

ANOTHER PERSPECTIVE TO CORPORATE CASH MANAGEMENT: A NEW MODEL AND DEFINITION

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ABSTRACT

Cash management could be thought in a broader perspective. My cash management model covers cash flow ratio analysis, cash improving activities, management of excessive cash by classifying as free cash flow and dependent cash flow, and financing cash gap. The financial statements are Balance Sheet, Income Statement, and Statement of Cash Flows. Cash flow ratio analysis covers some cash flows ratios such as cash flow adequacy, long term debt payout, dividend payout, reinvestment of cash, debt coverage, depreciation effect. Cash improvement activities are decreasing cash cycle, improving cash dividend payout., new payment systems, managing cash in inflational environment, efficient currency management, barter trade, leasing, using subsidiaries, cash break event point etc. The model has given me an opinion about new cash management definition. It will be given on the text.

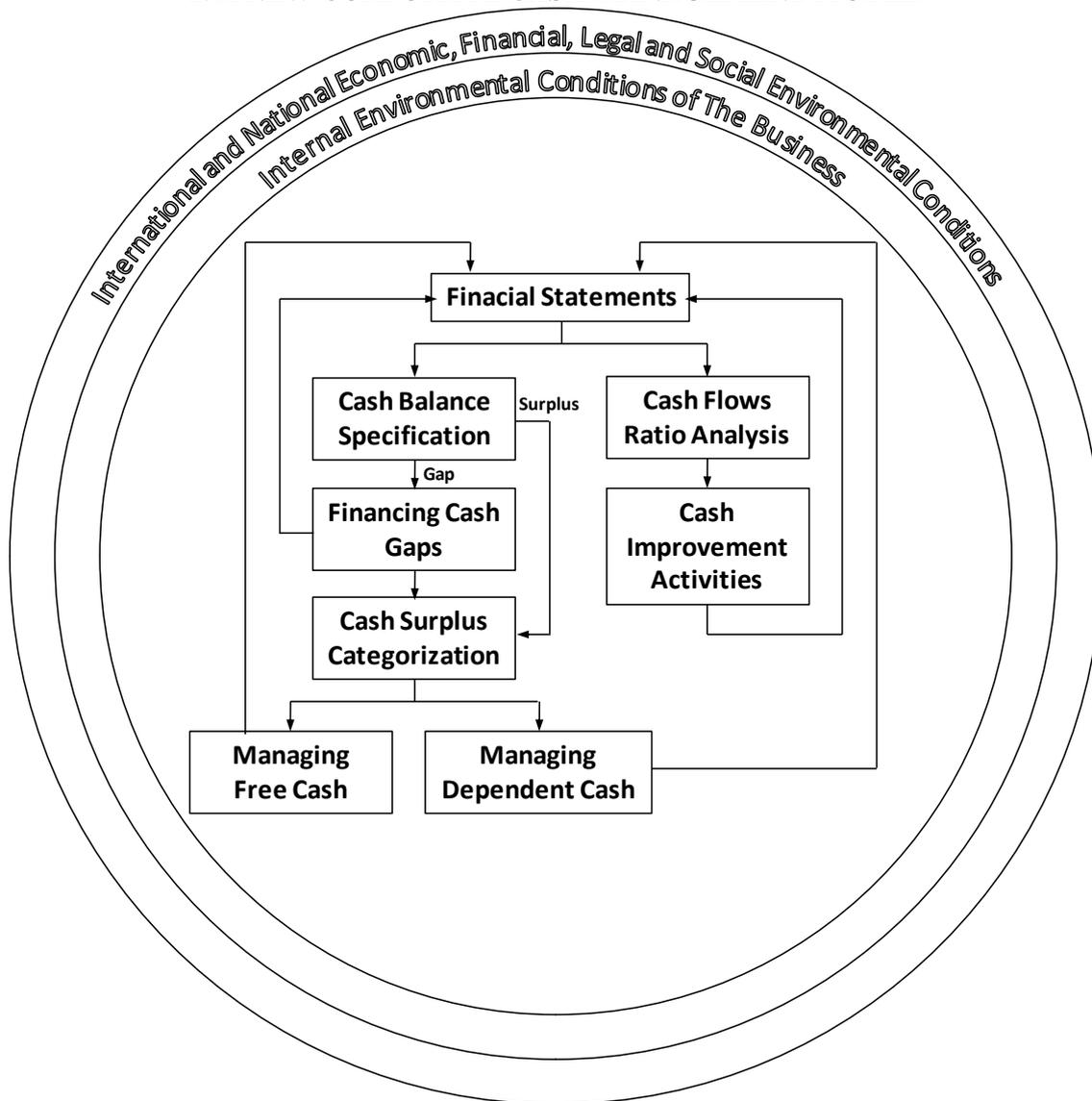
1. INTRODUCTION

Cash management is a dynamic financial management field in corporates. Many models and formulas were improved to date. Some models were improved to fix cash balance a company should keep. These are Boumol, Tobin, Miller- Orr, Nadiri, Beranek, Stone, and Wietzman models. The joint features of the models are that all of them fix optimal cash amount a company should keep so alternative cost of keeping cash is minimized. Cash is an asset account on a balance sheet representing paper currency and coins, negotiable money orders and checks and bank balances. In the financial statements of annual reports, cash is usually grouped with cash equivalents, defined as all highly liquid securities with a known market value and a maturity, when acquired, of less than three months (Downes, 1995:78). Cash is the sum of the currency a company has on hand and the funds on deposit in bank checking accounts (Moyer, McGuigan, and Kretlow, 1995:640). Downes (1995:80) defines cash management as “efficient mobilization of cash into income – producing applications, using computers, telecommunications technology, innovative investment vehicles and lock box arrangements”.

Moyer, McGuigan, and Kretlow (1995:641) explains the cash management function as determining the optimal size of a firm’s liquid asset balance, the most efficient methods of controlling the collection and disbursement of cash, the appropriate types and amounts of short-term investments a firm should make. Lee (2001) defines cash management as “the administration of liquid assets and liabilities, and raising of funds to finance a business. Tiegen (2001) defined cash management as a part of treasury management, which is defined as a part of the main responsibilities of the central finance management team. The specific task of a typical treasury function include cash management, risk management, hedging and insurance management, account receivable management, account payable management, bank relations, investor relations (Kytönen, 2004:38-39).

Kytönen (2004:39) thinks that this definition is consistent with the Srinivasan and Kim (1986) classification of cash management areas as cash balance management, cash gathering, cash mobilization and concentration, cash disbursement, and banking system design. Cash balance management includes management of cash position, short-term borrowing, short term investing, cash forecasting. Kytönen’s opinion is that the classifications of Tiegen’s cash management and Srinivasan and Kim’s cash balance management are closely related concepts. Kytönen classifies cash management as operating transactions and financial transactions. The operating transactions include accounting ledgers, invoicing, terms of sales- cash collection, cash control and processing, cash forecasting. The financial transactions include optimization of cash, short-term investments, short term borrowing, interest rate risk management, exchange rate risk management, payment systems, information systems and banking investor relations (Kytönen, 2004:45).

2. A NEW CORPORATE CASH MANAGEMENT MODEL



2.1. Fixing Cash Balance

Fixing cash balance can be realized in two ways. One of them is to check the Statement of Cash Flows. Its last number is the cash balance. If it is positive there is an excess cash. If it is negative there is a cash gap. The other way is to check “cash” balance of two years’ balance sheets of the corporation. The first year amount is subtracted from the second year amount. The difference is the cash amount the company created.

2.2. Managing Free and Dependent Cash

Excess cash balances should be invested to avoid waiving the returns such investment can realize. These foregone returns are opportunity cost. The opportunity cost is the return that may be realized by the next best alternative (Spiro, 1978:152). The solution is managing the cash effectively. The model offers managing excess cash by classifying it as free and dependent cash.

2.2.1. Managing Free Cash

Free cash flow is cash flow in excess of that required to fund all of a firm’s projects that have positive net present values when discounted at the relevant cost of capital (Jensen, 1986:323; Jensen, 1987:14; Jensen, 1988:28; Varian, 1988:4; Jensen, 1989:66). Free cash is excess cash beyond that needed to fund available positive NPV projects including options on future investment (Richardson, 2006:162).

Free cash flow represents the portion of a firm’s total cash flow available to service additional debt, to make dividend payments to common stockholders, and to invest in other projects. Free cash flow can be computed as:

$$FCF = CF - I(1-T) - D_p - P_f - B - Y \quad (1)$$

where CF : after-tax operating cash flow, I : before-tax interest payments, T : tax rate, D_p : preferred stock dividend payments, P_f : required redemption of preferred stock, B: required redemption of debt, Y :investment in property, plant and equipment required to maintain cash flows at their current levels. If a firm has interest income, this is netted out against interest expense. If interest income exceeds interest expense, FCF will increase by the amount of the net after-tax interest income (Moyer,McGuigan, and Kretlow,1995:805). Paying out excess cash reduces the resources under management's control, restricts management's ability to pursue corporate growth, and increases required probability of raising funds externally to finance future projects. Self-interest utility maximizing managers would prefer to retain excess liquidity (Faleye, 2004:2042).

One possible explanation is that excess cash went to fund low-return investments, which would account for the lower ROAs, consistent with this hypothesis, other studies have shown that companies with large cash reserves and weak governance systems spend more capital on acquisitions and that, after such acquisitions, the operating performance of the combined firm suffers (Dittmar, 2008:25). The free cash flow is invested in physical investment, merger and acquisition, investment to itself such as technology, marketing, human resources, research and development, buyback (stock repurchasing), and participation to other companies.

2.2.2.Managing Dependent Cash

Dependent cash is the cash which is used for disbursements of current operations being fulfilled. Dependent cash can be calculated if the definition for free cash is "a derivative of the CFFO ;that is it is the CFFO less any required cash disbursement in the subsequent periods (Ferris , Tennant,and Jerris,1002:182) as follows:

$$OCFFO = CFFO - FCF \quad (2)$$

$$DCF = OCFFO + (CFFI + CFFF) \quad (3)$$

$$DCF = OCFFO - CFFI + CFFF \quad (4)$$

$$DCF = OCFFO + CFFI - CFFF \quad (5)$$

Where, OCFFO = cash flow from operations without free cash flow, CFFO = cash flow from operations, FCF= free cash flow, DCF = dependent cash flow, CFFI= cash flow from investment , CFFF= cash flow from financing. As you see , DFC could be calculated in three way. Formula 3 shows DCF if both CFFI and CFFF are positive. Formula 4 and 5 show DCF if one of CFFI and CFFF is negative. Actually, mostly, CFFI and CFFF are negative. Formula 3 assumes that if CFFI and CFFF are negative, it is already calculated negative sign before the parenthesis.

The dependent cash is invested in stocks, options, futures, treasury bill, government bond, certificate of deposit, commercial paper, bank acceptance, repurchasing agreement (REPO), money market funds, saving bonds. They are all short-term investment vehicles. A company can use dependent cash when it needs. It needs cash budgeting to use them without alternative cost.

2.3. Financing Cash Gap

If a company has a cash gap, it needs financing it. It is financed by issuing securities or providing bank credits. The securities could be equity or debt securities. Detailed financing resources could be checked from finance textbooks.

2.4. Cash Flow Ratio Analysis

2.4.1 Sufficiency Ratios

Sufficiency ratios cover following ratios (Giacomino and Mielke, 1993: 57).

$$1. \text{Cash Flow Adequacy} = \frac{\text{Cash Flow From Operations}}{\text{Long Term Debt Payment} + \text{Asset Acquisition} + \text{Dividend Paid}}$$

$$2. \text{Dividend Payout} = \frac{\text{Dividend Paid}}{\text{CFFO}}$$

$$3. \text{Reinvestment of Cash} = \frac{\text{Asset Acquisition}}{\text{CFFO}}$$

$$4. \text{Debt Coverage} = \frac{\text{Total Debt}}{\text{CFFO}}$$

$$5. \text{Depreciation Effect} = \frac{\text{Depreciation}}{\text{CFFO}}$$

2.4.2. Efficiency Ratios

Efficiency ratios cover following ratios (Giacomino and Mielke, 1993: 57) :

$$6. \text{ Return of Sales to CFFO} = \frac{\text{CFFO}}{\text{Sales}}$$

$$7. \text{ Operating Index} = \frac{\text{CFFO}}{\text{Operating Income}}$$

$$8. \text{ CFFO to Assets} = \frac{\text{CFFO}}{\text{Total Assets}}$$

2.4.3. Other Ratios

$$9. \text{ CFFO to Annual Interest Payments} = \frac{\text{CFFO}}{\text{Annual Interest Payments}}^1$$

$$10. \text{ Overall Cash Flow} = \frac{\text{CFFO}}{\text{Financing} + \text{Investing Cash Outflows}}^2$$

Shim ve Siegel (1992: 96 - 99 ve 624) improved following ratios:

$$11. \text{ Cash Flow Per Share} = \frac{\text{Net Cash Flow}}{\text{Number of Shares}}^3$$

$$12. \text{ Return of Sales to Cash} = \frac{\text{Cash From Sales}}{\text{Sales}}$$

$$13. \text{ Cash Debt Coverage} = \frac{(\text{CFFO} - \text{Dividends})}{\text{Total Debt}}$$

$$14. \text{ Current Maturities of LTD Coverage} = \frac{(\text{CFFO} - \text{Dividends})}{\text{Current Maturities of Long Term Debt}}$$

$$15. \text{ Cash Dividend Coverage} = \frac{\text{CFFO}}{\text{Dividends}}$$

$$16. \text{ Capital Acquisition} = \frac{(\text{CFFO} - \text{Dividends})}{\text{Cash Paid for Acquisition}}$$

$$17. \text{ Cash Return on Assets} = \frac{\text{CFFO Before Interest and Taxes}}{\text{Total Assets}}$$

18.

$$\text{Internal Generation of Cash Available to Creditors and Investors} = \frac{\text{CFFO}}{(\text{Total Debt} + \text{Stockholders' Equity})}$$

$$19. \text{ Return to Stockholders} = \frac{\text{CFFO}}{\text{Stockholders' Equity}}$$

$$20. \text{ Long Term Debt Coverage} = \frac{\text{CFFO}}{\text{Long Term Debt}}$$

$$21. \text{ Interest Payment Coverage} = \frac{(\text{CFFO} + \text{Interest Payment})}{\text{Interest Payment}}$$

$$22. \text{ Fixed Charges Coverage} = \frac{(\text{CFFO} + \text{Fixed Charges})}{\text{Fixed Charges}}$$

Mills and Yamamura (1998:55-58) improved the ratios 23- 27:

$$23. \text{ Operating Cash Flow} = \frac{\text{CFFO}}{\text{Current Liabilities}}$$

¹ Ferris and Others, 1992:219.

² Louderback and Others, 1993:336.

³ The ratio is also shown as "Cash Flow Per Share = Net Cash Flow From Operations/The Number of Shares Outstanding (Institute of Management Accountants, 1994:18).

$$24. \text{Cash Interest Coverage} = \frac{(CFFO + \text{Interest Paid} + \text{Taxes Paid})}{\text{Interest Paid}}$$

$$25. \text{Cash Current Debt Coverage} = \frac{(CFFO - \text{Cash Dividends})}{\text{Current Debt}}$$

$$26. \text{Capital Expenditure} = \frac{CFFO}{\text{Capital Expenditure}}$$

$$27. \text{Total Debt} = \frac{CFFO}{\text{Total Debt}}$$

Bernstein (1989:566-567) improved the ratio 28:

$$28. \text{Cash Flow Adequacy} = \frac{CFFO}{(\text{Capital Expenditure} + \text{Inventory Increase} + \text{Cash Dividend})}$$

The cash ratios is important to learn how the company is managing its cash flows, how its operations is creating cash, how it is paying dividends, interest, and debt etc. The ratios help understanding strong and weak sides of the company' cash management. After the cash flow ratio analysis, the finance manager carries out cash improvement activities.

2.5 Cash Improvement Activities

Businesses can improve their cash management doing activities such as decreasing cash cycle, improving cash dividends, fixing cash amount can be paid to claimers during financial restructuring, using new payment systems, improving payments to business's employees, managing its cash regarding for product life cycle, using cash management in iflationary periods differently, managing its foreign exchange effectively, improving good relations with banks, doing barter trade, using leasing method during acquisition its non-current assets, using subsidies efectively and timely, selecting true depreciation method, coordinating its cash flows from capital investments with its cash management, using cash break-event point calculation, and updating cash decision support system.

3. A NEW CORPORATE CASH MANAGEMENT DEFINATION

The cash management model arose a new cash management defination. I think that new concepts in the model requires a new defination because available cash management definations cover their own cash management insights. The new cash management defination is "analysing corporate cash using data from financial statements, improving it, investing it by classifying cash surplus as free cash and dependent cash and financing cash gap coordinating with the other subdepartments of finance, the other functional departments, and international and natinal economic, financial, legal, and social environments".

The functions of cash managemet could be fixed as follows:

- Cash flow analysis
- Cash improving activities
- Calculating free cash and dependent cash
- Free cash management
- Dependent cash management
- Financing cash gap

4. CONCLUSION

Social sciences improves in the connection with the society, its needs, and its wants. Cash management field of finance has been improved since its beginning. Boumol, Miller- Orr models etc. were a beginning for cash management models. Their aims were to fix the optimal cash level a company should keep. Actually, to fix optimal cash level is necessary for cash management ; however, it is not enough for an efficient cash management. International economic and financial environment affect the cash management. National economic and financial environment affect the cash mangement. Financial statements could be used for cash management. New financial vehicles should be used in cash management. Free cash distinction is important to seperate the cash operating activities needs and the cash strategic and growth needs.

The new cash model carries out these needs pratically. Financial manager and finance people need to be more informed and educated about international economy, international finance, accounting, law, sociology and should watch new improvements in economies and societies. Cash management is a smart duty in the corporations. The most qualified people the company has should be assigned for the cash management.

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