Profitability and Working Capital Management

The Jordanian Case

Dr. Thair A. Kaddumi
Finance and Banking Science Department, Applied Science Private University, Jordan
P.O. Box 166 Postal Code 11931, Amman, Jordan
Tel: 962-795-004-334 E-mail: thair_lion@asu.edu.jo

Dr. Imad Z. Ramadan
Finance and Banking Science Department, Applied Science Private University, Jordan
P.O. Box 166 Postal Code 11931, Amman, Jordan
Tel: 962-796-177-911 E-mail: prof_imad67@yahoo.com

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Abstract

This paper aims to assess the effect of working capital management (WCM) on the performance. Utilizing unbalanced data for a sample of 49 Jordanian Industrial corporations listed at Amman Stock Exchange - 2005 to 2009. Using two alternative measures of profitability as proxy for the performance and five proxies for the Working Capital Management, estimation of twenty models panel data cross-sectional time series have been tested employing two regression models; the Fixed-Effects Model and the Ordinary Least Squares Model. The findings of our study found to be significantly consistent with the view of the traditional working capital theory. The results suggest that working capital management and performance are positively correlated. The regression results also concluded that the Jordanian industrial firms follow a conservative investing policy and less aggressive financing policy in the working capital, and a well-efficient managing of the working capital can add value to the shareholders wealth.

Keywords: Profitability, Working Capital, Efficient management, Jordan

1. Introduction

When we talk about implication of Working capital management –WCM we mean profit and liquidity. Hence, working capital proposes a familiar front for profitability and liquidity management. (Amalendu Bhunia, 2010) (Raheman and Nasr, 2007), a poor and inefficient WCM will lock-up in funds in fertile form of assets, thus reducing company`s liquidity and profit (Reddy and Kameswari 2004). Companies are facing growing pressure on costs and funding requirements as a result of fierce competition in the international markets. Such as, firms are looking for ways to make themselves more efficient in achieving profits, as an easy option firms may focus on trying to increase income or reduce expenses without the need to take the balance sheet items into consideration. But improving the existing capital structure can increase the ability of the firm to achieve more profit through providing financial resources which can be invested. Hence the importance and the purpose of this study is to analyze and investigate the effect of WCM on the performance of the Jordanian industrial firms, and to shed lights on the financing and investing policy of working capital for Jordanian industrial firms.

Using unbalanced panel data of 49 Jordanian industrial firms, which represents about 67% of the Jordanian industrial sector, from period of 2005 to 2009. Two alternative measures of the profitability where used as a proxy of the firm performance; return on total assets and net operating profitability, as for the working capital management measure, the study utilized the average collection period (ACP), average age of inventory (AAI), average payment period (APP), cash conversion cycle(CCC) and the net trade cycle(NTC). The models of the study were estimated using the regression Fixed-Effect Model (FEM) and Ordinary Least Square Method (OLS).

The practical implication of the study is to encourage managers of Jordanian industrial firms to implement policies and strategies that will lead to efficient and effective management of the components of working capital, due to its significant role in maximizing the market value of the firm, and therefore the owners of the company's wealth.

2. Related Literature

In August of 2010, CFO Research Services conducted an electronic survey on WCM to document how the global recession may have affected the working capital needs of U.S. companies. Survey results make it clear that U.S. finance executives are taking a much conservative approach both to managing working capital and to running the business in the aftermath of the global recession. When asked how the economic downturn had changed the ways their companies manage working capital, the largest number of respondents (about a third overall) echoed, in some fashion, the comments of two finance executives: "We became more cautious" and "[We are] more careful in our spending" (CFO Research, 2010).

(Md. Sayaduzzaman , 2006) defined Working capital as "*amount of funds which company needs to finance its day by day operations*". Working capital is an investment needed for daily business operations that should not exceed one year (Kesseven Padachi, 2006) (T. Afza et al., 2011). Literally speaking one of the most important corporate finance decisions is WCM due to its direct impact on company`s profitability and liquidity.

Working capital may be referred to as net working capital generally means: current assets (C.A.) less current liabilities (C.L.), where the concept of C.A. which appears in the statement of financial position / Balance Sheet is characterized by its fast turnover and its ease to convert it into liquid cash and current liabilities that matures and due for payment within a year or less. Corporations are required to maintain a daily balance between liquidity and profitability while conducting its operations. From another point of view (Azhagaiah R. et al. 2009) WCM is concerned with the problem that arises during C.A. and C.L. management. (M. Y. khan et al. 1999) both the terms working capital and net working capital normally refers to the difference between current assets and current liabilities, as the two terms are used interchangeably (McGuigan, et al. 2006).

(Kesseven Padachi, 2006) The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business, which should be invested efficiently to a void insolvency in the long run.

(Umara Noreen et al., 2009) the purpose of WCM is to manage the firm's C.A. to obtain the required equilibrium between risk and profit. (R. Autukaite et al. 2011) WCM is important to corporations of all sizes and can reduce their dependence on external and will grant corporations more flexibility. A growing number of organizations are treating WCM as one of the three pillars of cash management and as an integral component of enterprise risk management program (APQC, 2011).

(Veena Gundavelli, 2006) working capital tied up in cash, is being seen as a *"hidden reservoir"* of efficiencies that can be tied to fund growth strategies. Cash flow locked in credit, receivables and payables can be realized by using a recipe of business process improvements, technology application and effective management.

(L. J. Citman, 2000) C.A. and C.L. management is one of the financial manager`s most time-consuming activities as both constitute a large portion of total assets and total financing respectively. (McGuigan, et al. 2006) and (R. Autukaite et al., 2011) marked that in manufacturing sector, C.A. comprise about 40% of the total assets , (Horne and Wachowitz, 2000) states that among the wholesaling and retailing sector, the percentage is even higher between 50% - 60% percent range (McGuigan, et al. 2006).

Extensive and wide range of research working capital management has been conducted in public, private and Multinational companies. A study by (Mohammad Alipour, 2011) analyzing the relationship between WCM and profitability, concluded that profitability associated significantly with WCM, advising company`s managers to reduce the amount of receivable and inventory in order to create value for shareholders.

(Eljely, A., 2004) investigated the type of relationship between liquidity and profitability by measuring current ratio and cash gap on a sample of 29 joint stock companies in Saudi Arabia and the result of the study is there is significant negative relation between both the variables amount, another study by (T. Afza et al., 2011), on a sample of 208 listed companies in Karachi Stock Exchange- KSE, the result of the study indicated a negative relationship between working capital policies and profitability and no significant relationship between the level of current assets and liabilities and risk of the firms.

(Abdul Raheman et al., 2007), (Olufemi I. Falope et al. 2009) studied the effect WCM different variables including the Average collection period - ACP, Inventory turnover in days, Average payment period - APP, CCC and Current ratio on Net operating profitability of Pakistani firms, the results is a strong negative relationship between the WCM variables and firm`s profitability and same negative relation between liquidity and profitability, indicating that, as cash conversion cycle or liquidity increase corporation`s profitability will decrease.

Other researchers like (Ghassan AL Taleb et al., 2010), studied the determinant of effective WCM, concluded that, a statistical significant relationship between the working capital and operating cash flow deflated by total assets, Sales

Growth, Return on assets, and results show a statistical significant relationship between all independent variables and working capital at every year and all period years of the study. (André Luiz de Souza & Valcemiro Nossa, 2010), analyzed the adequacy of a WCM normative model, in terms of profitability, liquidity and solvency, they found that certain point of time – where financial C.A. exceed onerous C.L. – is accompanied with higher levels of profitability, liquidity and solvency, reiterating the importance of efficient WCM to the performance and survival of healthcare insurance companies.

(Md. Sayaduzzaman,2006), pointed out that effective WCM will achieve a high level of profit and positive cash inflow and the company will enjoy good facility of cash credit and working capital loans from various commercial banks due to its satisfactory level of liquidity. (R. Autukaite et al., 2011) pointed out that shareholders undervalue cash holdings and net working capital, and alert management not to undervalue the importance of cash holdings and WCM, where (Kesseven Padachi, 2006) research on WCM trend and its impact on firms' performance, show that high investment in inventories and receivables is associated with low level of profitability. (Sai D. & John K. 2010), analyzed the relationship between investment in fixed capital, working capital and financing constraints, they concluded that firms with high working capital, displayed excessive sensitivity between investment in working capital and cash flows (WKS) and low sensitivity between investments in fixed capital and cash flows (FKS), And that firms with high WKS and low FKS showed high rates of fixed investment, despite of the restrictions on the sources of external funding.

3. Data

Table 1 list the variables used in this study, notation, measure, and the expected effect based on the literature. The study employed time-series and econometric analyses using an unbalanced panel data of 49 Jordanian industrial firms during the period 2005-2009. The data for the firms in the sample are derived from the Amman Stock Exchange databases *(ASE)* during the study period, resulting in 229 firms year observations. For the econometric analysis, the study adopted the Average Collection period *(ACP)*, Average Age of Inventory *(AAI*), Average Payment Period *(APP)*, Cash Conversion Cycle *(CCC)* and Net Trading Cycle *(NTC)* as measures of Working Capital Management; and Return on Total Assets *(ROTA)* and Net Operating Profitability *(NOP)* as measures of Profitability. Other variables were included in the model as control variables namely: Gross Working Capital Turnover *(GWC_T)* defined as the ratio of net sales to total current assets, the ratio of the current assets to total assets as a proxy of the Investing Policy of the Working Capital *(INVP)*, the ratio of the current liabilities to total assets as a proxy of the Financing Policy of the Working Capital *(FINP)*, Size of the firm *(lnS)* , Investment Growth Opportunities *(INGO)* and Liquidity *(LIQU).*

4. Methodology

The effect of the WCM on performance of Jordanian Industrial Firms is tested by panel data regression. The panel data regression used has some benefits relative to period average cross-sectional data like increasing in the degrees of freedom, more precise estimates due to the efficiency gain brought by the availability of large number of observations, and reducing the problem of co- linearity among explanatory variables. These advantages lead to extra efficient estimation.

To assess the possible effect of WCM on firm's performance, the general model used for our analysis has the form:

$$Profitability_{it} = f(WCM_{it}, Firm's\ Chracteristics_{it}) \quad (1)$$

Where the subscripts *i, t* are the firm *i* at the time *t*; Profitability is the proxy for the firm's performance and has two alternative measures: return on total assets and net operating profitability, *WCM* the vector of working capital management variables, Firm's characteristics are the vectors of control variables incorporates*; GWC_T, INVP, FINP, lnS, INGO* and *LIQU.*

Equation *1* suggests that the profitability of the firm *i* at time *t* is a function of its *WCM* and its specific characteristics. So, the linear regression model can be estimated by converting equation 1 as follows:

$$Prof_{it} = \alpha + \beta_1(WCM_{it}) + \gamma_1(GWC\_T_{it}) + \gamma_2(INVP_{it}) + \gamma_3(FINP_{it}) + \gamma_4(lnS_{it}) + \gamma_5(INGO_{it}) + \gamma_6(LIQU_{it}) + \varepsilon_{it} \quad (2)$$

Where; *Prof* is the two alternative performance measures for i^{th} cross-sectional firm for the t^{th} time period, with *i = 1,2,3,…,49, t = 1,2,3,4,5, α* is constant, *β1* unknown parameters of the *WCM* variables to be estimated, *WCM* is the independent variable used as a vector of *ACP, AAI, APP, CCC* and *NTC*, *INGO* is the investment growth opportunities, *LIQU* is the liquidity, *GWC_T* is the gross working capital Turnover, *INVP* is the investing policy of working capital, *FINP* is the financing policy of working capital, *lnS* is the size of firm. *γ's* unknown parameters of the firm's specific characteristics included in the model to be estimated, and ε is the error term. It is expected that *ACP*, *AAI*, *CCC* and *NTC* to associated inversely with the performance.

The Econometric model used for the regressions analysis is displayed in the basic form in equation 2 and the *WCM* will be changed with its components *ACP, AAI, APP, CCC* and *NTC* in turn resulting in five basic models as follows:

$$Prof_{it} = \alpha + \beta_1(ACP_{it}) + \gamma_1(GWC_{T_{it}}) + \gamma_2(INVP_{it}) + \gamma_3(FINP_{it}) + \gamma_4(lnS_{it}) + \gamma_5(INGO_{it}) + \gamma_6(LIQU_{it}) + \varepsilon_{it} \quad (3)$$

$$Prof_{it} = \alpha + \beta_1(AAI_{it}) + \gamma_1(GWC\_T_{it}) + \gamma_2(INVP_{it}) + \gamma_3(FINP_{it}) + \gamma_4(lnS_{it}) + \gamma_5(INGO_{it}) + \gamma_6(LIQU_{it}) + \varepsilon_{it} \quad (4)$$

$$Prof_{it} = \alpha + \beta_1(APP_{it}) + \gamma_1(GWC\_T_{it}) + \gamma_2(INVP_{it}) + \gamma_3(FINP_{it}) + \gamma_4(lnS_{it}) + \gamma_5(INGO_{it}) + \gamma_6(LIQU_{it}) + \varepsilon_{it} \quad (5)$$

$$Prof_{it} = \alpha + \beta_1(CCC_{it}) + \gamma_1(GWC_{T_{it}}) + \gamma_2(INVP_{it}) + \gamma_3(FINP_{it}) + \gamma_4(lnS_{it}) + \gamma_5(INGO_{it}) + \gamma_6(LIQU_{it}) + \varepsilon_{it} \quad (6)$$

$$Prof_{it} = \alpha + \beta_1(NTC_{it}) + \gamma_1(GWC\_T_{it}) + \gamma_2(INVP_{it}) + \gamma_3(FINP_{it}) + \gamma_4(lnS_{it}) + \gamma_5(INGO_{it}) + \gamma_6(LIQU_{it}) + \varepsilon_{it} \quad (7)$$

Following (Deloof, 2003), the models are estimated using the regression-based framework Fixed-Effect Model *(FEM)* and Pooled Ordinary Least Square Method *(OLS)*, and with the two alternatives of the performance proxy, five variables of the WCM, twenty models will be tested as shown in Table 4 and 5 to achieve the objectives of the study.

5. Empirical Results

The result of analyzing the effect of the *WCM* on the firm's performance using different measures of *WCM* and the two alternative measures of the profitability are presented in the following section.

5.1 Descriptive Analysis

The mean, median, standard deviation, maximum and minimum of the variables are presented in Table 2. Table 2 shows that Jordanian industrial firms have on average about 100 days of *ACP*, 82 days of *AAI*, 119 days of APP, 63 days of *CCC* and 72 days of *NTC*, the sample firms have on average about 12% annually sales growth, almost 54% current assets, and the current assets on average covers the current liabilities 3 times. The profitability measures used in the analysis are *NOP* and *ROTA* as proxies for the performance, *ROTA* (*NOP*) are on average 6.65% (10.39%) with a standard deviation of .0841 (.0964) .

5.2 Correlation Analysis

Table 3 presents Pearson correlation coefficients matrix. The results show that the *ROTA* and *NOP* are negatively significantly associated with *ACP, AAI, CCC, and NTC.* Also table 3 shows that the *ROTA* and *NOP* are significantly positively associated with *APP* indicating that more profit firms have on average relatively longer payment period compared to less profitable firms due to its credit reputation.

These result are consistent with the view that quickly turning over the inventory without resulting in stock-outs, collecting accounts receivable as quickly as possible without losing sales and slowly paying the suppliers without affecting the credit rating of the firm are associated with increase in profitability.

Table 3 also shows that *ROTA* and *NOP* are significantly negatively correlated with financing policy of working capital indicating that increasing reliance on debt by firms will lead to reduction of profitability. The Gross working capital turnover, firm's size, Investment Growth Opportunities, investing policy of working capital and Liquidity are significantly positively correlated with *ROTA* and *NOP*, indicating that increasing the firm's size, the sales annual growth and the ability of the firm's to meet its short terms obligations are associated with increase in profitability.

5.3 Regression Analysis

Table *4* (Table *5*) show the result of the *FEM* estimations models *1* to *5* (models *11* to *15*) and the *OLS* method estimations models *6* to *10* (models *16* to *20*) with *ROTA* (*NOP*) as the dependent variable. By comparing the adjusted R-squared values for the *FEM* and *OLS* at table *4* and *5,* it can be concluded immediately that the use of the

FEM improves the explanatory power of the models, where the value of the adjusted R-squared ranged between 0.653 - 0.844 in the *FEM*, it ranged between 0.328 - 0.408 in the *OLS* method, therefore, the focus will be on *FEM* in the regression analysis. Results being not significantly different from zero will not be reported.

In models *1* to *5* and *11* to *15* all coefficients of the working capital management have the expected signs, and are significantly different from zero, except for the *AAI* and *APP* in model *2* and *3* that were not significantly different from zero, indicating that the firm's profitability measured by *ROTA* (*NOP*) affected by the *ACP*, *CCC* and *NTC* (*ACP*, *AAI*, *APP*, *CCC* and *NTC*). These results are consistent with the traditional theory of working capital management, where conservative policy expects to reduce profitability in order to maintain high liquidity. The result of the regression models *1* to *5* indicate that firms can increase its *ROTA* by increasing its *GWC_T* and/or its *INVP*, while regression models *11* to *15* indicate that firm can increase its *NOP* by increasing its *GWC_T*, *INVP, FINP* and/or its *LIQU*.

In model *1 (11)* results concluded that there is a statistically significant relation between *ROTA* (*NOP*) and *ACP* where P-value = *0.041 (0.093)*, which means that an increase in the average collection period by 1 day will result in decreasing the profitability by *0.067% (0.072%)*.

Model *2* (*12*) shows that the coefficient for *AAI* is negative and insignificant (significant) with P-value equals to *0.103 (0.047),* which implies that shorting the average days of inventory by 1 day will result in increasing the *NOP* significantly by *0.097%*.

Model *3* (*13*) shows a positive coefficient of *APP*, which indicates that lengthening the *APP* is associated with profitability in the form of increasing the *NOP* by 0.038% for each day increasing in the *APP*. Even thou the relation between *ROTA* and *APP* is not significant in model 3 it is consistent with the view that longer a firm takes to pay its suppliers, higher working capital can be used to improve its ability to generate profit.

In model *4 (14)* a negative significant relation is found between the *CCC* and firm's performance, where the P-value = *0.013 (0.032)*. This result is consistent with the view that shortening the *CCC* can maximize the shareholders wealth by generating more profit for the firm.

In model *5 (15)* following Shin and Soenen (1998) another comprehensive measure of the working capital management is used. The result of this model confirmed the result of the *CCC* model, as evident from the statistically significant inverse relation between the *NTC* and the profitability, implying that firms with relatively shorter *NTC* can create additional value for their shareholder by been more profitable.

In models 6 to 10 and 16 to 20 the determinants of the firm's profitability are estimated using Pooled *OLS* rather than *FEN*, where the *OLS* ignores the firms' differences in profitability due to specific characteristics. In general the results confirm the statistical significance influence of the working *WCM* on firm's performance.

6. Conclusion

This study aimed to shed light on the effect of working capital management on the profitability of Jordanian Industrial firms, using two alternative measures of profitability as a proxy of the performance and two regression models, the panel data cross-sectional time series has been used.

The result shows that for the Jordanian industrial firms, working capital has a significant effect on the firm's performance, and has a basic role in maximizing the wealth of the shareholders by making the firm more profitable through shorting the cash conversion cycle and net trading cycle.

The negative relationship of average collection period, average age of inventory and the positive relationship of average payment period with the profitability imply that keeping lesser inventory and shortening the collection period along with extending the payment period will increase profitability for the Jordanian industrial firms.

The significant positive effect of the current assets to total assets ratio on profitability implies that the Jordanian industrial firms have in general a conservative investment policy in working capital, such as, the significant negative impact of the current liabilities to total assets ratio on profitability indicates less aggressive financing policy in the working capital for the Jordanian industrial firms.

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Table 1. Definition, notation and expected effect of the explanatory variables

		Variable	Measure	Notation	Expected Effect
Dependent variable		Return on total assets	Net profit before tax / Total assets	*ROTA*	
		Net operating profitability	(EBIT + Depreciation)/ Total assets	*NOP*	
Explanatory Variables	Working Capital Management	Average collection period	(Accounts Receivable/ Net Sales) * 365	*ACP*	-
		Average Age of Inventory	(Inventory / Cost of goods sold) *365	*AAI*	-
		Average Payment Period	(Account Payable / Purchases) *365	*APP*	+
		Cash Conversion Cycle	AAI + ACP - APP	*CCC*	-
		Net Trading Cycle	(Inventory / Net sales)*365 +ACP - APP	*NTC*	-
	Control Variables	Gross Working Capital Turnover	Net Sales / Current assets	*GWC_T*	+
		Investing Policy of Working Capital	Current assets / Total assets	*INVP*	?
		Financing Policy of Working Capital	Current Liabilities / Total assets	*FINP*	?
		Size of firm	Natural Logarithm of Sales	*lnS*	+
		Investment Growth Opportunities	$(sales_t - Sales_{t-1}) / Sales_{t-1}$	*INGO*	+
		Liquidity	Current Asset / Current Liabilities	*LIQU*	?

Table 2. Descriptive Statistics of variables

Variable	N	Mean	Std. Dev	Median	Minimum	Maximum
ROTA	*229*	0.0665	0.0841	.0564	-.23	.44
NOP	*229*	0.1039	0.0964	.0838	-.15	.52
ACP	*229*	99.924	75.593	84.0998	2.25	387.02
AAI	*229*	81.677	75.708	59.8250	2.42	608.23
APP	*229*	118.56	87.359	103.8236	3.43	396.41
CCC	*229*	63.039	39.888	129.2814	-115.35	474.42
NTC	*229*	71.72	34.547	117.0233	-105.92	516.77
GWC_T	*229*	1.423	0.81233	1.2321	.04	4.83
INVP	*229*	0.537	0.21533	.4858	.10	.92
FINP	*229*	0.266	0.14800	.2536	.01	.86
lnS	*229*	16.719	1.73349	16.3534	12.18	21.6
INGO	*229*	0.121	0.2742	.0812	-.0312	1.392
LIQU	*229*	3.044	1.29426	1.8223	.35	17.66

Variables definitions are given at Table 1

Table 3. Person Correlation coefficients between Variables

	ROTA	NOP	ACP	AAI	APP	CCC	NTC	GWC_T	INVP	FINP	lnS	INGO
ROTA	1											
NOP	.865**	1										
	.000											
ACP	-.214**	-.317**	1									
	.001	.000										
AAI	-.180**	-.105*	.278**	1								
	.006	.014	.000									
APP	.108**	.156*	.265**	.011*	1							
	.006	.018	.000	.478								
CCC	-.017*	-.152*	.571**	.768**	-.391**	1						
	.043	.021	.000	.000	.000							
NTC	-.169*	-.303**	.564**	.528**	-.402**	.852**	1					
	.011	.000	.000	.000	.000	.000						
GWC_T	.146*	.188**	-.360**	-.248**	-.338**	-.272**	-.352**	1				
	.027	.004	.000	.000	.000	.000	.000					
INVP	.215**	.130	.083	.052	.189**	.135*	.097	-.187**	1			
	.001	.050	.211	.435	.004	.041	.144	.005				
FINP	-.258**	-.261**	.022	.240**	-.165*	-.221**	-.238**	.254**	.226**	1		
	.000	.000	.741	.000	.012	.001	.000	.000	.001			
lnS	.305**	.331**	-.222**	.031	-.228**	-.280**	-.335**	.602**	.145*	.426**	1	
	.000	.000	.001	.638	.001	.000	.000	.000	.028	.000		
INGO	.011*	.046**	-.052	-.012	.036	.001	.010	-.036	.005	-.030	.027	1
	.087	.049	.435	.854	.592	.990	.877	.592	.938	.650	.687	
LIQU	.239**	.191**	-.024	-.23**	.186**	.229**	.250**	-.240**	.161*	-.626**	-.363**	.033
	.000	.004	.717	.000	.005	.000	.000	.000	.015	.000	.000	.618

Variables definitions are given at Table 1; *, **; correlation is significant at 0.05, 0.01 respectively.

Second line Sig. (2-taild)

Table 4. Impact of Working Capital Management on Corporate Profitability
Dependant Variable: ROTA

Regression Model	Fixed Effect Model					Ordinary Least Square Method				
Model	1	2	3	4	5	6	7	8	9	10
	ACP	AAI	APP	CCC	NTC	ACP	AAI	APP	CCC	NTC
Constant	.157	.155	.160	.111	.064	-.285***	-.311***	-.311***	-.305***	-.270***
	.490	.481	.468	.611	.777	.000	.000	.000	.000	.000
ACP	-.00067**	-	-	-	-	-.00078**	-	-	-	-
	.041					.027				
AAI	-	-.0073	-	-	-	-	-.0024*	-	-	-
		.103					.063			
APP	-	-	0.0035	-	-	-	-	-.00075**	-	-
			.171					.041		
CCC	-	-	-	-.00083**	-	-	-	-	-.00029*	-
				.013					.062	
NTC	-	-	-	-	-.00061*	-	-	-	-	-.00072**
					.053					.039
GWC_T	.30*	.026	.30*	.030*	.026	000	.005	.001	.004	.001
	.056	.103	.050	.061	.116	.965	.550	.902	.558	.888
INVP	.317***	.319***	.327***	.317***	.306***	.098***	.097***	.094***	.098***	.104***
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
FINP	-.075	-.079	-.065	-.076	-.085	-.264***	-.270***	-.260***	-.272***	-.280***
	.179	.156	.247	.180	.135	.000	.000	.000	.000	.000
lnS	-.017	-.016	-.019	-.016	-.011	.023***	.023***	.024***	.023***	.022***
	.265	.285	.227	.305	.499	.000	.000	.000	.000	.000
INGO	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	.431	.399	.476	.417	.344	.385	.462	.440	.460	.456
LIQU	.002	.002	.002	.002	.002	.002	.002	.002	.002	.003
	.392	.446	.460	.380	.331	.315	.257	.313	.254	.189
R-Square	.737	.738	.738	.736	.738	.361	.349	.354	.349	.377
Adjusted R-Square	.653	.655	.655	.653	.654	.341	.328	.333	.329	.357
df Regression	55	55	55	55	55	7	7	7	7	7
Residual	173	173	173	173	173	221	221	221	221	221
Total	228	228	228	228	228	228	228	228	228	228
F.	8.816	8.875	8.883	8.786	8.837	17.831	16.910	17.273	16.954	19.070
Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Variables definitions are given at Table 1; *, **, ***; significant at 0.1, 0.05, 0.01 respectively; Second line Sig. (2-taild)

Table 5. Impact of Working Capital Management on Corporate Profitability
Dependant Variable: NOP

Regression Model	Fixed Effect Model					Ordinary Least Square Method				
Model	11 ACP	12 AAI	13 APP	14 CCC	15 NTC	16 ACP	17 AAI	18 APP	19 CCC	20 NTC
Constant	-.144*	-.132*	-.134*	-.072**	-.056*	-.273***	-.304***	-.327***	-.285***	-.245***
	.077	.097	.094	.012	.079	.000	.000	.000	.000	.000
ACP	-.00072*	-	-	-	-	-.00078**	-	-	-	-
	.093					.027				
AAI	-	-.00097**	-	-	-	-	-.0024*	-	-	-
		.047					.063			
APP	-	-	.00038*	-	-	-	-	-.00075*	-	-
			.073					.051		
CCC	-	-	-	-.00051**	-	-	-	-	-.00044*	-
				.032					.062	
NTC	-	-	-	-	-.00049**	-	-	-	-	-.00072**
					.039					.036
GWC_T	.031*	.025*	.032**	.030**	.030**	-.002	.004	.004	.005	.000
	.024	.069	.020	.030	.040	.784	.684	.647	.559	.955
INVP	.240***	.244***	.254***	.239***	.237***	.080***	.086***	.076**	.090***	.091***
	.000	.000	.000	.000	.000	.006	.004	.012	.003	.001
FINP	-.082*	-.088*	-.069	-.085*	-.086*	-.313***	-.333***	-.318***	-.340***	-.345***
	.099	.076	.166	.093	.089	.000	.000	.000	.000	.000
lnS	-.012	-.010	-.013	-.009	-.008	.027***	.027***	.028***	.026***	.023***
	.386	.447	.329	.497	.578	.000	.000	.000	.000	.000
INGO	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
	.159	.447	.130	.181	.197	.932	.716	.770	.760	.729
LIQU	.003*	.003	.003	.003*	.004*	.001	.001	.001	.001	.002
	.081	.187	.113	.074	.071	.727	.552	.609	.521	.364
R-Square	.843	.844	.844	.841	.841	.379	.349	.340	.361	.422
Adjusted R-Square	.793	.795	.795	.791	.791	.360	.329	.319	.341	.403
df. Regression	55	55	55	55	55	7	7	7	7	7
Residual	173	173	173	173	173	221	221	221	221	221
Total	228	228	228	228	228	228	228	228	228	228
F.	16.851	17.074	17.041	16.680	16.687	19.304	16.941	16.269	17.868	23.013
Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Variables definitions are given at Table 1; *, **, ***; significant at 0.1, 0.05, 0.01 respectively; Second line Sig. (2-taild)