depreciation of domestic currency. On the other hand, when stock prices rise, foreign investors become willing to invest in a country’s equity securities. Thus, they will get benefit from international diversification. This situation will lead to capital inflows and a currency appreciation (Granger et al., 2000; Caporale et al., 2002; Stavárek, 2005; Pan et al, 2007).

Exchange rate changes affect the competitiveness of firms through their impact on input and output price (Joseph, 2002). When the Exchange rate appreciates, since exporters will lose their competitiveness in international market, the sales and profits of exporters will shrink and the stock prices will decline. On the other hand, importers will increase their competitiveness in domestic markets. Therefore, their profit and stock prices will increase. The depreciation of exchange rate will make adverse effects on exporters and importers. Exporters will have advantage against other countries’ exporters and increase their sales and their stock prices will be higher (Yau and Nieh, 2006). That is, currency appreciation has both a negative and a positive effect on the domestic stock market for an export-dominant and an import-dominated country, respectively (Ma and Kao, 1990).

Jorion (1990) points out those exchange rates were four times as volatile as interest rates and ten times as volatile as inflation rates. For the investor, changes in exchange rate poses a foreign exchange risk. High fluctuations in exchange rates can lead to big losses in an investor’s portfolio of investments due to uncertainty of return on investments. This is due to the fact that movements in foreign exchange rates affect the prices of goods on the international markets and this in turn affects the profit margin of exporting and importing companies.
Exchange rates can affect stock prices not only for multinational and export-oriented firms but also for domestic firms. For a multinational company, changes in exchange rates will result in both an immediate change in value of its foreign operations and a continuing change in the profitability of its foreign operations reflected in successive income statements. Therefore, the changes in economic value of firm’s foreign operations may influence stock prices.

Domestic firms can also be influenced by changes in exchange rates since they may import a part of their inputs and export their outputs. For example, a devaluation of its currency makes imported inputs more expensive and exported outputs cheaper for a firm. Thus, devaluation will make positive effect for export firms (Aggarwal, 1981) and increase the income of these firms, consequently, boosting the average level of stock prices (Wu, 2000).

According to real interest rate disturbance, when the real interest rate rises, capital inflow increases and the exchange rate fall. However, since higher real interest rate reduces the present value of future cash flows, stock prices will decline. An inflationary disturbance may explain negative relationship between exchange rate and stock price. That is, when inflation increases, the exchange rate rises and because of high inflation expectations, investors will demand a higher risk premium and high rate of return. As a result, stock prices will decrease (Wu, 2000).

On the other hand, the asset market approach to exchange rate determination states a weak or no association between exchange rates and stock prices and treats exchange rate to be the price of an asset (price of one unit of foreign currency). That is, expected future exchange rates determine the exchange rates and factors affecting exchange rates and stock price may be different (Muhammad and Rasheed, 2002). This research attempts to examine how changes in exchange rates and stock prices are related to each other for Kenya over the period of 2012 to 2013.

Kenya adopted a floating exchange rate regime in 1993. Since then the exchange rates have been determined by the market forces of demand and supply. Undoubtedly, the changes in exchange rates do have a diverse effect across the economic spectrum in any country.
Policy makers, scholars, economists, business owners, regulators and the general Kenyan public are grappling with figuring out the relationship of stock prices and exchange rates. In the recent past, a number of developments have occurred in finance in emerging economies. Among the most notable developments have been the establishment and revitalization of stock markets in emerging economies and the shift from fixed exchange rates towards independently floating exchange rates. This has been done with the help of International Finance Corporation (IFC, 1993).

This study attempted to examine how changes in exchange rates (represented by the Kenya shilling price to one U.S. dollar) and stock prices (proxied by the Nairobi Securities Exchange 20 share index) are related to each other for Kenya over the period January 2012 to December 2013.

**Research Objective**

The study was guided by the following research objective:

To establish the degree of correlation between Foreign Exchange rates and Market price per share in Kenya

**Research Hypothesis**

**Null hypothesis**

There is no significant relationship between Foreign Exchange rates and Share prices.

**Theoretical Framework**

The Classical economic theory suggests a relationship between the stock market performance and the exchange rate behavior. This theory hypothesizes that stock prices and exchange rates can interact by way of the ‘flow oriented’ and ‘portfolio balance’ models. Movements in the stock market may also affect exchange rates. Equities, being part of wealth, may affect the behavior of exchange rates through the demand for money according to the monetarist models of exchange rate determination (Gavin, 1989). Similar links can be traced through the portfolio-balance models as well (Branson, 1983; Frankel, 1983).

In contrast, according to portfolio balance (asset) models to exchange rate determination, it is argued that a change in stock prices could also have an impact
on currency value. Therefore, stock price innovations may affect or be affected by the exchange rate dynamics. Moreover, exchange rates may have a positive or negative impact on stock prices depending upon the nature of the economy.

2. LITERATURE REVIEW

Descriptive review

Flow oriented models, first discussed by Dornbusch and Fisher (1980), postulate that exchange rate movements cause movements in stock prices. This approach is built on the macroeconomic view that because stock prices represent the discounted present value of a firm’s expected future cash flows, then any phenomenon that affects a firm’s cash flow will be reflected in that firm’s stock price if the market is efficient as the Efficient Market Hypothesis suggests.

Movements in the exchange rate are one such phenomenon. Portfolio balance approaches, or ‘stock oriented’ models developed by Branson et al. (1977) postulates the opposite to flow models, that is, that movements in stock prices can cause changes in exchange rates via capital account transactions.

The buying and selling of domestic securities in foreign currency (either by foreign investors or domestic residents moving funds from offshore into domestic equities) in response to domestic stock market movements has a flow through effect into the currency market.

Although the literature on this subject has examined the relationship for example, "flow oriented" models of exchange rate determination (Dornbusch and Fisher, 1980) affirm that currency movements affect international competitiveness and the balance of trade position, and consequently the real output of the country, which in turn affects current and future cash flows of companies and their stock prices.

Movements in the stock market may also affect exchange rates. Equities, being part of wealth, may affect the behavior of exchange rates through the demand for money according to the monetarist models of exchange rate determination (Gavin, 1989).

Hatemi and Irandoust (2002) studied a possible causal relation between exchange rates and stock prices in Sweden. They used monthly nominal effective foreign
exchange rates and stock prices over the period 1993 to 1998. They found that Granger causality is unidirectional from stock prices to effective exchange rates. Nyamute in (1998) studied the relationship between stock prices and other financial variables like money supply, interest rates, inflation rates and exchange rates in Kenya. He found a positive relationship between stock prices and exchange rates. However, his research performed data analysis on non-stationary series which may adversely affect the validity of the results. Sifunjo and Mwasaru (2012) investigated the causal relationship between exchange rates and share prices in Kenya. The empirical results obtained over the period November 1993 to May 1999 indicated that the exchange rates granger causes stock prices in Kenya. The study also found out a unidirectional causality from exchange rates to stock prices. Therefore, the movements in exchange rates exert significant influence on stock price determination in Kenya. They tested for stationary, cointegration and finally used the error correction model to test causality. Tsoukalas (2003) examined the relationship between stock prices and macroeconomic factors in Cyprus. The results of his study showed a strong relationship between stock prices and Foreign exchange rates. The reason was because the economy of Cyprus depends mainly on services such as tourism and offshore banking. Pan et al. (2007) took the data of seven East Asian countries over the period 1988 to 1998 to examine the dynamic linkages between foreign exchange rates and stock prices. The findings of their study revealed that there was a bidirectional causal relation for Hong Kong before the 1997 Asian crisis. Also, there was a unidirectional causal relation from exchange rates and stock prices for Japan, Thailand and Malaysia and from stock prices to exchange rates for Korea and Singapore. During the Asian crises, there was a causal relationship from exchange rates to stock prices for all countries except Malaysia. Ibrahim and Aziz (2003) analyzed dynamic linkages between stock prices and four macroeconomic variables for Malaysia and used monthly data over the period 1977
to 1998. The empirical results showed that the foreign exchange rate is negatively associated with the stock prices.

Kurihara (2006) chose the period March 2001 to September 2005 to investigate the relationship between macroeconomic variables and daily stock prices in Japan. He used the Japanese stock prices, U.S stock prices, the foreign exchange rate (yen/U.S. dollar) the Japanese interest rate. The empirical results showed that the domestic interest rate does not influence Japanese stock prices. However, the exchange rate and U.S stock prices affect Japanese stock prices. Consequently, the quantitative easing policy implemented in 2001 has influenced Japanese stock prices.

Aydemir and Demirhan (2009) conducted a research on the relationship between stock prices and exchange rates in Turkey for the period February 23rd 2001 to January 11th 2008. They used the Toda and Yamamoto (1995) method to analyze the data. The results of the empirical study indicated that there was a bidirectional causal relationship between foreign exchange rates and all the stock market indices.

Bahmani and Sohrabian (1992) investigated the two way relationship between foreign exchange rates and stock prices in United States of America. Their study focused on the period July 1973 to December 1988 by applying Granger causality and co integration tests. Their findings indicated that there was a bi-directional causality between stock prices as measured by the S&P 500 index and the effective exchange rate of the dollar in the short run. The co integration analysis revealed that there was no long run relationship between the two variables.

Ajayi and Mougoue (1996) examined the inter temporal relationship between stock price indices and foreign exchange rates for France, Germany, Canada, Italy, The Netherlands, United Kingdom, Japan and The United States of America. The study analyzed the period from 1985 to 1991 with data collected daily by using co integration and error correction model tests. Their results revealed significant short and long run feedback relationship between the two financial markets. An increase in the aggregate domestic stock price has a negative short run effect on the domestic currency value. Although In the long run, an increase in stock prices has a positive
effect on the domestic currency value. Elsewhere, currency depreciation has a negative short and long run effect on the stock market.

Phylaktis and Ravazzolo (2005) investigated the long run and short run dynamics between stock prices and foreign exchange rates and the means through which exogenous shocks impact on a group of pacific Basin countries. The research analyzed the period span ranging from 1980 to 1998 with data collected on a monthly basis by applying the co-integration method and multivariate Granger causality tests.

The results suggested that stock markets and foreign exchange markets are positively related and that the United States stock market acts as a conduit for these links, also the financial crises had a temporary effect on the long run movement of these markets.

Erbaykal and Okuyan (2007) investigated the validity of the traditional or portfolio approach in emerging markets in Asia and South America. The study analyzed different periods based on the data availability for the tested countries by applying co integration and Granger causality tests. The Results showed a negative relationship between stock prices and foreign exchange rates in six countries in the long run. There is a causal relationship in eight countries. For five countries, there is a unidirectional causality from stock prices to foreign exchange rates, and for three countries there is a bi directional causality between stock prices and foreign exchange rates.

Yau and Nieh (2009) investigated the exchange rate effects of the New Taiwan Dollar against the Japanese Yen on stock prices in Japan and Taiwan. The study analyzes the period span from January 1991 to March 2008 via applying the newly threshold error correction model (TECM). The finding suggests that there is a long run equilibrium relationship between NTD/JPY and the stock prices of Japan and Taiwan. However, an asymmetric threshold co-integration relationship only exists in Taiwan’s financial market. The study also finds long term equilibrium and asymmetric casual relationships between NTD/USD and the stock prices of Taiwan. In addition, the results of TECM Granger causality tests show that no short run
causal relationship exists between the two financial assets considered for both countries’ cases. However, in the long run, a positive causal relationship running from either the Japan or US exchange rate to the stock prices of Taiwan strongly argues for traditional approach.

Yau and Nieh (2006) investigate short- and long-term interrelationships among stock prices of Taiwan and Japan, and New Taiwan Dollar/Yen exchange rates. The study analyzes the period span from January 1991 to July 2005 via applying co-integration and Granger causality tests. The findings include the stock prices of Taiwan and Japan impact each other for short durations. The portfolio approach is supported for the short term and traditional approach is more plausible for the long-term in the Taiwanese financial market, where as the portfolio approach is not suitable for the Japanese stock markets, all with regard to the relationship between stock prices and foreign exchange rate. The findings also suggested that there appears to be no long term relationship between New Taiwan Dollar/Yen exchange rate and the stock prices of Taiwan and Japan.

Pekkaya and Bayramoglu (2008) analyze the causality between exchange rate and stock prices of Istanbul Stock Index and S&P 500 in Turkey. The study analyzed the period span from 1990 to 2007 by applying Granger causality tests. The findings implied that there was a Granger cause from Turkey stock prices and S&P 500 to exchange rates for the period 1990 to 2007. The Granger cause between exchange rates and Turkey stock prices was bidirectional. On the other hand, S&P 500 has a unidirectional Granger cause against Turkey stock prices and exchange rates.

Analytical Review

Maysami-Koh (2000) examined the impacts of the interest rate and exchange rate on the stock returns and showed that the exchange rate and interest rate are the main determinants in the stock prices. It was until Oskoe and Sohrabian (1992) used Co integration test for the first time and concluded that there was bidirectional causality but no long term relationship between the two variables.
Najang and Seifert (1992), employing GARCH framework for daily data from the United States, Canada, the United Kingdom, Germany and Japan, showed that absolute differences in stock returns have positive effects on exchange rate volatility. Ajayi and Mougoue in 1996 picked daily data from 1985 to 1991 for eight advanced economic countries and they used the error correction model and causality tests and finally discovered that an increase in aggregate domestic stock price has a negative short run effect and a positive long run effect on domestic currency value. On the other hand, currency depreciation has both a negative short run and long run effect on the stock market.

Issam and Murinde (1997) studied the causal relationship between exchange rates and stock prices in India, Korea, Pakistan and Philippines. This was based on the bivariate vector autoregressive model. They first tested for stationary and the order of integration of the time series data used. They found that all the variables were non stationary in level forms and stationary after they have been differenced once and therefore they concluded that the variables were non stationary. Next, they tested for co-integration between exchange rates and stock price index. They found out that the two variables were co integrated in the Philippines and India only. Hence, they applied Granger-causality tests in Korea and Pakistan where exchange rates and stock prices were not co integrated and applied error-correction model in the Philippines and India where the two variables were co integrated. The Findings indicated that exchange rates Granger-cause stock prices in Korea, Pakistan, and India, whereas stock prices Granger-cause exchange rates in the Philippines.

Baharom, Royfaizal and Habibullah (2008) examined the causal relationships between stock prices and exchange rates in Malaysia. In the study, the data set consisted of monthly real effective exchange rates (REER) and Stock prices index (SP) for Malaysia covering the period from January 1988 to December 2006. In the analysis, the period of study was divided into two sample periods. The first was the pre-crisis period starting from January 1988 to June 1997. The second was the post-crisis period starting from July 1998 to December 2006. Johansen (1991) co-
integration method was used. They only found short term relationships but no long run relationships between the two variables.

Adam and Tweneboah (2008) studied the impact of macroeconomic variables on stock prices in Ghana. They used the Databank stock index to represent the stock market and inward foreign direct investments, the Treasury bill rate, the consumer price index, average crude oil prices, and the exchange rate as macroeconomic variables. They analyzed quarterly data for the above variables from 1991 to 2007 using co integration test and vector error correction models (VECM). These tests examined both long-run and short-run dynamic relationships between the stock market index and the economic variables. The study found that there is co-integration between macroeconomic variables and stock prices in Ghana indicating long run relationship. The VECM analyses showed that the lagged values of interest rate and inflation had a significant influence on the stock market. The inward foreign direct investments, the oil prices, and the exchange rate showed weak influence on price changes.

Rahman and Uddin (2009) investigated the interactions between stock prices and exchange rates in three emerging countries of South Asia namely, Bangladesh, India and Pakistan. The Data used included the average monthly nominal exchange rates of the US dollar in terms of the Bangladeshi Taka, Indian Rupee and Pakistani Rupee and monthly values of The Dhaka Stock Exchange General Index, The Bombay Stock Exchange Index and The Karachi Stock Exchange All Share Price Index for period of January 2003 to June 2008. They found that exchange rates and stock prices data series are non-stationary and integrated of other one. Hence, they applied Johansen procedure to test for the possibility of a co-integrating relationship. Their results show that there is no co-integrating relationship between stock prices and foreign exchange rates. Finally, they applied the Granger causality test to study any causal relationship between stock prices and exchange rates. Evidence provided indicated that there is no causal relationship between stock prices and exchange rates in the countries.
Bonga-Bonga and Hoveni (2009) assessed the extent of volatility spillovers between the equity market and the foreign exchange market in South Africa. They applied a multi-step family of GARCH whereby volatility shocks obtained from the mean equation estimation in each market are included in the conditional volatility of the other market, respectively. The appropriate volatility models for each market were selected using several criteria such as covariance, persistence in variance and leverage effects. The results show that there is a unidirectional relationship in terms of volatility spillovers, from the equity market to the foreign exchange market. Aggarwal, Srivastav and Srivastava (2010) analyzed the relationship between Nifty returns and Indian rupee-US Dollar Exchange Rates. They applied several statistical tests in order to study the behavior and dynamics of both the series. They also investigated the impact of both the time series on each other. The sample period for their study was from October, 2007 to March, 2009 using the daily closing indices. They found out that Nifty returns as well as exchange rates were not normally distributed. Further investigation into the causal relationship between the two variables using Granger Causality test highlighted a unidirectional relationship between Nifty returns and Exchange Rates, running from the returns towards the exchange rates.

Kos, Doqanay, and Karabacak (2010) investigated the existence and direction of relationship between stock prices and exchange rates for the Turkish financial market. The Granger (1969) causality tests were employed to reveal the nature of relationship between the two variables. The data used included five currencies: US dollar, Euro, Japanese Yen, Pound Sterling, Swiss Franc and two baskets of currencies of the Under secretariat of Foreign Trade of Turkey. Their results showed that there was a unidirectional causality running from stock prices to exchange rates using the daily observations for the sample period, which runs from February 23, 2001 to November 4, 2009.
3. RESEARCH METHODOLOGY
In this study, Historical Design was applied. It used secondary sources such as official records, reports and legal websites. The data was based on the Nairobi Securities Exchange stock index values for the period between January 2012 and December 2013. This index tracks the performance of the shares of twenty companies as selected by the management of NSE from time to time. The prevailing exchange rates for the same period were selected. This data set consists of averagemonthlyobservationsfromJanuary2012toDecember2013. This study used Regression analysis to analyze data collected. Statistical tests were carried out to determine the relationships between shares sales and value of the foreign exchange rates using SPSS and MS EXCEL. The analyzed data was presented in tables.

4. PRESENTATION & INTERPRETATION OF FINDINGS
This chapter presents the findings from the field. The findings are based on the data collected from the Kenya National Bureau of Statistics namely Foreign exchange rates and Data collected from the Nairobi Securities Exchange 20 share index records namely Stock prices, for the period January 1st2012 to December 31st2013.(FOREX=1USD/KSH)
Table 4.1 Foreign exchange rates and Stock price from 2012 to 2013

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MONTH</th>
<th>FOREIGN EXCHANGE RATES</th>
<th>STOCK PRICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>JANUARY</td>
<td>83.90</td>
<td>3198</td>
</tr>
<tr>
<td>2012</td>
<td>FEBRUARY</td>
<td>83.18</td>
<td>3188</td>
</tr>
<tr>
<td>2012</td>
<td>MARCH</td>
<td>83.00</td>
<td>3339</td>
</tr>
<tr>
<td>2012</td>
<td>APRIL</td>
<td>83.19</td>
<td>3478</td>
</tr>
<tr>
<td>2012</td>
<td>MAY</td>
<td>84.46</td>
<td>3630</td>
</tr>
<tr>
<td>2012</td>
<td>JUNE</td>
<td>84.25</td>
<td>3682</td>
</tr>
<tr>
<td>2012</td>
<td>JULY</td>
<td>84.14</td>
<td>3806</td>
</tr>
<tr>
<td>2012</td>
<td>AUGUST</td>
<td>84.08</td>
<td>3826</td>
</tr>
<tr>
<td>2012</td>
<td>SEPTEMBER</td>
<td>84.61</td>
<td>3927</td>
</tr>
<tr>
<td>2012</td>
<td>OCTOBER</td>
<td>85.11</td>
<td>4038</td>
</tr>
<tr>
<td>2012</td>
<td>NOVEMBER</td>
<td>85.63</td>
<td>4146</td>
</tr>
<tr>
<td>2012</td>
<td>DECEMBER</td>
<td>85.99</td>
<td>4073</td>
</tr>
<tr>
<td>2013</td>
<td>JANUARY</td>
<td>86.90</td>
<td>4369</td>
</tr>
<tr>
<td>2013</td>
<td>FEBRUARY</td>
<td>87.44</td>
<td>4538</td>
</tr>
<tr>
<td>2013</td>
<td>MARCH</td>
<td>85.81</td>
<td>4732</td>
</tr>
<tr>
<td>2013</td>
<td>APRIL</td>
<td>84.18</td>
<td>4914</td>
</tr>
<tr>
<td>2013</td>
<td>MAY</td>
<td>84.14</td>
<td>4922</td>
</tr>
<tr>
<td>2013</td>
<td>JUNE</td>
<td>85.48</td>
<td>4788</td>
</tr>
<tr>
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<td>JULY</td>
<td>86.85</td>
<td>4707</td>
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<td>AUGUST</td>
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<td>4905</td>
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<tr>
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<td>NOVEMBER</td>
<td>86.10</td>
<td>5081</td>
</tr>
<tr>
<td>2013</td>
<td>DECEMBER</td>
<td>86.30</td>
<td>4932</td>
</tr>
</tbody>
</table>

A Pearson product-moment correlation coefficient was computed to assess the relationship between Foreign Exchange Rates represented by the Kenyan shilling to the United States of America Dollar and the Stock price index derived from the Nairobi securities exchange 20-share Index. There was a positive correlation between the two variables, \( r = 0.685 \), \( n = 24 \), \( p = 0.000 \). The Sig. (2-Tailed) value in our example is 0.000. This value is visibly less than 0.05. Because of this, we can conclude that there is a statistically significant correlation between Foreign Exchange Rates represented by the Kenyan shilling to the United States of America Dollar and the Stock price index provided by the Nairobi securities exchange 20-share Index.

**Table 4.3 Linear Regression results**

**Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>Adjusted ( R^2 )</th>
<th>Std. Error of the Estimate</th>
<th>( R^2 ) Change</th>
<th>( F ) Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.685*</td>
<td>.469</td>
<td>.445</td>
<td>458.983</td>
<td>.469</td>
<td>19.464</td>
<td>1</td>
<td>22</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), FOREXRATES
b. Dependent Variable: STOCKPRICES
The major outputs you need to be concerned about for simple linear regression are the R-squared and the coefficient. The R-squared number in this case is 46.9% - this shows how well our model predicts or forecasts the future stock prices. The model therefore explains only 46.9% of the variation in Stock prices. The Foreign exchange rates correlation coefficient of 68.5 tells us that if Foreign exchange rates increases by 1%, stock prices will likely go up by about 68.5 units.

Table 4.7 Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Sum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOREX RATES</strong></td>
<td>24</td>
<td>4.49</td>
<td>83.00</td>
<td>87.49</td>
<td>2044</td>
<td>.885</td>
<td>0.77</td>
<td>0.53</td>
<td>-1.074</td>
<td>.918</td>
</tr>
<tr>
<td><strong>STOCK PRICES</strong></td>
<td>24</td>
<td>1893</td>
<td>3188</td>
<td>5081</td>
<td>2044</td>
<td>.885</td>
<td>0.77</td>
<td>0.53</td>
<td>-1.074</td>
<td>.918</td>
</tr>
<tr>
<td><strong>Valid N</strong></td>
<td>24</td>
<td>4.49</td>
<td>83.00</td>
<td>87.49</td>
<td>2044</td>
<td>.885</td>
<td>0.77</td>
<td>0.53</td>
<td>-1.074</td>
<td>.918</td>
</tr>
</tbody>
</table>
Findings of the study
Overall, there was a strong, positive correlation between Foreign Exchange Rates represented by the Kenyan shilling to the United States of America Dollar And the Stock price index as provided by the Nairobi securities exchange 20-share Index. The exchange rate is stated as the Kenya shillings price of one US dollar (1US dollar = ‘XX’ Kenya shillings). Therefore when the exchange rate increases it implies appreciation of the Kenya shilling or depreciation of the foreign currency. This means that when the foreign currencies depreciate or Kenya shilling appreciates, the stock prices fall. Also, when the stock prices rise, the foreign currencies appreciate or Kenya shilling depreciates.

The fluctuations in share prices as a result of changes in foreign exchange rates may cause portfolio managers to panic and liquidate some of the holdings in their portfolios. Consequently this may result in a slump in the stock market. However, when the foreign currency increases the portfolio of equity securities may appreciate in value.

Therefore, the portfolio managers need an in depth understanding of the relationship between exchange rates and share prices. Based, on the results of this study, portfolio managers are better off when they dispose shares in their portfolio if they predict a fall in the foreign exchange rates. On the other hand, the portfolio managers may increase their positions in equity shares when they forecast an increase in the foreign exchange rates. Regulators such as CBK who are in charge of monetary policy have a reason to be concerned with volatility in exchange rates and the resulting impact on the stock market.

The findings in this research will assist CBK in mastering the relationship between exchange rates and share prices. This may assist them employ the monetary policy tools at their disposal to control the exchange rates and consequently averting adverse effect on the stock market. Based on the finding of this research, the strengthening of the Kenya shilling may increase the value of shares. The CBK may intervene to stabilize the exchange rates by among other things increasing the interest rates. The stock market is an important institution for price
discovery. The forces of demand and supply in the market determine the market price of shares. This market price is useful in valuation of companies, evaluating portfolio performance, facilitating transfer or disposal of securities among others. High volatility in the currency market and by extension the stock market will have an adverse effect on pricing efficiency. If volatility persists for a long time there will be a disruption in the price discovery process in the market.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary
The aim of this study was to establish whether there was any correlation between Foreign exchange rates and stock prices. The study target population consisted of The Foreign Exchange rates and are stated as the number of Kenya shillings that one US dollar can buy (1 US$ = XX Kenya shillings) and the Nairobi Securities Exchange share index.

The NSE share index used in this study is Nairobi Securities Exchange 20 share index which tracks the performance of the shares of twenty companies as selected by the management of Nairobi Securities Exchange from time to time. The sample data is based on the Nairobi Securities Exchange stock index values for the time periods between January 2012 and December 2013. The prevailing exchange rates for the same time period were selected for the study. The data consisted of average monthly observations from January 2012 to December 2013. Data for this study was obtained through Historical Design method.

Conclusion
The study has established that there was a strong, positive correlation between Foreign Exchange Rates represented by the Kenyan shilling to the US Dollar and the Stock price index as provided by the Nairobi securities exchange 20-share Index. Therefore when the exchange rate “increases” it implies an increase of the Kenya shilling or appreciation of the foreign currency. This means that when the foreign currencies appreciate or Kenya shilling depreciates, the stock prices fall. Also, when the stock prices rise, the foreign currencies depreciate or Kenya shilling appreciates.
Recommendations

- The managers of these companies need to plan in advance ways of reducing the risk of adverse effects of exchange rates movement on the performance of their companies.
- Portfolio managers are required to maximize the wealth for their clients through portfolio value optimization.
- The managers also need to position themselves in order to benefit from favorable movements in the exchange rates as has been established in this research.
References


**Web References**


