

Impact of working capital strategies on the profitability of the selected firms in India

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Abstract

Working capital management is plays a crucial role in short term financial decision making process. Working capital management strategies included both investment and financial strategies in which former deal with investment in current assets and later deals with financing of current assets. Working capital investment and financing strategies affects both liquidity and profitability of the firm. Many research studies focused on analyzing the relationship between working capital strategies and liquidity and profitability, but no study emphasized on impact of working capital strategic shift on profitability of the firm which paved a way to the present study. Therefore, in the present study we fulfilled this gap by analyzing impact of working capital strategic change on profitability of selected four companies from four different industries which adopted required strategic change during 2007-08 to 2016-17. The study found strong positive relationship between current assets and profitability during both conservative and aggressive investment strategy in case of Pidility Ind Ltd. On the hand, study observed negative relationship between current assets and profitability during aggressive working capital investment strategy and positive relationship during conservative working capital investment strategy in case of Century Prot. The study revealed negative relationship between current liabilities and profitability during aggressive working capital financing strategy and positive relationship between conservative working capital financing strategy in case of Hindustan Food Ltd. In contrast, the study revealed negative relationship between current liabilities and profitability during conservative working capital financing strategy and positive relationship between aggressive working capital financing strategy in case of TVS electronics. Overall, the study revealed insignificant impact of shift in working capital investment/financing strategy on profitability in case of three companies, and significant impact in case of Pidility Ind Ltd.

Keywords: working capital, profitability, working capital investment, financing strategy

Introduction

Effective management of working capital plays a key role in determining the success of a firm due to having direct impact on its core operations, liquidity and profitability. Therefore, the aim of every finance manager is formulation of effective working capital management strategies to achieve tradeoff between liquidity and profitability through optimum utilization of non-fixed assets. Thus, financial manager focus on formulation of effective working capital investment and financial management strategies. Working capital investment strategy refers to proportion of current assets in total assets, if current assets proportion in total assets is more than fifty percent it is considered as aggressive investment strategy, which implies treatment of less than fifty percent as conservative working capital investment strategy. Working capital financing strategy refers to proportion current liabilities to total assets, if more than fifty percent of total assets are financed by current liabilities it is treated as aggressive financing strategy, otherwise conservative working capital financing strategy. Both working capital investment and financing strategies have a significant role in smooth and successful running of the firm. Therefore, present study focused on the relationship and impact of these working capital strategies on the profitability of the firm.

Review of Literature

Adam, Edward and Kawor (2017) ^[1] have observed a significant strong positive impact on the ROE of six

manufacturing companies trading in Ghana stock exchange. The study found positive return in case of conservative current assets strategy while negative returns in case of conservative financing strategy, therefore the study suggested adopting conservative working capital investment strategy along with aggressive working capital strategy to maximize the profits and shareholders' value. In the study they used advanced econometrics such as dynamic panel of ARDL framework. (2017) ^[2] Rodrigo opined that excessive investment in the current assets adversely affects economic value of the firm. Nyabuti and Ondiek (2014) ^[3] study has found positive relationship between aggressive working capital investment / financial strategy and financial performance of companies belongs to various sectors during 2008-2012. Julius - Michael -Jussi (2014) ^[4] study revealed that business cycle has strongly affect on the relationship between working capital strategy and profitability in general, and very particular during economic recessions than boom period.. Faris (2011) ^[5] has found that the current assets and current liabilities levels have insignificant impact the financial and operation risk of companies and significant impact in case of banks.

Research problem and need of the study

It is observed from above literature that earlier studies have focused on the study of relationship between working capital policy and profitability and liquidity, risk, determinants of working capital policies with special references to specific industries. But no study has focused

on the impact of change in working capital strategy on the profitability of the firm. Therefore, present study is focused on the impact of shift in working capital investment/financing strategy on the profitability of the selected firms which is different from other studies. For the purpose of the study four companies namely, Pidility, Hindustan food, TVS electronics and Centry Prot from different industries are selected and impact of working capital strategy on profitability is examined by t-test. The study covers ten years i.e. from 2008-2017.

Objectives of the Study

The aim of the present study is to understand the relationship between working capital investment/financing strategy and profitability of the firm and also examines the impact of change in working capital investment/financing strategies on the profitability of the selected firms in India during 2008-2017.

Research Methodology

Present study is purely based on secondary data collected from the annual reports of the selected companies during 2008-2017 i.e ten years of study. Sample size of present study comprise of four companies selected through using convenient sampling technique. These companies included Century Prot, Pidility Ind Ltd, Hindustan food Ltd, TVS Electronics Ltd which extracted from different industries and different in size of the business. The selected companies shifted their working capital investment and financing strategies from aggressive to conservative and conservative to aggressive during the study period. For the purpose of data analysis both statistical and financial techniques are employed, former consist of T-test and Karl Pearson correlation and latter consist of ratios.

Hypotheses

H₁: Moving from Aggressive working capital investment to Conservative working capital investment management

strategy has significant impact on firm’s profitability.
 H₂: Moving from Conservative working capital investment to Aggressive working capital investment management strategy has significant impact on firm’s profitability.
 H₃: Moving from Aggressive working capital financing to Conservative working capital financing management strategy has significant impact on firm’s profitability.
 H₄: Moving from Conservative working capital financing to Aggressive working capital financing management strategy has significant impact on firm’s profitability.
 Above formulated alternative hypotheses are examined with proper statistical techniques.

Interpretation of tables

In table 1 the working capital investment strategy of Century Profit is observed along with ROA during the period of 2008-2018. It first four years of this period (2008-2011) the proportion of current assets to total assets is in the range of 80 to 98.30 percent, but in last year it is suddenly fallen to meager of 7.11 percent. However, during 2008-2012 the proportion of current assets in total assets is an average of 74.04 percent which indicates aggressive working capital investment strategy. On the other hand, ROA during this period is an average of -0.23 percent. The relationship between current assets and profitability during this period is negative with -0.4673. To reduce negative profitability company has adopted conservative working capital investment strategy during (2013-16) this means increase in investment of funds in fixed assets. In first three years 2013-2015 company has invested less than 10 percent in current assets, Therefore, company reported zero ROA in first two years and negative in third year, in fourth year 2016 company increased investment in current assets to 17.97 percent are result ROA is resulted into further increase in -3.23 percent of losses. In the last year 2016-17 company again increased to 91.04 percent in total assets as result ROA turned in to positive ROA 1.01 percent.

Table 1: Working capital investment strategy and profitability of century prot during 2008-2017(%)

Year	AWCIS (%) (TCA/TA)	ROA (%)	YEAR	CWCIS (%) (TCA/TA)	ROA (%)
2007-08	98.32	0.84	2012-13	8.08	0.0
2008-09	82.63	0.00	2013-14	9.05	0.0
2009-10	84.71	0.59	2014-15	9.09	-2.02
2010-11	97.45	-3.06	2015-16	17.97	-3.23
2011-12	7.11	0.51	2016-17	91.04	1.01
AVG	74.04	-0.23	AVG	27.05	-0.85
Karl Pear son - Correlation		-0.4673	Karl Pear son - Correlation		0.4908

t-test: calculated value is 0.48 and table value 2.30 which indicates insignificant impact of working capital investment on profitability of changing strategy.

Source: Computed from Company Annual Reports.

The impact of working capital investment strategy on profitability is examined with t-test and calculated value is 0.48 which less than table value of 2.30 which indicates insignificant impact of change in working capital investment strategy on profitability. Therefore, the formulated alternative hypothesis “H₁: Moving from Aggressive working capital investment to Conservative working capital investment management strategy has significant impact on firm’s profitability” is rejected and null hypothesis is accepted.

Table 02 explicitly speaks about working capital management strategy of PIDILITY which shifted their

investment strategy from conservative to aggressive working capital strategy during the study period. It is observed from above analysis that PIDILITY Company has invested 49.88 percent of their funds in current assets in 2007-08, which is fallen in next two years as 42.80 and 33.91 percents respectively. Thereafter, in next year it is raised to 48.88 and 50.81 percent respectively. In overall, the average investment in current assets is 45.26 percent which indicates conservative working capital investment strategy. During entire five years of this period company has reported positive ROA with an average of 13.61 percent. However, the company has started increase in investments

of current assets in next five years as 51.59, 49.74, 44.6, 50.85 and 62.06 percent every year during the 2013-2017 with an average of 51.72 percent. On the other hand,

company has reported an average ROA of 17.86 percent during the same period. It is observed that average of ROA in AWCMS is higher than the CWCMS.

Table 2: Working capital investment strategy and profitability of pidility ind ltd during 2008-2017(%)

Year	CWCIS (%) (TCA/TA)	ROA (%)	YEAR	AWCIS (%) (TCA/TA)	ROA (%)
2007-08	49.88	13.25	2012-13	51.59	18.15
2008-09	42.80	9.10	2013-14	49.74	16.22
2009-10	33.9	15.98	2014-15	44.36	15.36
2010-11	48.88	15.20	2015-16	50.85	21.54
2011-12	50.81	14.51	2016-17	62.06	18.01
AVG	45.26	13.61	AVG	51.72	17.86
Karl Pear son - Correlation		0.8754	Karl Pear son - Correlation		0.8676

t-test: calculated value is 4.28 and table value is 2.30. which indicates significant impact of working capital strategic change on firm’s profitability.

Source: Computed from Company Annual Reports.

The relationship between Conservative Working capital investment strategy and profitability found strong positive relationship between investment in current assets and profitability, On the other hand, similar relationship is observed between current assets and profitability even when company moved from conservative to aggressive working capital investment strategy. The t-test resulted in value of 4.28 which is higher than table value 2.30 which indicates significant impact of working capital strategy on profitability. Therefore, the formulated alternative hypothesis “Moving from Conservative working capital investment to Aggressive working capital investment management strategy has significant impact on firm’s profitability” is accepted and a null hypothesis is rejected. It is observed in the table 03 that Hindustan food Ltd financed an average of more than 90 percent of its total assets by current liabilities during 2008-2012 with

continuous year by year increase. During this period ROA of the company is negative (-7.98%) which means losses. The result of Karl Pearson correlation also observed negative relationship between current liabilities and profitability during this period, which means increase in proportion of financing total assets by current liabilities leads to decrease in profitability of the firm. Thereafter, company shifted to adopting conservative working capital financing strategy, as part of this, during 2013 to 2017 in total assets of company not more than an average of 30 percent is contributed by current liabilities. This, strategic change resulted in to positive ROA of the company (2.3%) during this period and also observed weak positive relationship between current liabilities and profitability. This indicates that decrease in proportion of current liabilities to total assets led to decrease in losses of the firm and vice versa.

Table 3: Working capital financial strategy and profitability of hindustan food ltd during 2008-2017(%)

Year	AWCFS (%) (TCL/TA)	ROA (%)	YEAR	CWCFS (%) (TCL/TA)	ROA (%)
2007-08	84.97	-10.32	2012-13	21.39	-6.48
2008-09	92.61	-5.54	2013-14	26.27	-6.64
2009-10	99.24	-7.74	2014-15	39.60	14.56
2010-11	98.68	0.66	2015-16	31.70	7.45
2011-12	99.17	-16.96	2016-17	22.72	2.61
AVG	94.93	-7.98	AVG	28.33	2.3
Karl Pearson - Correlation		-0.189	Karl Pearson - Correlation		0.3595

t-test: calculated value is and 1.53 table value is 2.30 Which indicates insignificant impact of working capital financing strategy change on firm’s profitability.

Source: Computed from Company Annual Reports.

The result of t-test revealed that calculated value 1.53 percent is less than table 2.30 which indicates insignificant impact of working capital financing on the profitability of the firm. Therefore, the formulated alternative hypothesis “Moving from Aggressive working capital financing to Conservative working capital financing management strategy has significant impact on firm’s profitability” is rejected and null hypothesis is accepted.

In the table 04 we observed the working capital financing strategy of TVS electronics during 2008 to 2017. It is found that during 2008-2012 an average of less than fifty percent (49.83) of total assets are financed by short term funds

which indicates conservative working capital financing strategy, on the other hand, ROA is positive i.e. 0.56 percent during the same period(ROA is negative two out of five years). Karl Pearson correlation revealed negative relationship between current liabilities and profitability. In the second phase of analysis i.e. 2013-2017 company has financed nearly 70 percent total assets by short term funds which indicate aggressive working capital financing strategy. On the other hand, ROA during this period is positive 0.18 percent(less than first phase (ROA). Karl person correlation revealed positive relationship between current liabilities and profitability during this period.

Table 4: Working capital financial strategy and profitability of tvs electronics ltd during 2008-2017(%)

Year	CWCFS (%) (TCL/TA)	ROA (%)	YEAR	AWCFS (%) (TCL/TA)	ROA
2007-08	35.59	8.33	2012-13	63.91	-5.67
2008-09	44.05	-5.22	2013-14	66.85	0.30
2009-10	50.00	-2.54	2014-15	69.22	1.61
2010-11	61.94	1.31	2015-16	65.66	2.74
2011-12	57.58	0.92	2016-17	84.25	1.94
AVG	49.83	0.56	AVG	69.98	0.18
Karl Pear son - Correlation		-0.38	Karl Pear son - Correlation		0.43

t-test: calculated value 0.13 and table value is 2.30. Which indicates insignificant impact of working capital strategic financing change on firm's profitability.

Source: Computed from Company Annual Reports.

The employed t-test for examining the formulated hypothesis revealed 0.13 value which is less than table value 2.30. Therefore alternative hypothesis "Moving from Conservative working capital financing to Aggressive working capital financing management strategy has significant impact on firm's profitability" is rejected and null hypothesis is formulated.

Findings and suggestions

- Shifting of working capital investment strategy from aggressive investment to conservative investment in current assets is observed in case of Century Prot. The study found negative ROA during both aggressive and conservative investment periods. Thus, company has reported higher losses ROA of -0.85 percent during conservative investment period than aggressive investment period -0.23 percent. However, the company observed positive relationship between current assets and profitability during the conservative working capital strategy. In contrast, negative relationship is observed between current assets and profitability during aggressive working capital investment period. The study also found insignificant impact of shifting of working capital investment strategy from aggressive to conservative on profitability of the firm due to the reason that the company has invested either too high or too low proportion of total funds on current assets during the study period. Therefore the study suggested ending of this type strategy which adversely affects the profitability of the firm.
- Shifting of working capital investment from conservative to aggressive is observed in case of Pidility Ind Ltd. The company has invested an average of 45.26 percent of total funds on current assets during 2008-2012, thereafter, increased investments to an average of 51.72 percent during 2013-2017. The study observed that investment in current assets from total funds are neither too low nor too high, consequently, company has reported good profits during both conservative and aggressive investment period. However, profits during aggressive investment period are higher 17.86 percent than profits during conservative investment period i.e. 13.61 percent. The study also found strong positive correlation between working capital investment strategies (both conservative and aggressive) and profitability of the firm during the study period. The study also found significant impact of shifting of working capital investment strategy on firm's profitability.
- Shifting working capital financing strategy from conservative to aggressive is observed in case of TVS

electronics during 2008-2017. The company has financed its total assets by an average of 49.83 percent of current liabilities during 2008-2012 and by an average of 69.98 percent during 2013-2017. Company has reported profits both in case of aggressive and conservative financing strategies, however, profits are higher in during conservative financing strategic period i.e. average of 0.56 percent than during aggressive financing strategic period i.e. an average of 0.18 percent. The study observed negative relationship between current liabilities and profitability during conservative financing strategy, in contrast, it also observed positive relationship between current liabilities and profitability during aggressive financing strategy. The study found insignificant impact of shifting of working capital financing strategy from conservative to aggressive on firm's profitability.

- Shifting of working capital financing strategy from aggressive to conservative is observed in case of Hindustan Food Ltd during 2008-2017. The company has financed an average of 94.93 percent total assets by current liabilities during 2008-2012, and an average of an average of 28.33 percent during 2013-2017. The company has reported losses during aggressive working capital financing period while reported profits during conservative working capital financing period. The study also found negative relationship between current liabilities and profitability during AWCFS period and positive relationship between current liabilities and profitability during CWCFS period. In case of Hindustan food company ltd shifting of working capital financing strategy from aggressive to conservative has revealed insignificant impact on profitability during the study period.

Conclusion

The study is conducted with two main aims that is finding the relationship between working capital investment / financing strategies and profitability and also impact of these strategies on profitability which company shifted their strategies. To achieve these objectives four companies are selected namely Century Prot, Pidility Ind Ltd, Hindustan Food Ltd and TVS Electronics during 2008-2017. The study found strong positive relationship between current assets and profitability during both conservative and aggressive investment strategy in case of Pidility Ind Ltd. On the hand, study observed negative relationship between current assets and profitability during aggressive working capital investment strategy and positive relationship during conservative working capital investment strategy in case of Century Prot. The study revealed negative relationship

between current liabilities and profitability during aggressive working capital financing strategy and positive relationship between conservative working capital financing strategy in case of Hindustan Food Ltd. In contrast, the study revealed negative relationship between current liabilities and profitability during conservative working capital financing strategy and positive relationship between aggressive working capital financing strategy in case of TVS electronics. Overall, the study revealed insignificant impact of shift in working capital investment/financing strategy on profitability in case of three companies, and significant impact in case of Pidility Ind Ltd.

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References

1. Adam Edward, Kawor. Working capital management policies and returns of listed manufacturing firms in ghana - Scientific Annals of Economics and Business Radrigo. 2017; 64(2):255-269. DOI: 10.1515/saeb-2017-0017.
2. Rodrigo Zeidan. Cash conversion cycle and value-enhancing operations: Theory and evidence for a free cash Flow – lunch (rodrigo.zeidan@nyu.edu) and Offer Moshe Shapir Journal of Corporate Finance. 2017; 45©:203-21.
3. Kenya Winnie Mokeira Nyabuti, Ondiek Benedict Alala. The relationship between working capital management policy and financial performance of companies quoted at Nairobi securities exchange, Kenya Winnie Mokeira Nyabuti, Ondiek Benedict Alala. International Journal of Economics, Finance and Management Sciences. 2014; 2(3):212-219. Published online May 30, 2014 (<http://www.sciencepublishinggroup.com/j/ijefm>)
4. Julius Enqvist, Michael Graham, Jussi Nikkinen. The impact of working capital management on firm profitability in different business cycles: Evidence from Finland Research in International Business and Finance. 2014; 32:36-49. Science directory.
5. Faris Nasif ALShubiri. The effect of working capital practices on risk management: evidence from Jordan, Amman Arab University for graduate studies. Global Journal of Business Research. 2011; 5(1).