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IMPACT OF INVESTMENT AND FINANCING POLICIES ON PROFITABILITY AND RISK

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Abstract

Purpose: The paper seeks to empirically investigate the relationship between investment and financing policies profitability and risk.

Design/methodology/approach: The analysis is based on 164 companies classified into 19 Industrial Sectors(as per BSE 200 index) in India in respect of whom data from 2000-2010 has been taken from CMIE database. The regression analysis has been used.

Findings: The pooled data of all the industrial sectors found a negative relationship between the profitability measures of firms and degree of aggressiveness of working capital investment but a positive relationship between profitability and aggressiveness of working capital financing policies. Also, there is a positive relationship between degree of aggressiveness of investment policy as well as financing policy and risk of variation of sales. There is similar positive relationship between degree of aggressiveness of investment as well as financing policy & the risk of variation of profitability as measured by return on assets & return on equity.

Practical implications: The findings suggest that managers can increase profitability by efficiently managing current assets and current liabilities.

Originality/value: The paper addresses gap in literature relating to working capital management of Indian companies.

Keywords: Working capital Management, Investment Policy, Financing Policy, Return on Assets, Return on Equity.

The corporate finance literature has traditionally focused on the study of long-term financial decisions. Researchers have particularly examined investments, capital structure, dividends or company valuation decisions, among other topics. However, short-term assets and liabilities are important components of total assets and needs to be carefully analysed. Management of these short-term assets and liabilities warrants a careful investigation since the working capital management plays an important role for the firm's profitability and risk as well as its value (Smith, 1980). Firms try to keep an optimal level of working capital that maximizes their value (Howorth and Westhead 2003, Deloof 2003, Afza & Nazir 2007).

Finance textbooks typically begin their working capital sections with a discussion of the risk and return tradeoffs inherent in alternative working capital policies. High risk, high return working capital investment and financing strategies are referred to as aggressive; lower risk and return strategies are called moderate or matching; still lower risk and return is called conservative (Pinches 1991, Brigham and Gapenski 2004, Moyer et. al. 2005, Gitman 2005).

A firm may adopt an aggressive working capital management policy with a low level of current assets as percentage of total assets. Moreover, an aggressive working capital management policy may be used for the financing decisions of the firm with high level of current liabilities as percentage of total liabilities. Excessive levels of current assets may have a negative effect on the firm's profitability whereas a low level of current assets may lead to lower level of liquidity and stockouts resulting in difficulties in maintaining smooth operations (Van Horne and Wachowicz 2004).

Aggressive policy is promoted by those managers who want to achieve a high turnover with minimum stocks implied. In this case, permanent capital absorbed in these physical or financial assets generates a working capital inferior to circulating assets during the year and for covering the deficit of working capital the company always calls on treasury credits. The strategy of funding the required working capital based on short-term bank loans involves some inconvenience. Thus, resorting to short-term loans over the medium and long term can lead to cost savings, but triggers the risk of insolvency in the case of resources' insufficiency and the need to call on other short term loans for financing current activity, showing a certain risk concerning the credit terms (higher interest rates, inability to renew loans, etc.). Under these circumstances, funding required working capital through short-term loans, better adapted to company's needs, may be more risky, the arbitrage between long-term and short-term actually relying on the anticipation of interest rate changes. For these reasons, this policy can be judged as being a risky decision because the company depends on the bank's decisions concerning loans and interest. However, if the profitability is higher than the interest, this policy of the working capital is acceptable because it appears the positive effect of obligation.

Conservative policy is practiced by leaders who aim to achieve a high turnover with high stocks and liquidities. For any increase in turnover, managers are concerned about the adequate increase of stocks that ensure the continuity of exploiting activity (current and

safety stocks). Financing the financial necessary of the exploitation is carried out especially from permanent resources (working capital) ensuring the company's solvency, but in the same time assuming a higher cost of resources in relation to that of short-term bank loans, but also a coverage of loans' renewal risk and of interest increase rate; in other words, although the policy is costly and less profitable, it is more conservative.

Balanced policy has a neutral effect, because it is based on the principle of harmonization between the duration of temporal immobilization of circulating assets and the eligibility of liabilities meant to cover the financing needs in terms of minimizing financing costs and the risks the company is facing. "According to this policy, the increase of the activity is done with a current stock adequate to the turnover increase; in turn, safety stock is determined at optimal level, i.e. at the level where there is equality between the costs due to the lack of stock (out of stock) and excessive costs (over the strict requirements of the operation)." (Onofrei M, 2006)

Working capital management is of crucial nature because it effects the firm's profitability and as well as its risk, and consequently its value (Smith, 1980). Working capital management is important because of its effects on the firm's profitability and risk, and consequently its value (Smith, 1980). Greater the investment in current assets, the lower the risk, but also the lower the profitability obtained (Afza Nazir, 2008)

The impact of working capital policies on profitability is highly important, however, a little empirical research has been carried out to examine this relationship. This paper investigates the potential relationship of aggressive policies with the accounting measures of profitability as well as the risk factor of Indian firms. The present study is expected to contribute to better understand these policies and their impact on profitability and risk especially in the emerging markets like India.

The paper is organized as follows:

In section II, deals with a brief review of literature on the management of working capital. Section III covers the objectives, database and methodology adopted in this study; the empirical analyses are presented in section IV and conclusions are reported in section V

REVIEW OF LITERATURE

No evidence was found of an empirical examination that directly addresses the question of aggressive/conservative working capital policy. However several studies have addressed areas of peripheral importance to the issues examined in this paper.

Jose et al. (1996) examined the relationship between aggressive working capital management and profitability of US firms using Cash Conversion Cycle (CCC) as a measure of management of working capital where a shorter CCC represents the aggressiveness of working capital management. The results indicated a strong negative relationship between cash conversion cycle and profitability indicating that more aggressive working capital management is associated with higher profitability.

Pandey and Parera (1997) provided an empirical evidence of working capital management policies and practices of the private sector manufacturing companies in Sri Lanka. The information and data for the study were gathered through questionnaires and interviews with chief financial officers of a sample of manufacturing companies listed on the Colombo

Stock Exchange. They found that most companies in Sri Lanka have informal working capital policy and company size has an influence on the overall working capital policy (formal or informal) and approach (conservative, moderate or aggressive). Moreover, company profitability has an influence on the methods of working capital planning and control.

Weinraub and Visscher (1998) have discussed the issue of aggressive and conservative working capital management policies by using quarterly data for a period of 1984 to 1993. Their study looked at ten diverse industry groups to examine the relative relationship between their aggressive/conservative working capital policies. The study also showed a high and significant negative correlation between industry asset and liability policies and found that when relatively aggressive working capital asset policies are followed they are balanced by relatively conservative working capital financial policies.

Filbeck and Krueger (2005) highlighted the importance of efficient working capital management by analysing the working capital management policies of 32 non-financial industries in USA. According to their findings, working capital practices were significantly different over time. Moreover, those working capital practices change significantly over time within industries. Similar studies are conducted by Gombola and Ketz (1983), Soenen (1993), Maxwell et al. (1998), and Long et al. (1993).

Pinches (1991), Brigham and Gapenski (2004), Moyer et. al. (2005), Gitman (2005) have worked on the issue of risk/return trade off between the different working capital policies. More aggressive working capital policies are associated with higher return and higher risk while conservative working capital policies are concerned with the lower risk and return (Carpenter and Johnson (1983), Gardner et al. (1986)). Shin and Soenen (1998) analysed the relation between the working capital and profitability for a sample of firms listed on the US stock exchange during the period 1974-1994. Their results show that reducing the level of current assets to a reasonable extent increases firms' profitability.

Deloof (2003) analyses a sample of large Belgian firms during the period 1992-1996. His results confirmed that Belgian firms can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories. Teruel and Solano (2005) suggested that managers can create value by reducing their firm's number of days accounts receivable and inventories. Similarly, shortening the cash conversion cycle also improves the firm's profitability.

Afza and Nazir (2009) made an attempt in order to investigate the traditional relations between working capital management policies and a firm's profitability for a sample of 204 non-financial firms listed on Karachi Stock Exchange (KSE) for the period 1998-2005. The study found significant difference among their working capital requirements and financing policies across different industries. Moreover, regression result found a negative relationship between the profitability of firms and degree of aggressiveness of working capital investment and financing policies. They suggested that managers could create value if they adopt a conservative approach towards working capital investment and working capital financing policies.

Lazaridis and Tryfonidis (2006) investigated the relationship between corporate profitability and working capital management using listed companies on the Athens Stock exchange. They discovered that statistically significant relationship existed between profitability and the cash conversion cycle. They concluded that businesses can create profits for their companies

by handling correctly the cash conversion cycle and keeping each component of the cash conversion cycle (i.e. accounts receivable, accounts payable and inventory) to an optimum level. Gill, Biger and Mathur (2010) seeks to extend Lazaridis and Tryfonidis's findings regarding the relation between working capital management and profitability. A sample of 88 American firms listed on New York Stock Exchange for a period of 3 years from 2005 to 2007 was selected. They found statistically significant relation between the cash conversion cycle and profitability, measured through gross operating profit. It follows that managers can create profits for their companies by handling correctly the cash conversion cycle and by keeping accounts receivables at an optimal level.

OBJECTIVES OF THE STUDY

The impact of working capital policies is highly important; however, not much empirical research has been carried out to examine the impact of working capital policies on profitability and risk of firm in India. Following are the main objectives of the present study:

- To investigate the relationship of the working capital investment and financing policies with profitability.
- To investigate the relationship of the working capital investment and financing policies with risk.

DATA BASE

The present study aims to find out working capital investment and financing policies BSE 200 companies. The study has included 164 companies (ignoring those belonging to banking and financial services sector) classified into 19 industrial sectors (as per BSE 200 classification), in respect of which data for 10 years i.e. from the year 2000-2001 to 2009-2010 has been taken. The data has been taken from the PROWESS database of Centre for Monitoring Indian Economy. The analysis has been done by using SPSS 17.0 software package.

METHODOLOGY

The study used aggressive investment policy and aggressive investment policy as measuring variables of working capital investment and financing policies.

- The degree of aggressiveness of investment and financing policies has been measured as. A manager following Aggressive Investment Policy (AIP) keeps minimal level of investment in current assets as compared to fixed assets. In contrast, a conservative investment policy put a larger proportion of capital in current assets with the opportunity cost of lesser profitability. In order to measure the degree of aggressiveness of investment policy, following ratio has been used

$$\text{Aggressive Investment policy} = \frac{\text{Total Current Assets (TCA)}}{\text{Total assets (TA)}}$$

(Lower ratio indicates a relatively aggressive policy)

A manager following Aggressive Financing Policy (AIP) utilizes higher levels of current liabilities and less long-term debt. In contrast, a conservative financing policy uses more long-term debt and capital. In order to measure the degree of aggressiveness of financing policy, following ratio has been used

$$\text{Aggressive Financing policy} = \frac{\text{Total Current Liabilities (TCL)}}{\text{Total assets (TA)}}$$

(Higher ratio indicates a relatively aggressive policy)

- The financing and investment policies have an impact on profitability of the firm. The profitability of the firm has been measured using ROA which measures operating profit of the firm and ROE measuring the return on the ownership interest. To study the impact of investment and financing policies on profitability the following regression equations have been developed using ROA and ROE as dependent variables and TCA/TA & TCL/TA as independent variables:

$$\text{Regression Equation 1 } ROA = \alpha + \beta_1 (TCA_i / TA_i) + \beta_2 (TCL_i / TA_i) + \varepsilon$$

$$\text{Regression Equation 2 } ROE = \alpha + \beta_1 (TCA_i / TA_i) + \beta_2 (TCL_i / TA_i) + \varepsilon$$

Where ROA= Return on Total Assets

ROE = Return on Equity

TCA/TA_i = Total Current Assets to Total Assets Ratio of Firm i for time period t

TCL/TA_i = Total Current Liabilities to Total Assets Ratio of Firm i for time period t α = intercept

ε = error term of the model

- To study the impact of Working capital management and Financing Policies on relative risk will be measured by applying regression models. The risk has been taken as the dependent variable and measured in terms of variation in sales, ROA and ROE.

$$\text{Regression Equation 3} = \text{Standard Deviation}_{\text{Sales } i} = \alpha + \beta_1 (TCA / TA_i) + \beta_2 (TCL / TA_i) + \varepsilon$$

$$\text{Regression Equation 4} = \text{Standard Deviation}_{\text{ROA } i} = \alpha + \beta_1 (TCA / TA_i) + \beta_2 (TCL / TA_i) + \varepsilon$$

$$\text{Regression Equation 5} = \text{Standard Deviation}_{\text{ROE } i} = \alpha + \beta_1 (TCA / TA_i) + \beta_2 (TCL / TA_i) + \varepsilon$$

Where Standard Deviation represents the risk of the Firm i .

EMPIRICAL ANALYSIS

Table 1 shows the investment and financing policies followed by various industrial sectors under study. The average investment and financing policy of all sectors has been compared with the mean value of pooled investment (0.42) and financing policy (0.24) to find out whether a relatively aggressive policy has been followed. The table shows that sectors like Healthcare, Capital Goods, Miscellaneous, Information Technology, Consumer Durables and

Housing related have followed a relatively less aggressive investment policy. The sectors like Capital Goods, FMCG, Miscellaneous, Chemicals & Petrochemicals, Transport Equipments, Housing Related, Diversified and Oil& Gas sectors have followed a relatively more aggressive financing policy.

Table 1: Investment & Financing policies of the various Sectors

Sector	Investment Policy TCA/ TA	Financing Policy TCL/TA
Agriculture	0.35	0.18
Capital Goods	0.72	0.52
Chemicals And Petrochemicals	0.40	0.33
Consumer Durables	0.53	0.23
Diversified	0.30	0.24
FMCG	0.39	0.41
Healthcare	0.89	0.20
Housing Related	0.45	0.26
Information Technology	0.55	0.20
Media And Publishing	0.34	0.20
Metal Products and Mining	0.35	0.19
Misc	0.69	0.35
Oil& Gas	0.34	0.24
Power	0.31	0.14
Telecom	0.25	0.20
Textiles	0.39	0.14
Tourism	0.15	0.11
Transport Equipments	0.41	0.31
Transport Services	0.22	0.11

Table2: Classification of industries on basis of relative aggressiveness of investment and financing policies

Investment Policy Financing Policy	More Aggressive	Less Aggressive
More Aggressive	Chemicals & Petrochemicals FMCG Transport Equipments Oil & Gas Diversified	Capital Goods Housing Related Miscellaneous
Less Aggressive	Agriculture Media & Publishing Metal Products & Mining Power Telecom Textiles Tourism Transport Services	Consumer Durables Healthcare Information Technology

IMPACT OF INVESTMENT AND FINANCING POLICY ON PROFITABILITY

Table 3: Impact of Investment and Financing Policies on profitability: Sectors with More Aggressive Investment & More Aggressive Financing Policy

Variable	ROA			ROE		
	Regression coefficient(β)	t' value	Sign t	Regression coefficient(β)	t' value	Sign t
TCA/TA	-9.55	-3.13	.002	-32.79	-4.04	.000
TCL/TA	43.34	13.28	.000	13.25	15.32	.000
Constant(α)	6.78	6.75	.000	11.073	4.15	.000
	Multiple R=.597	R ² =.357	Adj R ² =.354	Multiple R=.644	R ² =.415	Adj R ² =.412

Table 3 shows the impact of more aggressive investment policy along with more aggressive financing policy on Return on Assets & Return on Equity. The results of regression equation 1 show that as TCA/TA increases, degree of aggressiveness of investment policy decreases the return on assets also decreases. As TCL/TA increases, the degree of aggressiveness of financing policy increases the return on assets also increases. The results of regression equation 2 show similar results whereby higher degree of aggressiveness of investment as well as financing policies has a positive relationship with return on equity. Thereby higher level of current assets is associated with decreasing return on assets as well as on equity. Lower level of current liabilities is associated with increasing return on assets as well as equity.

Table 4: Impact of Investment and Financing Policies on profitability: Sectors with More Aggressive Investment Policy & Less Aggressive Financing Policy

Variable	ROA			ROE		
	Regression coefficient(β)	t' value	Sign t	Regression coefficient(β)	t' value	Sign t
TCA/TA	18.487	6.546	.000	19.184	4.371	.000
TCL/TA	18.367	-3.486	.001	28.885	-1.677	.094
Constant(α)	10.338	8.309	.000	-20.708	6.645	.000
	Multiple R= .288	R ² = .083	Adj R ² = .079	Multiple R= .189	R ² = .036	Adj R ² = .032

Table 4 shows the impact of investment & financing policies on profitability of those industrial sectors which have followed a more aggressive investment policy along with a less aggressive financing policy. The results of regression equation 1 show a positive relationship between investment policy & return on assets and a similar positive relationship between financing policy & return on assets. The results of regression equation 2 show a positive relationship between investment policy & return on assets as well as positive relationship between financing policy & return on assets. Thus, return on assets and return on equity can be increased by maintain a low level of current assets. Higher level of current liabilities is associated with decreasing return on assets and increasing return on equity.

Table 5: Impact of Investment and Financing Polices on profitability: sectors with Less Aggressive Investment & More aggressive Financing Policy

Variable	ROA			ROE		
	Regression coefficient (β)	't' value	Sign t	Regression coefficient (β)	't' value	Sign t
TCA/TA	-1.511	-.529	.597	-.792	-.084	.933
TCL/TA	1.071	.324	.746	18.403	1.691	.092
Constant(α)	12.518	10.626	.000	27.913	7.208	.000
	Multiple R= .031	R ² = .001	Adj R ² = -.006	Multiple R=.143	R ² =.021	Adj R ² =.014

Table 5 shows the results of regression equations 1& 2 for those industrial sectors that follow less aggressive investment policy along with a more aggressive financing policy. The results of regression equation 1 show that as degree of aggressive of investment policy decreases the return on assets also decreases as shown by negative regression coefficient of TCA/TA. The positive regression coefficient of TCL/ TA shows that as degree of aggressiveness of financing policy increases the return on assets also increases. The results of regression equation 2 are similar as shown by negative regression coefficient of -.792 for TCA/TA and positive regression coefficient of 18.40 for TCL/TA. Thus, higher level of current assets is associated negative return on assets and equity. Lower level of current liabilities is associated with increasing return on assets as well as equity.

Table 6: Impact of Investment and Financing Polices on profitability: sectors with Less Aggressive Investment & Less Aggressive Financing Policy

Variable	ROA			ROE		
	Regression coefficient(β)	't' value	Sign t	Regression coefficient(β)	't' value	Sign t
TCA/TA	2.362	2.221	.027	4.627	2.758	.006
TCL/TA	7.557	1.304	.193	23.106	2.626	.009
Constant(α)	16.198	10.121	.000	24.12	9.682	.000
	Multiple R= .151	R ² = .023	Adj R ² = .016	Multiple R= .217	R ² = .047	Adj R ² = .040

Table 6 shows the impact of less aggressive investment as well as less aggressive financing policy on return on assets as return on equity. The results of regression equation 1 shows that as degree of aggressiveness of investment policy decreases the return on assets increases whereas as degree of aggressiveness of financing policy increases the return on assets increases. Similar results are shown by regression equation 2 whereby as degree of aggressiveness of investment policy decreases the return on equity increases whereas as degree of aggressiveness of financing policy increases the return on equity increases.

Table 7: Impact of Investment and Financing Policies on Profitability: Summarized Result

		More Aggressive Investment Policy		Less Aggressive Investment Policy	
		ROA	ROE	ROA	ROE
More Aggressive Financing Policy	TCA/TA	-	-	-	-
	TCL/TA	+	+	+	+
Less Aggressive Financing Policy	TCA/TA	+	+	+	+
	TCL/TA	+	+	+	+

Table 7 shows the matrix of regression coefficients of the impact of investment and financing policies on profitability. The combined result of the sectors that maintain more aggressive investment along with a more aggressive financing policy show investment policy has negative impact on both ROA and ROE while aggressive financing policy has the positive impact on ROA & ROE. Maintaining a less Aggressive investment policy along with a more aggressive financing policy generates similar results. The table shows that maintaining a more aggressive investment policy along with a less aggressive financing policy generates positive impact on both ROA and ROE. Similar results are shown by less Aggressive investment policy along with a less Aggressive investment policy.

Table 8: Impact of Investment and Financing Policies on profitability: Pooled Data

Variable	ROA			ROE		
	Regression coefficient(β)	t' value	Sign t	Regression coefficient(β)	t' value	Sign t
TCA/TA	4.978	6.095	.000	6.156	3.241	.001
TCL/TA	3.519	1.965	.050	40.856	9.868	.000
Constant(α)	11.473	19.585	.000	18.091	13.365	.000
	Multiple R= .182	R ² = .033	Adj R ² = .032	Multiple R= .287	R ² = .082	Adj R ² = .081

Table 8 shows the relationship between investment and financing policies on accounting measures of returns of the all the sectors on pooled basis. The results of regression equation 1 points out that as TCA/TA increases, the degree of aggressiveness of investment decreases the return on total assets tends to increase by 4.97 units, hence, showing a negative relationship between degree of aggressiveness and return on assets. The positive β coefficient of TCL/TA shows that as degree of aggressiveness of financing policy increases the profits tends to increase by 3.51 units. It points out the positive relationship between the aggressiveness of working capital financing policy and return on assets. The regression equation 1, thus, shows negative relationship between degree of aggressiveness of investment policy and return on assets and positive relationship between the aggressiveness of working capital financing policy and return on assets. The second regression model produced with Return on Equity (ROE) as dependent variable and TCA/TA & TCL/TA as independent variables has shown the same results. As TCA/TA increases, the return on equity tends to increase by 6.15 units, hence, showing a negative relationship between degree of aggressiveness and return on equity. The positive β coefficient of TCL/TA shows that as degree of aggressiveness of financing policy increases the profits tends to increase by 40.85 units. It points out the positive relationship between the aggressiveness of working capital financing policy and return on equity. Thus, the regression equation 2 also shows negative relationship between degree of aggressiveness of investment policy and return on

equity and positive relationship between the aggressiveness of working capital financing policy and return on equity.

IMPACT OF INVESTMENT AND FINANCING POLICY ON RISK

Table 9: Impact of Investment and Financing Policy on Risk: More Aggressive Investment & More Aggressive Financing Policy

Variable	SD Sales			SD ROA			SD ROE		
	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t
TCA/TA	-54.10	-.389	.699	-.22	-.097	.923	1.55	.172	.865
TCL/TA	12.26	.696	.490	6.02	2.078	.044	39.97	3.478	.001
Constant(α)	70.40	1.147	.258	3.35	3.319	.002	5.18	1.295	.203
	Multiple R= .110	R ² = .012	Adj R ² = -.036	Multiple R= .328	R ² = .108	Adj R ² = .064	Multiple R= .517	R ² = .267	Adj R ² = .231

Table 9 shows the impact of more aggressive investment policy and more aggressive financing policy on relative risk of variation in sales and profitability. The results of regression equation 3 show that as TCA/TA increases the degree of aggressiveness decreases and so does risk of variation in sales. This means that as degree of aggressiveness decreases the variation in sales also decreases. The positive regression coefficient of TCL/TA shows that as degree of aggressiveness of financing increases the risk of variation in sales also increases. Similar results are found for regression equation 4 whereby as degree of aggressiveness of investment policy decreases the risk of variation in return on assets decreases and as degree of aggressiveness of financing policy increases the risk of variation in return on assets increases. The results of regression equation 5 shows a negative relationship between TCA/TA i.e degree of aggressiveness of investment policy & variation in return on equity and a positive relationship between degree of aggressiveness of financing policy and the risk of variation in return on equity.

Table 10: Impact of Investment and Financing Policy on Risk: More Aggressive Investment & Less Aggressive Financing Policy

Variable	SD Sales			SD ROA			SD ROE		
	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t
TCA/TA	-15.45	-1.29	.201	-1.063	-.410	.683	-9.505	-1.33	.187
TCL/TA	11.26	.026	.979	13.183	1.39	.168	1.766	.068	.946
Constant(α)	25.33	3.081	.003	5.37	3.006	.004	21.27	4.34	.000
	Multiple R= .175	R ² = .031	Adj R ² = -.05	Multiple R= .188	R ² = .035	Adj R ² = .00	Multiple R= .180	R ² = .032	Adj R ² = -.03

Table 10 shows the results of impact of investment and financing policies on risk of the sectors that follow a more aggressive investment policy along with a less aggressive financing policy. The results of regression equation 3 show that as degree of aggressiveness of investment policy decreases the risk of variation in sales also decrease. As degree of aggressiveness of financing policy increases the risk of variation in sales also increases as

shown by positive regression coefficient of TCL/TA. Similar results are shown by regression equation 4 & 5 i.e a positive relationship between degree of aggressiveness of investment policy as well as financing policy and risk of variation in measures of profitability of return on assets and return on equity.

Table 11: Impact of Investment and Financing Policy on Risk: Less Aggressive Investment & More Aggressive Financing Policy

Variable	SD Sales			SD ROA			SD ROE		
	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t
TCA/TA	50.18	1.371	.181	-2.711	-.541	.593	1.905	.123	.903
TCL/TA	-41.57	-.941	.354	3.033	.501	.620	24.369	1.300	.203
Constant(a)	92.54	.677	.504	6.27	3.349	.002	10.28	1.774	.086
	Multiple R= .247	R ² = .061	Adj R ² = -.02	Multiple R= .100	R ² = .010	Adj R ² = -.05	Multiple R= .389	R ² = .152	Adj R ² = .09

Table 11 shows the impact of investment and financing policy on risk of the sectors that follow a less aggressive investment policy along with a more aggressive financing policy. The results of regression equation 3 show that as TCA/TA increases the degree of aggressiveness of investment policy decreases but risk of variation in sales increases. The regression coefficient of TCL/TA shows that as degree of aggressiveness of financing policy increases the risk of variation in sales decreases. The result of regression equation 4 shows that as degree of aggressiveness of investment policy decreases the risk of variation in return on assets decreases. The positive regression coefficient of 3.03 of TCL/TA shows that as degree of aggressiveness of financing policy increases the risk of variation in return on assets increases thus showing a positive relationship between degree of aggressiveness of financing policy and standard deviation of return on assets. The results of regression equation 5 show a negative relationship between degree of aggressiveness of investment policy and variation in return on equity. As TCA/TA increases, the degree of aggressiveness of investment policy decreases and risk of variation in return on equity increases. The β coefficient of 24.36 shows a positive relationship between degree of aggressiveness of financing policy and risk of variation in return on equity.

Table 12: Impact of Investment and Financing Policy on Risk: Less Aggressive Investment & Less Aggressive Financing Policy

Variable	SD Sales			SD ROA			SD ROE		
	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t
TCA/TA	12.92	1.728	.096	-3.469	-1.57	.128	-5.356	-1.50	.145
TCL/TA	10.68	4.355	.000	15.589	2.15	.041	25.345	2.16	.039
Constant(a)	-11.02	-1.42	.165	7.04	3.098	.005	12.65	3.445	.002
	Multiple R= .656	R ² = .430	Adj R ² = .387	Multiple R= .506	R ² = .25	Adj R ² = .19	Multiple R= .501	R ² = .251	Adj R ² = .19

Table 12 shows the relationship impact of investment and financing policies on relative risk of the sectors that follow a relatively less aggressive investment policy along with a relatively less aggressive financing policy. The results of regression equation 3 show that as TCA/TA increases the degree of aggressiveness of investment policy decreases but risk of variation in sales increases by 12.92 units. The regression coefficient of TCL/TA(10.68) shows that as degree of aggressiveness of financing policy increases the risk of variation in sales also increases, thus showing a positive relationship between the two variables. The result of regression equation 4 shows that as degree of aggressiveness of investment policy decreases the risk of variation in return on assets also decreases. The positive regression coefficient of 15.58 of TCL/TA shows that as degree of aggressiveness of financing policy increases the risk of variation in return on assets increases thus showing a positive relationship between degree of aggressiveness of financing policy and standard deviation of return on assets. The results of regression equation 5 show a similar positive relationship between degree of aggressiveness of investment policy & variation in return on equity and between degree of aggressiveness of financing policy & risk of variation in return on equity. Table 13 shows the summarized results of the impact of investment and financing policies on risk.

Table 13: Impact of Investment and Financing Policies on Risk: Summarized Result

		More Aggressive Investment Policy			Less Aggressive Investment Policy		
		SD Sales	SD ROA	SD ROE	SD Sales	SD ROA	SD ROE
More Aggressive Financing Policy	TCA/TA	-	-	+	+	-	+
	TCL/TA	+	+	+	-	+	+
Less Aggressive Financing Policy	TCA/TA	-	-	-	+	-	-
	TCL/TA	+	+	+	+	+	+

Table 13 shows the matrix of regression coefficients of the impact of investment and financing policies on risk. The result of the sectors that maintain more aggressive investment along with a more aggressive financing policy show that as investment policy becomes less aggressive the risk of variation in Sales, ROA and ROE decreases while as financing policy becomes more aggressive there is positive impact on Standard Deviation of Sales, ROA & ROE. Similar results are shown by the sectors that follow a more aggressive investment policy along with a less aggressive financing policy. Other investment policies and financing policies has a mixed impact on variation of sales and profitability.

Table 14: Impact of Investment and Financing Policy on Risk: Pooled Basis

Variable	SD Sales			SD ROA			SD ROE		
	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t	Regression coefficient (β)	t' value	Sign t
TCA/TA	-16.10	-.761	.448	-2.133	-1.68	.094	-6.740	-2.01	.046
TCL/TA	63.84	1.448	.149	4.580	1.738	.084	26.701	3.834	.000
Constant(α)	28.80	2.127	.035	6.23	7.693	.000	14.26	6.663	.000
	Multiple R=.118	R ² = .014	Adj R ² = .02	Multiple R=.167	R ² = .028	Adj R ² = .016	Multiple R=.299	R ² = .090	Adj R ² = .078

Table 14 shows the results of impact of investment and financing policies on pooled data of all the industrial sectors under study. The results of regression equation 3 show that as

TCA/TA increases the degree of aggressiveness of investment policy decreases but risk of variation in sales also decreases by 16.10 units. Thus there is a positive relationship between degree of aggressiveness of investment policy and risk of variation of sales. The positive regression coefficient of 63.84 of TCL/TA shows that as degree of aggressiveness of financing policy increases the risk of variation in sales also increases, thus showing a positive relationship between the two variables. The results of regression equation 4 & 5 show a similar positive relationship between degree of aggressiveness of investment as well as financing policy & the risk of variation of profitability as measured by return on assets & return on equity.

CONCLUSION

The study investigated the impact of working capital investment & financing policies on profitability & risk. The pooled data of all the industrial sectors found a negative relationship between the profitability measures of firms and degree of aggressiveness of working capital investment but a positive relationship between profitability and aggressiveness of working capital financing policies. Also, there is a positive relationship between degree of aggressiveness of investment policy as well as financing policy and risk of variation of sales. There is similar positive relationship between degree of aggressiveness of investment as well as financing policy & the risk of variation of profitability as measured by return on assets & return on equity. The above results are contradictory with Gardner et al. (1986), and Weinraub & Visscher (1998), as well as in accordance with Afza and Nazir (2007).

Thereby, the financial managers need to plan and control properly the level of investment current assets as well as in current liabilities of their firms. It is expected that a well designed and implemented investment and financing policy will help the managers to manage their working capital more efficiently and contribute positively to the creation of firm's value.

The study recommends that there should be reduction in volume of investment in current assets which can reduce the cost of financing working capital which will ultimately enhance profits and profitability of the firm.

Although the results of present study are in contradiction to some earlier studies on the issue, yet, this phenomenon may be attributed to the inconsistent and volatile economic conditions of India. The reasons for this contradiction may further be explored in upcoming researches and this topic is left for future.

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