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Studying the effective factors on holding cash funds in the organizations (a comparative study among different theories)

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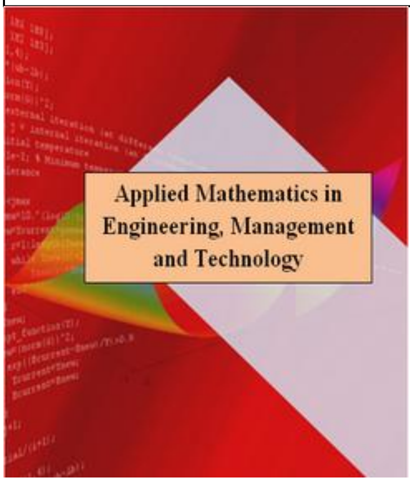

Abstract

In economic growth period of a company, as cash fund reservoirs are increasing, managers decide whether to distribute this among among shareholders, to spend it for internal expenditures, to use for foreign transactions and/or to maintain it. Information asymmetry theory, agency theory, equilibrium theory, finance hierarchy theory and free cash flow are theories on companies' cash fund maintenance level. According to asymmetry theory, mitigation in information asymmetry (i.e. through increase in the quality of financial reporting) can lead into mitigation in cash fund maintenance by companies. According to agency theory, conflicts which can lead into identifying agency's costs can also be used to justify cash funds maintenance behaviors by management. According equilibrium theory, companies determine their optimized cash funds by establishing equilibrium (balance) between its costs and benefits. According to finance hierarchy theory, manager tends to maintain cash funds in order to finance the company domestically and does not refer to outside of the company. Based on free cash flow, managers are motivated to maintain cash funds in order to increase their under control resources and to use the power of judgment and recognition in company's investment decisions. In this seminar, theories and motivation related to maintained cash funds as well as affecting factors on cash funds maintenance are discussed in details by using current theories and conducted studies in this regard.

Keywords: cash funds maintenance theories, cash funds maintenance motivations, comparative study

1. Introduction

In a standard on cash flow, cash fund is referred to cash and sight deposits by banks and financial institutes (including short term investment deposits without maturity). In the cases that overdraft is allowed in current accounts (for instance, overdraft in foreign banking accounts by trading unit); the remained overdrafts which can be demanded without prior notice should be deducted from mentioned sum. Free cash flow is a criterion which measures company's profitability after all costs and investments. It is a criterion to compare and analyze financial healthiness of companies. So far, a single definition is not provided on free cash flow while different definition are provided by different people on how to compute free cash flows. According to Jensen (1986), dash flow is remained cash funds after deducting necessary cash funds for investment in projects with current positive value. Different definitions were provided after Jensen. According to a definition be Len and Pelsen, free cash flow includes operational profit before deducting amortization cost and after deducting taxable, interests and dividends to distinguished and ordinary shareholder. Capland asserts that free cash flow is operational profit after deducting taxable plus non-cash cost after deducting investment. Concerning the important of studying different aspects of cash funds maintenance, it is sufficient to say that studies by Ditmar and Smith (2007) suggest that cash funds and quasi-cash funds constitute 13% of total US firms' assets in average while studies by Al-Najjar and Belghatir (2011) show they constitute 9% of total UK firms' assets in average (Al-Najjar, 2013). Overall, companies look for value maximization by considering cash funds maintenance costs and benefits (Uzkan and Uzkan, 2004). Cash fund is, *inter alia*, an important and critical resource for any economic unit. One of the most important factors for economic health of trading units and continuing their operation is to make balance between current cash funds and their cash needs.

2. Theories on cash funds maintenance level:

There are different theories on companies' cash funds maintenance level by which cash funds maintenance level determinants can be identified:

- **Information asymmetry theory:**

It points out a mood in which one transaction party enjoys information advantage to other parties. Under such conditions, it is said that the information is asymmetric. Overall, one can say that information asymmetry plays a critical role in costs foreign finance (Ahmadpour and Rasayian, 2006). Financial reporting can improve investment return by mitigating information asymmetry in two ways:

1. The quality of financial reporting mitigates information asymmetry between company and investors and also the cost of incorrect section and finally company's finance costs.
2. The quality of financial reporting mitigates information asymmetry between investors and managers and by mitigating agency conflicts, shareholders' costs to control managers are mitigated and project selection will be conducted better (Izadinia & Rasayian, 2009).

Therefore, if the quality of committed items as a measure of financial reporting quality increases, information asymmetry and cash funds maintenance level are decreased (Garcia et al, 2009).

- **Agency theory**

Agency problems are among the most important factors in determining companies' cash funds maintenance. Agency costs can be used in justifying cash funds maintenance behavior by management. Concerning company size, one can say that management would enjoy more authorities when the company is greater. Therefore, the possibility of maintaining surplus cash funds will be increased. On the other hand, in companies with lower debts, maintaining more cash funds is expected since lower debts cause that they monitored less by capital markets and management finds more authorizes. Companies that have valuable investment opportunities and their foreign finance costs are high, are expected to maintain more cash assets since by such funds, company would lose projects with more value (Ditmar et al, 2003).

- **Equilibrium theory**

According to this theory, companies determine the optimized amount of cash flow by equilibrium between the costs and benefits of cash funds maintenance (Rasayian et al, 2009). Cash fund maintenance would mitigate the possibility of financial crisis and can be seen as a trusted reservoir to encounter unexpected losses. Also, it makes it possible to pursue optimized investment policies when the company is faced with financial limitations and it would finally help to mitigate costs of gathering financial resources or to cash current assets (Iler et al, 1999).

In fact, companies justify their optimized cash fund by determining the importance of final costs and benefits from cash fund maintenance. The important point in this theory is that there is a proper level of cash fund for companies in which the management can decide on cash fund maintenance based on cost – benefit analysis and an active approach.

Cash fund maintenance would mitigate the possibility of financial crisis and can be seen as a trusted reservoir to encounter unexpected losses. Also, it makes it possible to pursue optimized investment policies when the company is faced with financial limitations and it would finally help to mitigate costs of gathering financial resources or to cash current assets. On this basis, management should regulate remained cash fund so that final costs of cash fund maintenance to cash current assets can be equaled to final costs of cash fund maintenance to maximize shareholders' wealth.

3. Literature Review

Garcia et al (2009) studied the impact of accounting quality on existing cash fund by using a sample of Spain stock exchange companies between 1995 through 2001. Their findings indicated that by increase in banking debt, cash fund is increased and companies with higher cash flow would maintain more cash funds.

Bhart et al (2006) studied data on companies with banking loans and general debts between 1988 and 2003. This study examines the role of profit accounting quality in borrower's decision in selecting borrowing method and found that it impacts on profit accounting quality. Ferriera and Vilella (2004) studied affecting factors on cash fund in a sample of European Union companies between 1987 and 2000. Their findings indicate that cash fund is positively impacted by investment funds and cash flow and negatively by cashing the assets, financial leverage and size. A research by Rasayian (2010) indicated that there is a negative and significant relationship between the percentage of nonexecutive board members and cash fund maintenance in Tehran Stock Exchange while there is no significant relationship between the percentage of organizational investors and cash fund maintenance.

By selecting a sample of 96 admired companies in Tehran Stock Exchange, Kashanipour et al (2010) indicate that companies with financial limitations have higher investment sensitivity to cash flows than companies without financial limitations. Aghaee et al (2009) selected a sample of 283 companies and showed that the most important factors with negative impacts on cash fund maintenance include receivables, net working capital, inventories and short term debts.

The results of a research by Uzken and Uzken (2004) indicate that growth opportunities, cash flows, cash assets, financial leverage and debts to banks are important factors in determining cash fund amounts. Renjan Demilo et al (2008) determined cash fund factors by considering trade model theory. Their findings indicate that managers allocate more cash ratio to smaller firms and it also occurs in companies with high R&D costs, net working capital and low financial leverage. Jio Wang Kim et al (2011) found evidences that by more investment opportunities, restaurants are more tended to have higher cash funds. Ogendip et al (2012) studied company's factors in cash fund maintenance. Their findings indicate that cash flow, net working capital, financial leverage, profitability and investment in capital expenditures remarkably impact on cash fund maintenance.

Amarjit et al (2012) studied cash fund determinants in Canada. The results indicate that there is a positive correlation between cash fund maintenance variables and cash flow, financial leverage and size of board while it relates to working capital negatively. Sandy et al (2012) found that there is a negative relationship between cash fund maintenance and company's size, net working capital and asset return.

The results of a research by Al-Najjar (2013) indicate that capital structure, interest policies and company y's size are important factor in determining the amount of cash fund maintenance. The results of another study indicate that multinational nature of companies relates to cash fund maintenance directly (Ramirez et al, 2009).

The findings of a research by Harford et al (2008) suggest that companies with weak leadership structure have lower cash reservoirs and companies with lower shareholders' rights and cash fund surplus have lower profitability. Luti and Marcusi (2007) found that there is economy of scale among US firms in using cash flow.

Almedia et al (2004) believe that increase in the capacity of organizations to use investment opportunities is the reason of high cash fund maintenance by companies. Evidences by Gani et al (2007) show a nonlinear significant association between cash fund maintenance and leverage. Also, the findings indicate that the impact of leverage on cash fund maintenance is to some extent depended to the characteristics of countries such as ownership concentration.

Uzkan (2004) concluded that cash fund maintenance by companies relates negatively to quasi – cash assets and current assets of companies. Hun and Quo (2006) indicated that companies with financial limitations would increase their cash fund maintenance in response to increases in cash flow fluctuations. Arsalan et al (2006) believe that cash fund maintenance is a protective tool against cash flow fluctuations.

Also, Talebi (2008) concluded that the status of companies' liquidity is remarkably impacted by the nature of companies' operations. Khaola Saddor (2006) studied cash flow determinants in French companies. His findings indicate that these companies increase their cash funds when their activities are high risk and the cash flow levels are high and they mitigate it when they have numerous financial leverages. Compared to mature companies, growing companies maintain more cash funds. The findings of a research by Bitz et al (2009) aimed at answering the question that why companies maintain high amount of cash fund indicate that the average of cash ratio in US firms is remarkable increased between 1980 and 2004 and such increase is more for companies that do not pay regular dividends. The main reason of such increase is US firms' high risk.

4. Cash fund determinants in terms of different theories

4.1. Equilibrium theory

According to equilibrium theory, cash fund determinants include:

- **Current assets liquidity**

When companies face with cash fund scarce, the ability to change current assets to such funds can be an alternative for cash fund (Izadinia and Rasayian, 2009). Therefore, it is expected that companies with higher liquidity power maintain less cash funds.

- **Financial leverage**

Since financial leverage ratio is a factor to determine the ability of a company to issue new securities, it would enjoy high financial flexibility if company enjoys high power of repaying its finance costs (Ferriera and Villela, 2004).

- **Size**

According to equilibrium theory, the expected relationship between company size and cash funds maintenance is negative. Since big companies enjoy higher flexibility, one can expect more sustainable cash flows for them. As a result, they are less exposed by bankruptcy and have easier access to financing resources that smaller ones (Garcia et al, 2009).

- **Cash flow**

Cash flow provides a liquidity resource and can be a proper alternative for cash fund. Therefore, one can expect a negative relationship between cash flow and remained cash fund (Kashanipour et al, 2010).

- **Cash flow distrust**

Companies with more fluctuate cash flow are less likely faced with lack of cash funds. Therefore, one can expect a positive relationship between cash flow distrust and remained cash fund (Rasayian et al, 2010).

- **Debt overdue**

Barsley and Smith (1995) suggest that companies with high credits usually use short term debts and maintain lower cash funds. It makes this relationship as positive.

- **Financial crisis**

Cash funds maintenance mitigates the possibility of financial crisis and is seen as a safe reservoir to confront unexpected losses. Therefore, companies which are facing financial crisis should maintain higher cash funds (Epler et al, 1999).

- **Paying dividends**

A company which currently pays dividends can finance the resources by the lowest costs through mitigating dividends payment (Mehrani et al, 2009). Therefore, a negative relationship is expected between dividend payment and cash funds maintenance (Ferriera and Viela, 2004).

4.2. Finance hierarchical theory

According to this theory, management prefers finance internal resources to foreign ones (Salavati and Rasayian, 2007). Therefore, there is a tendency to finance by internal resources and not refer to outside (Ferriera and Viela, 2004). Cash fund determinants in hierarchical perspective include:

- **Investment opportunities**

Higher investment opportunities create more demand for more cash fund maintenance. Therefore, a positive relationship is expected between investment opportunities and cash fund maintenance.

- **Financial leverage**

In discussion on finance hierarchy, when investment exceeds accumulated profit, debt is usually growing and when investment is lower than accumulated investment, debt is reducing. According to finance hierarchy theory, the predicted relationship between this factor and remained cash fund is reverse.

4.3. Free cash flow theory

According to this theory, more internal cash funds would allow managers to avoid market controls. Under such circumstances, they do not need shareholders' agreement and are free in their decisions making on investment (Izadinia & Rasayian, 2009). Based on this theory, managers are motivated to accumulate cash funds to increase their controlled resources and to use their own judgment and cognition in investment decisions. To the same reason, they operate with company's cash funds so that they refuse reporting detailed information to capital market (Ferriera and Villela, 2004). In hierarchical attitude, the main determinants of cash fund include:

- **Financial leverage**

Companies with lower financial leverage are less monitored and controlled so that management is granted more authority. Therefore, a reverse relationship between financial leverage and remained cash fund is expected (Garcia et al, 2009).

- **Investment opportunities**

Managers of companies with lower investment opportunities are expected to maintain more cash funds to assure cash fund availability to invest in different projects. Therefore, by using value market to bookkeeping value as a factor for investment opportunities, a negative relationship between investment opportunities and remained cash fund is expected (Garcia et al, 2009).

- **Size**

Big companies tend to more disperse of shareholders' ownership so that they can grant countless authorities to management. Additionally, big companies are less likely exposed by unwanted takeovers due to huge financial resources needed to purchase them. Therefore, managers of big companies are expected to enjoy more power on financial investments and policies which would lead into more maintained cash funds (Ferriera and Vilella, 2004).

- **Banking relations**

Currently, commercial banks are registered and founded in most territories by institutes that are independent from governments. So, it needs special banking documents to run them. Banking law is based on a contractual analysis on relations between bank and customer (Uzkan and Uzkan, 2004).

- **Conclusion**

In present seminar, a comparative study is conducted between theories on cash fund maintenance and affecting factors on cash fund maintenance based on current theories. In this vein, theories on cash fund maintenance level, equilibrium, hierarchical and free cash flow were discussed in detail.
According to equilibrium theory, the most important factors on cash fund maintenance in an organization include current asset liquidity, financial leverage, debt overdue, financial crisis and dividends. Financial leverage and investment opportunity are the most important components of cash fund maintenance in terms of hierarch theory. Free cash flow theory introduces financial leverage, investment opportunity, size and banking relations as the most important affecting factors on cash fund maintenance level in organizations. Future studies can compare managers' different motivations on cash fund maintenance in organizations.

References:

Aghayi, Mohammad Ali; Nezafat, Ahmed Reza; Nazami Ardekani, Mahdi & Javan, Ali Akbar (2009), "studying affecting factors on cash fund maintenance in accepted companies at Tehran Stock Exchange", Financial Accounting Research Quarterly, vol. 1 & 2, pp. 53 – 70
AydinOzkan, NeslihanOzkan, (2004), "corporate cash holdings: An empirical investigation of UK companies", Journal of Banking &Finance ,28, 2103–2134.
Amarjit Gill, Charul Shah, "Determinants of Corporate Cash Holdings: Evidence fromCanada", International Journal of Economics and Finance, Vol. 4, No. 1; January 2012.
Arslan, Ö, Florackis, C., Ozkan, A. (2006); "The role of cash holdings in reducing investment–cash flow sensitivity: Evidence from a financial crisis period in an emerging market". Journal of Emerging Markets Review, Vol.7.
Barclay، M. and Smith، C. Jr.، (1995). The Athurity Structure of Corporate Debt، Journal of Finance،Vol. 50, pp. 609–31.
Basil Al-Najjar, (2013), "The financial determinants of corporate cash holdings: Evidence from some emerging markets", International Business Review , 22 (2013) 77–88.
Bates T. W., Khale K. M., and Stulz R. M., (2009), "Why do U.S. firms hold so much more cash than they used to?" The journal of finance, Vol. 64, No. 5, pp. 1985-2021.
Dittmar, A. and Mahrt-Smith, J. (2007), "corporate governance and value of cash holdings", journal of financial economics, Vol. 83, pp. 599-634.
Ferreria, M.A., and Vilela, A. (2004), "Why do firms hold cash? Evidence from EMU countries" , European Financial Management, Vol. 10, No. 2, pp. 295-319.
Guney, Y. , Ozkan, A. and Ozkan N. (2007)." International evidence on the non-linear impact of leverage on corporate cash holdings", Journal of Multinational Financial Management, Volume 17, Issue 1, February 2007, Pages 45-60.
Han, S. and Qiu J. (2006), "Corporate precautionary cash holdings", Journal of Corporate Finance, Volume 13, Issue 1, March 2007, Pages 43-57.
Harford, J. , Mansi, S. A. and Maxwell, W. F., (2008), "Corporate governance and firm cash holdings in the US", Journal of Financial Economics, Volume 87, Issue 3, March 2008, Pages 535-555.
Izadinia, Nasser & Rasayian, Amir (2010), "ownership distribution and share liquidation", Accounting and Auditing Investigations, vol. 60, p. 22
Jensen, Michael, (1986), "the Free Cash Flow Theory of Takeovers: A Financial Perspectiveon Mergers and Acquisitionsand the Economy", papers.ssrn.com/ABSTRACT=350422 .

Jensen, Michael C. (1986), “Agency Costs of Free Cash Flow, Corporate Finance and Takeovers”. AmericanEconomic Review, 26, 654-665.
Lotti, F., Marcucci, J. (2007). “Revisiting the empirical evidence on firms’ money demand”; Journal of Economics and Business, Vol.59.
Opler, Tim, Lee Pinkowitz, ReneHStulz,Rohan Williamson, (1999), “the determinants and implications of corporate cash holdings”, Journal of Financial Economics , 52, 3-46.
Ozkan, A., Ozkan, N. (2004). “Corporate cash holdings: An empirical investigation of UK companies”; Journal of Banking & Finance, Vol.28.
Ramirez. A., Tadesse S., (2009),” Corporate cash holdings, uncertainty avoidance, and the multinationality of firms”, International Business Review, Volume 18, Issue 4, August 2009, Pages 387-403.
RanjanD’Mello, SudhaKrishnaswami, Patrick J. Larkin, (2008), “Determinants of corporate cash holdings: Evidence from spin-offs”, Journal of Banking & Finance, 32 (2008) 1209–1220.
Rasayian, Amir; Rahimir, Forugh & Hanjari, Sara (2010), “the impact by intra-organizational corporate governance monitoring mechanisms on cash fund maintenance in Tehran Stock Exchange”, Financial Accounting Research Quarterly, vol. 4, pp. 125 – 144.
Salavati, Shapour & Rasayian, Amir (2007), “studying the relationship between capital structure and shares liquidation”, Fruitful Economic Quarterly, vol. 13, pp. 143 – 163
Sunday E. Ogundipe, Rafiu O. Salawu and Lawrencia O. Ogundipe, (2012), “the Determinants of Corporate Cash Holdings in Nigeria: Evidence from General Method of Moments (GMM)”, International Journal of Social and Human Sciences.
Talebi, Mohammad (1998), “evaluating status quo of working capital management in Iranian firms”, accounting doctoral dissertation, Management School, University of Tehran.