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A study on relationship between market share and cash flow policy

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C H R O N I C L E

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A B S T R A C T

This paper presents an empirical investigation to study the relationship between cash flow and market share on selected firms from Tehran Stock Exchange over the period 2007-2011. Using regression analysis, the study has detected a positive and meaningful relationship between cash flow on one side and three other investment opportunities, firm size and operating cash flow. In addition, there is a negative and meaningful relationship between leverage and cash flow. However, the study does not find any meaningful relationship between cash flow and market share. Finally, the study does not find any meaningful relationship between the cash flows of the previous year as control variable and other cashable assets.

1. Introduction

Cash flow management normally plays essential role for the success of any business units and any firm may confront different challenges when there is a lack of sufficient cash flow. In fact, some US firms have tried to have more cash than they used to do (Opler et al., 1999; Ozkan & Ozkan, 2004; Bates et al. 2009). In some cases, there are some evidences that having large amount of liabilities may create chaos in many well-known organizations (Campello, 2006). Holding a good cash flow is one of the things business owners consider when the plan to take over a firm (Jensen, 1986). Therefore, there are literally many studies on learning more about cash flow. Almeida et al. (2004) modeled a firm's demand for liquidity to develop a new test of the impact of financial constraints on firm policies. The impact of financial constraints was studied by the firm's propensity to save cash out of cash flows. They estimated the cash flow sensitivity of cash using a large sample of manufacturing firms from 1971 to 2000 reported robust support for their theory. Akdoğu and MacKay (2008) investigated how industry structure influences on corporate investment patterns. They used real option theory and determined that firms in monopolistic industries could exhibit lower investment-q; sensitivity and were slower to invest than firms in competitive industries. Nevertheless, they reported

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that investment-q; sensitivity and investment speed were highest in oligopolistic industries, implying that the value of investing strategically could outweigh the value of waiting.

Schoubben and Van Hulle (2012) investigated the effect of market share on corporate cash policy in a static as well as a dynamic framework based on a panel data set of large firms in 14 European countries. They reported that firms with high market share could have lower cash holdings. This relationship between market share and cash policy was stronger. These findings were robust for various estimation techniques, various variables definitions, and for controlling for possible endogeneity between cash holdings and market share.

Ferreira and Vilela (2004) studied the determinants of corporate cash holdings in EMU countries and reported that cash holdings were positively influenced by the investment opportunity set and cash flows and negatively influenced by asset's liquidity, leverage and size. Bank debt and cash holdings were negatively associated, which supports that a close relationship with banks helps the firm keep less cash for precautionary reasons. Companies in countries with superior investor protection and concentrated ownership may hold less cash, supporting the role of managerial discretion agency expenses in explaining cash levels. Capital markets development, in their survey, had a negative effect on cash levels, contrary to the agency view.

García-Teruel and Martínez-Solano (2008) analyzed the factors that could describe the level of cash holdings in some small and medium-sized firms from Spain over the period 1996–2001. They reported that firms had a target cash level to which they attempted to converge. The level of this target was higher for firms with more growth opportunities and larger cash flows. Harford et al. (2008) reported that firms with weaker corporate governance structures actually had smaller cash reserves. Haushalter et al. (2007) provided some inter- and intra-industry evidence that the extent of the interdependence of a firm's investment opportunities with rivals was positively associated with its use of derivatives and the size of its cash holdings. Myers and Majluf (1984) performed a survey on firms' financing and investment decisions when they have information that investors do not have.

2. The proposed study

This paper presents an empirical investigation to study the relationship between cash flow and market share on selected firms from Tehran Stock Exchange over the period 2007-2011. The main hypothesis of the survey is as follows,

Main hypothesis: There is a meaningful relationship between cash flow and market share.

In order to examine the main hypothesis of the survey, the study considers the following five hypotheses,

1. There is a positive and meaningful relationship between cash flow and investment opportunities.
2. There is a positive and meaningful relationship between cash flow and firm size.
3. There is a negative and meaningful relationship between cash flow and leverage.
4. There is a positive and meaningful relationship between cash flow and operating cash flow.
5. There is a negative and meaningful relationship between operating cash flow and market share.

To examine the hypotheses of this survey, the study concentrates only on firms whose shares were accepted on stock exchange prior to the date of study and maintained common fiscal year ended month of March with no change on fiscal year. The study uses linear regression model where the amount of available cash is dependent variable ($CASH_{it}$) and Investment opportunities ($Growth_{it}$), firm size ($Size_{it}$), leverage (Lev_{it}), operating cash flow (CF_{it}), market share ($Mshare_{it}$) are considered as independent variables. In addition, available cash from the previous year ($CASH_{it-1}$) and other

cashable assets (LIQ_{it}) are considered as control variables. The study uses the following regression function,

$$Cash_{i,t} = \beta_0 + \beta_1 Cash_{i,t-1} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 Lev_{i,t} + \beta_5 CF_{i,t} + \beta_6 Liq_{i,t} + \beta_7 Mshare_{i,t} + \varepsilon_{i,t} \quad (1)$$

where β_0 is the intercept, β_i, i=1,…,7 are coefficients to be estimated and $\boldsymbol{\varepsilon}_{it}$ is the residual. Based on the criteria stated, we have collected the information of 48 firms over the five year of study for the proposed study. Table 1 shows the results of Limer test.

Table 1
The summary of F-Limer test

F-value	Degree of freedom	Sig.	Result
3.1362	47.233	0.000	Panel data

Based on the result of Table 1, we can conclude that we need to use panel data for regression analysis (Baltagi, 2008). In addition, Table 2 demonstrates the results of Hausman test.

Table 2
The summary of Hausman test

F-value	Degree of freedom	Sig.	Result
78.6811	7	0.000	Fixed effect

According to the results of Table 2, we need to choose fixed effect method for regression analysis.

3. The results

The implementation of regression analysis using Panel data and fixed effect yields the following,

$$Cash_{it} = -0.2115 + 0.0254 Growth_{i,t-1} + 0.0325 Size_{i,t} - 0.0878 Lev_{i,t} + 0.0685 CF_{i,t} + 0.2301 Mshare_{i,t} + 0.0190 Cash_{i,t-1} - 0.035 Liq_{i,t} \quad (2)$$

t-student	-2.3402	3.4500	2.9910	-4.2142	4.6448	0.6104	0.3086	-1.9558
Sig.	0.0201	0.0007	0.0031	0.0000	0.0000	0.5422	0.7579	0.0517

Durbin-Watson =2.2138 $R^2 = 0.4282$ F-value = 4.9815 Prob(F-statistic) = 0.0000

As we can observe from the results of regression analysis, R-Square is equal to 0.4282, which means the independent variables can estimate approximately 43% of the changes on dependent variable. F-value is also statistically significant, which indicates that the relationship was indeed linear. In addition, Durbin-Watson is within acceptable limit, which indicates that there was not auto-correlation between residuals. In addition, the control variables, $Cash_{i,t-1}$ and $Liq_{i,t}$, does not have meaningful t-student value. The other observation is that the t-student value associated with $Mshare_{i,t}$ does not statistically provide meaningful value, which means we cannot confirm the main hypothesis of the survey. However, the other coefficients maintain meaningful coefficients, when the level of significant is one percent.

4. Discussion and conclusion

The first sub-hypothesis of the survey investigates whether or not there is a positive and meaningful relationship between cash flow and investment opportunities. Based on the results of Eq. (2), the coefficient of Growth is positive and statistically significant. Therefore, we can confirm the first sub-hypothesis of the survey (β = 3.45, Sig. = 0.0007). The second sub-hypothesis of the survey studies whether or not there is a positive and meaningful relationship between cash flow and firm size and

the results of Eq. (2) indicate that there was a positive and meaningful relationship between *Size* and dependent variable. Therefore, the second sub-hypothesis of this survey is confirmed (β = 0.0325, Sig. = 0.0031). The third sub-hypothesis of the survey examines a negative relationship between leverage variable and dependent variable and the results of regression function confirm this negative relationship (β = -0.0878, Sig. = 0.000). The fourth hypothesis investigates whether or not there is a positive and meaningful relationship between cash flow and operating cash flow and the positive sign, 4.6448, simply confirms a strong relationship between the dependent variable and this variable (β = 4.6448, Sig. = 0.000). Finally, the last sub-hypothesis tries to determine whether there is any negative and meaningful relationship between operating cash flow and market share and the results of our survey have confirmed this relationship (β = 0.0685, Sig. = 0.000). The results of this survey is consistent with findings of Schoubben and Van Hulle (2012) where they reported a reverse and meaningful relationship between size of the firm and cash holding. The results are also consistent with findings of Ferreira and Vilela (2004) who reported that cash holdings were positively influenced by the investment opportunity set and cash flows and negatively influenced by asset's liquidity, leverage and size. García-Teruel and Martínez-Solano (2008) also reported that firms had a target cash level to which they attempted to converge. The level of this target was higher for firms with more growth opportunities and larger cash flows. Therefore, our survey are somewhat consistent with their findings. In terms of the relationship between cash flow and size of the firms, the study of this paper is consistent with findings of Haushalter et al. (2007).

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