

Impact of Free Cash Flow on the Profitability of Non-Financial Firms: Evidence from Pakistan

*Adnan Bashir**, *Maryam Javed[†]*, *Muhammad Mansoor Javed[‡]*

Abstract

Free cash flow is one of the most crucial decisions, organizations make. In this study, the impact of free cash flows on 84 non-financial enterprises listed on the Pakistan Stock Exchange (PSX) from 2015 to 2020 is investigated. The findings indicate that free cash flow has a negative impact on the profitability of the companies under investigation. When it comes to businesses with low debt ratios, free cash flow has a positive impact on a company's profitability. A larger debt ratio can be inferred to be related to solvency risk, which could have an adverse effect on a company's performance along with the increased cost of credit funding. The results of this study will help investors the role of free cash flow in investment decisions for increased profitability.

Keywords: Free Cash Flow, Profitability, Agency problem, Leverage, Pakistan Stock Exchange

Introduction

The term free cash flows (FCF) refers to having excess cash flows over the amount necessary for funding any positive net present value project (Harford, 1999). Companies having positive FCF are considered better by investors for investment prospects. This increase in FCF allows the company to pay debt easily and exerts a positive influence on its financial flexibility. Firms hold cash in hand for the purpose of reinvestment in other assets and paying dividends to their shareholders. However, an FCF problem emerged when it became evident that managers held onto FCF for their own benefit, instead of investing it for shareholders' benefit, preferring bonuses and internal projects when it came to FCF. Moreover, firms with a significant amount of FCF often face conflicts between shareholders and managers. It, therefore, becomes a challenge to get management to use the money instead of investing it at a loss or wasting it on inefficient businesses. After the pioneering work of Jensen (1986), the phenomenon of FCF has evolved as one to explain organizational behavior (Carroll & Griffith, 2001).

According to Ajmal et al. (2022) "profitability is the potential of a given investment to gain a return from its use". They were of the view that the main objective of business is to maximize profit. Management of a firm is tasked with making the best choices available to enhance the profits of a company. The positive linkage between FCF and profitability (PRO) indicates a high level of profits as the increase in levels of FCF points toward profit enhancement Hubbard (1998). There is abundance of local and international studies on the effect of FCF on PRO, however they yielded mixed results. By using the latest financial data to, this study will examine the nature of this link for emerging economy like Pakistan. The findings of this study will help local and international investors in better understand the impact of FCF on investment decisions and portfolio diversification for increased profitability.

Literature Review

Laghari et al. (2023) looked at the effect of changes in cash flow measurements on the Chinese non-financial firms. They concluded that lower cash flow cycle has a positive impact on the financial performance. Ajmal et al. (2022) investigated the impact of FCF indicators on the Pakistani textile sector's PRO from 2016-2020. They concluded the increase in sales growth positively affected the PRO of corporations in their sample. They were of the view that sales growth helped the textile companies in increasing the FCF. A study carried out in the Pakistani financial sector by Saeed et al. (2022) examined

* Corresponding Author, Assistant professor, Department of Management Sciences, University of Gujrat, Pakistan.

[†] Lecturer, Department of Management Sciences, University of Gujrat, Pakistan.

[‡] Lecturer, Department of Management Sciences, University of Gujrat, Pakistan.

the link between FCF and financial performance (FP) for the second decade of the 21st century. They reported mixed results based on their findings. Overall they were of the opinion that banks' investment in investment projects is efficient. Nwuba et al. (2020) inspected the influence of FCF on the PRO of manufacturing firms in Nigeria and Ghana. Their sample consisted of twenty manufacturing firms registered on the stock exchanges of these countries and the time period of their study was 2012-2017.

They observed an insignificant effect of FCF on the PRO of companies in their study. They were of the opinion that companies should not keep surplus resources. Ahmed et al. (2018) researched the relationship between the FCF and PRO of 28 Bangladeshi pharmaceutical firm. They arrived at mixed findings. Equity multiplier has positive and debt ratio has negative effect in their sample. Ali et al. (2018) looked at the impact of free FCF on the PRO of German automobile-listed companies from 2007 to 2016. They found a positive association between the FCF and PRO in their study. Hau (2017) reported a positive effect of FCF on FP across in his study. He arrived at these results by looking at the influence of FCF over the FP of Vietnamese corporations from 2009-2015. Ambreen and Aftab (2016) analyzed the linkage between FCF, leverage and size on the PRO of Pakistani companies from 2010-2014. They noted an affirmative effect of FCF on the PRO of thirty businesses in their sample. Ravichandra and Mahendra (2015) conducted research on the relationship between company PRO and FCF in India. Their results indicated an affirmative relationship between the aforementioned variables. However, the strength of the connection varies according to the company. The study tests the following hypotheses.

- H1: FCF has a negative effect on the profitability of non-financial firms listed on PSX
- H2: Equity multiplier has a negative effect on the PRO of non-financial firms listed on PSX
- H3: Leverage has a negative effect on the PRO of non-financial firms listed on PSX
- H4: Debt ratio has a negative effect on the PRO of non-financial firms listed on PSX.

Data and Model

The sample of this study comprises 84 non-financial firms of the PSX. The top three companies from each of the 28 non-financial sectors are chosen based on the number of outstanding shares. The sample period starts from 1st July 2015 to 30th June 2020. The data is collected from the financial statements of the concerned companies and is quantitative in nature. The following model in equation (1) was used for analysis;

$$\text{PRO} = a + b_1 (\text{FCF}) + b_2 (\text{AER}) + b_3 (\text{LEV}) + b_4 (\text{DR}) + e \quad (1)$$

To measure dependent variable profitability (PRO), earnings before interest and tax are divided by capital employed. Kamran et al. (2017) were of the view that return on capital employed estimates how efficiently management generates revenues from all funds. Rajapaksha and Weerawickrama (2020) used this measure in their research. FCF is the remaining capital owned by the management of the firm after expenses are paid and is used as the independent variable in this study. Asset Equity Ratio (AER) is the equity multiplier and determines how much asset is financed by shareholders based on the ratio of assets to equity. Leverage (LEV) is calculated by dividing the total debt by total equity. DR is the amount of debt that the company owes. It is obtained by Total liabilities divided by total assets.

Empirical Analysis

Descriptive Statistics

Table 1 exhibits the descriptive statistics. Results reported in table 1 indicate that the average return on PRO among the sample of listed firms, is 1.05 percent, having a standard deviation of 12.1. The highest and lowest value of this variable is 183.4 and -49.98, respectively, indicating that some firms outperformed others.

Moreover, the mean value of independent variables such as FCF is 0.04, which means the average increase of 4% in FCF has a standard deviation value of 0.47. Its highest and lowest fluctuate from 2.38% to -3.68%. The mean value of AER is 2.20, with a standard deviation of 16.57. It reveals that, on average, 2.2% of assets were funded with equity, while 97.8% were funded with debt and other sources of finance. However, the maximum and minimum value of AER exhibits a high equity multiplier of 114.08% and a

negative 202.76%. The mean value of leverage is 21% with a maximum of 24.7% and a minimum value of 16.3%. Mean value of the debt ratio (DR) is 0.67 percent with a standard deviation from the mean of 0.536. The maximum and minimum of DR ranges from 4.18% and 0.01.

Table 1: Descriptive Statistics

Variables	Mean	Max	Min	S.D	Observations
Profitability	1.05	183.4	-49.9	12.1	504
Free capital flows	0.04	2.38	-3.68	0.47	504
Asset Equity Ratio (AER)	2.20	114.1	-202.7	16.5	504
Leverage (LEV)	21.3	24.7	16.3	1.69	504
Debt Ratio (DR)	0.67	4.18	0.01	0.53	504

Correlation Matrix and Variance Inflation Matrix

Multicollinearity is checked by Pearson correlation along with variance inflation factor (VIF). The result in table 2 displays the correlation among FCF, DR, LEV, and AER. As none of the values are over 0.9 so there is no multicollinearity in the data (Gujarati, 2009).

Table 2: Correlation Matrix

	FCF	DR	AER	LEV
Free capital flows (FCF)	1.000	-	-	-
Debt Ratio(DR)	0.725	1.000	-	-
Asset Equity Ratio (AER)	-0.005	-0.032	1.000	-
Leverage (LEV)	0.233	0.207	0.039	1.000

Multicollinearity is also checked by a variance inflation factor (VIF) and values higher than 10 indicate the existence of multicollinearity Gujarati (2009). Table 3 reports the VIF values and they also confirm the no multicollinearity.

Table 3: Variance Inflation Factor

	VIF	1/VIF
Free capital flows (FCF)	2.14	0.467
Debt Ratio(DR)	2.118	0.472
Leverage (LEV)	1.063	0.941
Asset Equity Ratio (AER)	1.004	0.996
Mean VIF	1.581	.

Regression Analysis

The effects of free FCF, AER, LEV, and DR on company performance are examined using a panel of 84 non-financial companies registered on the PSX. The results are presented in this section. To choose between random and fixed effect models, the study utilizes the Hausman test developed by Hausman's (1978). The null hypothesis of this test favors the use of random effect. The result reported in table 4 reveals that the Hausman test statistics corresponding p-value of 1.624 (p-value, 0.804). It was determined that the test data was statistically insignificant at a 5% level of significance thus advocating the use of random effect regression.

Table 4: Hausman'(1978) specification test

Chi-square test value	1.624
P-value	0.804

The results of the random effect model (REM) for the impact of FCF, AER, LEV, and DR on PRO are reported in table 5. The results reported in table 4.5 show a statistically significant negative impact of FCF on the PRO of non-financial listed firms in Pakistan accepting H₁. The negative association can be explained by the fact that free cash flows are the amount of money left over after expenses that should be put into lucrative activities. Our empirical findings are also supported by other empirical studies such as (Parsian & Koloukhi, 2014; Ambreen & Aftab, 2016).

The results of table 5 also report a significant positive impact of asset equity ratio (AER), debt ratio (DR) on PRO rejecting H₂, and H₃.

Table-5: Random effect regression results of effect of Free Cash flow on Profitability

PRO	Coefficients	Std. Error	t-statistics	P-Value
FCF	-1.3770	0.0840	-16.39	0.0000
AER	0.0200	0.0050	3.730	0.0014
DR	1.7890	0.4210	4.249	0.0007
LEV	0.2040	0.0810	2.518	0.0110
CONSTANT	-4.5080	3.5350	-1.280	0.2580
Observation			504	
Wald chi2			323.69	
P-Value			0.0000	
Overall R-square			0.2899	

This study also examines the impact of FCF on the PRO of non-financial listed firms in Pakistan having low debt ratios. The firms having DR lower than the mean value i.e. 0.67 are considered lo-debt firms. The impact of FCF on PRO was positive and statistically significant at 1%. The positive effect can be explained by the fact that free cash flows are the amount of money left over after expenses are invested into lucrative activities. The higher debt ratio of firms increases the inefficiency of free cash flows of firms which in turn increase the probability of default of firms in the short-term (Jensen, 1986; Titman & Wessels, 1988). Our findings are also supported by other empirical studies such as Nwuba et al. (2020), Rajapaksha and Weerawickrama (2020), and Ali et al. (2018). Meanwhile, the other variable such as asset equity ratio (AER), equity multiplier (EV), and debt ratio (DR) found to be a statistically insignificant effect on PRO.

Table-6: Random effect Regression of firms having DR greater than 0.67 Percent

PRO	Coefficients	Std. Error	t-statistics	P-Value
FCF	0.363	0.052	7.02	0.001
AER	0.005	0.042	0.13	0.904
DR	-0.189	0.101	-1.88	0.120
EV	0.019	0.018	1.05	0.343
CONSTANT	0.372	0.836	0.44	0.675
Observation			322	
Wald chi2			104.06	
P-Value			0	
Overall R-square			0.1531	

Conclusion

This study investigated how Pakistani-listed non-financial enterprises' profitability is affected by free cash flows. Panel data from 84 companies working in 11 non-financial industries spanning the years 2015 to 2020 were used in the study. The empirical findings show that free cash flows have a major detrimental impact on profitability. Free cash flow did, however, have a beneficial and significant impact on profitability. A larger debt ratio can be inferred to be related to solvency risk, which could have an adverse effect on a company's performance as well as the high cost of debt financing. The findings of this study will benefit shareholders in understanding the effect of free cash flow on the profitability of firms.

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