The Impact of Cash Flow on Share Price of Firms: A Case Study on Oil and Gas Marketing Industry of Pakistan

Muhammad Abdullah Khan[1,*] WahajKayani[2] Kinza Agha[3] Agha Amad Nabi[4,*]
[1, 2, 3, 4] Faculty of Business Administration, IQRA University, Karachi, Pakistan

[*]Email: ammadagha786@gmail.com

Abstract

This study investigates the impact of cash flows on share prices in the oil sector of Pakistan. The variables used in this research are operational cash flows, investment cash flows and financial cash flows as independent variables and share prices as a dependent variable. To test the impact of cash flows on share prices, simple regression analysis is used. The data of 5 largest listed oil companies for 14 years has taken into consideration which has collected from various government agencies such as the State bank of Pakistan, Federal Bureau of Statistics, and Securities and Exchange Commission of Pakistan. The study found significant relationship between cash flows and share prices in five largest oil companies listed in Pakistan Stock Exchanges (PSX).

Keywords: Prices, Operational Cash Flows.

1. Introduction

The Financial information is usually derived from various financial statements like profit and loss account, balance sheet, and cash flows statement. Based on the information, stakeholders make decisions that reflect the movement of stock. When an investor invests in the company it's his/her right to know how the investment is being utilized (Girish and Desai, 2017). Despite a number of studies on the topic under consideration, the cash flow and share price still have research gap which needs further elaboration. The cash has a major role while defining the need for cash availability while distributing dividend to shareholders. The impact on share price is a technique that get the attention and concentrations of shareholders. Cash flows are usually in three different forms: operating, investing and financing. Management is very much concern about cash flows elements in defining share price, forecasting, cost-effective liquidity and financing (Khanji and Siam, 2015).

The share price is determined by a company's financial condition, economic movement, and market news etc. Share price goes high with the consideration of cash flows because cash is a significant commodity for the investors. Cash flow is a most essential factor for determining stock price because it is a decisive factor for the issuance of dividend of the firm (Mundia, 2016). Investment and cash flow are usually associated as they both have a strong binding (Lewellen and Lewellen, 2016). The ultimate goal of any firm is to increase its shareholder wealth. The firm's success relies upon whether a firm have the ability to accomplish the goal of optimized performance. Many methods used to measure a firm's performance and cash flow is one of them (Mundia, 2016). An investor prefers cash flows to predict dividend earnings because flows have the low accounting manipulations than other earnings. Cash flows are essential for the earnings which is a source of dividends (Havranek, 2011).

2. Literature Review

Livnat and Zarowin (n.d) in their study confirmed a constructive association between share price return and cash flows from operational activities. The study of Miller and Rock(1985) and Ross(1977) found different results while determining the effects of cash flow from financing activities effect on stock. The conclusion of the study of cash is debatable in the United States market (Chu, 1997). More research is proposed on the topic under consideration to get diversified results (Chhipa and Nabi, 2016). The study of Penman et al. (2009) found different results from the study of Moradazade et al. (2010) because some other factors were also affecting share price, or their might be case of selectivity bias (Vakilifard and Shahmoradi, 2014). The impact of cash flow on share price is not significant while determining the impact in Jordanian commercial banks (Khanji and Siam, 2015). For a publicly traded company, its stock price can frequently be used as an indicator for the organization's wellbeing. There are special cases to this administer however, an organization's stock price reflects a financial specialist view of its capacity to win and develop its benefits later on. Regularly, the higher the stock value, the better faith about the organization's prospects. So it's very much important for a firm to know the parameters which can or will affect its share price. This research is conducted to discover the association of cash flows from operational, investment and financial activities towards share price of firms.

3. Theoretical Background

The Efficient Market Hypothesis (EMH) was introduced by Eugene Fama who said the shares always trade on their fair value, an investor can purchase it one or the other less than its par value or above than its book value. An investor can obtain gain from his/her investment by chance or taking higher risky investment. There are three hypotheses "weak", "semi-strong" and "strong". The fragile system of hypothesis says that the price of stock reflects all past information freely accessible. The semi-strong states that the price of stock is reflected by both past and future information publicly available and the last form of EMF 'strong' claims that price and change directly with even information which is a hidden secret (Burton and Fama, 1970). The signalling theory states that management intentionally disseminates information about the firm in the market or management of the firm takes measure to provide guidance to the investor to predict about the firm and plan investment decision (Morris, 1987). The Prospect Theory or the Loss-Aversion Theory states that the investors view for the gain and loss is biased. The fear of loss is greater than the interest of gain i.e. if they get two choices in two different scenarios they will select the one which is less likely loss over the gain. For example, if an investor is offered two investments one with 6% gain per annum and the other with 9% return with risk of 2% the investor will pick up the 6% return on investment because the investor places up more importance on less loss on more gain with more risk (Tversky and Kahneman, 1992). The rational expectation theory states that the investors in the market will react in a pattern where they ensure what will occur in the future. The investors invest accordingly what they reasonably believe will happen in the next future. By doing so they fulfill their prediction regarding the future events on investments (Muth, 1961). The following research questions are addressed in this study:

- What is the impact of cash flow from operating activities on share price of Oil and Gas Marketing industry of Pakistan?
- What is the impact of cash flow from investment activities on share price of Oil and Gas Marketing industry of Pakistan?
- What is the impact of cash flow from financing activities on share price of Oil and Gas Marketing industry of Pakistan?

4. Research Methodology

Research methodology represent the explanations of the research procedures, research design, simple size, techniques used in this study.

4.1.Study Design

The research design characterizes the theoretical gateway within which research is conducted. As obvious, the information about these factors comprised on secondary instead of primary information. In this study the aim is to find the connection between share price and cash flow from operating, financing and investing events and the variables are secondary so the approach will be exploratory quantitative to explore the relation between the variables.

4.2.Sample Size

In this study the secondary data for cash flow activities (operating, investment, and financing activities) are collected from the financial/annual reports of selected industry firms of Oil and Gas Marketing industry of Pakistan, and the data for share prices of those selected companies are collected from financial/annual reports or from the formal website of Pakistan Stock Exchange. The data are collected from 2004 to 2017 (14) years.

4.3.Methodology

In this study panel data technique is used because Panel data normally comprising time series interpretations of characters. There are two dimensions in panel data: cross sectional which is donated by i and time series donated by t. Panel data is used to break down error term which incurs by the size of the firms in the industry and the time series of the data. The variables that cannot be controlled panel data allows to have control on them. Panel data helps the researcher to find out the heterogeneity of the firms. The Hausman test is also performed to select whether fixed effect model is better or random effect model? The following regression model is used:

$$\text{Share Price}_{it} = \alpha + \beta\ CFOA_{it} + \beta\ CFIA_{it} + \beta\ CFFA_{it} + \mu_{it}$$

Table 1. Five Largest Firms in Oil & Gas Sector in Pakistan

S. No	Symbol	Company
1	APL	Attock Petroleum Limited
2	PSO	Pakistan State Oil Company Limited
3	SHEL	Shell Pakistan Limited
4	SNGP	Sui Northern Gas Pipelines Limited
5	SSGC	Sui Southern Gas Company Limited

Source: Author's compilation

4.4.Source of Data Collection

To build up the connection between the cash flow from operational, Investment and financial activities and share prices of Oil and gas companies of Pakistan, this study gathered secondary information of the following companies listed in Pakistan Stock Exchange:

5. Empirical Results

The table 2 below shows the descriptive statistics of the data used in this study. The dependent variable Share price has the average of 225.4 with 193.15 standard deviation, operating cash flow activities average is 4014060 and the standard deviation of 15138513, the mean of cash flow from investing activities is -5615846 with the standard deviation 9622324 and the last independent variable cash flow from financing activities mean in 1249915 with the standard deviation of 10416980.

Table 2. Descriptive Statistics

SHARE PRICE		CFO		CFI		CFF	
Mean	225.4458	Mean	4014060	Mean	-5615846	Mean	1249915
Median	227.21	Median	4213709	Median	-1292785	Median	-831742
Std. Dev.	193.1529	Std. Dev.	15138513	Std. Dev.	9622324	Std. Dev.	10416980
Maximum	792	Maximum	79444093	Maximum	4281000	Maximum	63682000
Minimum	10.51	Minimum	-62367000	Minimum	-46106604	Minimum	-22618803

Source: Author's compilation

Above tables demonstrates the correlation among the variables (share price, CFO, CFF, and CFF) are correlated to each other. After evaluating correlation analysis, the result shows that operating cash flow activities has a negative association with share price. There is a positive correlation between investing cash flow activities and share price. And there is an adverse connection between financing cash flow activities and share price.

Table 3. Correlation Analysis

	SHARE_PRICE	CFO	CFI	CFF
SHARE_PRICE	36767.35			
	1.000000			
CFO	-6.03E+08	2.26E+14		
	-0.209182	1.000000		
CFI	8.47E+08	-9.77E+13	9.12E+13	
	0.462590	-0.680465	1.000000	
CFF	-1.89E+08	-7.64E+13	-1.03E+13	1.07E+14
	-0.095297	-0.491826	-0.104397	1.000000

Source: Author's compilation

5.1.Hausman Test

The Hausman test is used to reflect the random effect model and the fixed effect model which will be most applicable for the study to get the most significant results.

Table 4. Hausman Test

Test Summary		**Chi-Sq. Statistic**	**Chi-Sq. d.f**	**Prob.**
Cross-section random		25.085350	3	0.0000
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
LCFF	14.253578	16.268416	1.666687	0.0285
LCFI	21.088148	8.313022	8.063691	0.0207
LCFO	-36.060263	-40.912571	6.013747	0.0020

Source: Author's compilation

H_o: Random effect model is applicable.

H_1: fixed effect model is applicable.

The probability value is less than 0.05 so here we reject Ho and accept H_1. So for the study the fixed effect model will be best applicable to generate effective result.

Table 5. Regression Results

Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	271.4856	192.1486	1.412894	0.1628
LCFF	14.25358	6.350945	2.244324	0.0285
LCFI	21.08815	8.878648	2.375153	0.0207
LCFO	-36.06026	11.17158	-3.227856	0.0020
Effects Specification				
(Cross-section fixed (dummy variables))				
R-squared	0.798034	Mean dependent var	225.4458	
Adjusted R-squared	0.774858	S.D. dependent var	193.1529	
S.E. of regression	91.64940	Akaike info criterion	11.98247	
Sum squared resid	512376.3	Schwarz criterion	12.24150	
Log likelihood	-405.3952	Hannan-Quinn criter.	12.08523	
F-statistic	34.43306	Durbin-Watson stat	1.542398	
Prob(F-statistic)	0.000000			

Source: Author's compilation

The Table 5 above shows the results of panel data regression which shows that the overall model is fit as the F-statistic is lesser than 0.05 and the effect of all dependent variables is explained by 77.4% and the remaining is the effect of other variable which were not measured in the study like EPS, dividend and etc. Dependent variable LCFF indicated the lag of Cash flow from financing activities and the CFF has a positive coefficient which is 14.25 and CFI has a positive coefficient which is 21.08 and cash flow from operating activities has a negative coefficient which

is -36.06. The probability value of all the independent variables are not more than 0.05 so the study accepts the hypothesis which is expressed in chapter two.

The results shows that if cash flow from operating increased by 1 unit share price reduces by -360.6 units, if cash flow from investing activities increased by 1 unit share price will increase by 21.08815 units and if cash flow from financing activities increases by 1 unit share price increases by 14.2558 units. The constant (Alpha) has been calculated as 271.4856. It means if all the independent variables become zero, the dependent variable will show 271.4856as its constant value.

Table 6. Hypotheses Assessment Summary

S.No	Hypotheses	Beta	Sig Value	Empirical Conclusion
H_1	Cash flows from operational activities have significant positive influence on share price.	-36.06	0.0020	Accepted
H_2	Cash flows from investment activities have significant negative influence on share price.	21.08	0.0207	Accepted
H_3	Cash flows from financing activities have significant positive influence on share price.	14.25	0.0285	Accepted

Source: Author's compilation

6. Conclusion and Discussion

Based on our empirical results it can be stated that the cash flow from overall activities (operating, investing, and financing) affects the share price. It specified that from stakeholders' opinions about cash flows are appropriate in investment decision making. This research also discovers that the differences in share prices are also affected by the aspects other than monetary flows only. From the above analysis, it is clear that some other factors are also crucial which distress the measures of the firm's share price. In certain periods, dissimilarities in share price do not imitate the company's performance. Macroeconomic situation, the administrative condition, management business strategy, and procedural features in the organizations are reasons other than monetary presentation that can dismay the differences in share price.

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