Advances in mathematical finance & applications, 4 (2), (2019), 31-42
DOI: 10.22034/amfa.2019.1865670.1207

Published by IA University of Arak, Iran
Homepage: www.amfa.iau-arak.ac.ir

Free Cash Flow, Institutional Ownership and Long-Term Performance

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ARTICLE INFO

Article history:
Received 10 November 2018
Accepted 12 February 2019

Keywords:
Free Cash Flow,
Institutional Ownership,
long-term Performance.

ABSTRACT

Performance appraisal is a process which help shareholders make informed and optimal investment decisions. In recent decades, a long stream of research has devoted particular attention to the importance and impact of financial decisions on firm performance and firm value. The present study thus is primarily concerned with investigating the association between free cash flow and institutional ownership and long-term performance of the firms listed on the Tehran Stock Exchange over the period of 2012-2016. Moreover, firm size, financial leverage and sale grows serve as the control variables of the research. A number of 89 firms listed on the Tehran Stock Exchange were selected, and then the research hypotheses were tested using multivariate regression model based on panel data. The results reveal that firm long-term performance is not significantly correlated with free cash flow, yet it has a significant relationship with institutional ownership.

1 Introduction

Cash is recognized as a vital source of profitability in each economic entity such that maintaining the balance between cash on hand and cash needs lies at the heart of the most influential factors contributing to the economic health of each entity, which attracts the inflow of cash via ordinary operations and financing, thereby consuming it to implement its operations, pay dividends, repay liabilities and develop its activities. The inflows and outflows of cash into or from an economic entity gives a vivid snapshot of managerial decisions on short-term and long-term operating programs, and investment and financing plans. Free cash flow is adopted to measure corporate performance and accounts for a sort of cash which firms hold to maintain or develop their assets. The paramount of free cash flow lies in the fact that it allows firms to look for opportunities to enhance their share values. Lack of cash casts doubt on the feasibility of new product development, and dividend and liability payment. Free cash flow is often used as a proxy for corporate long-term performance, accounts for net cash generated for a firm and encompasses costs, taxes and variations in net working capital and investments [8].
Institutional investment has attracted a lot of attention as one of the corporate governance mechanisms. According to Gillan and Starks [9], institutional shareholders play the leading role in effecting certain changes in various corporate governance systems. Various views have been propounded regarding the effect of institutional investors on corporate performance. Following active monitoring hypothesis, institutions tend to apply active management to their investments owing to the volume of the invested assets. Generally confirmed by the related literature, active monitoring hypothesis rests

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on the assumption that institutional investors are competent shareholders with relative advantage in collecting and processing information. This argument thus predicts a significant association between institutional ownership and corporate performance [4]. In the stark contrast with active monitoring hypothesis, the proponents of private interest hypothesis put forward the claim that major institutional investors have access to the private information elicited for business purposes [15]. Increasing concentrated ownership paves the way for major shareholders to access private information. Under such circumstances, major shareholders are less likely to encourage managers to improve their performance. Likewise, institutional investors tend to vote in favor of management due to their profitable relationship with target firms. In the event of the accuracy of this argument, private interest hypothesis predicts a negative correlation between institutional ownership and corporate long-run performance. However, the existing evidence indicates a vague and unknown correlation between institutional ownership and corporate long-term performance. Theoretically, institutions may exhibit kind of motivation to monitor management and thus improve their long-term performance [27, 32]. Nevertheless, the extant literature has mostly ignored the issue, leaving a gap in the behavioral accounting literature. Therefore, the present study is primarily concerned with investigating whether free cash flow and institutional ownership are associated with corporate long-term performance.

The findings of the study suggest the following implications. First, the results of the research extend the theoretical advancement related to corporate long-term performance. Second, the findings reveal the extent to which free cash flow and institutional ownership exert influence on corporate long-term performance, thereby providing investors, capital market regulators, and other stakeholders with fruitful information, and thus proposing novel ideas for conducting future research. This paper is organized in the following manner. The following section presents the literature review and hypotheses development. Section 3 presents the methodology and section 4 offers the empirical results used analyses of the data. The final section concludes and discusses findings of this study.

2 Theoretical Framework and Literature Review

Corporate performance and firm value are peroxide by free cash flow, which refers to how much cash a firm has left over after accounting for the money used to maintain and develop corporate assets. Modified by the adjective “free”, cash flow is not necessarily distributed among investors, but its exploitation is contingent on the board’s opinion as well as firm policies. Free cash flow per share is the indicator of corporate profitability via dividing free cash flow by issued shares. Likewise, it accounts for the variation in dividend per share and predicts future stock price. When share price rises while free cash flow drops, net income and share value tend to rocket as increased free cash flow per share predicts a likely increase in dividend [26]. Institutional ownership is defined as the sum of shares owned by banks, insurance companies, investment companies, pension funds, financing companies, investment funds, and governmental agencies divided by total issued shares [22, 3]. Along similar lines, Najjar and Taylor [23] develops the claim that institutional investors play the leading role in financial markets. With the enhancement of privatization and influence of institutional investors on corporate governance, institutional investors deserve paramount importance in most corporate governance systems and mechanisms, and plays a pivotal role in corporate surveillance on owner’s equity.

The separation of ownership and management, and the subsequent conflict of interests have drawn a

lot of attention to the measurement of corporate performance. Lack of performance appraisal may lead to the lack of optimal resource allocation, which may lead to detrimental consequences for shareholders and eventually, the economy of the society. The definition and operationalization of the concept of corporate performance has always been a staggering task, which has been carried out using various proxies. Examples of these measures include Tobin's q, return on assets, return on equity, net profit margin, operating profit margin, economic value added, etc. This research employs the median of Tobin's q index to measure corporate long-term performance [13].

2.1 Free Cash Flow and Long-Term Performance

Free cash flow is considered as a benchmark to measure the performance of companies and it is important in terms that allow the company to seek opportunities to increase shareholder value [29]. Fitch Ratings defines free cash flow (after interest, tax, working capital, capital expenditure, and dividend) as the cash arising from the operating activities less capital and non-operating expenditures. Non-operating cash flow typically involves the items other than the major operating activities of a certain economic entity, yet does not encompass the disposal of assets. Non-operating cash flows includes cash restructuring charges (costs of breakup, consultation, etc.), net inflows and outflows associated with ceased activities (except the inflows from actual sale of operation), abnormal material inflows from insurance claims and lawsuits and affiliated dividends [16]. Following Fitch methodology, free cash flow adopts a neutral position on the decision on whether the dividends from the affiliated firm need to be counted or accepted. On the other hand, Fitch tends to calculate free cash flows after common and preferred stock dividends. In the case of common stock, firms have discretion to pay out dividends, thereby preferring to mitigate dividends payout when they experience an episode of financial constraints. On the assumption of maintaining or even enhancing the level of dividends, subtraction of common dividends from free cash flows accounts for normal business activities. It is notwithstanding that negative free cash flow is not necessarily the indicator of adverse conditions. This suggests that negative free cash flow is likely to denote corporate overinvestment, which is commonplace in start-ups. This strategy has the potential to obtain favorable achievements provided that corporate investments pay off in the end [16]. The first hypothesis is designed as follows:
Hypothesis 1: Free cash flow improves corporate long-term performance.

2.2 Institutional Ownership and Long-Term Performance

When institutional investors intend to purchase a considerable portion of a firm's stock, they participate in board of directors with the aim of improving the firm's performance. Therefore, some institutional investors tend to be actively involved in the management of the firms through voting for the decisions made in the board meetings and communicating with firms and their directors, thereby playing a pivotal role in designing and monitoring the corporate long-term performance and strategies. Under these circumstances, the majority of the institutional investors take advantage of their voting shares to impose their opinions in corporate decisions [24]. Institutional owners can influence managerial activities directly through their ownership and indirectly via trading stocks [33]. To mitigate the controversy between shareholders and management, organizations point up the separation of ownership and management. In fact, they strive for controlling the managerial decisions as the number of

shareholders, particularly controlling shareholder's increases. To put it differently, a significant increase in the institutional ownership assist institutional owners confine the corporate poor managerial performance [11]. Institutional investors, as the controlling owners of the firms, tend to influence the corporate management to maximize the optimality of their investments [21]. A study by Hasas yeganeh et al [10] on the impact of institutional investors on firm value (market value-to-book value) in the Tehran Stock Exchange reveals that institutional investors are potential stimuli for improving the corporate long-term performance and can punish those managers who are not aligned with their interests. That is to say that institutional owners actively manage their portfolio and persuade directors to make informed and optimal decisions, thereby causing an improvement in the corporate long-term performance and value. We thus develop the following hypothesis:
Hypothesis 2: Institutional ownership improves corporate long-term performance.

2.3 Literature Review

Lachheb and Slim [16] carry out a study on the effect of free cash flow and agency costs on corporate performance. Statistical population of the study is composed of French listed firms over the period of 2003-2007. The results indicate a positively significant association between free cash flow and corporate performance. In a study entitled "Does institutional ownership influence firm performance? Evidence from China", Lin and Fu [18] sample all firms listed on the Shanghai Stock Exchange during the years 2004 to 2014. They conclude that institutional ownership positively affects corporate performance. Asgarnezhad Noori and Emkani [2] undertake a project on the impact of effective risk management on the financial performance of the firms listed on the Tehran Stock Exchange with focus on the mediating role of intellectual capital and financial leverage over the period of 2008-2013. The findings provide ample support for the assertion that effective risk management exert positive influence on return on assets and market value growth. As such, financial leverage mediates the relationship between effective risk management and return on assets, whereas intellectual capital plays a mediating role in the association between effective risk management and market value growth. Hinosova and Kobikowa [12] investigate the correlation between external ownership and corporate performance. Their findings reveal a significant relationship between the variables under investigation. Saghafi and Talebi Najafabadi [28] also investigate the influence of corporate governance mechanisms on 124 publicly- and privately-traded firms of initial public offering listed on the Tehran Stock Exchange from 2003-2013. As a rebuttal to the extant literature, their findings lend support to the claim that such corporate governance mechanisms as audit committee, separation of CEO's role from the chairman of the board and board size show no significant relationship with the value of the initial public offering firms. Eforis and Uang [5] scrutinize the influence of corporate governance on corporate performance. They finally observe a significant link between corporate governance and corporate performance. Khodadadi and Veisi [14] examine the relationship between capital structure, agency problem and corporate performance in 69 firms listed on the Tehran Stock Exchange during the years 2005-2014. They point to a U-shape relationship between capital structure and corporate performance. Their results also propound the view that the previous-year performance of the firm is significantly associated with its current-year performance. In a paper entitled "The Effect of Free Cash Flow and Capital Structure on Different Criteria for Evaluating the Performance of the Material Industry and Pharmaceutical Products Companies Listed on the Tehran Stock Exchange", Aghaei et al [1] conclude

that increasing financial leverage and free cash flow in pharmaceutical firms can increase return on owner's equity, though this can reduce return on assets. Furthermore, increased financial leverage results in a rise in Tobin's q index, yet the enhancement of free cash flow exerts no effect on it. Zakaria et al [36] examine whether ownership structure is correlated with Malaysian firms' performance from 2005 to 2010. They assert that ownership concentration and managerial ownership promote the level of corporate performance. Gregory and Wang [8] study the effect of free cash flow and institutional ownership structure on corporate long-term performance. They find that institutional ownership positively and free cash flow negatively influence the corporate performance. Mahmoodabadi et al. [19] scrutinize how free cash flows and agency costs influence the performance of 92 firms listed on the Tehran Stock Exchange over the period of 2001-2010. The results of statistical analysis reveal that free cash flows are significantly correlated with all evaluative measures of corporate performance. Shahikitash et al [31] conducted a study on the association between ownership structure and corporate performance of the firms listed on the Tehran Stock Exchange. Employing economic value-added model and Tobin's q index, they suggest that institutional ownership has positively significant relationship with corporate performance, while actual ownership exhibits a negatively significant linkage with this variable. Kazemi and Mohammadnezhad [13] investigate the effect of ownership structure on information asymmetry and financial performance of the firms listed on the Tehran Stock Exchange. Having sampled 60 firms from 2005 to 2009, they document that institutional investors' ownership demonstrates a positively significant relationship with financial performance of the firms.

3 Research Methodology and Models

As an applied, correlational and expost-facto study, the current research collects the required data from Stock Exchange and Codal website. The statistical population is composed of all firms listed on Tehran Stock Exchange during the years 2012-2016. This sample needs to meet the following conditions:

1. They were listed on Tehran Stock Exchange prior to 31 March, 2012 and continue to 2016.
2. To increase comparability, their fiscal year ended in March
3. No changes in their fiscal year or activities happened during this period.
4. They are not included in financial intermediate and investment companies.
5. The firm needs to come from an industry for which at least 15 observations are available per year.

After applying the above limitations, a sample of 89 firms operating in 5 industries (22 firms in automobile industry, 21 firms in pharmaceutical products, 15 firms in gypsum, lime and cement industries, 15 firms in chemical industry and 16 firms in common base metals) were selected. The final analysis of data collected was performed using the econometric software application Eviews. The model introduced by Gregory and Wang [8] is adopted and then adapted to the Iranian context to test the research hypotheses as follows:

$$HIGH\_PERF_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \beta_2 INSTOWN_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 GSALE_{i,t} + \beta_6 \Sigma IND_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where:
HIGHER-PERF: long-term performance of firm i in year t;

FCF: free cash flow of firm i in year t;
INSTOWN: institutional ownership of firm i in year t;
SIZE: size of firm i in year t;
LEV: financial leverage of firm i in year t;
GSALE: loss of firm i in year t;
ΣIND: industry effects of firm i in year t;
ε: Model error of company i in year t.

The dependent variable of the research is corporate long-term performance. long-term performance is calculated in terms of a dummy variable such that the median of Tobin's q is computed for each industry and firm separately, and then the results are compared so that the studied variable takes the value of 1 if the Tobin's q of the firm is higher than the median of this index in its respective industry, 0 otherwise.

Tobin's q = (total liabilities + market value of owner's equity)/ total assets (2)

Independent variables of the research consisted of free cash flow and institutional ownership**.** Lehn and Poulsen's [17] model serves as the measure of free cash flow in each economic entity. Accordingly, free cash flows are calculated as follows:

$$FCF_{i,t}= (INC_{i,t} - TAX_{i,t} - \beta_3 INTEP_{i,t} - PSDIV_{i,t} - CSDIV_{i,t})/ A_{i,t-1} \quad (3)$$

Where:
FCF: free cash flows for firm i in year t;
INC: operating income before depreciation for firm i in year t;
TAX: total tax payable by the firm i in year t;
INTEP: interest payable for firm i in year t;
PSDIV: preferred stock dividends for firm i in year t;
CSDIV: common stock dividends for firm i in year t;
A: total book value of assets for firm i in year t-1.

Institutional ownership accounts for large owners including banks, insurance companies and investors who trade a large volume of securities. In accordance with the article 1(27) of the securities law in the Islamic Republic of Iran, each natural or legal person who purchases more than 5 billion of the de facto value of the securities is an institutional investor.

Control variables are described as follows: Some important variables documented by the related literature as the factors influencing the corporate long-term performance serve as the control variable of this study.

Financial leverage: financial leverage refers to the use of debt to finance. Leverage ratios have always been reliable instruments to determine the extent to which a firms are financially able to repay its debts. Accordingly, the higher the financial leverage, the higher the risk of corporate bankruptcy. Therefore, firms with high financial leverage exhibit poorer corporate performance in comparison

with those with lower financial leverage, suggesting a negative relationship between financial leverage and corporate performance [35]. In line with Gregory and Wang [8], the present research employs debt ratio, which is computed through dividing total liabilities by total assets. That is:

$$LEV_{i,t} = \frac{TD_{i,t}}{TA_{i,t}} \tag{4}$$

Where:
LEV: The financial leverage of firm i in year t;
TD: Total debts for firm i in year t;
TA: Total assets of firm i in year t.

Firm size: small firms are often vulnerable to economic variations such that they reveal more fluctuations during the variations in business cycles, thereby suggesting higher risk, and consequently a negative relationship between firm size and return. On the other hand, firms with higher return operate better than those with lower return, confirming a negative relationship between firm size and corporate performance [6]. Following Gregory and Wang [8] and Zalaghi et al. [37], the present study adopts the natural log of firm's assets to measure firm size as follows:

$$SIZE_{i,t} = LogAsset_{i,t} \tag{5}$$

Where:
SIZE: Size of firm i in year t;
ASSET: Total assets of firm i in year t.
Sales growth: sales growth is computed via dividing the result of subtracting the sales in the current year from the sales in the previous year by the previous-year sales[30]. Similar to Margaritis and Psillaki [20] and Fosu [7], this variable is expected to exert a positive effect on the corporate performance [34].

$$GSALE_{i,t} = \frac{SALE_{i,t} - SALE_{i,t-1}}{SALE_{i,t-1}} \tag{6}$$

Where:
GSALE: Sales growth of firm i in year t;
SALE: Sales of firm i in year t;
SALE; Sales of firm i in year t-1.

4 Empirical Results and Analysis

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics of the research variables including some central indices of dispersion for a sample of 445 firm-year observations during the years 2012-2016. As evident in table 1, the mean of institutional ownership in the firms under investigation is obtained 0.78 for a five-year

period, suggesting that institutional owners possess 78 percent of the firm's shares.

Table 1: Descriptive statistics of research variables

Variables	Obs.	Mean	Median	Minimum	Maximum	Std. Deviation
FCF	445	-0.0231	-0.0167	-0.3530	0.5441	0.0629
INSTOWN	445	0.7484	0.7823	0.1694	0.9895	0.1535
SIZE	445	6.3580	6.2071	5.0864	8.3167	0.6609
LEV	445	0.5912	0.5797	0.0127	2.3152	0.2396
GSALE	445	0.2197	0.1565	-0.9310	7.8155	0.6618

Table 2 illustrates the frequency and mode of the dichotomous variable of corporate long-term performance.

Table 2: The frequency and mode of the dichotomous variable

Variables	Obs.	Frequency percentage 0	Frequency percentage 1	Mode
long-term performance	445	%49.89	%50.11	0

4.2 Regression Results

The dichotomous nature of the research variable leads the researchers to adopt the multivariate logistic regression model to test the research hypotheses. This model do not count normality assumptions and homogeneity of covariance matrices. To examine the significance of the whole model, the likelihood ratio is calculated. The good-fitness of the model is also examined using Hosmer–Lemeshow test [22].

Table 3: Results of testing research hypotheses

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.4539	1.2293	2.8097	0.0050
FCF	0.7042	1.8356	0.3836	0.7013
INSTOWN	1.8917	0.6936	2.7275	0.0064
SIZE	-0.6168	0.1709	-3.6083	0.0003
LEV	-1.0202	0.4730	-2.1568	0.0310
GSALE	0.7972	0.3048	2.6158	0.0089
INDUSTRY	YES			
McFadden R2	0.1939			
LR statistic	57.9764	Hosmer-Lemeshow Statistic		8.2137
Prob(LR statistic)	0.0000	Prob(Hosmer-Lemeshow Statistic)		0.4129

From Table 3, Hosmer–Lemeshow test equals 0.4129, suggesting that the logistic model fits the data. Accordingly, Macfaden R2 is estimated 0.1939, confirming that approximately 19 percent of the variation in the dependent variable is explained by independent and control variables. In addition, as explained before, likelihood ratio plays a role similar to that of f-statistics in the linear regression. As such, the value of this statistics is obtained 57/9764 with 0.0000 level of significance, verifying the significance of the fitted model at 95% level of significance. The first hypothesis believes that free cash flow improves corporate performance. As indicated in Table 3, the estimated coefficient and z-statistics of free cash flow are positive, yet not significant, rejecting the first hypothesis. The second hypothesis states that institutional ownership improves corporate long-term performance. As illustrated in Table 3, the estimated coefficient and z-statistics of institutional ownership are positive and significant, accepting the second hypothesis.

5 Conclusions

Separation of ownership and management and its subsequent conflict of interests as well as the evaluation of corporate performance have drawn a lot of attention from researchers. Lack of corporate performance appraisal results in lack of optimal resource allocation, which imposes considerable loss on owners (shareholders) and marcoeconomy. The present research is primarily concerned with investigating the relationship between free cash flow and institutional ownership and long-term performance of the firms listed on the Tehran Stock Exchange. The first hypothesis tests the association between free cash flow and corporate long-term performance. The results indicate a positively significant relationship between free cash flow and corporate long-term performance. These findings are in compliance with those reported by Lachheb and Slim [16], Lin and Fu [18] and Garigori and Wank [8]. Relying on the theoretical foundations of precautionary savings theory, they document that cash savings helps companies take advantage of investment opportunities to improve corporate performance. The second hypothesis tests the correlation between institutional ownership and corporate long-term performance. The results reveals that institutional ownership is significantly correlated with corporate long-term performance such that a rise in the investment of the institutional investors and their surveillance over board of directors improve corporate performance. These findings are in line with those reported by Garegori and Wank [8] and Lin and Fu [18].

According to the Iranian and foreign literature as well as the results of the present study, a paramount importance seems to be given to the effect of ownership structure on corporate performance. However, investors are recommended to conduct a painstaking evaluation of the ownership structure of the firms to make informed and logical decisions on how to make optimal use of financial statements. The results of testing the second hypothesis suggest investors and market activists to focus their attention on the percentage of institutional investors' ownership as a factor contributing to the promotion of corporate performance while making investment decisions. Furthermore, as institutional owners are active and competent investors and have capability of monitoring managerial behaviors, the privatization organization is recommended to offer publicly-traded firms in the Stock Exchange.

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