(REFEREED RESEARCH)

WORKING CAPITAL MANAGEMENT IN TURKISH CLOTHING INDUSTRY

TÜRK KONFEKSİYON SANAYİNDE ÇALIŞMA SERMAYESİ YÖNETİMİ

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ABSTRACT

Working capital management plays an important role in increasing the performance of manufacturing firms. The profile of clothing sector in terms of, capital structure, the applied working capital management strategies and the impact of working capital on profitability were analyzed in this article. The analysis was performed on the basis of financial ratios, correlation and regression studies for period 1996-2011 by using clothing industry data, published by Turkish Central Bank. As a result, it has been concluded that, clothing companies should reduce the duration of the debt collection, the cash conversion cycle and establish a balance between liquidity and profitability in order to survive and to increase their profits.

Key Words: Clothing industry, Working capital management, Cash conversion cycle, Liquidity, Profitability.

ÖZET

Çalışma sermayesi yönetimi, üretim sanayi firmalarının performanslarının arttırılmasında önemli bir role sahiptir. Bu çalışmada, konfeksiyon sanayinin çalışma sermayesi yapısı, uygulanan çalışma sermayesi stratejileri ve çalışma sermayesinin karlılık üzerindeki etkisi analiz edilmiştir. Bunun için, TCMB tarafından yayınlanan, 1996-2011 dönem aralığına ait konfeksiyon sanayi finansal verileri, finansal oranlar, korelasyon ve regresyon analizleri yardımıyla incelenmiştir. Çalışmada, konfeksiyon işletmelerinin alacakların tahsil süresini ve nakit dönüşüm süresini kısaltarak, likidite ve karlılık arasında bir denge oluşturarak varlıklarını sürdürüp, karlılıklarını arttırabilecekleri sonucuna varılmıştır.

Anahtar Kelimeler: Konfeksiyon sanayi, Çalışma sermayesi yönetimi, Nakit dönüşüm süresi, Likidite, Karlılık.

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1. INTRODUCTION

Besides the severe competition conditions in domestic and foreign markets, recent financial crisis increased the importance of corporate finance. Corporate finance consists of capital structure, capital budgeting and working capital management decisions. Capital budgeting and capital structure decisions are about the long term investment and financing decisions of the firm and working capital management (WCM) is an essential part of the short-term financing of a firm (1).

WCM involves two basic questions: a)What is the appropriate amount of working capital and b) How should working capital be financed? (2). An important part of managing working capital is maintaining the liquidity in day-to-day operations of a business unit to ensure smooth running and fulfillment of its obligations (3). With an efficient WCM, a company can release capital for more strategic objectives, reduce the financial costs and improve profitability (4).

The financial crisis has shown clearly that improving WCM is very important for firms to withstand the impacts of economic turbulence as well as enhancing the competitive position and profitability (5).

Clothing industry plays a vital role in our national economy and it is one of the biggest industries with its share in exports of Turkey and by providing employment to a large workforce. However, there are a number of obstacles hindering the competitiveness of the sector and one of them is the rapid increase in working capital needs especially in times of crisis. Clothing industry is dominated by SMEs and SMEs usually face inadequacy of funds to meet their short-term obligations (6).

WCM is taking the attention of many researchers and there are many studies presented recently. These papers examined the relationship between working capital and profitability for different industries or individual companies in different sectors (Nazir and Afza (2009), Deloof (2003), Eljelly (2004), Pandey and Jaiswal (2011), Meszek and Polewski (2006), Gill (2010)). Chhapra and Naqvi (2010), Hassan and Kashif-ud-din (2012) and Ali (2011) examined

WCM in the textile industry in Pakistan. In these studies, financial data of listed companies on the stock exchange were used. In this paper, sectoral balance sheets which have been published by the Turkish Central Bank (TCBM) were used. Therefore it is believed that this study reflects the general working capital conditions of the Turkish clothing industry more accurately. Moreover, there is no other study that analyzes the WCM in Turkish clothing industry to the best knowledge of the author. Considering the importance of WCM, this study focused on analyzing i) Components of Working Capital ii) Financing of Working Capital iii) Working Capital Strategy iv) Effect of Working Capital Management and Liquidity on Profitability of the Turkish clothing industry for the 1996-2011 period.

2. WORKING CAPITAL MANAGEMENT

The total assets of the companies are composed of current assets and fixed assets. Fixed assets, such as land, buildings, equipment, machinery, vehicles, leasehold improvements, are not consumed or sold during the normal course of business. Currents assets are cash, cash equivalents, short-term investments, accounts receivables, inventory and the portion of prepaid liabilities which will be paid within a year, which are the components of WC. WCM is a very important component of corporate finance theory and deals with managing short-term financing and investment decisions of the firm. Net Working Capital (NWC) is defined as the difference between firms' current assets and current liabilities.

Explanations about why WCM is significant for a firm generally focus on the relationship between efficiency in WCM and firm profitability. Efficient WCM includes planning and controlling of current liabilities and assets in a way that it avoids excessive investments in current assets and prevents holding insufficient currents assets to fulfill short term debt obligations. Efficient working capital management depends on achieving an optimum balance among working capital components such as receivables, inventories and short term debt.

Profitability and liquidity are both important for any firm and to forego one at the cost of the other can create severe problems for the firm.

Liquidity, as a function of current assets and current liabilities, is an important factor in determining WC policies and indicates firm's capability of generating cash in case of need and WCM directly affects the liquidity (7).

Profitability is a long term goal for any firm because it is required for the survival of the firm while liquidity is relatively short term goal which needs to be addressed to protect the firm from bankruptcy (8). The problem that may arise is focus on long-term profitability at the expense of liquidity may create financial distress for firms. Thus, the focus of management must be on both and a balance between them must be built (9).

Referring to theory of risk and return, investment with more risk will result in more return. If the company does not have adequate working capital to sustain sales activity (purchase the materials, pay expenses…), it will face problems of insolvency. Low liquidity would increase the company's risk and profitability simultaneously (10,11). Excess liquidity indicates inefficient use of funds and negatively influences the corporate profitability (12). Thus, the balance between profitability and liquidity is the dilemma of working capital management (Figure 1). The issue here is in managing working capital, firm must take into consideration all the items in both accounts and try to balance the risk and return (13).

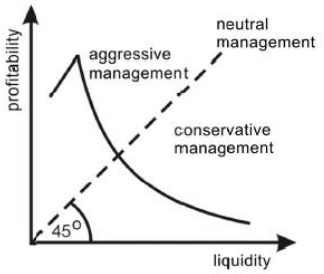

Figure 1. Liquidity and Profitability (14)

The traditional working capital ratios such as current ratio, acid-test ratio and cash ratio are considered to lack the ability of a detailed analysis of working capital. A popular measure of WCM is the cash conversion cycle, which is the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods. The longer this time lag, the larger the investment in working capital is (Figure 2). A longer cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might also decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers (15).

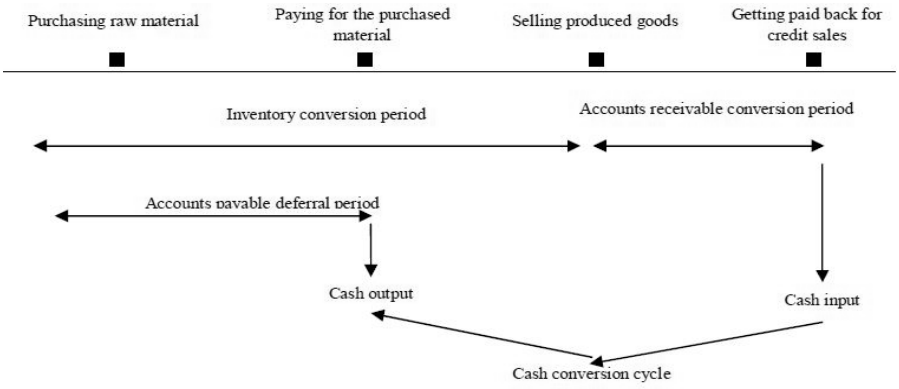

Figure 2. Cash Conversion Cycle (16)

There are different working capital strategies that change according to the financing strategy of current assets. Increasing working capital by financing with long term sources affects profitability negatively while increasing liquidity. This type of WCM is defined as conservative strategy. Minor investment in WC by using short-term sources, which costs relatively less, increases profitability but it decreases the liquidity of the company. This strategy is called as aggressive strategy. The third strategy is between aggressive and conservative strategies and it is named as moderate strategy.

3. DATA AND METHOD OF ANALYSIS

The data used in this study was obtained from financial statements of Turkish clothing industry published by TCMB on its website for the period 1996-2011. The study was conducted in two stages: In the first stage, the WC structure and WC strategy of the clothing industry was analyzed by evaluating the size and composition of WC investigating whether investment in WC has increased or declined over the study period. At first, net working capital of the industry was calculated over the years and components of assets and liabilities were analyzed according to their percentages in total. Fluctuations in these percentages were evaluated in order to see the conditions and trends in the clothing industry.

Assets Strategy (AS) and Liabilities Strategy (LS) of the Turkish clothing industry was analyzed according to Figure3 and the given reference liquidity ratios. WCM strategy of the sector was examined by considering the share of current assets in total assets and the share of short term liabilities in total assets. According to AS and LS values strategy can be on four regions as seen on Figure 3.

AS and LS are calculated as:

Assets Strategy=Current Assets/Total Assets

Liabilities Strategy= Current Liabilities/ Total Assets

Current ratio, quick ratio and cash ratios are used as liquidity ratios and they were calculated according to formulations below:

Current Ratio (CR)=Currents Assets/Current Liabilities

Quick liquidity ratio (QR)= (Currents Assets - Inventory)/ Current Liabilities

Cash Ratio= (Currents Assets - Inventory- Receivables) / Current Liabilities

The values of current, quick liquidity and cash ratios depend on the industry and its specific character but some general reference values were defined in the literature. The reference margin of the current ratio is set between minimum and inclusive 1 and maximum 2. The reference period of the quick liquidity is between the minimum and inclusive 0,6 and maximum 1. The reference interval for cash ratio is between minimum and including 0,2 and 0,6 (18). A low level of these ratios indicates poor capability to deal with short term liabilities. On the other hand, high level is the sign of lost opportunities.

In the second stage, in order to examine the relationship between selected independent WC ratios and profitability ratios, Pearson Correlation analysis was done. In order to assess the effect of the selected measures of WCM and liquidity on the profitability, multiple regression analysis has been used. In other words, dependent variables have been regressed against the independent variable.

Regression equation is a mathematical formula applied to the explanatory variables in order to best predict the dependent variable we are trying to model. A multiple regression model is exhibited below;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots + \beta_n X_n + e_t$

where y is the dependent variable, the X's are the explanatory, independent variables, and the β's are the regression coefficients and e is the error term.

In this study for regression analysis, mostly used financial ratios in the earlier studies were preferred. Number of days accounts receivable (RCP) has been used as a proxy for the collection policy, number of days inventory (ITP) as a proxy for the inventory policy, number of days accounts payable (PDP) as a proxy for the payments. Cash conversion cycle has been used

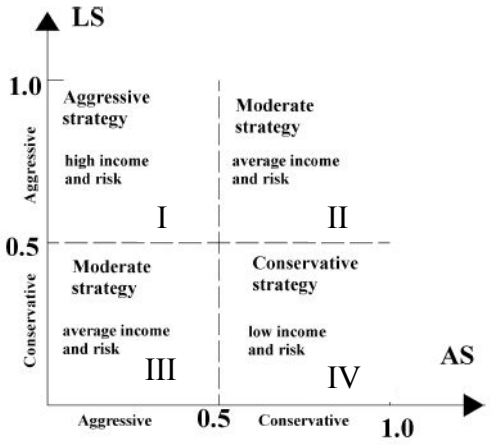

Figure 3. Asset and Liabilities Strategies (17)

as a comprehensive measure of working capital management as it is the time lag between date expenditure for the purchases of raw materials is incurred and date for the collection of sales of finished goods. At the same time, current ratio (CR) was used as liquidity is tightly linked with working capital. The above were selected as independent variables. Apart from that, fixed financial asset ratio (FXTA) and size (LnS) and current ratio (CR) were used as independent control variables in the regression models. Gross operating profit ratio (GOP) was chosen to be the dependent variable as an indicator of performance of the Turkish clothing industry.

The variables chosen and their calculations are provided below in Table 1.

The regression models used are:

$$GOP_t = \beta_0 + \beta_1 LnS_t + \beta_2 FXTA_t + \beta_3 CR_t + e_t \quad (1)$$

$$GOP_t = \beta_0 + \beta_1 LnS_t + \beta_2 FXTA_t + \beta_3 PDP_t + e_t \quad (2)$$

$$GOP_t = \beta_0 + \beta_1 LnS_t + \beta_2 FXTA_t + \beta_3 RCP_t + e_t \quad (3)$$

$$GOP_t = \beta_0 + \beta_1 LnS_t + \beta_2 FXTA_t + \beta_3 ITP_t + e_t \quad (4)$$

$$GOP_t = \beta_0 + \beta_1 LnS_t + \beta_2 FXTA_t + \beta_3 CCC_t + e_t \quad (5)$$

The subscript t denotes years ranging from 1996-2011. On order to test the autocorrelation and multicolinearity problems, Durbin Watson (DB) and Variation Inflation Factor (VIF) values were checked. The VIF values those are greater than 10 point to the existence of a multi-collinearity problem. DB values between 1 and 3 means that there is no autocorrelation problem.

For linear multiple regression analysis and two-sided Pearson correlation analysis, SPSS.15 was used.

4. RESULTS AND DISCUSSION

4.1 Working Capital Analysis of Turkish Clothing Industry

As it is stated before working capital means the whole current assets owned by a firm and net working capital is the difference between current assets and current liabilities. Currents assets and also net working capital of the clothing industry increased and net working capital has always been positive over the period as seen in Table 2. That means the industry has power to meet its short-term obligations.

Current assets have been composed of cash, accounts receivable and inventories mainly and current assets of the industry were about 76% of total assets at the beginning of the period. After that the portion of the fixed assets in total assets increased while current assets were decreasing. The decrease in current assets is because of decrement of inventories. Bank loans and accounts payable have been the major part of current liabilities. Until 2002, working capital was mostly financed with current liabilities and residue was with long-term liabilities. After that time to today, bank loans decreased and consequently current liabilities decreased. In order to finance the remaining part of working capital after using current liabilities and long-term liabilities, equity has been used (Table 3).

Table 1. Measurement of Variables and Abbreviations

Variables	Measurement
Receivables Collection Period (RCP)	360 / (Sales/ Accounts Receivables)
Inventory Turnover Period (ITP)	360 / (Cost of Goods Sold / Inventory)
Payable Deferral Period (PDP)	360 / (Cost of Goods Sold / Accounts Payable)
Cash Conversion Cycle (CCC)	RCP + ITP – PDP
Current Ratio (CR)	Current Assets/ Current Liabilities
Size (LnS)	Natural Logarithm of Sales
Fixed Financial Asset Ratio (FXTA)	Fixed Financial Assets/Total assets
Gross Operating Profit (GOP)	(Sales - Cost of Goods Sold) / (Total Assets - Financial Assets)

Table 2. Net Working Capital of the Clothing Industry

Billion TL	Current Assets	Current Liabilities	Net Working capital
1996	135.124	116.928	18.196
1997	267.706	230.832	36.874
1998	436.060	393.937	42.123
1999	746.220	703.765	42.455
2000	1.118.003	977.480	140.523
2001	1.895.589	1.741.891	153.698
2002	2.582.671	2.235.073	347.598
2003	3.053.036	2.617.060	435.976
2004	3.305.448	2.927.958	377.490
2005	3.676.572	2.485.848	1.190.724
2006	3.575.741	2.631.012	944.729
2007	3.957.768	2.790.761	1.167.007
2008	4.720.868	3.654.073	1.066.795
2009	5.088.993	3.751.475	1.337.518
2010	6.658.501	5.106.858	1.551.643
2011	6.528.965	4.847.076	1.681.889

Table 3. Components of Current Assets and Current Liabilities

	Total Assets								Total Liabilities				
	Current Assets (CA)							Fixed Assets.	Current Liabilities (CL)			Longterm Liabilities	Equity
	Cash	Securities A.	Accounts R.	Other R.	Inventors	other CA	CA (Total)		Bank Loans	Accounts Payable	CL (Total)		
1996	5,8	2,8	28,0	2,5	33,5	3,0	76,0	24,0	35,0	18,3	65,8	9,1	25,1
1997	5,0	1,8	26,4	3,4	35,6	2,3	74,7	25,3	34,9	18,9	64,4	12,3	23,3
1998	4,9	2,5	26,7	3,0	31,6	1,6	70,5	29,5	33,5	20,2	63,7	12,5	23,8
1999	7,4	1,9	26,1	2,8	28,4	1,6	68,8	31,2	34,6	21,8	64,9	11,6	23,5
2000	5,8	3,7	27,0	3,8	29,5	1,5	71,7	28,3	32,2	21,2	62,7	12,6	24,7
2001	6,6	1,2	29,6	4,7	28,1	1,7	72,1	27,9	29,4	26,2	66,3	14,7	19,0
2002	6,4	1,7	27,9	4,0	30,1	1,6	71,9	28,1	26,2	26,7	62,2	10,5	27,3
2003	5,9	1,9	25,1	3,1	30,9	1,5	68,7	31,3	24,2	25,4	58,9	9,6	31,5
2004	5,3	2,2	23,1	2,2	27,7	1,4	62,2	37,8	20,5	22,2	49,5	8,7	41,8
2005	8,4	1,4	24,5	1,9	28,5	1,1	66,1	33,9	20,6	22,3	49,7	6,7	43,5
2006	7,5	0,4	27,1	2,5	26,4	2,1	66,3	33,7	19,5	22,5	48,8	7,8	43,4
2007	8,1	0,5	25,9	4,0	25,2	2,3	66,5	33,5	18,7	21,9	46,9	8,4	44,8
2008	8,0	0,4	25,4	3,8	24,8	2,2	65,1	34,9	17,9	23,4	50,4	9,9	39,7
2009	9,1	0,3	26,9	4,2	22,1	2,3	65,3	34,7	16,7	24,0	48,2	9,5	42,4
2010	8,7	0,8	29,4	4,5	23,6	2,5	69,8	30,2	18,4	23,3	53,5	8,9	37,6
2011	8,2	0,6	25,4	4,7	25,6	2,7	67,5	32,5	17,2	23,7	50,1	12,3	37,6

WCM is consisting of asset strategy (AS) and liabilities strategy (LS). These strategies are the overall names of inventory management. These strategies determine the risk that the companies are taking and the result they get is in the form of income. When we evaluated the AS and LS strategy results of the industry given in Table 4 over the examined period according to Figure 3, it is seen that until 2004, the industry was applying moderate strategy which includes average income and risk and it was in the second region. After 2004, the industry has begun to use a more conservative strategy which means low income and risk and its strategy moved to forth region. This situation may be because of the crisis the industry faced in 2001.

According to Table 4, current ratio, cash ratio and quick ratio showed a rising course after 2002. This is because the industry raised the portion of cash and cash equivalent components in their current assets. This is supported by the percent of cash in current assets given in Table 3. Current ratios, quick liquidity ratios and cash ratios increased from 1,11 to 1,34, from 0,57 to 0,77 and from 0,11 to 0,17 respectively over the period. However, these values are the lower bounds of given reference values so the companies should be careful about their shot-term obligations.

4.2 Effect of Working Capital Management and Liquidity on the Profitability of Turkish Clothing Industry

4.2.1 Correlation analysis

Generally, correlation analysis attempts to determine the degree and direction of relationship between two variables. If the variables have the cause and effect relationship, they have high degree of correlation between them. The correlations between selected variables for this study are exhibited on Table 5.

Table 4. Working Capital Strategy Analysis of Turkish Clothing Industry

	AS=CA/TA	LS=SL/TA	Current Ratio%	Quick Liquidity%	Cash Ratio%
1996	0,76	0,66	115,6	59,8	13,1
1997	0,75	0,64	116,0	57,0	10,5
1998	0,71	0,64	110,7	58,4	11,7
1999	0,69	0,65	106,0	59,6	14,3
2000	0,72	0,63	114,4	64,6	15,1
2001	0,72	0,66	108,8	63,6	11,8
2002	0,72	0,62	115,6	64,3	12,9
2003	0,69	0,59	116,7	61,4	13,1
2004	0,62	0,5	125,6	66,5	15,1
2005	0,66	0,5	133,0	73,0	19,7
2006	0,66	0,49	135,9	77,1	16,2
2007	0,67	0,47	141,8	82,6	18,2
2008	0,65	0,5	129,2	75,2	16,8
2009	0,65	0,48	135,7	84,2	19,4
2010	0,7	0,54	130,4	81,1	17,8
2011	0,68	0,5	134,7	77,8	17,6

The correlation results show a negative relationship between cash conversion cycle (CCC) and profitability (GOP). Long CCC period cause companies to find new financing sources to sustain their production and this will increase the costs. That means managers can increase profitability by working capital management. Moreover, the negative relationships of Receivables Conversion Period (RCP) and Inventory Turnover Period (ITP) with GOP indicate longer receivables period and inventory conversion period mean more finance sources engaged in working capital, which increase opportunity cost of extra financing. The negative relationship between PDP and GOP stem from the fact that lengthening the accounts payable period more may damage the firm's credit reputation and decrease the firm's profitability as mentioned or some discounts can be missed that will increase the cost because of long paying periods. The CR, in the analysis, has a significant negative relationship with GOP and this reveals the need of balance between CR and profitability because these two variables have an inverse relationship.

Based on the research data it can be concluded that companies have to deal with problems of management of receivables, payment and inventory seriously, because they have an essential impact upon profit indicators.

LnS represents the size of the industry and in the Pearson correlation table, LnS has a significant positive relationship with PDP and CR. Big size companies do not have liquidity problems as they have capacity to increase their liquidity without borrowing. Prolonging the accounts payable period is one of the alternative ways of financing for big size firms.

There is also important positive relationship between RCP and PDP. If the collection period increases, the companies will delay their payments in order to set a balance.

The relationship between CCC and ITP is significant and positive. If inventory holding period increases, the company ties up more funds in carrying its excessive inventory and consequently CCC increases and it causes a reduction in profit.

Firm size sometimes provides benefiting from economies of scale especially for basic goods which are produced in large amounts. However, after a point, organizational costs will overwhelm the benefits of economies of scale and firm profitability will begin to decline. Clothing industry has a rapidly changing product profile and the industry produces different goods in small quantities. The changing orders hinder benefiting from economies of scale. The negative relationship between firm size and profitability can be explained with these arguments.

4.2.2 Regression analysis

In model I in Table 6, an adverse relationship was found between current ratio (CR) and gross operating profit as expected at the 5% significance level. There should be balance between them as one unit positive change in CR affects GOP 0,337 unit negatively.

There is no statistically significant relationship (sig value is 0,874) between Payable Deferral Period(PDP) and GOP in model II. This model is not significant according to F test at same time.

The coefficient of regression in model III offered a negative and significant relationship (sig-value 0,063) between receivables collection period (RCP) and gross operating profit at the 10% significance level. One unit positive change in RCP affects GOP 0,320 unit negatively. It means that management policies with regard to accounts receivables can serve as a tool to improve corporation's performance.

Table 5. Pearson Correlations

Correlations

		GOP	PDP	ITP	RCP	CCC	CR	LnS	FXATA
GOP	Pearson Correlation	1	-,397	-,440	-,248	-,217	-,703**	-,659**	-,356
	Sig. (2-tailed)		,128	,088	,355	,419	,002	,006	,176
	N	16	16	16	16	16	16	16	16
PDP	Pearson Correlation	-,397	1	,190	,653**	-,111	,505*	,742**	-,163
	Sig. (2-tailed)	,128		,481	,006	,682	,046	,001	,547
	N	16	16	16	16	16	16	16	16
ITP	Pearson Correlation	-,440	,190	1	,163	,727**	,348	,195	,209
	Sig. (2-tailed)	,088	,481		,546	,001	,186	,468	,437
	N	16	16	16	16	16	16	16	16
RCP	Pearson Correlation	-,248	,653**	,163	1	,440	,385	,153	-,565*
	Sig. (2-tailed)	,355	,006	,546		,088	,141	,571	,023
	N	16	16	16	16	16	16	16	16
CCC	Pearson Correlation	-,217	-,111	,727**	,440	1	,177	-,321	-,190
	Sig. (2-tailed)	,419	,682	,001	,088		,511	,225	,481
	N	16	16	16	16	16	16	16	16
CR	Pearson Correlation	-,703**	,505*	,348	,385	,177	1	,653**	-,079
	Sig. (2-tailed)	,002	,046	,186	,141	,511		,006	,772
	N	16	16	16	16	16	16	16	16
LnS	Pearson Correlation	-,659**	,742**	,195	,153	-,321	,653**	1	,206
	Sig. (2-tailed)	,006	,001	,468	,571	,225	,006		,444
	N	16	16	16	16	16	16	16	16
FXATA	Pearson Correlation	-,356	-,163	,209	-,565*	-,190	-,079	,206	1
	Sig. (2-tailed)	,176	,547	,437	,023	,481	,772	,444	
	N	16	16	16	16	16	16	16	16

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

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

Table 6. Regression Models

	MODEL I CR		MODEL II PDP		MODEL III RCP		MODEL IV ITP		MODEL V CCC	
VARIABLES	**Coefficients**	**Sig**	**Coefficients**	**Sig**	**Coefficients**	**Sig**	**Coefficients**	**Sig**	**Coefficients**	**Sig**
Constant	89,507	,000***	72,813	,003***	104,595	,001***	84,155	,001***	112,928	,000***
CR	-,337	,018**								
PDP			,041	,874						
RCP					-,320	,063*				
ITP							-,226	,165		
CCC									-0,299	,008***
FXTA	-1,006	,057*	-,580	,399	-1,434	,044**	-,490	,385	-,816	,083*
LnS	-2,226	,436	-7,950	,089*	-5,794	,029**	-6,828	,014**	-9,236	,001***
Durbin Watson	2,498		1,734		2,276		2,102		2,305	
R^2 adjusted	,602		,357		,522		,455		,652	
F	8,562		3,778		6,467		5,174		10,381	
sig	,003***		,41		,007***		,016**		,001***	

***** 1 %, ** 5%, * 10% significant**

In model IV, the regression coefficient of Inventory Turnover Period (ITP) was found as insignificant but showing a negative relationship (sig values is 0,165) between ITP and GOP.

The results of model V show a highly negative relationship between cash conversion cycle (CCC) and gross operating profit (sig-value 0,008) at the 1% significance level. This result implies that managers can increase firm's profitability by 0,299 units by reducing the length of CCC one unit.

The adjusted *R* square values of the five models are 60,2%, 35,7% , 52,2%, 45,5% and 65,2% respectively. These values show how much the independent variables in the models can explain variations in GOP. F values of Model I, Model III and Model V is significant at 1% significance level and Model IV is significant at 5%. Model II is not significant.

The Durbin-Watson values are between 1 and 3 and this shows there is no autocorrelation among the variables. Test for multi-collinearity were performed for all regressions. All the variance inflation factor (VIF) are less than 3 and tolerance coefficients are greater than 0,5. This means there is no multi-collinearity problem among the variables.

5. CONCLUSION

WCM has a crucial importance in corporate financial management decision. In this study, working capital structure and WCM strategy of Turkish clothing industry were examined and effects of WCM and liquidity on profitability were investigated for the industry. According to the results, working capital of the industry was always positive during the examined period. The companies have financed their currents assets with short-term bank loans and accounts payable mainly. Normally surplus of the working capital should be financed with long-term debts but it is seen that in recent years the companies use equity for this. This may be because of difficulties of receiving bank loans in the clothing industry. At the beginning of the study period, the industry preferred moderate WCM strategy and established a balance between current liabilities and current assets using long-term debt for the financing of remaining working capital. After 2004, maybe due to the financial crisis a more conservative strategy was utilized and liquidity of the industry increased but it is still at the lower bound of reference liquidity limits. This is provided by decreasing short term and long term debt and using equity financing.

In the regression models, the effect of WCM strategies on profitability was studied. In the models, it was seen that liquidity (Model I), receivables collection period (Model II) and cash conversion cycle (Model V) are important for the industry. There are negative relationships between these variables and GOP. The clothing companies can increase their profitability by decreasing days of receivables collection and cash conversion cycle and founding a suitable liquidity ratio for their operations.

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