

Ece Karadagli¹

PROFITABILITY EFFECTS OF CASH CONVERSION CYCLE: EVIDENCE FROM TURKISH COMPANIES

This paper examines the impact of cash conversion cycle and its single components, specifically accounts collection period, inventory turnover in days and accounts payable period, on firm profitability as measured by operating income and stock market return by using pooled panel analysis for the period of 2001-2010. Besides, the possible effects of group affiliation on the impact of CCC and its components on firm profitability are also investigated. The findings suggest that shortening of CCC and its single components, including accounts payable period, improve firm profitability in terms of both accounting and market measures of performance. The findings also indicate that both the affiliated and the unaffiliated firms can enhance firm performance in terms of both performance measures through shortening their CCCs, this effect is stronger for unaffiliated firms and hence working capital management seems to be more important for them.

Keywords: working capital management, cash conversion cycle and its components, firm performance, stock market returns, panel data.

Jel Classification: G30, L25, C33.

Ече Карадаглі

ВПЛИВ ЦИКЛУ ОБОРОТНОСТІ ГОТІВКИ НА ПОКАЗНИКИ ПРИБУТКУ (НА ПРИКЛАДІ ТУРЕЦЬКИХ КОМПАНІЙ)

У статті розглянуто вплив циклу оборотності готівки і його окремих компонентів, зокрема терміну оплат по рахунках, оборотності матеріальних запасів і терміну кредиторської заборгованості по рахунках, на показники прибутку фірми, виміряні як операційний прибуток і ринкова прибутковість. Проаналізовано об'єднані панельні дані за період 2001-2010 рр., а також оцінено можливий вплив приналежності фірми до групи на залежність прибутковості фірми від циклу оборотності готівки і його компонентів. Результати показали, що укорочення циклу оборотності готівки і його частин, включаючи термін кредиторської заборгованості по рахунках, покращує показники прибутковості фірми як із точки зору бухгалтерії, так і з точки зору ринкових показників ефективності. Також виявлено, що як окремі фірми, так і дочірні компанії можуть поліпшити показники прибутку за допомогою укорочення циклу оборотності готівки, цей ефект виявляється значніше для незалежних компаній.

Ключові слова: управління робочим капіталом, цикл оборотності готівки та його складові, показники роботи фірми, ринкова прибутковість, панельні дані.

Эче Карадагли

ВЛИЯНИЕ ЦИКЛА ОБОРАЧИВАЕМОСТИ НАЛИЧНОСТИ НА ПОКАЗАТЕЛИ ПРИБЫЛИ (НА ПРИМЕРЕ ТУРЕЦЬКИХ КОМПАНІЙ)

В статье рассмотрено влияние цикла оборачиваемости наличности и его отдельных компонентов, в частности срока оплат по счетам, оборачиваемости материальных запасов и срока кредиторской задолженности по счетам, на показатели прибыли фирмы, измеренные как операционная прибыль и рыночная доходность. Использован анализ объединенных панельных данных за период 2001-2010 гг., а также дана оценка

¹ Asst. Prof., Department of Banking and Finance, Faculty of Economics and Administrative Sciences, Cankaya University, Ankara, Turkey.

возможному влиянию принадлежности фирмы к группе на зависимость прибыльности фирмы от цикла оборачиваемости наличности и его компонентов. Результаты показали, что укорачивание цикла оборачиваемости наличности и его составных частей, включая срок кредиторской задолженности по счетам, улучшает показатели прибыльности фирмы как с точки зрения бухгалтерии, так и с точки зрения рыночных показателей эффективности. Также обнаружено, что как отдельные фирмы, так и дочерние компании могут улучшить показатели прибыли посредством укорачивания цикла оборачиваемости наличности, этот эффект проявляется значительно для независимых компаний.

Ключевые слова: управление рабочим капиталом, цикл оборачиваемости наличности и его составляющие, показатели работы фирмы, рыночная доходность, панельные данные.

1. Introduction. Working capital management (WCM) is essentially about the management of current assets and current liabilities. The efficiency of working capital management is one of major concerns in evaluating the overall health of a company and proves to be a critical factor in the long-term success and even the survival of a company as it is strongly associated with firm's liquidity, operating efficiency, riskiness, profitability and hence value. Consequently, efficient WCM is highly essential in the overall corporate strategy in creating shareholder value (Nazir and Afza, 2009). However, there is no readily available prescription for efficient WCM. In fact, it is possible to talk about two conflicting lines of thinking: the aggressive approach and the conservative one. The aggressive WCM policy supports that reducing investments in working capital will improve firm profitability by reducing the proportion of current assets in total assets while the conservative WCM policy argues that more investment in working capital might also increase profitability (Raheman et al., 2010), both lines of arguments have their own points. For example, maintaining sufficiently high inventory levels reduce costs of possible interruptions in the production process and loss of doing business due to scarcity of products (Mathuva, 2010). But, investing too much on inventories will unnecessarily tie up the cash that could be invested in revenue generating activities or cutting prices too much to sell and move out inventory may result in losses. Likewise, since difficulties in collecting payments from customers will translate into delays in receiving cash that could be used in paying debts and/or financing investments, a poorly performing accounts receivables management will deteriorate firm's cash management while lagging payables will work in the reverse direction and consequently will improve firm's operations. However, if there exists an early payment discount option, delaying of accounts payables may turn out to be costly for a firm. Besides, lengthening the payable deferral period can damage firm's credit reputation and harm its profitability in the long run (Nobanee and AlHajjar, 2009a). On the other hand, having insufficient funds to pay for the short-term liabilities will increase firm's default risk and may even result in bankruptcy while holding too much liquidity will work to reduce risks at the cost of decreased profitability. The trade-off between profitability and risk is the key to WCM (Dash and Hanuman, 2009) and consequently the management of working capital is an important component of corporate financial management as it may have both negative and positive impacts on firm's profitability, which in turn, has negative and positive impact on shareholder's wealth (Gill et al., 2010) and hence on the value of a firm. Thus, efficient WCM involves planning and controlling current assets and cur-

rent liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations while avoiding excessive investment in these assets (Eljelly, 2004).

Although WCM is the concern for all firms, given the vulnerability of small firms to working capital fluctuations, it is the small firms that could address this issue more seriously as they cannot afford to starve of cash (Padachi, 2006). Since the assets of most small and medium-sized companies are in the form of current assets (Garcia-Teruel and Martinez-Solano, 2007) and given the difficulties of sourcing long-term funds from capital markets (Peterson and Rajan, 1997) and the financing constraints they face (Whited, 1992; Fazzari and Peterson, 1993), a considerable source of external financing available for smaller firms is current liabilities, and hence, efficient WCM is especially important for them (Peel and Wilson, 1996). Following the same line of thinking, an efficient WCM can be argued to be more important for the firms operating at emerging markets since one of the most underlined obstacles faced by emerging market companies seems to be liquidity.

2. Cash Conversion Cycle and Working Capital Management. Through combining vital components of a firm's liquidity and short-term operating efficiency, the cash conversion cycle (CCC) is at the core of WCM and consequently is among the most important measures of management effectiveness and financial strength of a company. CCC can be defined as the length of time from the payment for the purchase of raw materials to manufacture a product until the collection of account receivable associated with the sale of a product (Besley and Brigham, 2005). Thus, CCC is a highly comprehensive measure of efficient WCM and has a strong relation with a company's liquidity, risk and profitability.

CCC can be calculated by adding the average collection period (ACP) with inventory turnover in days (ITP) and subtracting average payment period (APP):

$$CCC = AR * 365 / Sales + Inv. * 365 / COGS - AP * 365 / COGS ,$$

where: AR, Inv., AP and COGS denote accounts receivable, inventory, accounts payable and cost of goods sold, respectively.

It is traditionally argued that a shorter CCC could be associated with high profitability because it improves the efficiency of WCM (Nobanee and AlHajjar, 2009a) and consequently efficiency of WCM is based on the principle of speeding up collections as quickly as possible and slowing down disbursements as slowly as possible (Nobanee and AlHajjar, 2009b). Traditionally it is argued that as the length of the CCC increases, *ceteris paribus*, the funds will be blocked in working capital for a longer time period which in turn will deteriorate the profitability (Smith, 1980; Gentry et al., 1990; Deloof, 2003; Mathuva, 2010). Hence, the traditional link between the CCC and the firm's profitability is shortening of the CCC increases profitability (Nobanee, 2010). However, shortening the CCC could harm firm's profitability as reducing the inventory collection period may increase the shortage cost, reducing the receivable collection period may cause the loss of good credit customers and lengthening the payable period could damage the firm's credit reputation (Nobanee and AlHajjar, 2009b). On the other hand, as argued by Lazaridis and Tryfonidis (2006), sometimes trade credit is a vehicle to attract new customers as well. It is argued that credit can foster sales through enabling customers to assess product quality before paying (Long et al., 1993) and firms may change their credit terms to

attract new customers and to get larger orders (Cheng and Pike, 2003). In fact, corporate profitability might decrease with the CCC, 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 (Gill et. al, 2010). A shorter CCC associated with high opportunity cost while a longer CCC associated with high carrying cost (Nobanee, 2010).

In accordance with the above arguments, although most of the past empirical research suggest a negative relation between the CCC and firm profitability (Shin and Soenen, 1998; Lazaridis and Tryfonidis, 2006; Garcia-Teruel and Martinez-Solano, 2007; Raheman and Nasr, 2007; Uyar, 2009; Raheman et al., 2010; Nobanee and AlHajjar, 2009a), there are contradictory findings as well. For example, the findings of Mathuva (2010) suggest a negative relationship between average collection period and profitability and a positive relationship between average payment period and profitability as well as between inventory turnover in days and profitability. However, an increase in inventory turnover in days is associated with an increase in the CCC. Likewise, the findings of Deloof (2003) indicate a significant negative relationship between the components of the CCC and profitability for Belgian firms. But a shortening of average payment period associates with an increase in the CCC. The findings of Garcia-Teruel and Martinez-Solano (2007) also lack to provide a relation between average payment period and profitability. As argued by Nobanee and AlHajjar (2009a), although the length of CCC is an important measure of the efficiency of working capital management, little is known about the impact of cash conversion on firm's profitability. Hence, given its crucial importance, more research is needed to be undertaken to investigate the impact of both the CCC and its components on firm profitability.

The corporate finance literature has traditionally focused on the study of long-term financial decisions such as investments, capital structure, dividends etc., whereas short-term assets and liabilities are important components of total assets and need to be carefully analyzed as well (Nazir and Afza, 2009). Accordingly, this research paper is hoped to contribute to the relatively limited body of knowledge on the investigated research area by focusing on the impact of CCC and its components on firm performance on the sample of Turkish listed companies.

This research topic carries crucial importance for Turkish firms as the burden of liquidity is among the most argued problems encountered by them and seems to provide a major source of handicap over an effective WCM which in turn deteriorates the short-term operational efficiency. But surprisingly, there are only a few studies addressing this relationship for Turkish companies. Uyar (2009) reported a significant negative relationship between the CCC and profitability measured by return on assets and return on equity by using ANOVA and Pearson correlation analyses for a sample of merchandising and manufacturing companies listed at ISE for the year 2007. In the study conducted by Coskun and Kok (2011) the effect of working capital policies as measured by CCC, inventory period, accounts receivable period and accounts payable period on profitability as measured by return on asset is examined using dynamic panel analysis for the sample of 74 manufacturing firms listed at ISE for the period of 1991–2005. Their findings indicate a negative relationship between CCC, accounts receivable period and inventory period and a positive relationship between

accounts payable period and profitability. In another study Oz and Gungor (2007) reported a negative relationship between all the components of CCC, including accounts payable period and profitability, by analyzing the panel data on 68 manufacturing firms listed at ISE for the period 1992-2005. And the findings of Yucel and Kurt (2002) for 167 listed companies at ISE for the period of 1995-2000 show a negative relationship between CCC and return on asset as well as return on equity but fail to report a significant relation between CCC and net profit margin.

Hence, the insufficient evidence on the impact of CCC on firm performance with regard to both emerging market firms and Turkish companies also provide a strong motivation to investigate the relationship between CCC and firm profitability in detail. Consequently, the main objective of this paper is to examine the relationship between CCC and firm profitability for 169 companies listed at the Istanbul Stock Exchange (ISE) for the period of 2001-2010 by using the pooled panel data, accompanied with the aim of suggesting an efficient working capital management policy for Turkish companies. One of the distinguishing features of this study is that, while previous research mainly uses accounting measures of performance such as operating income and return on asset, as a proxy for firm profitability, this research employs a wider perspective by also using the stock market returns. Considering that, the objective of a firm is to maximize its value for its shareholders where value is represented by market price of a company's common stock (Van Horne, 1974), an examination of the impact of WCM on stock price and hence on shareholder wealth prove to be another crucial question. However, surprisingly, this question is left highly unexplored in the literature. So, in an attempt to provide empirical evidence on the impact of CCC on firm value, this paper also uses the stock market returns as a proxy for firm performance. This may help us to understand the ultimate affect of the CCC as well as its components on firm profitability, the shareholder wealth and thus the firm value.

The remaining of the study is organized as follows. The next section explains the data and the methodology. In section 4, the empirical results are discussed. Finally, section 5 concludes.

3. Data and Methodology. This paper examines the impact of WCM on firm profitability on the sample of 169 Turkish listed companies by using panel analysis with the pooled annual data. For this purpose, WCM efficiency is measured by CCC and firm profitability is measured by both accounting and market measures of performance, specifically by operating income and stock returns respectively. The reason for selecting operating income as a proxy for accounting measure of performance is to address operational efficiency. Besides, the single components of CCC, specifically the average collection period (ACP), the inventory turnover in days (ITP) and the average payment period (APP) are also used as descriptive variables instead of CCC to examine their impacts separately. Additionally, firm size, financial leverage and GDP growth rate are used as control variables along with a dummy variable to account for industry. To control for firm size, natural logarithm of total assets is used. Financial debt ratio which is calculated by dividing the sum of short- and long-term financial debt to total assets [$=(\text{short term borrowingt} + \text{long term borrowingt}) / \text{total assetst}$], is used as a proxy for financial leverage and GDP growth rate is used to control for the macroeconomic influences on the realized returns. To control for the

industry in which the firm operates, two-digit industry codes are assigned to firms according to the ISE industry classification. This way, 4 models are reached:

Model 1:

$$OpInc_{i,t} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 Size_{i,t} + \beta_3 FinLev_{i,t} + \beta_4 GDPgr_{i,t} + \beta_5 D_{ind} + \varepsilon$$

Model 2:

$$R_{i,t} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 Size_{i,t} + \beta_3 FinLev_{i,t} + \beta_4 GDPgr_{i,t} + \beta_5 D_{ind} + \varepsilon$$

Model 3:

$$OpInc_{i,t} = \beta_0 + \beta_1 ACP_{i,t} + \beta_2 ITD_{i,t} + \beta_3 APP_{i,t} + \beta_4 Size_{i,t} + \beta_5 FinLev_{i,t} + \beta_6 GDPgr_{i,t} + \beta_7 D_{ind} + \varepsilon$$

Model 4:

$$R_{i,t} = \beta_0 + \beta_1 ACP_{i,t} + \beta_2 ITD_{i,t} + \beta_3 APP_{i,t} + \beta_4 Size_{i,t} + \beta_5 FinLev_{i,t} + \beta_6 GDPgr_{i,t} + \beta_7 D_{ind} + \varepsilon$$

While examining WCM efficiency, another point of consideration that has received no attention yet, is the effect of group affiliation. Khanna and Rivkin (2001) argued that group firms have an important role in overcoming the market imperfections that arise from the institutional voids of developing economies and firms can derive important advantages from coordinating their activities. Business groups can create extra value for shareholders not only by using the available funds and management talent from existing operations to start new ventures, but through building an ability to create internal capital markets which can benefit group firms by enabling the transfer of capital for its most efficient use. Besides, Grant (1995) argued that internal capital market can allocate resources more effectively than external capital markets can. Group firms can also benefit from leading and lagging of cash flows in between the intergroup companies. So, affiliated firms may be expected to be less constrained by liquidity than their unaffiliated counterparts. Taking all these arguments into consideration, possible effects of group affiliation on WCM is also examined through addressing an interesting research question: Is there be any difference between group affiliated and unaffiliated firms with regard to the profitability effects of CCC and its components on both measures of performance?

Group affiliation is mainly determined through the examination of the information provided by the ISE on the ownership structures of the listed companies. For this purpose, the ownership structures of firms and the amount of shares held by private or judicial persons are recorded with a bundling process which enabled to specify the implicit ties among the firms as well. Besides, in order not to bypass the implicit ties among the firms, the Internet sites of holding companies, groups and firms are also searched for. Then, to examine whether there exists any difference between group affiliated firms and unaffiliated firms, CCC of both group of firms are included in the model as separate variables, instead of a single CCC variable for the whole sample which brings in 4 more models:

Model 5:

$$OpInc_{i,t} = \beta_0 + \beta_1 CCC_{aff\ i,t} + \beta_2 CCC_{unaff\ i,t} + \beta_3 Size_{i,t} + \beta_4 FinLev_{i,t} + \beta_5 GDPgr_{i,t} + \beta_6 D_{ind} + \varepsilon$$

Model 6:

$$R_{i,t} = \beta_0 + \beta_1 CCC_{affi,t} + \beta_2 CCC_{unaffi,t} + \beta_3 Size_{i,t} \\ + \beta_4 FinLev_{i,t} + \beta_5 GDPgr_{i,t} + \beta_6 D_{ind} + \varepsilon$$

Model 7:

$$OpInc_{i,t} = \beta_0 + \beta_1 ACP_{affi,t} + \beta_2 ACP_{unaffi,t} + \beta_3 ITD_{affi,t} \\ + \beta_4 ITD_{unaffi,t} + \beta_5 APP_{affi,t} + \beta_6 APP_{unaffi,t} + \beta_7 Size_{i,t} + \\ \beta_8 FinLev_{i,t} + \beta_9 GDPgr_{i,t} + \beta_{10} D_{ind} + \varepsilon$$

Model 8:

$$R_{i,t} = \beta_0 + \beta_1 ACP_{affi,t} + \beta_2 ACP_{unaffi,t} + \beta_3 ITD_{affi,t} \\ + \beta_4 ITD_{unaffi,t} + \beta_5 APP_{affi,t} + \beta_6 APP_{unaffi,t} + \beta_7 Size_{i,t} + \\ \beta_8 FinLev_{i,t} + \beta_9 GDPgr_{i,t} + \beta_{10} D_{ind} + \varepsilon$$

Overall, 8 models are reached. Financial data of the companies are sourced from Bloomberg, stock returns data are calculated from the monthly stock price data as obtained from the Istanbul Stock Exchange (ISE) database and GDP growth rate is sourced from the IMF database.

4. Empirical Results. The results obtained from the above models are presented at Table I.

As Table I reveals, the analyses results obtained from Models 1 and 2 indicate that, after controlling for industrial differences, there exists a statistically significant negative relationship between CCC and firm performance in terms of both accounting and market measures of firm performances at the 1% significance level. This finding, through suggesting that a shortening of CCC improves firm performance, provide support for the majority of past empirical research. Besides, a comparison of the coefficients of both performance measures makes it clear that although a shorter CCC associates with enhanced profitability for both of the performance measures, the performance enhancing effect is stronger in terms of operational efficiency.

The results of Models 3 and 4 which separately examine the impact of the components of CCC on firm performance, show that a shortening of ACP significantly improves firm performance at the 5% and the 1% significance levels for operating income and stock market returns, respectively. A decrease in ITD is found to improve firm performance as measured by operating income at 1% significance level while in terms of stock market returns the findings fail to provide a statistically significant relationship at conventional levels. Although a fall in CCC is found to have positive impact on firm performance, the findings reveal that a shortening of APP also enhance firm performance in terms of both operating income and stock market returns at the 5% and 1% significance levels, respectively.

Table 1. Panel Analysis Results

	COEFFICIENTS							
	Model 1 (OpInc)	Model 2 (Ri)	Model 3 (OpInc)	Model 4 (Ri)	Model 5 (OpInc)	Model 6 (Ri)	Model 7 (OpInc)	Model 8 (Ri)
CCC	-0.078*** (-4.424)	-3.59E-19*** (-9.457)						
ACP			-0.061** (-2.237)	-4.12E-19*** (-6.189071)				
ITD			-0.183*** (-4.857)	5.73E-20 (0.622910)				
APP			-0.095** (-2.524)	-4.74E-19*** (-5.146)				
Size	21.009*** (14.257)	1.06E-16*** (33.289)	22.881*** (15.297)	1.14E-16*** (31.386)	21.045** (21.416)	6.09E-17*** (35.692)	22.866*** (15.285)	8.99E-17*** (29.632)
Financial Leverage	-29.262*** (-3.806)	-1.61E-16*** (-9.661)	-15.491* (-1.930)	-1.09E-16*** (-5.557)	-29.236** (-3.299)	-7.63E-17*** (-8.585)	-14.364* (-1.786)	-1.02E-16*** (-6.226)
GDP Gr. Rate	-39.845*** (-4.817)	1.000*** (5.58E+16)	38.527*** (-4.697)	1.000*** (5.00E+16)	39.861** (-2.718)	1.000*** (1.05E+17)	38.314*** (-4.671)	1.000*** (6.01E+16)
Industry Dummy	-1.136*** (-3.012)	-2.32E-17*** (-28.372)	-0.859** (-2.280)	-2.24E-17*** (-24.424)	1.118*** (-2.625)	-1.17E-17*** (-26.654)	-0.799** (-2.093)	-2.28E-17*** (-29.444)
CCC Aff.					-0.073** (-2.149)	-1.15E-19*** (-5.203)		
CCC Unaff.					0.098*** (-2.904)	-1.97E-19*** (-4.787)		
ACP Aff.							-0.035 (-1.109)	-3.56E-19*** (-5.525)
ACP Unaff.							-0.125** (-2.351)	-7.09E-19*** (-6.598)
ITD Aff.							-0.217*** (-4.970)	6.47E-20 (0.730464)
ITD Unaff.							-0.092 (-1.356)	8.56E-19*** (6.213)
APP Aff.							-0.081** (-2.054)	-5.40E-19*** (-6.734)
APP Unaff.							-0.217** (-2.272)	-7.57E-19*** (-3.909)

Notes: t-statistics are presented in parentheses.

***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively.

To examine whether there exists any difference between group affiliated and unaffiliated firms with respect to the performance effects of CCC and its components, Models 5-8 are applied. The results are provided in the last 4 columns of Table I. The findings indicate that shortening of CCC has statistically significant positive effect on firm performance for both affiliated and unaffiliated firms in terms of both

accounting and market measures of performance at the 1% significance level, except for the impact of CCC of affiliated firms on operating income which is statistically significant at 5%. However, as the coefficients reveal, this effect is stronger for unaffiliated firms than for affiliated ones.

The findings obtained from Model 7 indicate that while there is a negative relationship between ACP of unaffiliated firms and operating income at the 5% significance level, no statistically significant relationship could be obtained for ACP of affiliated firms and operating income at conventional levels. The results also show that a shortening of ITD improves operating income at the 1% statistically significance level for affiliated firms. However, for unaffiliated firms the findings lack to provide a statistically significant relation at conventional levels. As the findings of Model 7 reveal APP and operating income also have an inverse relationship for both affiliated and unaffiliated firms at the 5% significance level. As seen from the findings of Model 8, there exists a negative relationship between ACP and stock returns as well as APP and stock returns for both groups of firms at the 1% level. The findings also suggest a positive relationship between ITD of unaffiliated firms and stock market returns at the 1% significance level. But, no statistically significant relation could be reported between the ITD and stock returns for affiliated firms.

It is also seen in Table I that in all the cases market valuation significantly lacks behind the accounting measure of performance.

5. Concluding Remarks and Suggestions. This paper examines the impact of WCM on firm performance by concentrating on CCC and its components. The firm performance is measured by both accounting and market measures of performance, specifically with operating income and stock market return, respectively. Besides, possible effects of group affiliation on the impact of CCC and its components on firm profitability are also investigated. The sample consists of 169 Turkish listed companies. The analysis is conducted via pooled panel analysis for the period of 2001-2010 by using the annual data.

The findings suggest that a shortening of CCC improves firm performance in terms of both accounting and market measures of performance which provides additional support for most of the past empirical research. This finding also provides support for the traditional view which argues that as the length of the CCC increases, *ceteris paribus*, the funds will be blocked in working capital for a longer time period which in turn will deteriorate profitability (Smith, 1980; Gentry et al., 1990; Deloof, 2003; Mathuva, 2010). So, this result implies that conservative WCM policies are more promising for Turkish companies. However, when the impact of the single components of CCC on firm performance is examined, it is found that a shortening in all of the components of CCC has positive effects on firm performance as measured by both operating income and the stock market return, though for the market measure of performance, this effect is not significant for ITD at conventional levels. Although the findings related with the ACP and ITD is consistent with most of the previous work and with the traditional view, the finding related with the APP sheds some shadow: Although a decrease in APP causes an increase in CCC, the findings indicate that a shorter APP enhances firm performance as well. This result is contradictory with the findings of Coskun and Kok (2011), but consistent with the findings of Oz and Gungor (2007). This reported negative relationship between APP and firm profitabil-

ity may be due to such factors as early payment discount options or related with factors like, as argued by Nobanee and AlHajjar (2009a;b), the credit reputation of the firm. Hence, further research is crucially needed.

The findings also indicate that both affiliated and the unaffiliated firms can enhance firm performance in terms of both performance measures through shortening their CCCs, this effect is more stronger for unaffiliated firms. Besides, the findings fail to report a significant impact of ACP on operating income for affiliated firms. These results are also consistent with the expectations and can be interpreted as another evidence providing support for the intergroup activities such as the use of internal capital/money markets. So, WCM seems to be more important for unaffiliated firms.

The results also suggest that the impact of CCC and its components on firm performance is stronger for the accounting measure of performance than for the market measure of performance. This fact raises the possibility that the market either does not place much value on improved operational efficiency or misprices the fact which is a new insight that deserves further research as well.

References:

- Besley, S. and Brigham, E. F.* (2005). *Essentials of Managerial Finance*, 13th ed., Thomson South-Western: USA.
- Cheng, N. S. and Pike, R.* (2003). The Trade Credit Decision: Evidence of UK Firms, *Managerial and Decision Economics*, 24: 419-438.
- Coskun, E. and Kok, D.* (2011). Calisma Sermayesi Politikalarinin Karlilik Uzerine Etkisi: Dinamik Panel Uygulamasi, *Ege Academic Review*, 11: 75-85.
- Dash, M. and Hanuman, R.* (2009). A Liquidity-Profitability Trade-Off Model for Working Capital Management available at <http://ssrn.com/abstract=1408722> accessed 11 April 2012.
- Deloof, M.* (2003). Does Working Capital Management Affect Profitability of Belgian Firms?, *Journal of Business Finance and Accounting*, 30(3/4): 573-587.
- Eljelly, A. M. A.* (2004). Liquidity-Profitability Trade-Off: An Empirical Investigation in an Emerging Market, *International Journal of Commerce and Management*, 14 (2): 48-61.
- Fazzari, S. M. and Peterson, B.* (1993). Working Capital and Fixed Investment: New Evidence on Financing Constraints, *Rand Journal of Economics*, 24: 328-342.
- Garcia-Teruel, P. J. and Martinez-Solano, P.* (2007). Effects of Working Capital Management on SME Profitability, *International Journal of Managerial Finance*, 3: 164-177.
- Gentry, A., Vaidyanathan, R. and Wai, L.* (1990). A Weighted Cash Conversion Cycle, *Financial Management*, 19(1): 90-99.
- Gill, A., Biger, N. and Mathur, N.* (2010). The Relationship Between Working Capital Management and Profitability: Evidence from The United States, *Business and Economics Journal*, Vol. 2010: BEJ-10, available at http://astonjournals.com/manuscripts/Vol2010/BEJ-10_Vol2010.pdf. accessed 9 April 2012.
- Grant, G.M.* (1995). *Contemporary Strategy Analysis: Concepts, Techniques, Applications*, Cambridge, MA: Blackwell.
- Khanna, T., and Rivkin, J.W.* (2001). Estimating the Performance Effects of Business Groups in Emerging Markets, *Strategic Management Journal*, 22 (1): 45-74.
- Lazaridis, I. and Tryfonidis, D.* (2006). The Relationship Between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange, *Journal of Financial Management and Analysis*, 19: 26-35.
- Long, M. S., Malitz, I. B. and Ravid, S. A.* (1993). Trade Credit, Quality Guarantees, and Product Marketability, *Financial Management*, 22(4): 117-127.
- Mathuva, D. M.* (2010). The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms, *Research Journal of Business Management*, 4(1): 1-11.
- Nazir, M. S. and Afza, T.* (2009). Working Capital Requirements and the Determining Factors in Pakistan, *The ICAFI Journal of Applied Finance*, 15(4): 28-38.
- Nobanee, H. and AlHajjar, M.* (2009a). A Note on Working Capital Management and Corporate Profitability of Japanese Firms, available at <http://ssrn.com/abstract=1433243> accessed 11 April 2012.

Nobanee, H. and AlHajjar, M. (2009b). Optimizing Working Capital Management, available at <http://ssrn.com/abstract=1528894> accessed 11 April 2012.

Nobanee, H. (2010). Working Capital Management and Firm's Profitability: An Optimal Cash Conversion Cycle. available at <http://ssrn.com/abstract=1471230> accessed 11 April 2012.

Oz, Y. and Gungor, B. (2007). Calisma Sermayesi Yonetiminin Firma Karlilikgi Uzerine Etkisi: Imalat Sektorune Yonelik Panel Veri Analizi, Ataturk Universitesi Sosyal Bilimler Enstitusu Dergisi, 10(2): 319-332.

Padachi, K. (2006). Trends in Working Capital Management and Its Impact on Firm's Performance: An Analysis of Mauritian Small Manufacturing Firms, International Review of Business Research Papers, 2(2): 45-58.

Peel, M. and Wilson, N. (1996). Working Capital and Financial Management Practices in the Small Firm Sector, International Small Business Journal, 14 (2): 52-68.

Peterson, M. A. and Rajan, R. G. (1997). Trade Credit: Theories and Evidence, Review of Financial Studies, 10: 661-691.

Raheman, A. and Nasr, M. (2007). Working Capital Management and Profitability - Case of Pakistani Firms, International Review of Business Research Papers, 3(1): 279-300.

Raheman, A., Afza, T., Qayyum, A. and Bodla, M. A. (2010). Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan, International Research Journal of Finance and Economics, 47: 151-163.

Shin, H. H. and Soenen, L. (1998). Efficiency of Working Capital and Corporate Profitability, Financial Practice and Education, 8(2): 37-45.

Smith, K. (1980). Profitability Versus Liquidity Tradeoffs in Working Capital Management, in Readings on The Management of Working Capital, K.V. Smith (ed.), St. Paul, MN, West Publishing Firm, USA: 549-562.

Uyar, A. (2009). The Relationship of Cash Conversion Cycle with Firm Size and Profitability: An Empirical Investigation in Turkey, International Research Journal of Finance and Economics, 24: 186-193.

Van Horne, J. J. (1974). Financial Management and Policy, New Jersey, Prentice-Hall.

Whited, T. M. (1992). Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data, Journal of Finance, 47: 1425-1460.

Yucel, T. and Kurt, G. (2002). Nakit Donusum Suresi, Nakit Yonetimi ve Karlilik: IMKB Sirketleri Uzerinde Ampirik Bir Calisma, IMKB Dergisi, 6(22): 1-15.

Стаття надійшла до редакції 30.07.2012.