

Corporate Working Capital Management Practices in the Backdrop of Recent Global Recession: A Comparative Evaluation

*Priyansha Mahajan

**Dr. Fulbag Singh

Abstract

The Global Recession (2008) that had its roots in U.S. subprime crisis has been documented in many of the latest research papers as by far the deepest global recession since the great depression. This crisis that initially seemed to be localized in the U.S. financial system exploded into a severe global recession percolating through the international trade, financial flows and commodity prices to other countries around the globe on account of interdependence and synchronization among them. These disruptions spilled-over to corporate sector in India reflecting through their reduced sales and cascade onto their profits. Consequently, to deal with the disruptions following the global recession, companies are likely to alter their day-to-day operational decisions in terms of working capital management practices. In this backdrop, the present paper makes a comparative evaluation of working capital management practices of Indian companies during pre-slowdown period and slowdown period.

Keywords: *Sub-prime Crisis, Economic Recession, Economic Slowdown and Working Capital Management Practices.*

Theoretical Framework

The Global Recession (2008) that had its roots in U.S. subprime crisis has been documented in many of the latest research papers as by far the deepest global recession since the great depression. This crisis that initially seemed to be localized in the U.S. financial system exploded into a severe global recession percolating through the international trade, financial flows and commodity prices to other countries around the globe on account of interdependence and synchronization among them. The countries that are open to international trade, their exports are likely to get adversely affected by the external demand shocks in case the countries that constitute their export destination are undergoing an economic recession. However, if it is the case of a general recession having a global reach (recent global recession as an instance), the worldwide macroeconomic instability and uncertainty elicit an acute loss of confidence and pessimism among consumers and raise doubts regarding the possibility and timing of economic recovery. Resultantly, it leads to the collapse of domestic demand as well because people curtail their consumption to be able to save more and be better prepared for even the worst. The composite outcome of the decline in exports as well as domestic demand is that eventually the corporate sector has to bear its spill-over effects in terms of declined product demand reflecting through their reduced sales and cascade onto their profits. Consequently, to deal with the disruptions following the global recession, companies are likely to alter their day-to-day operational decisions in terms of working capital management practices.

The present research paper is organized as follows. The second section presents a brief elucidation of the empirical works on the subject. The third section illustrates the econometric approach adopted in the study. The fourth section presents the comparative evaluation of working capital management practices of Indian companies during pre-slowdown period (2005-06 to 2007-08) and slowdown period (2008-09 to 2009-10). The final section summarizes

and concludes the empirical findings of the paper.

Review of Literature

Working capital refers to the firm's investment in current assets which are held to carry on production and achieve sales. This concept of working capital is commonly known as gross working capital and focuses attention on two aspects of current assets' management i.e. determining optimum level of current assets warranted by particular units of output/sales and financing pattern of current assets. Current assets of a firm are supported by long-term sources of finance, short-term bank financing and spontaneous current liabilities i.e. trade creditors (Chandra, 1992 p.252). Based upon the mix of long-term and short-term financing, the firms may follow matching, conservative or aggressive approaches to finance its current assets. Net working capital i.e. the excess of current assets over current liabilities indicates the extent to which current assets have been financed from long term sources of funds. Working capital management is concerned with both the adequacy of current assets and level of risk posed by current liabilities (Hampton, 2006 p.177). The current assets should be sufficiently in excess of current liabilities to constitute a margin or buffer for maturing obligations within the ordinary operating cycle of a business (Pandey, 2013 p.657). Therefore, adequacy of current assets in conjunction with their efficient management virtually determines the solvency or liquidation of a firm. Pandey, 2013 p.658 states, "Firms maintaining an adequate investment in current assets will have no difficulty in paying off creditors, as and when due, and will be able to ensure smooth production and fill sales orders. However, to the extent the investment in current assets is idle, the firm's profitability will suffer".

Working capital management has been regarded as one of the cornerstones of business continuity and operates as a buffer against the tightened credit during economic crises (Kesimli and Gunay, 2011). Nevertheless, the recent economic downturn with crimping consumer demand put squeeze on

¹Assistant Professor, Sri Aurobindo College of Commerce and Management, Ludhiana.

²Professor, Department of Commerce, Guru Nanak Dev University, Amritsar.

the corporate revenues and profit margins and thereby, affected the most important source of working capital (Enqvist et al., 2013). In this regard, Correa and Looty (2010) found that firms from six countries of Eastern Europe and Central Asia relied more on their internal sources to finance working capital as a reaction to the global financial crisis. Unfavourable economic conditions compel the firms to alter their practices with respect to inventory, accounts receivables, accounts payables and thereby, causing the firms to use more or less working capital (Duggal and Budden, 2012). The study conducted by Kesimli and Gunay (2011) analysed that the crisis affected the working capital management practices of the companies in Istanbul. Duggal and Budden (2012) found that companies retained more cash and cash equivalents indicating a shift in the efficient frontier during global recession.

Another strand of literature suggests that firms may use a mix of short-term and long-term funds to finance their working capital needs but the shrinkage of these sources of funds during economic crisis make the working capital financing difficult (Tong and Wei, 2008). However, when firms allocate more of their internally generated funds to finance working capital, fewer resources become available for investments in new equipments, labour training, and Reserach & Development, which in turn tends to curb firms' productivity as well as profitability (Correa and Looty, 2010). Not only this, the recent global economic crisis strained cash flows of companies on account of non availability of working capital, thereby leading to shrinkage of operations, postponement of capital expansion plans to different markets, etc. (Kesimli and Gunay, 2011 and Mwangi et al., 2014). Working capital management decisions are strategic in nature because they affect the firm's profitability and firm value (Kestens et al., 2008, Vural et al., 2012 and Wu, 2012). Enqvist et al. (2013) using a dataset of Finnish companies over eighteen years found that the impact of business cycles on relationship between working capital management and firms' profitability became more pronounced in economic downturns relative to economic booms. Kesimli and Gunay (2011) articulated that the companies optimally managing their working capital during recession came out stronger post-recession. The authors further add that it is easier to forecast working capital needs and manage liquidity during boom while the real test comes during bust. In this backdrop, it is likely for the companies in India to alter their working capital management practices in the aftermath of global recession.

Database and Research Methodology

Objective of the Study

The main aim of this research paper is to comparatively analyse the changes in working capital management practices of companies in India during slowdown period relative to the pre-slowdown period.

Sources of Data Collection

In order to achieve the aforementioned objective of the

study, the secondary data with respect to financial performance have been collected from Prowess database of CMIE (Centre for Monitoring Indian Economy), Ace Equity database of Accord Fintech Private Ltd., Capitaline Plus database maintained by Capital Market Publishers India Ltd. and Annual Reports of the sampled companies.

Period of the Study

The study covers a time frame of five years beginning from financial year 2005-06 to financial year 2009-10 bifurcated into pre-slowdown period and slowdown period, embracing a time period of FY 2005-06 to FY 2007-08 and FY 2008-09 to FY 2009-10 respectively. The pre-slowdown period encompasses the years in which the Indian economy achieved double digit GDP growth rate and the slowdown period comprises the years witnessing slowdown in the GDP growth rate.

Sample Selection

The present study employs a combination of two probability sampling techniques i.e. Proportionate Stratified Random Sampling and Systematic Sampling in order to select a representative random sample from the sampling frame. Firstly, the sampling frame has been bifurcated into various strata. The various industrial groups in manufacturing sector (recession hit) evidencing a decline in the growth rate during the FY 2008-09 as compared to FY 2007-08 have been assigned as different strata. In addition to it, the IT sector itself has been chosen as a stratum, being hit by global recession. Secondly, only the BSE or NSE listed companies have been included in the selected strata. Thirdly, the relative sales growth of listed companies identified under various strata has been calculated by computing the relative sales growth ratio. The relative sales growth has been computed as the ratio of firm's average sales growth in the slowdown period to the average sales growth in the immediately preceding pre-slowdown period. Fourthly, the listed companies under the respective strata have been sorted in the ascending order of their relative sales growth. Further, in order to select a sample of 250 companies, the number of companies to be selected from each stratum has been decided on the basis of proportionate stratified sampling. Finally, the number of companies to be selected from each stratum has been chosen by employing systematic random sampling.

Research Design

The present study uses ratio analysis to analyze the changes in corporate working capital management practices during the slowdown period as compared to the pre-slowdown period. Various working capital ratios/variables used for analysis are liquidity ratios (current ratio, quick ratio and absolute liquidity ratio), turnover ratios (inventory turnover ratio, debtors turnover ratio, creditors turnover ratio and working capital turnover ratio), operating cycle and operating expenses coverage ratio. In an attempt to examine whether there is any significant difference in the working capital management practices of companies in slowdown period (2008-09 to 2009-10) from that of pre-slowdown period

(2005-06 to 2007-08), paired samples t-test has been employed. A brief outline of working capital ratios used in the analysis has been given in the following section.

Variables Employed and Hypotheses Framed

Liquidity Ratios

The first set of ratios employed to analyze the changes manifested in working capital management practices is liquidity ratios. The liquidity ratios measure the ability of a firm to meet its short-term obligations and can help in gaining insights into its ability to remain solvent in the event of adversities (VanHorne, 2002 p.369). The ratios used to analyze the short-term liquidity position of a firm are current ratio, quick ratio and absolute liquidity ratio. The current ratio indicates as to how much rupees of current assets are available against each rupee of current liabilities. Quick ratio measures the adequacy of quick assets (current assets excluding inventory and prepaid expenses) to satisfy the current liabilities. Another version of quick ratio is to take quick liabilities as denominator instead of current liabilities. However, the former version has been used so as to keep the same denominator as that of current and absolute liquidity ratios. The absolute liquidity ratio represents the most rigorous and conservative test of firm's liquidity position by including only the absolute liquid current assets i.e. cash and cash equivalents. The liquidity ratios do not indicate the quality of current assets. Since current assets may consist of slow-paying debtors or slow-moving inventory, these ratios are used in conjunction with turnover ratios. The following formulae have been employed to compute the liquidity ratios:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Quick Ratio} = \frac{\text{Current Assets} - (\text{Inventory} + \text{Prepaid Expenses})}{\text{Current Liabilities}}$$

$$\text{Cash Ratio} = \frac{\text{Cash and Bank Balance} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

In the present context, the liquidity ratios have been employed to analyze the significant differences, if any, in the liquidity position of the companies during slowdown period as compared to pre-slowdown period. The hypothesis to be tested here is as follows:

H₀1: There is no statistically significant difference between the liquidity ratios of companies during pre-slowdown period and slowdown period.

Turnover Ratios

The second set of ratios employed to analyze the changes in working capital management practices is turnover ratios. The turnover ratios are employed to evaluate the efficiency with which the firm manages and utilizes its current assets and current liabilities. Four turnover ratios namely, inventory turnover ratio, debtors turnover ratio, creditors turnover ratio and working capital turnover ratio have been used for analysis. The inventory turnover ratio indicates how quickly

the inventory gets converted into sales. A high inventory turnover ratio is recommended as it indicates that inventory is swiftly turning over into sales whereas low inventory turnover ratio implies excessive inventory level than warranted by production and sales activities and amounts to unnecessary tied-up funds, increased costs and reduced profits (Pandey, 2013 p.590). Debtors turnover ratio measures the number of times receivables turn over in a year and a high debtors turnover is indicative of efficient management of credit and rapid collection. Creditors turnover ratio indicates the extent to which trade creditors (including bills payable) are willing to wait for payment and act as a short-term source of finance known as suppliers' credit (Khan and Jain, 2013 p.6.9). While computing debtors and creditors turnover ratios, credit sales and credit purchases should have been taken as a numerator instead of net sales and net purchases respectively. Since no bifurcation was available in the corporate databases with respect to credit and cash sales/purchases, net sales and net purchases have been taken as a numerator to compute debtors and creditors turnover ratios respectively. Lastly, working capital turnover ratio indicates as to how efficiently a firm is using its current assets (gross working capital) to generate sales. A high working capital turnover implies that more rupees sales are generated in comparison to the short-term resources used to fund the sales. The following formulae have been employed to compute the turnover ratios:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods sold}}{\text{Average Inventory}}$$

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Receivable}}$$

$$\text{Creditors Turnover Ratio} = \frac{\text{Net Purchases}}{\text{Average Payable}}$$

$$\text{Working Capital Turnover Ratio} = \frac{\text{Net Sales}}{\text{Gross Working Capital}}$$

In the present context, the turnover ratios have been employed to analyze as to how the inventory, receivables, creditors and working capital turned over during the slowdown period as compared to the pre-slowdown period. The hypothesis to be tested here is as follows:

H₀2: There is no statistically significant difference between the turnover ratios of the companies during pre-slowdown period and slowdown period.

Operating Cycle

Operating cycle (net) implies the continuing flow from cash to suppliers to inventory to accounts receivables and back to cash. It is also referred to as Cash Conversion Cycle which is defined as the time interval between cash disbursements to creditors for purchase of material and cash collection from debtors against sale of finished goods. Brigham (1985) p.735 explains, "The firm's goal should be to

shorten the cash conversion cycle so as to improve its profits because the longer the cash conversion cycle, the greater the need for external financing, and such financing has a cost to the firm". In the aftermath of economic downturn, companies are likely to alter their credit practices, inventory management policies and can even make more use of suppliers' credit. As a result, the gross as well as net operating cycles of the companies are probable to change. The following formulae have been employed to compute the operating cycle:

$$\text{Gross Operating Cycle} = \text{Raw Material Cycle} + \text{Work - in -Progress Cycle} + \text{Finished Goods Cycle} + \text{Debtors Collection Period}$$

$$\text{Net Operating Cycle} = \text{Gross Operating Cycle} - \text{Payable Deferral Period}$$

In the present context, the operating cycle has been computed and compared during the slowdown period and pre-slowdown period by employing paired samples t-test. The hypothesis to be tested here is as follows:

H₀3: There is no statistically significant difference between the operating cycle of the companies during pre-slowdown period and slowdown period.

Operating Expenses Coverage Ratio

This ratio estimates the number of days that a company can pay for its business operations with cash and cash equivalents. A high ratio indicates that the company can pay for its operations for a longer time period with its cash and cash equivalents and vice-versa. The following formula has been employed to compute the ratio:

$$\text{Operating Expenses Coverage Ratio} = \frac{\text{Cash and Bank Balance} + \text{Marketable Securities}}{\text{Operating Expenses} / 365}$$

In the present context, operating expenses coverage ratio has been computed and compared during the slowdown period and pre-slowdown period by employing paired samples t-test. The hypothesis to be tested here is as follows:

H₀4: There is no statistically significant difference between the operating expenses coverage ratio of the companies during pre-slowdown period and slowdown period.

Empirical Results and Discussion

To test the above mentioned hypotheses within the framework of working capital management practices, paired samples t-test has been applied and results of the same have been presented through the following tables.

Table 1
Comparative Analysis of Liquidity Ratios of Selected Companies in India during Pre-Slowdown Period and Slowdown Period

S.No.	Liquidity Ratios	Paired Samples t-test		
		Mean	t-value	Sig. (2-tailed)
1.	Current Ratio (times)			
	Pre-Slowdown Period	2.36	-2.24	0.028
	Slowdown Period	1.86		
2.	Quick Ratio (times)			
	Pre-Slowdown Period	1.67	-1.92	0.077
	Slowdown Period	1.23		
3.	Absolute Liquidity Ratio (times)			
	Pre-Slowdown Period	0.69	-2.80	0.055
	Slowdown Period	0.49		

Source: Authors' Computations

The first set of ratios to analyze the changes in working capital management practices has been liquidity ratios. Table 1 reveals that the current ratio decreased from an average 2.36 times in the pre-slowdown period to 1.86 times during the slowdown period. It highlights the fact that the companies could not maintain the rule of thumb of 2:1 current assets to current liabilities during the slowdown period. However, the change in the ratio during two periods has been found to be significant at 5% level of significance. Quick ratio declined from 1.67 times during the pre-slowdown period to 1.23 times during slowdown period and the decline is statistically significant at 10% level of significance. It highlights that although the quick ratio fell down during slowdown period from its pre-slowdown level, yet it was adequately more than the rule of thumb. Further, absolute liquidity ratio also declined from 0.69 times during the pre-slowdown period to 0.49 times during slowdown period, which is significant at 10% level of significance. It demonstrates that against rupee one of current liability, 0.49 rupee was available in cash and cash equivalents during the slowdown period. It is worth mentioning here that companies approximately maintained the rule of thumb of 0.5:1 absolute liquid assets to current liabilities during the slowdown period.

Table 2
Comparative Analysis of Turnover Ratios of Selected Companies in India during Pre-Slowdown Period and Slowdown Period

S.No.	Turnover Ratios	Paired Samples t-test		
		Mean	t-value	Sig. (2-tailed)
1.	Inventory Turnover Ratio (times)			
	Pre-Slowdown Period	12.8	-2.99	0.032
	Slowdown Period	7.4		
2.	Debtors Turnover Ratio (times)			
	Pre-Slowdown Period	8.8	-3.05	0.01
	Slowdown Period	6.2		
3.	Creditors Turnover Ratio (times)			
	Pre-Slowdown Period	8.75	-0.973	0.332
	Slowdown Period	7.32		
4.	Working Capital Turnover Ratio (times)			
	Pre-Slowdown Period	3.35	-2.46	0.039
	Slowdown Period	0.93		

Source: Authors' Computations

The second set of ratios employed to analyze the changes in working capital management practices has been turnover ratios. Table 2 shows that inventory turnover ratio declined from an average 12.8 times during the pre-slowdown period to 7.4 times during the slowdown period which is significant at 5% level of significance. It highlights the fact that finished goods turned over slowly into sales during the slowdown period relative to pre-slowdown period. Debtors turnover ratio also declined from 8.8 times during the pre-slowdown period to 6.2 times during slowdown period, which is significant at 1% level of significance. The lower debtors turnover ratio during the slowdown period highlights that the debtors took more time in payment of their outstanding dues. Creditors turnover ratio decreased from 8.75 times to 7.32 times during the pre-slowdown period and slowdown period respectively. The decline in ratio shows that companies used more suppliers' credit during the slowdown period as compared to pre-slowdown period. However, the decline has not been found to be statistically significant at even 10% level of significance. Working capital turnover ratio declined considerably from 3.35 times to 0.93 times during the pre-slowdown period and slowdown period respectively, which is significant at 5% level of significance. It reveals that lesser sales were generated against the working capital employed during slowdown period.

Table 3
Comparative Analysis of Operating Cycle and Expense Coverage of Selected Companies in India during Pre-Slowdown Period and Slowdown Period

S.No.	Operating Cycle and Expense Coverage	Paired Samples <i>t</i> -test		
		Mean	<i>t</i> -value	Sig. (2-tailed)
1.	Gross Operating Cycle (days)			
	Pre-Slowdown Period	128	3.659	0.008
	Slowdown Period	167		
2.	Net Operating Cycle (days)			
	Pre-Slowdown Period	87	3.051	.0420
	Slowdown Period	116		
3.	Operating Expenses Coverage Ratio (days)			
	Pre-Slowdown Period	157	-4.870	0.002
	Slowdown Period	109		

Source: Authors' Computations

Table 3 shows that gross operating cycle increased from 128 days during the pre-slowdown period to 167 days during slowdown period, which is statistically significant at 1% level of significance. As far as cash conversion cycle (net operating cycle) is concerned, it increased from 87 days to 116 days during the pre-slowdown period and slowdown period respectively. The increase in the operating cycle during slowdown period is also significant at 5% level of significance. It reveals that the sampled companies had to finance their net operating cycle by another one month through external financing during slowdown period. The difference between gross and net operating cycles equals

payables deferral period. Their comparison during two periods highlights that payables deferral period increased during the slowdown period. Lamberg and Valming (2009) state that in the event of liquidity crisis, the firms may defer their payments to creditors but the same may prove detrimental to companies and can result worse credit terms in future. The table further reveals that operating expenses coverage ratio declined from 157 days to 109 days during pre-slowdown period and slowdown period respectively. The change is highly significant at 1% level of significance. It shows that the number of days that a company can pay for its business operations with cash and cash equivalents declined during the slowdown period.

Conclusion and Implications

Present research work has been carried out to compare the working capital management practices of companies during pre-slowdown and slowdown period. The comparative analysis of working capital management practices reveals that the short-term liquidity position of companies during slowdown period had not been as good as pre-slowdown period. Secondly, turnover ratios declined significantly during the slowdown period pointing towards slow-moving inventory as well as debtors, increase in suppliers' credit, lesser sales generation against working capital and elongated gross as well as net operating cycles. In the foregoing backdrop, companies need to modify their credit policies during economic downturn. Firstly, selective credit administration becomes indispensable on their part. Companies have to keep a close eye on the creditworthiness of their customers. The customers that have been irregular in making payments even during good economic times can pose more threat during an economic downturn. Therefore, stringent credit conditions should be put in place for such customers. Undoubtedly, lenient credit policies can fetch more sales to the companies but during economic downturn risk of bad debts upsurges. In addition to it, companies have to undertake rigorous collection of receivables in the times of economic downturn. Further, while at no point of time, firm can escape payment to its suppliers; however, trade credit can be optimally utilised by making payment to the suppliers on due date during difficult economic times. For the reason that economic downturn is unanticipated, companies need to be financially prudent, cautious and farsighted in the very years of economic boom so as to become capable enough to face uncertainties posed by economic recession and can easily navigate through the same.

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