

Working Capital Management and Profitability Relationship-Evidences from Emerging Markets of UAE

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Abstract- *The real estate & construction sector of UAE has seen tremendous expansion during 2004-2007 and a deep decline in the recent past due to global crisis. In spite of showing some signs of recovery in 2011, these sectors are still struggling with the excess of supply over demand, sluggish growth, so it becomes imperative to explore the relationship between the working capital management and the profitability. In the current study all real estate and construction companies listed on Abu Dhabi stock exchange have been studied for a period of 4 years from 2007-2010. The study is based on the secondary data obtained from the annual reports of the respective companies. The Return on Assets has been taken as dependent variable and cash conversion cycle and its components have been taken as independent variables. Size, leverage and liquidity are taken as control variables. The study uses correlations and multiple regression analysis to draw interpretations. The key findings of this study are that there exists a significant negative relationship between the profitability and the length of the firm's cash conversion cycle. Longer the cash conversion cycle, lesser will be the profitability. The payables and inventories period are also found to be significant factors. This paper is first attempt to study the working capital management and profitability relationship in UAE's Real Estate and Construction companies, (as per author's knowledge) as no previous research has been undertaken in this context. The practical implication of this research is to guide the actions of UAE's Real Estate and construction company's policy makers. The results of this study can be used for giving the strategic focus on reduction of cash conversion cycle in order to enhance profitability. The effective management of Inventory and payables can ensure a sound bottom-line for the real estate and construction companies.*

Keywords- *Working Capital Management; UAE Real Estate And Construction Companies; Profitability; Emerging Markets; Impact; Cash conversion cycle*

1. INTRODUCTION

Proper management of Working capital is one of the most important aspects of corporate finance, as it will impact the overall profitability, operating efficiency and Liquidity of the firm. The firms with Low working capital have a higher Return on Assets where as greater the working capital, greater is the liquidity the firm enjoys but by having more funds tied up in low return yielding current assets or working capital leads to low over all Low returns. Horne and Wachowicz (2004) brings out that the high level of current assets will lower the profitability, whereas a low level of current assets may lead to difficulty in effective management of day to day operations. A mismanagement of working capital can lead to terrible results especially for real estate and construction companies because the high amount tied up in inventories and receivables. Moreover in the light of recent financial crisis, the inability of the firm to manage its working capital properly can result into business failure (Smith, 1973). This paper is a pioneer attempt to explore the relationship between the working capital management and the profitability of Real Estate and Construction Companies in UAE. Real Estate and construction companies, chosen under the current study are the most important non-oil sector and have been a barometer of growth and development of UAE, by

contributing 23% towards the GDP of the country. The real estate & construction sector of UAE has seen tremendous expansion during 2004-2007. Driven by the infrastructure and building drive in the country, the real estate and construction has seen a boom, with the real estate value grew at 29% CAGR from AED 36.2 billion in 2005 to AED 78.5 billion in 2008, while the construction sector also recorded a notable level of growth at a CAGR of 21% to AED 69.2 billion in 2008 compared to 39 billion in 2005. (UAE Economic Report, 2011). The real estate which has witness a sharp progress and double digit growth started to feel the heat during late 2008 and 2009. Like other parts of the world, the UAE's economy was also hit badly by the world economic turmoil. Dubai tops the list of the world's cities that have experienced housing price declines in 2009. The share of construction and the real estate sector in Dubai's GDP declined from 30% in 2007 to 23% in 2010. (Kamco, 2011) Due to the fall in the anticipated demand and no buyers, the real estate companies put the high flying projects on hold or cancelled or rescheduling. In spite of showing some signs of recovery in year 2011, these sectors are still struggling with the excess of supply over demand, sluggish growth and unsold inventory, so it becomes imperative to find out to what extent these companies can enhance the level of profitability by managing working capital effectively. The

specific objective of the study is to find out whether is there any relationship between the working capital management indicators with the firm's profitability. The paper has been organized in following manner-Section 2 provides the review of literature done in this study. Section 3 gives details of research methodology which includes the research tools, measures of variables and data collection. Section 4 discusses the analysis and results of the study. The Conclusions has been given in section 5. The paper draws important revelations' regarding the relationship and the extent profitability has been influenced by the working capital management of UAE companies. The key findings of this study are that there exists a significant negative relationship between the profitability, measured through Return on Assets (ROA) and the length of the firm's cash conversion cycle. The firms can increase their profitability by reducing the cash conversion cycle. Longer the cash conversion cycle, lesser is the profitability and shorter the cash conversion cycle, higher the profitability. Thus effective management of working capital is very essential for enhancing the profitability of the concerns.

2. REVIEW OF LITERATURE

Working capital management has received considerable attention by the researchers but most studies have focused on the developed countries and few studies have been conducted in emerging economics. This section gives brief review of various studies conducted in Working capital management area. Shin and Soenen (1998) ha empirically examined the relationship between the working capital management measured by Net Trade Cycle and profitability measured through gross operating profit for American companies during 1975–1994. They found a strong negative relationship between the WCM and profitability and concluded that a shorter Net Trade Cycle leads higher return. Deloof (2003) also established a strong negative relationship between the corporate profitability and WCM for Belgium firms. Many other studies have got the similar results like Lazaridis (2006) have got the similar results in Athens Stock Exchange (ASE) for the period of 2001–2004, Nobanee (2011) for Japanese firms for the period from 1990 to 2004 and Wang (2002) got for Japan and Twaiwan firms. Garcia et al. (2011) studied the working capital management and its relationship with profitability for non- financial companies listed in 11 European Stock Exchanges for a period of 12 years from 1998 to 2009. By applying GLS and OLS regression analysis, they suggested that companies can improve their profitability by reducing the time span during which working capital is tied up within the company. They also find out an inverse relationship between liquidity measured by Current Ratio and profitability. Karaduman et al. (2010) used panel method for studying the relationship between the working capital and profitability in selected companies in Istanbul stock exchange and concluded that the company's return on assets increases by shortening number of day's accounts receivable, accounts payable,

number of days of inventory and cash conversion cycle. Zariyawati (2009) used pooled OLS regression analysis of firms in Malaysia and Padachi (2006) used panel data analysis for Mauritian small manufacturing firms. Both got similar results. Falope and Ajilore (2009) studied the working capital and profitability relationship in Nigerian companies. They found out a strong negative relationship between the ROA used as a proxy of profitability and cash conversion cycle by applying regression analysis. Raheman and Nasr (2007) studied the effect of different variables of working capital management including the Average collection period, Inventory turnover in days, Average payment period, Cash conversion cycle and Current ratio on the Net operating profitability of Pakistani firms and found a inverse relationship between cash conversion cycle and profitability. García-teruel et al. (2007) studied small to medium-sized enterprises covering the period 1996–2002 and concluded that companies can increase the value by reducing their inventories and the number of days for which their accounts are outstanding. Dong and Su (2009) studied the relationship between profitability measured through gross operating profit and the cash conversion cycle and its components for listed firms in Vietnam stock the similar results with Profitability negatively related to the cash conversion cycle. Contrary to earlier researches, Abuzayed (2012) found that profitability was affected positively with the cash conversion cycle while studying the small emerging market, namely Amman stock exchange for the period from 2000 to 2008. Ramachandran and Janakiraman (2009) used three different measures for Working capital efficiency namely Performance Index, Utilization Index and Efficiency Index for establishing the relationship between the Working Capital Management Efficiency and Earnings before Interest & Taxes of the Paper Industry in India during 1997–1998 to 2005– 2006. They found that the accounts payable days had a significant negative relationship with Earnings before Interest & Taxes and concluded that by deploying payment to suppliers, the companies improved the Earnings before Interest & Taxes. While Vijaykumar (2011) stressed upon lengthening the accounts payables period for study conducted 20 Indian Automobile firms for the period 1996–2009 while reducing the cash conversion cycle, accounts receivables period and inventory conversion period. The Review of literature clearly brings out that a number of studies have been conducted on working capital, its efficiency and components in developed and developing countries but hardly any work has been done in Middle East especially in UAE.

3. NEED FOR THE STUDY & METHODOLOGY

There have been abundant studies done in the area of working capital management but very limited research work is available is on this issue in Gulf countries and hardly any work been done in UAE context. So there is a

need to examine the working capital and profitability tradeoff for UAE firms. The study aims to investigate the relationship between the working capital management and profitability for UAE Real estate and construction firms. This paper adds to the existing body of knowledge by empirically chalking out the relationship between the working capital Management and the profitability of UAE real estate and construction companies. This paper is first attempt to study the working capital management and profitability relationship in UAE's Real Estate and Construction companies, (as per author's knowledge) as no previous research has been undertaken in this context.

3.1 HYPOTHESIS OF THE STUDY

The study has following hypothesis-

Ho: There is no relationship between the cash conversion cycle and profitability

H1: there exists a relationship between the cash conversion cycle and profitability

Ho: There is no relationship between the cash conversion cycle components (Account payable, Account Receivable and Inventory) and profitability.

H1: There exists a relationship between the cash conversion cycle components (Account payable, Account Receivable and Inventory) and profitability

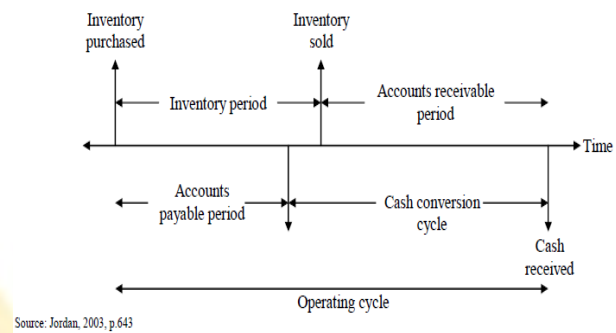
3.2 DATA AND VARIABLES

In the current study all Real Estate and Construction Companies listed on Abu Dhabi Stock Exchange have been studied for a period of 4 years from 2007-2010. For the purpose of study only secondary data have been used. The study is based on the secondary data obtained from the company's financial statements which have been taken from Abu Dhabi Stock exchange website. The study uses correlations and multiple regression analysis to draw interpretations.

3.3 VARIABLES USED FOR ANALYSIS

For measuring the working capital efficiency the most popular measure Cash Conversion Cycle (CCC) (Deloof 2003), Zariyawati (2009), Net Trade Cycle termed by Shin & Soenen, (1998)] has been used. Cash Conversion cycle has been defined as Period between firm's payment for materials and collection on its sales, less the days credit given by the creditors. (Brealey, 2009). The firm's cash conversion cycle shows how quickly a firm can turn its inventory into sales to collecting cash while using the days credit purchases. The shorter the cycle, the better for the firm. The cash conversion cycle has three components- Days Inventory outstanding also called as Inventory period, Days sales outstanding (Accounts receivable period) and Days payables outstanding (Accounts payable period). The cash conversion cycle can be positive or negative. To have shorter cash conversion cycle the firms have to cut on the day's sales are outstanding, reduce inventory period and have more payables days outstanding.

Figure 1: The cash conversion cycle



Cash conversion cycle = Days Inventory Outstanding + Days Sales Outstanding - Days payables Outstanding

In this study we have also used Cash Conversion Efficiency (CCE) as a measure of working capital efficiency. CCE measures the ability of the firm to convert the revenues into cash and indirectly captures the efficiency of working capital management of a firm. (Anand (2001), REL & CFO (2001). Like earlier studies the size, leverage and liquidity have been taken as control variables [Ramachandran and Janakiraman (2009), Raheman and Nasr (2007)]. Since the period of study involves the economic recession period of 2008-2009, a dummy variable has been used to figure out whether there is a difference between the pre-crisis and crisis period. Consistent with previous studies (Karaduman et al., 2010), Garcia et al., 2011), the overall profitability has been measured by Return on Assets which is the dependent variable. Return on Assets has been calculated as Net profit after tax/ Invested Capital. The list of all dependent and independent variables has been given in Table number- I.

4. FINDINGS

This section presents the findings of empirical analysis. First, it gives the descriptive statistics of the variables used in the research (depicted by Table II in Appendix). Second, it discusses the results of correlation analysis and regression analysis and the interpretations that can be drawn for the statistical results. The average ROA for the period under study is 5%, with lowest ROA as -26% and 20.55% as the highest. The average CCC of UAE real estate and construction companies have been 378 days. The maximum CCC is as high as 2738 days. The very high CCC is particularly true in case of real estate companies. The mean Days of sales outstanding is 118 days, this means on an average RE&C firms takes 118 days to collect cash from sales. The highest standard deviation is in case of DIO. The DIO Mean reflects that on an average it takes 319 days to convert the inventory to sales. The high DIO pretty justifiable because of the nature of Industry involved (generally the real estate firms have the

highest number of days before the inventory is sold out). The mean DPO is 60 days, reflecting that on an average the RE&C firm takes 60 days for making the payment to its creditors. The average CR ratio of RE&C firms is 5.46 times and Debt ratio of .45 times.

The correlation results have been given in the Table II in Appendix, which shows that CCE is significantly positively related to ROA (0.483), which signifies that a firm with higher cash conversion efficiency will be high in profitability or vice versa. The CCC is having a negative correlation with ROA (-0.448). This is consistent with the previous researches as any decrease in number of days working capital (Current Asset which are low return yielding) is tied up, will make the funds available to be used in more profitable ventures, hence leading to more profitability. Among the components of CCC, the DSO is negatively related to ROA but the correlation is insignificant, whereas the DPO and DIO have significant negative relationship with ROA at 1% level. The overall results of correlation clearly indicate that both null hypotheses that CCC and its components are not related with ROA are rejected (Except in case of DSO where there is insignificant correlation between DSO and ROA). The results of correlation also brings out that among control variables LNFA (log of Fixed Assets) and Log of sales have insignificant relation with the profitability, indicating the size of the firm is not related to the profitability. Leverage measured though DR has a negative significant correlation with profitability. That means the more leverage firm uses lesser will be its profitability. The current ratio is having negative but insignificant relationship with profitability.

The correlation results bring out that a strong correlation ($r > 0.35$) exists between the independent variables. CCC, CCE, LNFA and DR are having a high significant correlation with each other. These variables have been further probed by VIF and tolerance test while applying the regression analysis. Based upon the VIF results, the CCE, LNFA and DR have been dropped from the independent variable list to avoid the problem of multi Collinearity. After dropping the independent variables, the test for multi Collinearity was again performed for all regression equations and VIF was less than 2 and tolerance coefficient greater than 0.8 for all the variables. The correlation analysis cannot distinguish the cause and consequences, so the results of correlation have to be interpreted very cautiously. To further verify the results obtained from correlation analysis, multiple linear Regressions have been applied to test the significance of the model and the explanatory power of the independent variables. The strength of the relationship between the dependent variable and independent variables has been given in Table number –IV.

$$ROA = f(CCC, LNS, CR, D1) \dots \dots \dots \text{Equation 1}$$

The results of correlation were further confirmed by regression analysis which brings out that CCC has negative association with ROA indicating that a firm can increase its profitability by decreasing the cash conversion

cycle. The negative value of CCC coefficient indicates the inverse relationship of ROA and CCC which reflects; longer the cash conversion cycle, lesser is the profitability. This further testifies that the null hypotheses, CCC has no relationship with ROA, has been rejected. The Liquidity measured by CR is also having a negative relationship with ROA, reflecting higher the liquidity of the company the lesser will be the profitability. Size of the company measured by LNS has a positive association with the Profitability but it is not significant. The R^2 , also known as coefficient of multiple determinations, shows 40% of changes in the dependent variable are explained by independent variables (jointly or individually). The F value is significant at 1% level, indicating the overall applicability of the model. The results of the study are similar to Falope and Ajilore (2009), Raheman and Nasr (2007), Vijaykumar (2011), Karaduman et al.(2010), Garcia et al.. (2011) and Deloof (2003).

To test the null hypothesis, that the various components of CCC are not related with Profitability, a regression model will be run by having Days sales outstanding as independent variable in the regression equation while keeping everything else same. $ROA = f(DSO, LNS, CR, D1)$ The model's R^2 is 27.5% with a highly significant F value In the model 2 (Refer Table V in Appendix), the coefficient of DSO is negatively related to profitability but the results are insignificant. This means that no significant relationship exists between profitability and the Days sales outstanding. The coefficient of CR is having a significant negative relationship with Profitability. Like earlier model size has no impact on profitability. The Dummy variable has significant coefficient indicating that the crisis did have an impact on the profitability

Model-3 (Refer Table VI in Appendix) uses the same regression equation, with the independent variable as DPO instead of DSO as give in earlier equation. The R^2 of the model 3 is 59% with an F value significant at 1%. Looking at the coefficients of variables, DPO is having a negative significant coefficient which indicates that higher the DSO, the lesser will be the profitability; lower the DSO, greater will be the profitability. This result also implies that the less profitable firms take longer to pay their dues. Deloof (2003), Ramachandran and Janakiraman (2009), Karaduman (2010), Garcia et al. (2011) concluded the similar results. Consistent with other models, the CR has a negative significant relationship with Profitability; Size is not related to Profitability.

Model 4 (Refer Table VII in Appendix) uses the same regression equation with the independent variable as DPO, while rest of the regression equation being same. The R^2 of the model is 59% with an F value significant at 1%. The coefficients table shows that he DIO has significant negative relationship with ROA that means lesser the number of days Inventory outstanding the more is the profitability. This implies that the companies can enhance the profitability by employing the various inventory management practices which can reduce the number of days required for inventory to be sold out. The results are

similar to Karaduman et al. (2010), Vijaykumar (2011), Deloof (2003) and Garcia et al. (2011). The coefficient of other variables remains the same like previous models. Based on the results of model 4, we can reject the null hypothesis that DIO is not related to the profitability. For all the models, the VIF is very low among independent variables ranging from 1.05 to 1.23 which is well below the acceptable limit of 2. Along with this the tolerance figure is the range of 0.82 to 0.92 which is very high, indicating that there is no problem of multi co linearity among the independent variables chosen in various models.

5. CONCLUSIONS

The key findings of this study are that there exists a significant negative relationship between the profitability, measured through Return on Assets and the length of the firm's cash conversion cycle. Longer the cash conversion cycle, lesser is the profitability. The paper further explores that amongst cash conversion cycle, which component (Days in sales outstanding, days in inventory outstanding and Day's payables outstanding) is having the most significant influence on the profitability. The study brings out that the day's payables outstanding is inversely related to profitability, this means the sooner the companies make payment to creditors, the better it will be for the overall profitability. This could also indicate that the less profitable concerns take more time to make the payment. Consistent with previous studies, the firms can improve profitability by reducing the number of days the required to convert the inventory into sales. The Liquidity also has inverse relationship with profitability. Higher the funds are tied up in current assets lesser will be the profitability. The study also brings out that the Size of the concern is immaterial for enhancing the profitability. Thus the study concludes that the UAE's real estate and construction companies can significantly increase their profitability by giving due focus on management of the working capital and shortening the length of the cash conversion cycle by effectively managing the working capital components especially the payables and Inventories.

5.1 LIMITATIONS OF STUDY

The scope of study is limited only to construction and real estate companies in UAE hence the results of the study may not be applicable to other sectors. For the purpose of future research the scope of the study can be extended by including all sectors.

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APPENDIX

TABLE NUMBER-I List of Variables

Metric	Usage	Calculation s	Symbol
Days Inventory outstanding	The Days Inventory outstanding/ inventory period is the time to acquire and sell inventory.	Inventory turnover = sales/ closing inventory Inventory period = 365 / inventory turnover	DIO
Days in sales Outstanding	The Days in sales Outstanding /accounts receivable period (average collection period) is the time to collect on the sale.	Receivables turnover = sales / closing receivable Accounts receivable period = 365 / receivables turnover	DSO
Days payables outstanding	The accounts payable period (average payment period) is the time to make payments on the purchases.	Payables turnover = sales / payables Accounts payables period = 365 / payables turnover	DPO
Cash conversion Cycle/Trade Cycle	Measure the overall efficiency of the working capital	DIO+DSO-DPO	CCC
Cash conversion efficiency	measured by relating net cash flows from operating activities to sales revenue.	Cash from operations/sales	CCE
Liquidity	Current ratio	Current Assets/Current Liabilities	CR
Size	Scale of operations	measure by Log of sales log of Total Fixed Assets	LNSales LNFA
Leverage	The use of debt in capital structure	Total Liabilities/ Total Assets	
Dummy variable (D1)		has been used to see the impact of before and after crisis. Before Crisis 2007-08, Crisis years 2009-10	D1

TABLE NUMBER-II Descriptive

	Range	Descriptive Statistics		Mean	Std. Deviation
		Minimum	Maximum		
DSO	649.74	22.25	671.99	118.71	90.25
DIO	2876.37	37.73	2914.10	319.50	567.00
DPO	307.13	1.99	309.12	59.91	61.00
CCC	2724.16	13.91	2738.07	378.31	587.46
CCE	227.62	-151.57	76.05	10.03	36.09
ROA	47.29	-26.74	20.55	5.46	8.08
CR	44.87	0.79	45.66	5.10	6.90
DR	5.59	0.01	5.60	0.46	0.82
LNSales	2.77	4.74	7.51	5.84	0.50
LNFA	5.28	2.72	8.00	5.68	1.21
Valid N (listwise)	52				

TABLE NUMBER-III Correlations

		Correlations									
		ROA	CR	LNSales	LNFA	DR	DSO	DIO	DPO	CCC	CCE
ROA	Pearson Cc	1									
CR	Pearson Cc	-0.197	1								
LNSales	Pearson Cc	0.08	-.352*	1							
LNFA	Pearson Cc	-0.115	-0.059	0.221	1						
DR	Pearson Cc	-.503**	-0.256	.374**	0.125	1					
DSO	Pearson Cc	-0.135	-0.121	0.176	0.141	0.171	1				
DIO	Pearson Cc	-.484**	-0.209	0.204	.403**	.701**	.575**	1			
DPO	Pearson Cc	-.552**	-0.231	0.171	0.238	.639**	0.089	.667**	1		
CCC	Pearson Cc	-.430**	-0.197	0.206	.386**	.637**	.700**	.984**	.554**	1	
CCE	Pearson Cc	.483**	0.103	-0.064	-0.256	-.597**	-0.194	-.711**	-.599**	-.653**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

TABLE NUMBER-IV Results of Regression Analysis (Model-1)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
				R Square Change	F Change	Sig. F Change	
0.630	0.396	0.345	6.537	0.396	7.718	0.000	1.470
	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	Collinearity Statistics	
						Tolerance	VIF
(Constant)	4.199	11.842		0.355	0.725		
CCC	-0.005	0.002	-0.385	-3.141	0.003	0.853	1.173
LNS	0.376	2.015	0.023	0.187	0.853	0.830	1.205
CR	-0.377	0.145	-0.322	-2.602	0.012	0.840	1.191
D1		1.942	0.374	3.082	0.003	0.872	1.147

TABLE NUMBER-V Results of Regression Analysis (Model-2)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
				R Square Change	F Change	Sig. F Change	
0.524	0.275	0.213	7.164	0.275	4.456	0.004	1.275
Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
B	Std. Error	Beta				Tolerance	VIF
(Constant)	7.9092	12.9150		0.6124	0.5432		
LNSales	-0.6354	2.1983	-0.0392	-0.2891	0.7738	0.8376	1.1939
CR	-0.3428	0.1583	-0.2927	-2.1656	0.0354	0.8445	1.1842
D1	7.6118	2.0657	0.4758	3.6848	0.0006	0.9253	1.0807
DSO		0.0115	-0.0751	-0.5831	0.5626	0.9294	1.0760

TABLE NUMBER-VI Results of Regression Analysis (Model-3)

Model-3 Summary							
R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
				R Square Change	F Change	Sig. F Change	
0.770	0.592	0.558	5.373	0.592	17.066	0.000	1.548
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant	7.532	9.677		0.778	0.440		
LNS	0.266	1.635	0.016	0.163	0.872	0.851	1.175
CR	-0.460	0.120	-0.392	-3.822	0.000	0.823	1.215
D1	6.805	1.530	0.425	4.449	0.000	0.949	1.054
DPO		0.013	-0.590	-6.097	0.000	0.926	1.080

TABLE NUMBER-VII Results of Regression Analysis (Model-4)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
				R Square	F Change	Sig. F Change	
0.668	0.446	0.399	6.262	0.446	9.467	0.000	1.492
Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
B	Std. Error	Beta				Tolerance	VIF
(Constant	3.566	11.341		0.314	0.755		
LNSales	0.533	1.927	0.033	0.276	0.783	0.832	1.201
CR	-0.392	0.139	-0.335	-2.824	0.007	0.837	1.194
D1	5.710	1.856	0.357	3.078	0.003	0.876	1.142
DIO		0.002	-0.455	-3.870	0.000	0.854	1.171