

Working capital management essay sample

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Efficient working capital management is an integral component of the overall corporate strategy to create shareholder value. Working capital is the result of the time lag between the expenditure for the purchase of raw materials and the collection for the sale of the finished product. The continuing flow of cash from suppliers to inventory to accounts receivable and back into cash is usually referred to as the cash conversion cycle. The way in which working capital is managed can have a significant impact on both the liquidity and profitability of the company. Smith (1980) first signaled the importance of the trade-offs between the dual goals of working capital management, i. e., liquidity and profitability. In other words, decisions that tend to maximize profitability tend not to maximize the chances of adequate liquidity. Conversely, focusing almost entirely on liquidity will tend to reduce the potential profitability of the company.

Measures of Working Capital Management Efficiency and Their Relationship to Corporate Profitability

The (Weighted) Cash Conversion Cycle

The most conventional measures of corporate liquidity are the current ratio and the quick ratio. Because of the static nature, their adequacy in examining a firm's efficiency in managing its working capital has been questioned by many authors (see, for example, Emery, 1984; and Kamath, 1989). Liquidity for the on-going firm is not really dependent on the liquidation value of its assets but rather on the operating cash flow generated by those assets. Gitman (1974) introduced the cash cycle concept as a crucial element in working capital management. The total cash cycle is

defined as the number of days from the time the firm pays for its purchases of the most basic form of inventory to the time the firm collects for the sale of its finished product. Richards and Laughlin (1980) operationalized the cash cycle concept by reflecting the net time interval between cash expenditures on purchases and the ultimate recovery of cash receipts from product sales.

The Cash Conversion Cycle (CCC) is an additive measure of the number of days funds are committed to inventories and receivables less the number of days payments are deferred to suppliers. Gentry, Vaidyanathan, and Lee (1990) developed a modified version of the CCC called the Weighted Cash Conversion Cycle (WCCC), which scales the timing by the amount of funds in each step of the cycle. The weights are calculated by dividing the amount of cash tied up in each component by the final value of the component.

Therefore, the WCCC includes both the number of days and the amount of funds that are tied up at each stage of the cash cycle.

The Net Trade Cycle

Although the WCCC provides a better appreciation of the complexities of the cash cycle, in this study, we use the Net Trade Cycle (NTC). First, the break-up of inventories into its three main components, i. e., raw materials, work-in-progress, and finished goods, is not readily available for the outside investigator; consequently we cannot calculate the WCCC. Second, the CCC is an additive concept, but unfortunately the denominators for the three components (i. e., number of days inventories, accounts receivable, and accounts payable) are all different, making addition not really useful. In contrast, the NTC is basically equal to the CCC whereby all three components

are expressed as a percentage of sales. The NTC actually indicates the number of “ days sales” the company has to finance its working capital under ceteris paribus conditions.

This instrument provides an easy estimate for additional financing needs with regard to working capital expressed as a function of the projected sales growth. For example, assuming that Wal-Mart’s sales would again grow with 13% during 1996 as they did over 1995, and assuming the same 40 days NTC, this would imply a \$1. 19 billion financing need just for working capital requirements, i. e., $(40/360) * \$82.5 \text{ bi.} * 0.13$. Third, the objective of this paper is to examine the relationship between the efficiency of working capital management and the firm’s overall profitability. A refined method of CCC calculation, such as the WCCC, is not needed for this purpose. The length of the firm’s NTC is used as a measure of working capital management efficiency.

The NTC is also closely related to the issue of firm valuation and creation of shareholder value. The shorter the NTC, the higher the present value of the net cash flow generated by the assets and thus, the higher the value of the firm for its shareholders. Likewise, the shorter the NTC, the more efficient the firm is in managing its working capital, the lower the need for external financing and the higher its financial performance. We, therefore, anticipate an inverse relationship between the firm’s NTC and its profitability.

Sample and Descriptive Statistics

The sample firms were collected from the Compustat annual industrial and full coverage files with the research files for the period 1975-1994. Stock
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prices and returns are collected from the 1995 Center for Research in Securities Prices (CRSP) tape. Financial and utility companies have been deleted from the sample and so was any firm year with missing values and/or redundant firm years, leaving us initially with a total of 58,985 firm-year records. However, we are concerned that the following analysis may be dominated by influential observations and data errors as pointed out by Fama and French (1998). Therefore, following Fama and French (1998), each year we treat as missing values 0.5% of the observations in each tail of the distribution of each variable.

The NTC is calculated using the following formula: $(\text{inventory} + \text{accounts receivable} - \text{accounts payable}) * 365 / \text{sales}$. Profitability is measured by operating income plus depreciation related to total assets (IA) and to net sales (IS). To adjust these accounting measures of profitability for risk, we also calculated Jensen's Alpha (ALPHA) and the Treynor Index (TI). In addition, we also calculated the current ratio (current assets over current liabilities), sales growth (this year's sales over previous year's sales minus one), and the debt ratio (total debt over total assets) for each firm year.

Excluding extreme values at both ends of the distribution obviously closes the gap between mean and median values. The mean and median NTC are 90 days and 86 days, respectively. The current ratio, a more conventional measure of corporate liquidity, showed a mean value of 2.5 and median value of 2.1 and sales growth was on average 14%. Profitability was on average 15% and 13% with regard to respectively total assets and net sales. The debt ratio had a mean and median value of 51% for all sample firm years. The large disparity between mean and median values for the

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constituent parts of the NTC illustrates the dramatic variation in turnover ratios among the sample firms.

Conclusion

Working capital management is only part, but for many firms a very important component of financial management. The NTC offers an easy and useful way to check the efficiency of managing the firm's working capital. It has been shown, using a large Compustat sample of 58, 985 firm years covering the period 1975 - 1994, that a strong negative association exists between the firm's NTC and its profitability. Individual firms' stock returns are also significantly negatively correlated with the length of the firm's net trade cycle. Considering the negative relationship between debt and market value, the true benefits from constricting the NTC come from reduction in assets rather than by increases in payables. Reducing the firm's net trade cycle to a reasonable minimum is one way to create shareholder value and should be a major concern for financial executives.

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