"Impact of Oil Prices on Stock Returns: Evidence From Pakistan's stock Market"

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Introduction and Literature Review

❖ Empirically, oil price volatility has affect on the level of economic activities in different countries (Hamilton 1983); (Lescaroux et. Al 2008).

❖ Fluctuations in crude oil prices have also impact on the performance of financial sector, especially the stock markets (Jones and Kauf); (Sadorsky 1999); (Hooker 2002); (Brown and Yucel 2002);(El-sharif et.al 2005)

❖ Volatility in oil prices affects differently to the stock markets of oil importing and exporting countries(Filis et al. 2011).

Introduction (Contd…)

- ❖ Changes in oil prices have negative relationship on stock returns and foreign exchange rate for oil importing countries or vice versa. (Jones and Kaul 1996); (Sadorsky 1999); (Hooker 2002); (Brown and Yucel 2002); (Bouri 2015a).

- ❖ Changes in oil prices do not affect all the sectors of the economy (Broadstock and Filis.2014); (Bouri et.,al 2016).

Contribution to the Literature

❖ Impact of oil price on stock returns has not previously study in Pakistan on monthly basis. (*Arshad and Bashir 2015). discussed the Impact of oil price stock returns of energy incentive industries on quarterly basis .*

❖ We, first time, investigate the impact of oil price on stock returns on non-financial firms at Pakistan Stock Exchange (PSX) with the most updated recent data.

❖ In this study we perform sectoral analysis on all those firms which are affected directly or indirectly by the changes in oil price.

Summary of Results

❖ This study finds oil prices has negative and significant relationship with stock return that suggests decrease in oil prices will increase in stock returns or vice versa.

❖ Market returns is positively significantly related with stock returns which explains that market returns influences the stock returns in Pakistan

❖ Exchange rate is negatively significantly related with stock returns.

Summary of Results

❖ In sectoral analysis market return of 14 sectors have positive significant relationship with stock returns

❖ In sectoral analysis 13 sectors have negative significant relationship with stock returns when oil price changes.

❖ Exchange rate is negatively significantly related in 9 sectors.

Data and Sample

❖ This study covers the period from April 1, 2014 to March 31, 2016.

❖ The sample includes around 321 non-financial stocks listed in PSX with minimum 30 days of trading in calendar year. (Lee and Cheong 2001).

❖ Monthly data on closing prices of stocks, PSX all share index are obtained from Bloomberg database and U.S. dollar to PKR exchange rate, Open market operation (OMO) rate from SBP.

Description of Variables

Dependent Variable	
$ESR_{i,t}$	Excess monthly return of security *i* at time *t*;

Independent Variables

$EMR_{i,t}$	Excess market return of the KSE-100 index at time t;
$Oil_{i,t}$	London Brent Crude Oil in US dollar
$Fx_{i,t}$	US$ exchange rate in terms of PKR.

Methodology

- The data in this study is panel in nature and we apply panel ,fixed and random regression analysis to check the robustness of the finding and we follow the (El-sharif, *et al*. 2005) regression equation as our base equation.

- **Base Equation**

$$ESR_{i,t} = a_1 + a_2 EMR_{i,t} + a_3 Oil_{i,t} + a_4 Fx_{i,t} + \varepsilon$$

Descriptive Statistics

Panel A: Descriptive Statistics for multivariate analysis					
Variables	Mean	Median	Std.Dev	Min	Max
$ESR_{i,t}$	-0.0838	-0.0894	0.1455	-1.6990	1.7176
$EMR_{i,t}$	-0.0797	-0.0725	0.0152	-0.1015	-0.05914
$Oil_{i,t}$	-0.0415	-0.0412	0.1145	-0.2529	0.1866
$Fx_{i,t}$	0.0034	0.0014	0.0076	-0.0099	0.0224

Base Equation (Dependent Variable-Monthly Excess Stock Returns)

	OLS	Fixed Effect	Random Effect
Constant	0.0138 (0.00761)*	0.0138 (0.00745)*	0.0138 (0.00761)*
$EMR_{i,t}$	1.189 (0.0936)***	1.189 (0.0936)***	1.189 (0.0936)***
$Oil_{i,t}$	-0.0328 (0.0128)***	-0.0328 (0.0128)***	-0.0328 (0.0128)***
$Fx_{i,t}$	-1.378 (0.226)***	-1.378 (0.226)***	-1.378 (0.226)***
Observations	7,383	7,383	7,383
R-Squared		0.026	
Number of Companies	321	321	321

Regression Analysis (Sectoral Analysis)

Sectors	EMR	LOG_oil Prices	LOG_Exchange rate	Observations
AUTOMOBILE ASSEMBLER	I-Sig	N-Sig	N-Sig	299
AUTOMOBILE PARTS & ACCESSORIES	I-Sig	N-Sig	I-Sig	115
CABLE & ELECTRICAL GOODS	P-Sig	I-Sig	I-Sig	115
CEMENT	P-Sig	N-Sig	N-Sig	437
CHEMICAL	P-Sig	N-Sig	N-Sig	575
ENGINEERING	P-Sig	N-Sig	I-Sig	276
FERTILIZER	P-Sig	N-Sig	N-Sig	138
FOOD & PERSONAL CARE PRODUCTS	I-Sig	I-Sig	N-Sig	414
GLASS & CERAMICS	P-Sig	I-Sig	N-Sig	184
JUTE	I-Sig	N-Sig	I-Sig	69

Regression Analysis (Sectoral Analysis) (Contd...)

Sectors	EMR	LOG_oil Prices	LOG_Exchange rate	Observations
LEATHER & TANNERIES	I-Sig	I-Sig	I-Sig	69
MISCELLANEOUS	I-Sig	N-Sig	I-Sig	184
OIL & GAS EXPLORATION COMPANIES	I-Sig	I-Sig	N-Sig	92
OIL & GASMARKETINGCOMPANIES	P-Sig	N-Sig	N-Sig	161
PAPER & BOARD	I-Sig	I-Sig	N-Sig	184
PHARMACEUTICALS	I-Sig	I-Sig	I-Sig	207
POWER GENERATION & DISTRIBUTION	P-Sig	I-Sig	I-Sig	391
REFINERY	I-Sig	I-Sig	I-Sig	69
SUGAR & ALLIED INDUSTRIES	P-Sig	I-Sig	I-Sig	690
SYNTHETIC & RAYON	P-Sig	I-Sig	I-Sig	184

Regression Analysis (Sectoral Analysis) (Contd…)

Sectors	EMR	LOG_oil Prices	LOG_Exchange rate	Observations
TEXTILE COMPOSITE	P-Sig	N-Sig	I-Sig	851
TEXTILE SPINNING	P-Sig	N-Sig	I-Sig	1288
TEXTILE WEAVING	P-Sig	N-Sig	I-Sig	184
TOBACCO	I-Sig	I-Sig	I-Sig	69
TRANSPORT	P-Sig	I-Sig	I-Sig	69
VANASPATI & ALLIED INDUSTRIES	I-Sig	I-Sig	I-Sig	46
WOOLLEN	I-Sig	I-Sig	I-Sig	23

Conclusion

❖ This study confirms the impact of oil prices on the stock market for Pakistan. Our results are significant effect and they are consistent with previous literatures

❖ At sectoral level the finding suggest that not all the sectors stocks have same significant effect of oil price volatility because of the heterogeneity nature of the sectors these findings highlights the significance of crude oil in evaluating and explaining attraction of the different sectors.

❖ In general oil is also one of the important factor that affects the profits and the unpredictability of the firms operated in Pakistan.

❖ Similarly, for investment and asset allocation in local or international portfolios that includes Pakistan's equities, investor should also look for factors like risk associated with oil prices and expected return of stock market in Pakistan for evaluating stock performance.

Thanks for listening and for your time.