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Petroleum and Food Sectors Lost Stock Returns against Investments in PSX

Abstract

The impact of exchange rate exposure and market return on stock returns of petroleum and food sectors PSX listed firms has been investigated empirically. Two econometric models formulated based on the Jorion approach of the two-factor model have been analyzed for petroleum and food sectors stock returns, market return and exchange rate (i.e., USD) for the study period 2005-2012, which represent an era of military regime preceded by the democratic government of Pakistan Peoples Party. A sample of 37 petroleum and food sectors listed firms have been evaluated by applying the unit root test and OLS multiple regression. Further, the Quandt-Andrews test of unknown breakpoint has been applied, which showed an extended structural break during the period 2007 to 2010. Additionally, the results revealed that the coefficients of exchange rate and market return are negatively related to petroleum and food sectors stock returns. Therefore, investors must take precautions before investing funds in stocks of food and petroleum sector firms..

Key Words: Petroleum Sector, Food Sector, Stock Returns, Exchange Rate Exposure, Market Return

Introduction

Empirically, literature supported evidence has established that firms conducting businesses globally are subject to foreign exchange exposure because their cash flows are affected directly or indirectly by the exchange rate fluctuations and market dynamics; several researchers factually endorsed this firm-level effect, including; [Shapiro \(1975\)](#); [Marston \(2001\)](#); [Jayasinghe, Tsui, Zhang \(2014\)](#); [Ito, Koibuchi, Sato and Shimizu \(2016\)](#); [Krapf \(2017\)](#); [Kim, Chung, Hwang, and Pyun \(2020\)](#). Therefore, through examination of stock prices movements with respect to the exchange rates fluctuations and total market return need to be analyzed because these factors are vulnerable and have dynamic properties which increase or decrease against changes in the capital markets, expansion in regimes of flexible rates and implementation of financial liberalization methodologies in the financial markets. Logically, due to these unprecedented changes, emerging economies are losing control of the exchange rate, which results in portfolio diversification and foreign investments.

Reasonably, investors collectively are targeting instruments like; interest rates, foreign exchange rates and stock market equity for the purpose of investment. These investors normally formulate portfolios in order to maximize the rate of return on their investments. Evidently, the transformation of financial markets to strengthen the global economy, the exchange rate is a crucial variable that has a deep influence on the value as well as the performance of the firms struggling to enhance international competitiveness. Multiple studies could be referred to on the topic. However, the focus of most of them has been on economic exposure and exchange rate movements under industry or portfolio framework, particularly the work of [Bodnar and Gentry \(1993\)](#) focused on industry returns of the United States, Japan and Canada. Moreover, earlier empirical studies have not concluded that all firms have the same level of foreign exchange exposure. Instead, some firms can have significant exposures, and their signs can vary even in their industry of study. But, considering

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this evidence, one could not assume that heterogeneity does not exist among the firms or industries. Likewise, further evidence highlighted in two studies that have examined firm related exposures are of [Jorion \(1991\)](#) And [Booth and Rotenberg \(1990\)](#), but due to divergence related to exposures, it is a pertinent question to ask; how much a firm or corporation is exposed to foreign exchange movements?

Consequently, building on this question, previous studies have used a single proxy for exchange rate fluctuations, including the study of [Booth and Rotenberg \(1990\)](#), who had examined the movements or change in the Canadian dollar with respect to the U.S dollar and did not consider the other foreign currencies while these currencies could affect the returns of Canadian company stock. Thus, previous studies used a single proxy for exchange rate exposure or either used a single country or single weighted index of currencies.

Now, moving on to the exchange rate exposure regarding the stock index, data of different industries from 2001-2010 in Taiwan revealed that forecasting of exchange rate exposure with different data collection frequencies supported the concept of 'hot money and its significant effect on exchange rate exposure that have been existed in various types of industries across continents ([Tsai, Chiang, Tsai, and Liou, 2014](#)). Furthermore, [Al-Shboul and Anwar \(2014\)](#) examined the industry sector in Canada by selecting thirteen industrial sectors to investigate exchange rate exposure. They further stated that due to exposure, full samples before and after the global financial crisis, including linear and non-linear exposures, had certainly affected the stock returns. Similarly, [Jayasinghe, Tsui, and Zhang \(2014\)](#) explained that volatility associated risk that defines exchange rate exposure of sector-wise returns impacted firms' future operating cash flows. In another study by [Blau \(2017\)](#) argued that tested the hypothesis which linked instability in the currency market with the uncertainty that led to price hikes and ultimately stock returns plunges. These non-normal stock return distributions of

securities represent dangerous conditions that could lead to subsequent bubbles or likely crashes of financial markets. Furthermore, the study of [Salisu and Vo \(2021\)](#) examined the low as well as high-interest environments impact on the stock returns and found that irrespective of any macroeconomic variables inclusion, low-interest rates depicted long-run positive nexus and vice versa in the panel data analysis.

Hence, keeping in view the evidence cited above, we have studied exchange rate exposure of listed firms of the petroleum and food sectors to report the impact of the exposure on the stock returns. Moreover, the market return has been included along with exchange rate exposure and collective impact studies to get insights into its influence on the stock returns for the period under study. The research question of the study states the investigation relating the impact of exchange rate exposure and Market Return on Petroleum and Food Sectors Stock Returns of PSX listed firms operating in Pakistan? IN reference to the research work of Nguyen, Prokopczuk, and Sibbertsen (2020) signified that purchase of stocks with shorter memory and selling with longer memory in a volatile market apparently resulted in the generation of excess stock returns as a consequence of an effective investment strategy. The long memory processes are time-dependent hyperbolic decaying autocorrelation function that is further explained and evaluated under capital asset pricing model. The application of literature suggested statistical tests have revealed that the major findings for the study period, i.e., 2005-2012, are interestingly contradictory relating to the hypotheses tested in the study. The major finding after conducting detailed statistical tests of econometric models, it has been established that exchange rate exposure positively affects the stock returns and market return negatively affect the stock returns during the study period, i.e., 2005 to 2012. These results are valid for the sample of 37 firms that belonged to petroleum as well as food industry firms operating in the non-financial sector of Pakistan.

This paper is organized in a manner that the introduction is proceeded by a literature review

of important and literature specified predictors included in the econometric models of the study; further methodology, results, and discussion has been presented to debate on outcomes of statistical analyses. Lastly, the conclusion of the study closes the paper by presenting the gist of the study in a meaningful manner.

Review of Relevant Studies

The review of existing literature presented below includes evidence relating to the exchange rate exposure, market return and stock returns.

Exchange Rate Exposure

Initially, French et al., 1987; [Campbell and Hentschel \(1992\)](#) stated that there is a positive trade-off of risk and return, but researchers like Nelson's (1991) and Glosten's et al. (1993) found contradicting evidence against it and showed outcomes that were different concerning GARCH bivariate model, where the risk associated with the stock return of market portfolio showed that the relationship between individual portfolio returns and the expected returns on portfolio altogether divergent. Recent evidence published on the subject by [Jayasinghe et al. \(2014\)](#) reported and examined volatility associated risk that had captured the exchange rate exposure of sector-wise returns by testing the model to investigate four aspects of exchange rate exposure as stock return sensitivity to exchange rate volatility, stock return sensitivity to change in exchange rate exposure, stock return variance sensitivity to exchange rate volatility, and stock return dynamic correlation to exchange rate change and reported that the depreciation of Yen caused sectoral returns volatility to increase which depicted correlation of exchange rate changes and sectoral returns. Likewise, Bessler and Kurmann (2014) investigated that the assessment capital market for banking sector risk factors in the UK and the US during 1990-2011 by focusing on bank stock return in one or more-factor framework and identified multi-dimensional and time-varying bank risk exposures well integrated into the bank stock returns. Moreover, the study of Bianchi, Bornholt, Drew and Howard (2014)

had examined the exposure of bank risk and reported that several changes in the last two decades, as well as traditional activities of banks, had focused on changes in credit risk and maturity periods. Consequently, the study of Curcuro, Thomas, Warnock and Wongswan (2014) examined the relationship between return and portfolio reallocation, which supported the evidence particularly to uncovered equity parity that was according to previous returns resulted due to rebalancing of portfolio return increased against the decrease in the exposure of currency risk. Another interesting work by Hutson and Laing (2014) examined the relationship between firm foreign exchange exposure and operational hedging and reported that a non-linear relationship between financial hedging and operational hedging by US firms. Additionally, [Tsai et al. \(2014\)](#) had investigated the exchange rate exposure of stock index data of different industries in Taiwan and revealed that forecasting of exchange rate exposure based on financial data collection done on a daily, monthly and quarterly basis resulted in positive effects of volatility in currency generated a return on stocks.

The research work of Bianchi et al. (2014) examined that understanding of knowledge as the US listed index returns predicted the choice of portfolio and pricing of assets for the five-factor model relating to long-term stock returns. Subsequently, [Al-Shboul and Anwar \(2014\)](#) investigated exchange rate exposure for the sample firm before and after the global financial crisis period, including linear and non-linear exposure and reported that before the global financial crisis period, evidence shows that the exchange rate exposure affected stock returns. Furthermore, the aforementioned evidence had been supported by the studies of [Blau \(2017\)](#), who had tested a hypothesis linking instability to uncertainty in the currency market resulting in stock returns decline due to non-normal stock return distributions of securities that could lead to financial crises. Equally, the study of [Salisu and Vo \(2021\)](#) reported the impact of low and high-interest rate environments on the stock

returns where low-interest rates depicted long-run positive nexus, and high-interest rates depicted long-run negative nexus of financial data.

Stock Returns

The research work of [Campbell and Lettau \(1999\)](#); and [Cochrane \(2005\)](#) provided the framework to predict an industrial sector portfolio return on the stock. Similarly, in this regard, Foreign exchange and stock returns relation had been investigated by [Sinha and Kohli \(2013\)](#) and found that there was no relation between stock return and foreign exchange. Whereas [Costa and Soares \(2004\)](#) tested a model that had supported stock portfolio selection based on the practices of fund managers who had expertise in the selection of portfolios formulated on market index benchmarking methodology. In the study of [El-Masry \(2006\)](#), it was reported that volatility in foreign exchange exposure for the non-financial UK industry sector firms had been exposed to contemporaneous exchange rate changes also connected to lagged changes in previous exchange rate changes in the market. However, [Brannasa et al. \(2007\)](#) investigated the stock returns and exchange rate relation for exporter and non-exporter companies by employing real effective exchange rates and found that the mean exposure coefficient of exporters companies was higher than the non-exporter companies. Additionally, the study of [El-Masry and Abdel-Salam \(2007\)](#) studied the effect of company size, foreign operations on the exchange rate exposure of non-financial firms and reported that due to the impact of non-expected variation in exchange rates, the stock return changes, also predicted as structural changes with respect to the exchange rate changes. Though the study of [Griffin and Stulz \(2001\)](#) found that the common stocks were more important than competitive stocks because industry and exchange rate stocks were more important for industries that had international production of traded goods. The work of Li et al. (2011) studied the forecasting of industries sector portfolio return on stock investments and

reported that a larger chunk of forecasted portfolio return was designated proportionate ad ratio of wealth that was due to valuable market risk premium related to profit ratio.

Consequently, the study of [Costa & Moore and Wang \(2014\)](#) had investigated the determinants of the time-varying correlation between real exchange rates and differentials of stock returns of four developed and six developing economies and found a negative relationship between the foreign exchange markets and local stock markets, however relation between these two markets got stronger with the increase in trade balances. Accordingly, [Gyntelberg et al. \(2014\)](#) reported that the exposure patterns of companies were different because of appreciation in Thai Bhat that was purchased by the foreign investors but depreciated when foreign investors sold Thai equities.

Market Return

The literature on market return is in abundance, but specifically, most pertinent studies have been cited here, including the work of [Chue and Cook \(2008\)](#); [Choi and Jiang \(2009\)](#); [Annaert, Buelens and Ceuster \(2012\)](#); [Tule, Dogo and Uzonwanne \(2018\)](#) among others, who had written about the magnitude of a firm's foreign exchange exposure that may be associated with return on the market for certain firm-specific traits such as; size/value, growth opportunities and expected financial distress. Similarly, further evidence by [Bodnar and Wong \(2000\)](#) had reported that the largest firms in the US and Japan had more foreign exchange exposure and vice versa. Interestingly, they added that even if the level of foreign sales had been controlled by the large firm, they could be exposed more to foreign exchange fluctuations. Firms may also bear indirect foreign exchange exposure that arises from the competitive environment in which the firm operates is further supported by the study of [Bodnar and Marston \(2001\)](#). Subsequently, the research study of [Mohan \(2013\)](#) had added that foreign investors got benefits due to the change in exchange rates, but it was almost negligible in

the aftermath of appreciation in Yuan that was offset by extra volatility in returns. Current studies conducted by [Bathia, Bouras, Demirev and Gupta \(2020\)](#); [Zhaunerchyk, Haghighi and Oliver \(2020\)](#); And [Phan, Bertrand, Phan and Vo \(2021\)](#) supported positive market return impact on stock returns generated as a result of diversified portfolios formulated across global stock markets.

Formulated Hypothesis of the Study

Statistically, the following hypotheses formulated based on the aforementioned cited literature are as follows:

- H₁:** The exchange rate exposure negatively affects the stock returns of the firm.
- H₂:** The market return positively affects the stock returns of the firm.

Methodology

Mathematical and Econometric Modelled Equations

The formulation of the econometric equation representing the model of the study is based on the earlier work of [Dong, Kouvelis, and Su \(2014\)](#); [Adler and Dumas \(1984\)](#); [Dumas \(1978\)](#), who had elaborated the effect of unanticipated exchange rate fluctuations on firm value. In this regard, [Jorion \(1990\)](#) proposed a two-factor model with market returns as the dependent variables and percentage changes in the exchange rate as the explanatory variables. Equation 1 is the representation of [Jorion \(1990\)](#) work which becomes the foundation of econometric models formulation for the current research study:

$$R_{it} = \beta_{io} + \beta_{im} R_{mt} + \beta_{ix} R_{xt} + \varepsilon_{it} \quad Eq (1)$$

The inclusion of variables in Equation 2 and 3 has been defined by the mathematical functions which have the composition based-on the structure of Equation 1. Therefore, literature endorsed variables particularly included in the mathematical functions and further in the econometric models are explained as under;

$$PSSR = f(MR, ER)$$

$$FSSR = f(MR, ER)$$

$$PSSR_{index, t} = \beta_{io} + \beta_{im} MR_{KSE-100,t} + \beta_{USD,t} ER_{USD,t} + \varepsilon_{it} \quad Eq (2)$$

$$FSSR_{index, t} = \beta_{io} + \beta_{im} MR_{KSE-100,t} + \beta_{USD,t} ER_{USD,t} + \varepsilon_{it} \quad Eq (3)$$

The symbols represent in above equations (2 & 3) have the following meaning;

$PSSR_{index, t}$ = It is the index of (petroleum) sectoral stock returns at time 't'

$FSSR_{index, t}$ = It is the index of (food) sectoral stock returns at time 't'

$MR_{KSE-100,t}$ - It is the market return of PSX-100 index at time 't'

$ER_{USD,t}$ - It is the exchange rate i.e., USD at time 't'

β_{io} - It is the sensitivity.

β_{im} - It is the coefficient of PSX market return at time 't'

$\beta_{USD,t}$ - It is the coefficient of USD at time 't'

ε_{it} - It is the model error term.

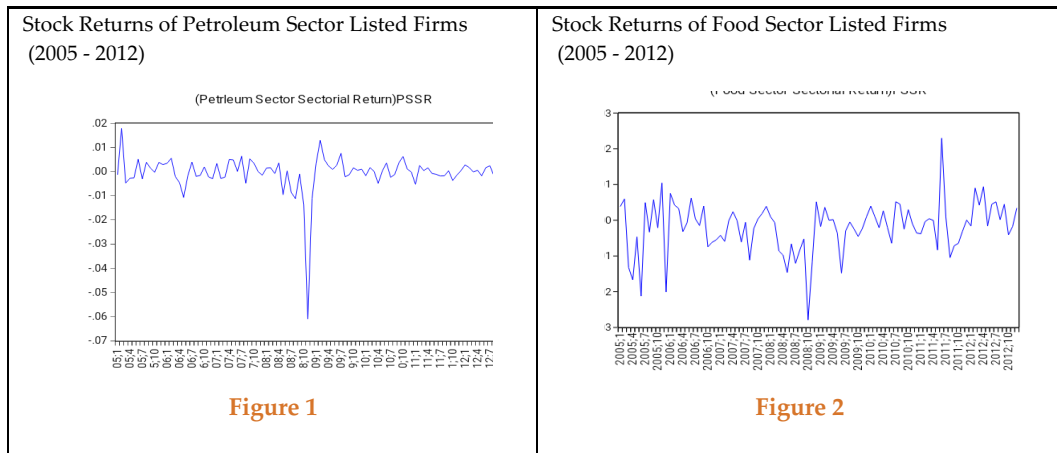
Financial Data Acquisition and Sampling

The financial data for the stock returns for the petroleum and food sectors, market returns have been retrieved from the Pakistan stock exchange (PSX) as well as from the official website of the State Bank of Pakistan for the exchange rates. The daily data of stocks has been extracted from PSX and converted into monthly data by taking monthly averages. The exchange rates data is also taken monthly for financial analyses. Moreover, the index of the data relating to the variables of the study has been computed statistically. In this study, probability sampling technique has been used to generate a random sample of firms for which an online resource that is 'Raosoft' which is an online software used by the authors of the study to generate a sample of 56 firms at a 1% level, 53 firms at 5% level, and 50 firms at 10% level of significance. Moreover, only those petroleum and food sector firms have been selected which have been actively trading on PSX. In this regard, therefore, a total of 37 firms have been selected based on the availability of data. However, financial firms have not been included in this study because of complexity in their exchange rate exposures, risk management processes and the economic currency exposure

theory that signifies firms as consumers and producers at the same time. Furthermore, according to Ting, Yen and Chiu (2008) exchange rate exposure of financial firms are different as compared to the non-financial firms because they're of assets and liabilities structure as well as access to financial hedge instruments. Petroleum and food listed firms have been selected based on their higher stock trading frequency in the period ranging from 2005 to 2012 during the military

regime of General Pervez Musharraf proceeded by the Pakistan Peoples Party Democratic form of Government rule in the country. Moreover, according to [lorion \(1991\)](#), positively bilateral exchange rates have been employed in the study for regression analysis that is an index showing a prudent demonstration of the effect of exchange rate fluctuations that avoid the problem of multi-collinearity.

Results and Discussion



Unit Root Test

Table 1. Results concerning Econometric Modeled Equation 2 & 3 variables of the study

Null Hypothesis = PSSR, FSSR, And Stock Returns has a unit root			
Exogenous = Constant			
Lag Length = 0 (It is based on the SIC and the max lag value = 1)			
		t-Statistic	Prob.*
ADF test stats for (PSSR)		-7.192555	0.0000
	1% level	-3.493747	
Test critical values	5% level	-3.500669	
	10% level	-2.892200	
ADF (FSSR)		-8.355593	0.0000
	1% level	-3.500669	
Values	5% level	-2.892200	
	10% level	-2.583192	
ADF (DER)		-4.226789	0.0010
	1% level	-3.502238	
Values	5% level	-2.892879	
	10% level	-2.583553	

*According to the calculations of [MacKinnon \(1996\)](#) for one-sided p-values.

The computed ADF test statistics for PSSR is (-7.192) which is smaller than the critical values (-2.583, -2.892, -3.500) at 10%, 5%, 1% significant level, respectively. Therefore, we can reject the null hypothesis, which means that the PSSR series does not have a unit root problem, and the PSSR series is stationary of integration of order I(0). In the case of ADF test for FSSR that is (-8.355) is smaller than the critical values (-2.583, -2.892, -3.500) at 10%, 5%, 1% significant levels respectively. Therefore, we can reject the null

hypothesis, which means that the FSSR series does not have a unit root problem, and the FSSR series is stationary of integration of order I(0). Moreover in the case of DER the ADF test value of (-4.226789) is smaller than the critical values (-2.583, -2.892, -3.502) at 10%, 5%, 1% significant levels respectively. Therefore, we can reject the null hypothesis, which means that ER series does not have a unit root problem, and the ER series is stationary of integration of order I(1).

Correlation Matrix

Table 2

	PSSR	FSSR	MR	ER
PSSR	1.000000	0.274074	0.023824	0.067167
FSSR	0.274074	1.000000	-0.049827	-0.099980
MR	0.023824	-0.049827	1.000000	-0.330110
ER	0.067167	-0.099980	-0.330110	1.000000

The correlation matrix indicates that the variables of the study, which are; PSSR, FSSR, MR and ER, have a weak correlation. However, results show

that PSSR is correlated with FSSR (0.274074), and ER is correlated with MR (-0.330110).

Descriptive Statistics of Econometric Model 1

Table 3

	PSSR	MR	ER
Mean	-0.000479	8981.866	0.013395
Median	0.000229	9176.365	0.012273
Maximum	0.017849	201814.0	0.016772
Minimum	-0.060914	-0.006638	0.010172
Std. Dev.	0.007699	20724.87	0.002453
Skewness	-5.023020	8.496517	0.329373
Kurtosis	41.13030	79.73600	1.405039

The mean value for PSSR is (-0.000479), which is almost equal to the value of Std. Dev which is (0.007699). The difference between standard deviation values (0.007699) and mean (-0.000479) is very less, which shows that data of FSSR is normal, having the least dispersion. In the case of MR, the Std. Dev value (20724.87) which is more than the Mean value, which is (8981.866). The mean value of ER is (0.013395), which is almost equal to the value of Std. Dev which is (0.002453).

But, the skewness value (-5.023020) is almost equal to the Mean value (-0.000479), so the distribution is symmetrical around the mean. The skewness value of MR is (8.496517), which is less than the Mean value (8981.866), the extreme values to the left. In the case of ER, the Skewness value (0.329373), which is more than the Mean value (0.013395), has the extreme values to the right. Conversely, the kurtosis value (41.13030) > 3 so, it is distribution normally distributed. In the

case of MR, the kurtosis value (79.73600) is greater than 3. So, the distribution sharper than a normal distribution. However, the kurtosis value

of ER is (1.405039) > 3, thus it is normally distributed.

Descriptive Statistics of Econometric Model 2

Table 4

	FSSR	MR	ER
Mean	-0.001884	8981.866	0.013395
Median	-0.001250	9176.365	0.012273
Maximum	0.022966	201814.0	0.016772
Minimum	-0.027916	-0.006638	0.010172
Std. Dev.	0.007189	20724.87	0.002453
Skewness	-0.542648	8.496517	0.329373
Kurtosis	5.392854	79.73600	1.405039

The mean value for FSSR is (-0.001884), which is almost equal to the value of Std. Dev which is (0.007189). The difference between standard deviation values (0.007189) and mean (-0.001884) is very less, which shows that data of FSSR is normal, having the least dispersion. In the case of MR, the Std. Dev value (20724.87) which is more than the Mean value, which is (8981.866). ER; Mean value (0.013395) which is almost equal to the value of Std. Dev which is (0.002453). The skewness value (-0.542648) is almost equal to the Mean value (-0.001884), so the distribution is

symmetrical around the mean. The skewness value for MR is (8.496517), which is less than the Mean value (8981.866), the extreme values to the left. The skewness value of ER is (0.329373), which is more than the Mean value (0.013395), the extreme values to the right. Conversely, the Kurtosis value (5.392854) > 3, which shows the normal distribution. The kurtosis value of MR is (79.73600) > 3, and it is normally distributed. However, the kurtosis value of ER is (1.405039) < 3; thus, it represent the normal distribution of utilized financial data.

OLS Multiple Regression Test of Econometric Model 1 & 2

Table 5

Dependent & Independent Variable	PSSR			FSSR		
	PSSR	MR	ER	FSSR	MR	ER
Coefficient	-0.0042	1.92E-08	0.2643	0.0035	-3.22E-08	-0.3829
Std. Error	0.0048	4.07E-08	0.3435	0.0045	3.78E-08	0.3191
t-Statistic	-0.8731	0.471540	0.7692	0.7927	-0.8538	-1.2001
Prob.	0.3849	0.6384	0.4437	0.4300	0.3954	0.2331
R-squared	0.0069			0.0177		
F-statistic	0.3224			0.8377		
Prob.(F-statistic)	0.7252			0.4360		
Durbin-Watson stat	1.4332			1.7077		

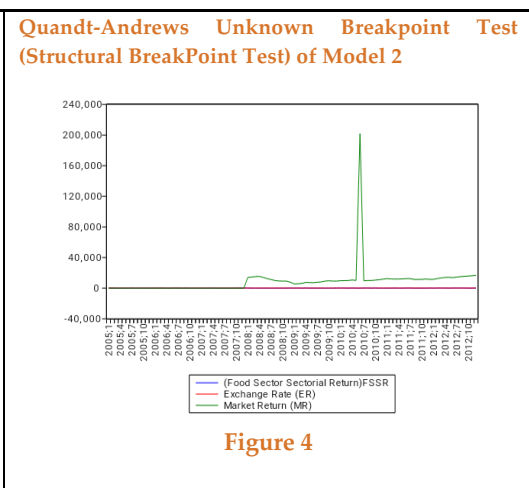
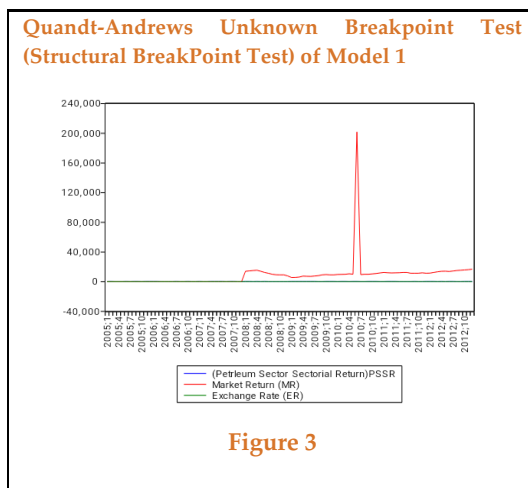
Method = Least Squares And; Sample included Observations = 96

The results of MR and ER for PSSR as the dependent variable generated results of R², F-statistic, beta coefficients, standard error, t-statistics and P-value. The results of R-square

show that 0.6% variance has been explained by the set of independent variables, which are MR and ER, on the dependent variable that is PSSR. The research model 1 is very weak as it is

depicted by F-stats (0.3224) have P-value (0.7252) > (0.05). The coefficients of MR and ER are negatively related to PSSR, which means that a 1% increase in MR and ER will result in a 1% decrease of 0% and 2.6%. Moreover, H₁ and H₂ have been rejected because P-values of MR (0.6384) and ER (0.4437) are greater than a 5% margin of error. In the case of FSSR as the dependent variable, which has generated results of R², F-statistic, beta coefficients, standard error, t-statistics and P-value when regressed with independent variables of the study. The value of R-square shows that 1.7% variance has been explained by the set of independent variables, which are MR and ER, on the dependent variable that is FSSR. The research model 2 is also very

weak as it is depicted by F-stats (0.8376) have P-value (0.4359) > (0.05). The coefficients of MR and ER are negatively related to FSSR, which means that a 1% increase in MR and ER will result in a 1% decrease of 0% and 3.8%. Moreover, H₁ and H₂ have been rejected because P-values of MR (0.3954) and ER (0.2331) are greater than a 5% margin of error. However, an econometric model that is FSSR is comparatively stronger than PSSR and therefore, FSSR econometric model is recommended according to the results of the study, but further empirical testing of this model needs to be conducted by employing financial data from other sectors of the economy domestically as well as internationally.



The application of [Hansen's \(1997\)](#) method to calculate the probabilities relating Quandt-Andrews unknown breakpoint test shown in figure 3 and 4 represent the structural break in financial data begins from 11, 2007 and continue with respect to increasing and decreasing trend up to 2010. Thus, total observations are 96, out of which structural breaks observed from the test sample as 16 to 81 represent the structural Breaks in the financial dataset.

In this study, econometric modelled equation one relating petroleum sector stock returns (PSSR) and econometric modelled equation two relating food sector stock returns

(FSSR) have been comprehensively tested and analyzed empirically. Beside, PSSR and FSSR series does not have unit root problem, and these series are stationary at level, I (0), the p-values of the models resulted in very weak p-values as shown in table 5. The results of the study have been compared with the literature, and according to [Jayasinghe et al. \(2014\)](#), the volatility associated risk did capture the exchange rate exposure of sector-wise returns and its impact on the firm's future operating cash flows was unprecedented. Therefore, in this study, the stock returns sensitivity to exchange rate volatility by using the petroleum and food industry sectors financial data. The hypotheses formulated earlier

have been rejected, which show that exchange rate exposure positively affects the stock returns of the firm. And, market return negatively affects the stock returns of the firm during the study period, i.e., 2005 to 2012. These results are further supported by [Tsai et al. \(2014\)](#), showing a positive effect of volatility in currency worth return on stocks. There was a variation change in currency, so it proved a positive impact on stock returns which added towards the increase in stocks and foreign exchange market due to foreign investors' investment into Taiwanese Stock Market.

Conclusion

The results of the study revealed that the coefficients of exchange rates and market return are insignificant but positively related to stock returns for petroleum sector listed firms, but the

coefficients of exchange rates and market return are insignificant but negatively related to stock returns of the food sector listed firms operating in Pakistan. Furthermore, rejection of study hypotheses have shown that exchange rate exposure positively affects the stock returns of the firms, and market return negatively affects the stock returns of the firms during the study period, i.e., 2005 to 2012. It may be the situation of significant and positive condition due to volatility in a currency that is worth generation of return on investment in stocks. Additionally, due to the visible fluctuations trends in exchange rates identified and analyzed in the study, the stock returns have been materialized based on speculative behaviour. However, due to this market trend, individuals as well as institutional investors have suffered huge unrecoverable losses.

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