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Management of liquidity in the Albanian Firms

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ABSTRACT *Maintaining appropriate level of liquidity within the organization is fundamental towards the smooth operations of firms. Managers have a tendency to hold large proportion of firm assets in the form of cash and cash equivalents in order to reinvest on other physical assets, payments to stockholders and to keep cash inside the firm . The level of cash a firm maintains is characterized by its policies regarding capital structure, working capital requirements, cash flow management, dividend payments, investments and asset management. The current study focuses on determining the level of corporate cash holdings of non-financial Albanian firms, across different firm sizes and different industries. Furthermore, dataset for the period 2001 - 2008 for the firm size, growth opportunities, cash flow, net working capital, leverage, cash flow uncertainty and dividend payments has been statistically analyzed to determine the impact of these factors on corporate cash holdings. The findings of the study are in conformity with the earlier research and reflect that firm size, cash flow, cash flow uncertainty, net working capital, and leverage significantly affect the cash holdings of non-financial firms in Albania.*

Introduction

Cash and cash equivalents are considered as some of the most important component of current assets and are the lifeline of corporate financial Management. The Managers hold a substantial portion of their assets in the form of cash and liquid securities for reinvestment in physical assets, distribution to investors and to keep cash inside the firm (Almeida et al, 2002). The corporate cash holdings patterns are usually explained under three theories, namely, trade off model, pecking order theory and free cash flow theory.

According to the trade off model, firms set their optimal level of cash holdings by weighting the marginal costs and marginal benefits of holding cash. The main benefits associated with cash holdings include reduction in the likelihood of financial distress, pursuance of the optimal investment policy even when financial constraints are met, and its contribution to minimize the costs of raising external funds or liquidating existing assets (Ferreira and Vilela, 2004). While marginal cost of holding cash is associated with the opportunity cost of the capital due to the low return on liquid assets. As per the pecking order theory (Myers 1984), firms finance investments firstly with retained earnings, then with safe debt and risky debt, and finally with equity. When current operational cash flows are sufficient enough to finance new investments, firms repay debt and accumulate cash. When retained earnings are not enough to finance current investments, firms use the accumulated cash holdings and, if needed, issue debt. Free cash flow theory by Jensen (1986) explains that Managers have an incentive to hoard cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision. With the cash holding, they do not need to raise external funds and could undertake investments that have a negative impact on shareholders wealth. Maintaining appropriate level of liquidity within the organization is fundamental for smooth operations of the firm and the level of cash a firm maintains is characterized by its policies regarding capital structure, working capital requirements, cash flow management, dividend payments, investment and asset management (Opler et al. 1999). A number of researchers have investigated the determinants of cash held by firms of developed countries, but the same issue has not been evaluated for corporate firms in developing countries. The present study focuses on determining the level of corporate cash holdings of Albanian firms, across different firm size and different industries. Moreover, the behavior of different factors affecting a firm's cash holding is also studied. The findings of the study suggest that Albania firms hold a considerable amount of assets in the form of cash and equivalents and this phenomenon is prevalent across all firm size. Moreover, cash was found to be significantly affected by investment opportunity set, cash flow magnitude, liquid assets substitutes, debt level and cash flow uncertainty.

Literature Review

Existing literature has mainly focused on evaluating the cash balances across different firm sizes and industries of developed countries in order to establish a relationship between asset management practices and firm performance. In an earlier study, Nadiri (1969) empirically tested the determinants of Real cash balances in the US manufacturing sector. Taking quarterly data on manufacturing sector from 1948 to 1964, he estimated a model relating the desired level of real cash balances to the expected level of its operations and movements in the opportunity cost money, the user cost of capital services, the price of labor services, and the general price level. The estimated results revealed that the demand for real cash balances is determined by output (wealth), the interest rate, the expected rate of change in the general price level, and factor prices.

Opler et al. (1999) examined the determinants and implications of holding cash and cash equivalents by 1048 publicly traded US firms in the period 1971-1994. Their results show that cash holdings are negatively related to size, net working capital, leverage, dividend payment, and govt. regulation while they are positively related to the cash flow-to-assets ratio, the capital expenditures-to-assets ratio, industry volatility, and the R&D-to-sales ratio. They concluded that firms with better growth opportunities and riskier cash flows had higher levels of cash, while large firms having better access to capital markets hold less cash. Similar results were reported by Faulkender (2002) for a sample of small US firms and Ozkan and Ozkan (2002) for a sample of UK firms. Considering the agency costs that aris due to excessive cash levels, Harford (1999) empirically studied the notion that excessive cash leads the managers to make value decreasing investment decisions. He estimated a sample of all acquisition attempts by US firms during the period 1977-1993. The results support the hypothesis that acquisition by cash rich firms are value decreasing. Moreover, they are more likely to make diverse acquisitions, and their targets firms are less attractive to other bidders. The similar phenomenon is observed in bidder firms in a merger depicted by sharp decline in operating

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performance. Pinkowitz and Williamson (2001) examined the effect of bank power on cash holding patterns of industrial firms for a sample of Japanese firms for the period 1974-1995, German firms for the period 1984-1994 and US firms for 1971-1994. The cross country analysis show that Japanese firms tend to hold more cash than their American or German counterparts do.. The results reveal that the firms in countries with low shareholder protection hold upto twice as much cash as firms in countries with high shareholder protection. In case of poor shareholder protection, the factors determining corporate cash holding, such as investment opportunities and asymmetric information become less important. Furthermore, they find that with the easier access to funds, firms hold larger cash which supports the agency theory.Consistent with past researches, cash holdings were found to be decreasing with the firm's size and debt ratio, and increasing with its profitability, growth prospects, and dividend payout ratio. The empirical researches reveal that that the firm specific factors affecting the corporate cash holdings have differing relationship across different countries and firm sizes. Moreover, the behavior of these variables has been changing over time. The literature does not provide considerable research on determinants of corporate cash holdings in developing countries. The current research tries to fill this gap by analyzing the behavior of firm specific factors with respect to corporate cash holdings in Albania.

Data and Methodology

A sample of 100 public limited Albanian companies is selected over a period of five years (2000 -2005). Financial firms have been excluded from the sample for the obvious reason that the factors determining their cash requirements are altogether different from the non-financial firms. The exogenous variables used to evaluate the cash holdings of the firms in this research include growth and investment opportunities, real size of the firm, cash flow, liquidity requirements, Leverage, cash flow uncertainty, and dividend payments. While hypothesizing the relationship between cash levels and these variables, the expected behavior of each of them would be examined under the three theoretical models.

Opler et al. (1999) model is used to study the determinants of cash holdings. According to this model, cash holdings is a function of growth opportunities, riskiness of cash flow, access to the capital markets, and the cost of raising funds through asset sales and dividend cuts. For this research, the variables such as capital expenditures, R&D expenditures and Regulatory Dummy have been excluded because of non-availability of data in Albania. For firm i in year t, the cash model is given by the following equation:

$$CASH_{(i,t)} = \alpha + \beta_1 SIZE_{i,t} + \beta_2 CF_{i,t} + \beta_3 NWC_{i,t} + \beta_4 LEVERAGE_{i,t} + \beta_5 INDSIG_{i,t} + \beta_6 DIVDUM_{i,t} + \varepsilon_t$$

Where, Cash holdings (CASH) are represented by cash ratio

$$CASH = \frac{\text{Cash and cash equivalents}}{\text{Book value of assets} - \text{cash and equivalents}}$$

Natural logarithm of total assets is taken as a proxy for the real size (SIZE) of firms. Cash flow magnitude (CF) is measured by Cash flow to net assets ratio

$$CF = \frac{\text{After Tax profit} + \text{Depreciation}}{\text{Total assets} - \text{cash and equivalents}}$$

Net working capital-to-assets ratio (NWC) is taken as a proxy for liquid asset substitutes as these assets can be seen as substitutes for cash holdings.

$$NWC = \frac{\text{Net current assets} - \text{Cash and cash equivalents}}{\text{Total assets} - \text{cash and equivalents}}$$

Leverage (LVRG) is measured as

$$LVRG = \frac{\text{Total Debt}}{\text{Total assets} - \text{cash and equivalents}}$$

Standard deviation of industry cash flow (INDSIG) is used to measure Cash flow uncertainty, which is computed using the procedure suggested in Opler et al. (1999). A dummy variable is constructed to estimate the effects of dividend payments (DIV) that is set to one if the firm paid dividends in each year and set to zero if it did not.

Results

Descriptive statistics show the mean, percentiles and standard deviation of the variables and provide a general overview of the characteristics of the data.

Table 1
Descriptive Statistics

Variable	N	Mean	25th percentile	Median	75th percentile	Standart Deviation
CASH	100	0.105	0.08	0.2	0.4	0.11
SIZE	100	16.1	16.4	17.4	18.2	0.05
CF	100	0.04	0.0541	0.02	0.14	0.034
NWC	100	0.37	0.02	0.21	0.4	0.53
LVRG	100	0.59	0.16	0.4	0.6	0.18
INDSIG	100	0.08	0.06	0.07	0.09	0.03
DIVDUM	100	0.66	0.37	0.75	1.0	0.33

The mean cash ratio over the sample is 10.5% which is considerably large for nonfinancial firms. These statistics are not very close to the US firms' mean cash ratio of 17% as reported by Opler et al (1999) and the European firms' mean cash ratio of 14.8% as reported by Ferreira and Vilela (2004). Mean value of leverage is 59% which again suggests that Albanian firms have a tendency to use a large amount of debt to finance their assets as compared to their counterparts in developed countries (26.1% in US firms and 24.8 in EMU countries). A pooled time series regression has been estimated to evaluate the factors influencing corporate cash holding. The estimated results are reported in table 2 below.

Table 2
Estimates of Exogenous variables on Corporate Cash Holdings

Model	Un standardized Coefficients		t	Significance
	beta	St.Error		
Constant	3.582	0.5546	6.4588	0.000
SIZE	-0.179	0.030	-5.959	0.000
CF	0.223	0.046	4.8163	0.000
NWC	-0.041	0.125	-0.327	0.743
LVRG	-0.336	0.128	-2.619	0.009
INDSIG	1.254	0.363	3.455	0.001
DIVDUM	-0.103	0.045	-2.306	0.022

We find that market-to-book ratio coefficient is significant at 1% level, consistent with free cash flow theory that states that managers with poor investment opportunities (low market-to-book ratio) hold more cash to ensure availability of funds for investment in growth projects which may earn a negative NPV. This result suggests the agency problem is prevalent in albanian firms, where managers try to avoid raising external funds for keeping the investment information of the company to themselves. Firm size, cash flow and industry sigma are significant at 1% level in the cross sectional regression analysis. The positive coefficient on cash flow-to-assets ratio supports the pecking order theory which suggests that firms finance investments first with the retained earnings and then go for debt. This result is, however, in contradiction to tradeoff model as reported by the earlier researches for firms in developed countries, i.e. Opler et al. (1999) Ozkan and Ozkan (2002) and Ferreira and Vilela (2004). The reason for this incongruity may be high cost of external debt in Albania.

The sign on industry sigma is positive and significant which is in conformity with the expectations and empirical research. It suggests that firms with greater cash flow volatility hold more cash in order to provide a safe cushion for smooth operations. The results support the notion that firms with higher leverage hold less cash, which is consistent with pecking or-

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der and free cash flow theories. As per the pecking order theory, when firms' investments are in excess of retained earnings, high levels of debt and little cash holdings occur simultaneously. This negative relationship is also supported by free cash flow theory but the main reason is because high leverage firms are subject to monitoring by capital markets preventing superior managerial control. The negative sign on net working capital is consistent with the notion that firms with higher liquid assets substitutes hold less cash which is consistent with the expected relationship between the two variables.

CONCLUSION

The level of corporate cash holdings and its determinants has been the topic of a number of researches in the past. However, almost all of them investigated the issue for the firms in developed nations and few analyzed the cash holdings patterns of the firms in developing countries. The present study tries to fill this gap by investigating the determinants of cash holdings for 100 non-financial Albanian firms for the period 2000- 2005.The descriptive statistics show that firms on average hold 13.1% cash for investment and financing purposes. Consistent with the practice in developed nations, this is generally a high level of cash holdings which may suggest the existence of managers' wish to keep the liquid assets under their control. Such phenomenon indicates the agency problems these firms may be facing. The study models the cash-to-asset ratio as a function of firm specific factors including firm size, growth opportunities, cash flow, liquid assets substitutes, leverage, cash flow uncertainty and dividend payments The behavior of the these variables was analyzed under the framework of three theories of corporate cash holding, i.e. tradeoff model, pecking order theory and free cash flow theory. The regression results indicate that all the variables in the model are significant in defining the cash levels of Albanian firms. Consistent with the empirical research, Firm size, cash flow and cash flow uncertainty are positively associated with the cash levels of the firm. These results indicate that larger firms hold more cash to follow the pecking order pattern of financing the investments and to avoid illiquidity in case of cash flow volatility.Investment opportunities, liquid assets substitutes, leverage and dividend payments are found be negatively influencing the corporate cash holdings. This phenomenon, on one hand, indicates the existence of agency problem in Albanian firms, while on the other hand, supports the pecking order theory of cash holding. Keeping in view the dearth of researches on cash holdings and agency problems in developing countries, the present study can provide an insight into the issue with respect to Albanian firms. The future researches should explore the impact of corporate cash holdings on firms' profitability and performance.

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