Chapter–8
SUMMARY OF FINDINGS AND SUGGESTIONS
Chapter–VIII

SUMMARY OF FINDINGS AND SUGGESTIONS

8.1 The Prelude:

One of the most strategic issues in modern corporate finance is working capital management. This discussion, mostly ignored by academics until recent years, becomes extremely important when company expands beyond the boundaries of efficient financial markets. Most models in corporate finance understand a company as a set of assets financed by either financial debt or equity. Even though this standard framework is useful for analyzing many financial decisions, it might be misleading to guide the crucial decision of how to define and finance the operating investments of a company. Although it is difficult to determine how much working capital is needed by a particular company, yet it is very essential to analyze and find out problems and solutions to make effective use of current assets and current liabilities for minimizing risk and maximizing the profitability. The mismanagement of working capital will lead to loss of profit in the short run and ultimately lead to the closure of the company in the end. An excessive investment in working capital minimizes the rate of return while inadequate investment hampers the solvency position and growth, thereby affecting the operation of business.

Therefore, this study is concentrated to the working capital management of Indian pharmaceutical companies. More specifically, this study examines the composition, size, velocity, impact, trend, utilization, liquidity position and financing of working capital and its components. In addition, the relationship between working capital management and profitability and determinants of working capital and its components have also been examined in this study.

The study also covers comparison of various aspect of working capital management of all pharmaceutical companies which is listed in NSE pharma index (Aurobindo Pharma Ltd., Cadila Healthcare Ltd., Cipla Ltd., Divi'S Laboratories Ltd., Dr. Reddy'S Laboratories Ltd., Glaxosmithkline Pharmaceuticals Ltd., Glenmark Pharmaceuticals Ltd., Lupin Ltd., Piramal Enterprises Ltd. and Sun Pharmaceutical Inds. Ltd.), so that the entire scenario of industry in India is understood.

For the purpose of the study, the required data have been collected for the period of fourteen years starting from 1999-2000 to 2012-2013. In order to
accomplish the objectives the collected data have been analyzed by using financial ratio analysis as a tool for examining composition, size, velocity, trend, utilization, liquidity position and financing of working capital and its components. Moreover, panel regression analysis has been done to know the impact of components of working capital. To examine the relationship between working capital management and profitability panel regression analysis has been employed.

8.2 Summary of Findings:

The summary of main findings of the study is as under:

(i) Inventory Management

From the study of inventory management, it was found that on the basis of amount of inventory Cipla Ltd. is the biggest company among Indian pharmaceutical companies. In other companies the growth of Divi'S Laboratories Ltd. more impressive than others, which was at 9th position at starting of study period i.e. 2000 but 2014 it has reached at 2nd position. Whereas Cipla Ltd. registered Number one position throughout the study period. Industry average of inventory has grown more three times.

The size of inventory is showing the industry average of Indian pharmaceutical companies is 38.34%, which may be ideal ratio for pharmaceutical companies in India. The highest inventory to current assets ratio can be seen in Divi’s Laboratories which is near about 56% of inventory in total current assets. The lowest inventories to current assets ratio is maintained by Dr. Reddy'S Laboratories Ltd., it has 25.81% overall inventories to current assets ratio. The inventories to current assets ratio of Cipla Ltd. is always higher than industry average, it has been moving from 40.77% to 63.13% throughout of the study period and its annual average is 51.94%.

The ratio of industry average shows declining trend as it declined from 47.67% to 32.69%.

The industry average of inventory to current liability is 125.6%. The industry average of inventory to current liability ratio is fluctuated throughout the study period. The highest inventory to current liability is recorded by Divi’s Laboratories Ltd. on an overall average 210.7% and lowest of Piramal Enterprises Ltd. at 76.0%, Cipla Ltd. is at second position for this ratio as it is 170.8% as an overall average throughout the study period. Cipla Ltd. has shown opposite trend than the industry average, it has increased from 165.1% of 2000 to 195.2% of 2013.
The inventory turnover ratio of Indian Pharmaceutical companies shows the industry average is 3.45 times. The highest inventory turnover ratio of Glaxosmithkline Pharmaceuticals Ltd. with an average of 4.67 times and lowest is of Divi’s laboratories Ltd. with 2.04 time as an annual average. The inventory turnover ratio of Cipla Ltd. is moving between 1.68 times to 2.62 times, Piramal Enterprises Ltd. has recorded second highest inventory turnover ratio of 4.38 times. During 2010 to 2014 inventory turnover ratio of Cipla Ltd. is moving between 2.23 to 2.62 times. The table 4 shows that the inventory turnover ratio of Cipla Ltd. is not quite good. It is lower than the industry average.

The industry average of inventory conversion period is 118 days (approx). On the basis of industry average Divi’s Laboratory Ltd. is taking most time of 189 days (approx) in conversion of inventory, whereas Glaxosmithkline Pharmaceuticals Ltd. has shown the best performance as it takes just 79 days (approx) in inventory conversion. Cipla Ltd. stands at 9th position in inventory conversion period. It takes 164 days (approx) in inventory conversion, Cipla Ltd. has improving his performance last five years from 164 days in 2011 to 139 days in 2014.

Regression 1 shows the adjusted R-squared explain 33.44% of the variation in profitability

While the coefficient of inventories variable is negative in this regression, but the coefficient is not significantly different from zero. The coefficients of the other variables included in the model are significant, except for GEAR and LNSales. The firms’ profitability as measured by ROTA increases with firms’ size, gross working capital efficiency, and with a lesser aggressiveness of asset management. This is contrary to the traditional theory of asset management, where a conservative policy is expected to sacrifice profitability at the expense of liquidity. As reveals by the study of Deloof (2003), the capital structure has a negative impact on profitability; except for our findings the coefficient of financial debt is significant at 5% level. The aggressive financing policies observes for the sample firms, which is expected to contribute positively to profitability have revealed otherwise. This is a commonly observed feature of the sample firms and this has the tendency of increasing the risk of a short-term liquidity problem.
(i) **Cash Management**

Annual industry average of Cash and Bank balance is Rs 4008.21 million. The Divi’s Laboratories Ltd. holds minimum cash balance i.e. as an average of Rs146.69 million, where as the maximum cash is being held by Ranbaxy Laboratories Ltd. the nature of cash is much fluctuating in each pharmaceutical company. The largest fluctuation can be seen in Ranbaxy Laboratory Ltd., from the year 2007 to 2013 there are huge fluctuations in cash balances of Ranbaxy Laboratories Ltd. In Cipla Ltd. cash has increased from Rs 62.44 million in 2004 to Rs 1050.70 million. During 2004 to 2007 cash increased continuously and after 2007 with fluctuation it decrease. Maximum cash balance held by Cipla Ltd. is Rs 1314.90 million in 2007 and minimum Rs 62.44 million in 2004.

The average percentage of cash to current assets of pharmaceutical companies is 14.12%, which shows companies keep low portion in the form of cash & bank balances. The highest cash to current assets ratio is 79.57% of Glaxosmithkline Pharmaceuticals Ltd. in the year 2010 and the annual average is also highest at 36.05%. From 2008 to 2011 Glaxosmithkline Pharmaceuticals Ltd. held cash 65.17% to 79.57% that is the main reason why its annual average is highest during the study period. On the other hand Cipla Ltd. holds lowest cash balance on an average 1.73%, it is fluctuating between 0.43% to 24.64% throughout the study period.

The cash and current liability Ratio shows the overall industry average is 48.03%, which shows near about half of the current liability can be paid by cash, but this average is derived by only three companies mainly by Sun Pharmaceutical Inds. Ltd. whose average of cash to current liability ratio is 195.81%. This figure exhibit that company has double of cash than current liability. Two more company Glaxosmithkline Pharmaceuticals Ltd. and Dr. Reddy'S Laboratories Ltd. have cash balance more than half of current liability, 83.93% and 68.78% respectively. In the year 2007 the cash to current liability ratio of Sun Pharmaceutical Inds. Ltd. is 502.86%, this is the highest ratio of table 3. In the contrast 0.49% cash to current liability ratio is of Piramal Enterprises Ltd., that is the lowest figure of this table. In case of Cipla Ltd. cash to current liability ratio is moving between 0.92% in 2004 to 13.96% of 2007. On an average cash to current liability ratio of Cipla Ltd. is 5.34%. From the table 3 it is found that the liquidity position of Sun Pharmaceutical Inds. Ltd. is better than other companies.
The average cash turnover ratio of pharmaceutical companies is 75.41 times, which shows the companies keep good positions form of sales. The highest cash turnover ratio is 745.59 times of Aurobindo Pharma Ltd. in the year 2013 and the annual average is also highest 167.52 times. In 2000, 2009, 2011 and 2013 Aurobindo Pharma Ltd. held average cash turnover ratio 500.85 times that is the main reason why its annual average is highest during the study period. on the other hand Cipla Ltd. holds second largest cash turnover ratio on an average 126.37 times. The lowest cash turnover ratio in Cipla Ltd. is 27.82 times in the year 2006 and the highest cash turnover ratio in Cipla Ltd. is 329.43 times in the year 2003.

The industry average of cash from operating activity is Rs 3018.5 million. In which participation of Cipla Ltd. Is largest on an average of Rs 6871.91 million and lowest by Piramal Enterprises Ltd. That is cash used for operating activities on an average of Rs 5691.26 million. During the study period the maximum cash inflow from operating activity is registered by Cipla Ltd. in the year 2012 of Rs 16450.90 million followed by Dr. Reddy'S Laboratories Ltd. with Rs 14030.00 million in the year 2012. The maximum cash used in the operating activity by Piramal Enterprises Ltd. in the year 2011 i.e. Rs 46164.90 million. Cash from operating activities of Indian pharmaceutical companies is moving between Rs 401.04 million to Rs 7754.84 million on an average.

The industry average of cash used in investing activities is Rs 3046.52 million. The maximum average cash used in investing activities Rs 7501.03 million of Dr. Reddy'S Laboratories Ltd. and average cash from investing activities is Rs 6401.32 million of Piramal Enterprises Ltd. In the year 2011 due to huge used of cash in operating activities Piramal Enterprises Ltd. has collected Rs 93869.30 million, but in remaining study period Piramal Enterprises Ltd. has used cash in investing activities and the maximum cash used in investing activities is Rs 21037.36 million of Ranbaxy Laboratories Ltd. in the year 2006. The Indian pharmaceutical companies have used average cash in investing companies between Rs 6069.76 million to (7188.48) million. Cipla Ltd. has used average cash in investing activities Rs 1077.80 million during the study period. In Glaxosmithkline Pharmaceuticals Ltd. cash generated from investing activities is more than other companies. Except 2004 and 2012, Glaxosmithkline Pharmaceuticals Ltd. has generated cash in remaining study period.
The average cash from financing activities of Indian pharmaceutical companies is Rs 275.70 million. Maximum average cash generated from financing activities is Rs 5488.99 million of Ranbaxy Laboratories Ltd. and maximum average cash used in financing activities is Rs 3471.77 million of Glaxosmithkline Pharmaceuticals Ltd. The maximum cash used in financing activities is Rs 30320.50 million of Piramal Enterprises Ltd. in the year 2011. The maximum cash generated from financing activities is Rs 27906.26 million in the year 2008 of Ranbaxy Laboratories Ltd. Average cash generated from financing activities of Cipla Ltd. is Rs 449.13 million, which is moving between Rs 7328.3 million to Rs (4716.10) million.

The average increase of cash in Indian pharmaceutical companies is Rs 242.32 million. The maximum cash increase or decrease is of Piramal Enterprises Ltd. i.e. Rs 17383.90 million increase in 2011 and decrease of Rs 16545.30 million in 2012. But the average change in cash of Piramal Enterprises Ltd. as increase of Rs 83.35 million. On an average Glaxosmithkline Pharmaceuticals Ltd. has maximum average increase of cash is 1649.36 million and maximum average decrease in cash is Rs 776.28 million of Ranbaxy Laboratories Ltd.

Cipla Ltd. has an average increase of cash is Rs 94.45 million which is moving between the increase of Rs 870.10 million to decrease of Rs 522.10 million during the study period.

The average quality ratio of Indian pharmaceutical companies is 0.70 which is near to ideal ratio 1. The highest quality income ratio is 8.12 times in the year 2010 of Glenmark Pharmaceuticals Ltd. but the maximum average quality income ratio is 1.29 times of Glenmark Pharmaceuticals Ltd. and the minimum average quality income ratio 0.04 times of Ranbaxy Laboratories Ltd. during the study period. Few Indian pharmaceutical companies have negative quality income ratio during the study period which show the cash used in operating activities more than cash generate from the operating activities. The average quality income ratio of Cipla Ltd. is 0.62 times. The maximum quality income ratio of Cipla Ltd. is 1.16 times in the year 2012 and minimum is 0.39 times in the year 2005 & 2006. But the overall result of quality is not satisfactory.

In Regression 2, the adjusted R-squared explain 33.42% of the variation in profitability. The coefficient of CCCdays variable is negative in this regression, but
the coefficient is not significantly different from zero. The coefficients of the other variables included in the model are significant, except for GEAR and LNSales. Also, the coefficient of GEAR and CLTA variables are negative in this regression. The explanatory variables explain 33.4 percent variation in return on total assets. One percent change in ROTA increases CATA, CATURN and LNSales by 0.606 percent, 0.0488 percent and 0.0188 percent respectively. One percent change in ROTA decreases GEAR, CLTA and CCCdays by 0.115 percent, 0.681 percent and 5.302 percent respectively, which is statistically significant at 5 percent level.

(ii) Receivables Management

In the study, the average Receivables of Indian pharmaceutical industry is Rs 6705.3 million. In receivable table depicts that Glaxosmithkline Pharmaceuticals Ltd. holds minimum Receivables Rs. 377.7 millions in 2007 and an average of Rs 695.3 million, whereas the maximum Receivables is being held by Ranbaxy Laboratories Ltd. The nature of Receivables is much fluctuating in each pharmaceutical company. The largest fluctuation can be seen in Ranbaxy Laboratory Ltd., from the year 2010 to 2012 there are huge fluctuations in Receivables of Ranbaxy Laboratories Ltd. In Cipla Ltd. Receivables has increased from Rs 4982.3 million in 2004 to Rs 16452.2 million in 2013. During 2004 to 2009 Receivables increased continuously and after 2009 with fluctuation it has decreased. Maximum Receivables held by Cipla Ltd. is Rs 18371.5 million in 2009 and minimum Rs 4982.3 million in 2004.

The average percentage of receivables to currents assets of pharmaceutical industry is 29.2%. The highest Receivables to current assets ratio is 51.7% of Glenmark Pharmaceuticals Ltd. in the year 2007 and the annual average is also highest at 40.5%. In 2006 and 2007 Glenmark Pharmaceuticals Ltd. held receivables 51.5% and 51.7% that is the main reason why its annual average is highest during the study period. On the other hand Cipla Ltd. holds third largest receivables on an average 34.8%, it is fluctuating between 24.1% to 41.6% throughout the study period.

Receivables to current liability Ratio shows liquidity position of the company. Overall industry average is 82.1%, mainly Glenmark Pharmaceuticals Ltd. whose average of receivable to current liability ratio is 166.5%, Divi'S Laboratories Ltd. 110.4% and Cipla Ltd. 105.5% are the main responsible companies for this higher ratio. This figure exhibits that company has more than one and half of receivable than current liability. Two more company Divi'S Laboratories Ltd. and Cipla Ltd. have cash balance more than the current liability, 110.4% and 105.5% respectively. In
the year 2008 the receivables to current liability ratio of Glenmark Pharmaceuticals Ltd. is 251.6%, this is the highest ratio. In the contrast 4.9% receivables to current liability ratio is of Piramal Enterprises Ltd. that is the lowest figure of this table. In case of Cipla Ltd. receivables to current liability ratio is moving between 72.6% in 2003 to 132.2% of 2012.

The receivables turnover ratio is helpful to analyse the velocity of receivables in the company. It is a relationship between net sales and average receivables, the higher the ratio shows the higher the efficiency of receivables management. The industry average of Indian pharmaceutical companies is 6.86 times. The highest receivables turnover ratio of Glaxosmithkline Pharmaceuticals Ltd. at 44.90 times in 2010 and on an annual average of 29.27 times and lowest is of Glenmark Pharmaceuticals Ltd. with 1.98 time in 2006 and on an annual average of 3.09 times. The receivables turnover ratio of Cipla Ltd. is moving between 2.70 times to 4.99 times. The table 4 shows that the receivables turnover ratio of Cipla Ltd. is good.

The industry average of receivables collection period is 84 days (approx). Glenmark Pharmaceuticals Ltd. is taking most time of 181 days (approx) in 2006 and on an average is 130 days (approx) in collection of receivables, whereas Glaxosmithkline Pharmaceuticals Ltd. has shown the best performance as it takes just 8 days (approx) in 2010 and on an average is 13 days (approx) in collection of receivables. Cipla Ltd. stands at 8th position in collection period of receivables. It takes 101 days (approx) in receivables collection, Cipla Ltd. has performed well in last three years from 2010 to 2013 as it is moving between 104 days to 72 days.

In Regression 3 the adjusted R-squared explain 39.20% of the variation in profitability. In this regression, a highly significant relation is found between ROTA and number of days accounts receivable (p-value = 0.0008), which implies that an increase in the number of days accounts receivable by 1 day is associated with a decrease in profitability by 0.0018%. The coefficients of the other variables included in the model are significant, except for LNSales and the coefficient of GEAR and CLTA variables are negative in this regression. The explanatory variables explain 39.2 percent variation in return on total assets. One percent change in ROTA increases CATA, CATURN and LNsales by 0.821 percent, 0.0921 percent and 0.0115 percent respectively. One percent change in ROTA decrease GEAR and CLTA by 0.807 percent and 0.586 percent respectively, which is statistically significant at 1% and 5 % level respectively.
(iii) **Working Capital Management**

Average current assets of Indian pharmaceutical industry are Rs 23858.94 million. On the basis of average gross working capital, Ranbaxy Laboratories Ltd. has largest investment in current assets i.e. Rs 47540.9 million and lowest investment in current assets in Rs 8157.78 million of Divi'S Laboratories Ltd. Cipla Ltd. is second biggest company on the basis of average working capital with Rs 36893.44 million. Trend of working capital shows the increasing direction in all the companies but the biggest fluctuation was shown by Piramal Enterprises Ltd. in the year 2011 in which the working capital was Rs 108636.40 million from Rs 14644.80 million in the 2010.

Cipla Ltd. has registered highest growth throughout the study period from Rs 14362.30 million to Rs 68361.90 million. During the study period it is found that the trend of Ranbaxy Laboratories Ltd. and sun pharmaceutical Inds. Ltd. for working capital is different. the trend of Ranbaxy Laboratories Ltd. is much fluctuating as it has reduced from year 2011 on the other hand the trend of sun pharmaceutical Inds Ltd. reducing till 2010 and then it has increased.

The net working capital of indian pharmaceutical companies are shown net working capital is gross working capital minus current liabilities. The average net working capital of indian pharmaceutical companies is Rs 12123.8 million. On the basis of average Cipla Ltd. has largest net working capital is Rs 25106.90 million and Cadila Healthcare Ltd. lowest average net working capital is Rs 4423.8 million. The amount of net working capital in most of Indian Pharmaceutical companies had been improved during the study period but net working capital of Ranbaxy Laboratories Ltd., Piramal Enterprises Ltd. and Glenmark Pharmaceuticals Ltd. had been declining from the year of 2010, 2011 and 2011 respectively. So it can be concluded that during the study period, liquidity position of most of Indian pharmaceutical companies had been poor but last three years of Ranbaxy Laboratories Ltd. and last two years of Piramal Enterprises Ltd. & Glenmark Pharmaceuticals Ltd., liquidity position was improved.

To meet the financial requirement, a business firm has various sources. Working capital can be interpreted as the portion of long-term financing (i.e., long-term debt and equity) that the firm uses to finance its operating investment. Working capital can also be thought of as the short-term assets financed by long-term capital. Combination of long term and short term financing are normally used to support working capital.
An attempt has been made to explain the relative importance of long-term and short-term debt in financing working capital. It is evident from the table that the percentage of the long-term funds used for financing the working capital has shown the fluctuating trend during the period under study. On an average 53.53% of total working capital is financed through long term sources of fund in Indian pharmaceutical companies. The basis of annual average Sun Pharmaceutical Inds. Ltd. has financed 73.74% working capital from long term sources of fund followed by Divi’S Laboratories Ltd.’s of 68.33%. Ranbaxy Laboratories Ltd. has financed working capital only 21.05% by long term sources of fund but this figure has come out due to the year 2012 and 2013 in which the whole working capital is financed through short term source of fund, even some part of long term assets are financed through short term sources of fund as well. This condition is also shown in Piramal Enterprises Ltd.

On an average of 65.68% Cipla Ltd. has financed its working capital through long term source of fund. Through out the study period minimum financing of working capital through long term source of fund by Cipla Ltd. was 52.68% in the year 2004 and maximum 76.01% in 2012.

The size of working capital in Indian pharmaceutical companies. Concept of Gross working capital i.e. totals current assets was considered as working capital for our analysis.

Size of Working Capital (Working Capital to Sales) indicates firm’s ability to finance additional sales without incurring additional debt. It measures how well a company is utilizing its working capital to support a given level of sales.

Indian pharmaceuticals companies have 92% working capital to sales, which indicates a good position of working capital management that most of the pharmaceuticals companies in India have sufficient working capital to survive without additional requirement of fund in adverse situation. The size of working capital to sales is highest in Piramal Enterprises Ltd. on an average 1.48 times (148%), which is due to the unexpected condition in the year 2011 (6.58 times). But a constant situation can be seen in Sun pharmaceutical Inds. Ltd. in which it is moving between 0.57 times to 1.76 times.
Cipla Ltd. maintains 0.18 times size of working capital to sales, which is moving between 0.69 times to 0.89 times but throughout the study period it is below the industry average.

The size of working capital of Indian pharmaceutical companies is working capital to total assets. A decreasing Working Capital to Total Assets ratio is usually a negative sign, showing the company may have too many Total Current Liabilities, reducing the amount of Working Capital available. Indian pharmaceutical companies have 52% of working capital to total assets. On an average Glaxosmithkline Pharmaceuticals Ltd. have largest working capital to total assets is 67% and Cadila Healthcare Ltd. have lowest ratio is 39%.

(v) Impact of Working Capital Management on Profitability

The average working capital turnover ratio of Indian pharmaceutical companies is 1.35 times. The trend of working capital turnover ratio is declining throughout study period of all Indian pharmaceutical companies except Glenmark Pharmaceuticals Ltd. and Lupin Ltd. The biggest fall found in Glaxosmithkline Pharmaceuticals Ltd. as it has become 0.97 times in 2013 from 2.84 times of 2004 and the same condition can be seen in Piramal Enterprises Ltd. In which w.c.t.r. becomes 0.35 times in 2013 from 2.39 times in 2004. On the basis of average working capital turnover ratio Glaxosmithkline Pharmaceuticals Ltd. has highest turnover of working capital at 1.77 times followed by 1.75 times of Cadila Healthcare Ltd. Working Capital turnover ratio of Cipla Ltd. is moving between 1.12 times to 1.46 times during the study period. On the basis of each years working capital turnover ratio Cadila Healthcare Ltd., Cipla Ltd., Divi’S Laboratories Ltd. and Lupin Ltd. have better performance than other companies as their working capital turnover ratio is always more than 1.

Overall industry average of Operating Profit Margin is 0.33 times. Due to a huge jump in profitability of Piramal Enterprises Ltd. in the year 2011, when it becomes 10.45 times from 0.18 times of 2008. It has highest Operating Profit Margin i.e. 1.14 times. But the overall profitability on the basis of operating profit is better in Sun Pharmaceutical Inds. Ltd., which has maintained 0.43 times on an average, which is followed by Glaxosmithkline Pharmaceuticals Ltd. and Divi’S Laboratories Ltd. maintaining 0.36 times and 0.35 times respectively. Genuinely these three companies are following the industry average. The worst Operating Profit Margin is of Ranbaxy
Laboratories Ltd. whose average Operating Profit Margin is 0.03 times and average operating profit of all other companies are moving between 0.17 times to 0.22 times.

The descriptive statistics for the main variables used in this paper. Return on total assets is on average 10.4 % with Divi’S Laboratories Ltd. having the highest return of 23.1%, Glaxosmithkline Pharmaceuticals Ltd. having second highest return of 17.8% and Cipla Ltd. having third highest return of 16.4%. Indian pharmaceutical industry reported high operating profit margin. A high operating profit margin means that the Indian pharmaceutical industry has good cost control and/or that sales are increasing faster than costs, which is the optimal situation for the industry. Current ratio of Indian pharmaceutical industry is 1.79 times with Sun Pharmaceutical Inds. Ltd. having highest current ratio of 5.688 times and Glenmark Pharmaceuticals Ltd. having lowest current ratio is 2.93 times, its shows that the industry is more capable to pay its obligations. Quick assets ratio of Indian pharmaceutical industry is 1.732 times. The quick assets ratio of Aurobindo Pharma Ltd., Dr. Reddy’S Laboratories Ltd., Glaxosmithkline Pharmaceuticals Ltd., Glenmark Pharmaceuticals Ltd., Lupin Ltd., Piramal Enterprises Ltd. and Sun Pharmaceutical Inds. Ltd. having more than the industry average, it shows that the company is investing to many recourses in the working capital and Cadila Healthcare Ltd., Cipla Ltd. & Divi’S Laboratories Ltd. having lower than the industry average its shows that the companies are taking too much risk by not maintaining an appropriate buffer of liquid recourses. On average firms collect their receivables after 89 days while they take on average 76 days to pay suppliers. The average CCC is 138 days, implying that typical to the manufacturing sector firms turnover their stocks on an average of 3.07 times a year. This shows the influence of Cipla Ltd., Divi’S Laboratories Ltd. and Sun Pharmaceutical Inds. Ltd. holding inventories for more than 140 days, with Divi’S Laboratories Ltd. have maximum value of 271 days in 2009.

Pearson correlation coefficients for the variables used to assess the impact of working capital management on profitability, measured by return on total assets. ROTA is significantly positively correlated with OPM and capital-turnover ratio, but negatively correlated with Trade Debtors to Current, Assets Accounts Receivables days and Accounts Payables days. This positive relation for CCC is consistent with the view that resources are blocked at the different stage of the supply chain, thus prolonging the operating cycle. This might increase profits due to increase sales,
especially where the costs of tied up capital is lower than the benefits of holding more inventories and granting more trade credit to customers.

However, care must be exercised while interpreting the Pearson Correlation coefficients because they cannot provide a reliable indicator of association in a manner which controls for additional explanatory variables. Examining simple bivariate correlation in a conventional matrix does not take account of each variable’s correlation with all other explanatory variables. Our main analysis will be derived from appropriate multivariate models, estimated using fixed effects framework and pooled OLS.

The results of regression 1 to 4, applying a fixed effects methodology, where the intercept term is allowed to vary across firms except regression 1. It is immediately obvious from the adjusted R-squared values that the use of a firm specific intercept improves the explanatory power of these models. In Regression 9, the adjusted R-squared explain 18.17% of the variation in profitability under OLS but within a fixed effects framework the model’s explanatory power increases to 33.44%.

While the coefficient of inventories variable is negative in regression 1, it has the expected sign in the OLS regression 9, but the coefficient is not significantly different from zero. The coefficients of the other variables included in the model are significant, except for GEAR and LNSales. The firms’ profitability as measured by ROTA increases with firms’ size, gross working capital efficiency, and with a lesser aggressiveness of asset management. Indian pharmaceutical companies to the traditional theory of asset management, where a conservative policy is expected to sacrifice profitability at the expense of liquidity. This could be explained by the fact that pharmaceutical firms tend to have a lower fixed assets base and thus rely mostly on the turnover of current assets to generate more profits. This was observed consistently in the regressions results, with a p-values ranging from 0.02 to 0.05. As reveals by the study of Deloof (2003), the capital structure has a negative impact on profitability; except for our findings the coefficient of GEAR is insignificant for the FEM, but is significant for the pooled regressions at 0.1level. The aggressive financing policies observe for the sample firms, which are expected to contribute positively to profitability, have revealed otherwise. But, however, the results are significantly different from zero (p-values ranges from 0.02 to 0.05). This is a
commonly observed feature of the small firms and this has the tendency of increasing the risk of a short-term liquidity problem.

In regression 2, a highly significant relation is found between ROTA and number of days accounts receivable (p-value = 0.01), which implies that an increase in the number of days accounts receivable by 1 day is associated with an increase in profitability by 0.17%. The coefficient for accounts payable days is positive but the negative correlation between profitability and the number of days accounts payable. Unlike the previous work of Deloof (2003), the result is significant for the FEM at 0.01 level, but is not significant for the pooled OLS. This would imply that more profitable firms take longer to settle payment to creditors. So when profitability falls, less cash is generated from operations and firms are able to survive by postponing payment to suppliers. Trade credit received from other firms in particular suppliers of goods represent a major source of working capital financing. Therefore, when the prospects of profitability are poor, the pharmaceutical companies are able to seek an extension on the credit period from their suppliers. This is usually acceptable by the supplier as an element of trust is built based on the repeated orders placed by the firms. The study of Woodruff, (2001, p11) confirmed that the buyer-seller relationship and the information gathered by the ‘supplier in the course of doing business are useful in determining repayment prospects’. In regressions 9 to 12, the determinants of ROTA are estimated using Pooled OLS instead of the FEM. The results confirm the relationship between profitability and the working capital measurement. Except for inventory days & CCC, the coefficients of accounts receivable, accounts payable are significant. One significant difference between the FEM and the OLS estimation is that in regression

(12) Profitability increases with the cash conversion cycle.

It is interesting to note that the adjusted $R^2$ s of the OLS regressions is much lower than the adjusted ‘within’ $R^2$ s of the fixed effects regressions. Thus the regression models explain a much higher proportion of the variations in profitability within firms than between firms.

**Conclusion**

The different analyses have identified critical management practices and are expected to assist managers in identifying areas where they might improve the financial performance of their operation. The results have provided to managers with information regarding the basic financial management practices used by their peers
and their peers’ attitudes toward these practices. The working capital needs of an organization change over time as does its internal cash generation rate. As such, the pharmaceutical firms should ensure a good synchronization of its assets and liabilities.

This study has shown that the thesis and Cipla Ltd. has been able to achieve high scores on the various components of working capital and this has positively impact on its profitability. On this premise this industry may be referred as the ‘hidden champions’ and could thus be used as best practice among the Indian Pharmaceutical Industry.

8.3 Suggestions:

i. From the study it has been found that inventory conversion period is quiet higher and it is taking more than the normal duration. The industry should focus properly at time to reduce inventory conversion period through use of new technology and methods. Larger duration in conversion of inventory is also negatively related to profitability.

ii. Size of inventory is not sufficient for fluent production in most of the companies, as per the various studies inventory level should be near about half of the total current assets. The industry should increase its level of inventory to increase the production.

iii. Cash balance is kept by mostly companies is very low, which is not showing a good liquidity position of the company. Cipla Ltd. is one of them who maintain lower balance of cash in its assets. But this situation is not good to fulfil company’s motives of holding cash, i.e. speculative, precautionary and transaction.

iv. Cash cycle of pharmaceutical industry of India is not affecting to Profitability significantly. Cash cycle of most of the companies is not good; it shows inefficiency of the companies’ operational performance. It is suggested to all the companies to increase its cash conversion efficiency.

v. The quality of income ratio measures the portion of income that was generated in cash. A ratio greater than 1 is indicative of the company’s strong ability to finance its business activities through its operating cash flow. Quality of income shows poor profitability ability as it is lower than 0.75 in most of the companies. Industry should increase its ratio to provide the fund to its operating activities.
vi. Size of the receivables is higher almost each company, which may be ideal for the industry. On the basis of the study of receivables management, it is recommended that companies should reduce size of receivables, which may cause bad debts, block the fund and lose the opportunity cost.

vii. Average collection period is also very large, which is dangerous to increase doubtful debts. Industry should change the credit policy to reduce the chances of losing the fund.

viii. Bigger portion of working capital is financed by long term sources of fund which shows that industry has selected traditional approach to finance working capital; on the other hand working capital is near about 40 percent to total asset, which means capital investment is lower in pharmaceutical industry in India. Industry should maintain proper proportion of fixed and working capital.