Corporate Governance Quality and Cash Conversion Cycle: Evidence from Jordan

Ayat S. Al-Rahahleh

Correspondence: Ayat S. Al-Rahahleh, Disclosure analyst, Jordan Securities Commission, Amman, Jordan. E-mail: ayat.rahahleh@jsc.gov.jo

Abstract

This study aims at examining the impact of corporate governance quality on cash conversion cycle (CCC) in Jordan. Using OLS regression for a sample of all industrial companies listed on Amman Stock Exchange during the period (2009-2013). The results revealed that CCC is affected negatively by corporate governance quality, which provides an implication to industrial companies in Jordan to boost their compliance with corporate governance code in order to improve their working capital management efficiency. Furthermore, the outcomes showed a variation in corporate governance categories between sub-samples, which supports contingency theory that rejects the approach of "one size fits all". The findings provide implications for future studies to deal with firm characteristics as context dependent rather than simply as control variables. The results also provide implications for regulatory bodies in Jordan that highlight the importance of "comply or explain" approach to some corporate governance rules embracing the "one size does not fit all" approach. This study fills a gap in the existing literature by studying the quality of corporate governance and by using the context dependent approach.

1. Introduction

The purpose of this study is to examine the impact of corporate governance quality on cash conversion cycle of all industrial companies in Jordan. This study is mainly motivated by the global attention to corporate governance and the focus on working capital management (WCM) by researchers that followed the global financial crises. In this regards, the Organization for Economic Co-operation and Development, OECD (2009) indicated that the corporations' working capital was affected by the global financial crises since these corporations faced increasing in their receivables collection period and inventories conversion period due to the decreasing in the demand for their products, which reflected negatively their working capital and hence their liquidity (Abuzayed, 2012). Particularly, (Garcı ́a-Teruel & Martı ́nez-Solano, 2007) indicated that cash conversion cycle, which considered as a key factor in working capital management, refers to "the average number of days between the date when the firm must start paying its suppliers and the date when it begins to collect payments from its customers".

Working capital management has significant role in corporate finance since efficient WCM is significant for business going concern and its profitability (Siddique & Khan, 2008). Furthermore, efficient WCM will lead a company to respond quickly and favorably to unexpected change in the variables of the market and to obtain competitive advantages over its competitors (Appuhami, 2008). However, inefficient WCM will lead a company to liquidity crisis through lessening the firm's profitability and credibility. Particularly, the management of working capital requires a tradeoff between risk and return; higher risk and higher return are associated with aggressive WCM while the lower risk and lower return are associated with conservative WCM (Afza & Nazir, 2007). The board of directors is responsible for formulating policies related to accounts receivable, inventory purchases and maintenance, accounts payable and other policies in the company where weak policies related to accounts receivable, accounts payable and inventory management have a negative impact on the cash conversion cycle (Gill & Biger, 2013). The conflict of interest between managers and shareholders, as examined in the agency theory, could have an impact on the level of working capital (Jensen & Meckling, 1967). As well, weak corporate governance will lead to inefficient working capital management which has a negative impact on shareholder wealth (Isshaq, et al., 2009).

The global attention to corporate governance included Jordan. On one hand, regulator in Jordan (i.e. Jordan

Securities Commission) issued Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange and indicated that "to give companies flexibility in implementing the corporate governance rules and sufficient time to adapt to them, in order to enhance awareness of these rules and to achieve full compliance gradually; the application of these rule would initially be through comply or explain approach". On the other hand, researchers in Jordan paid much attention to the issue of corporate governance where several empirical studies linked corporate governance with company performance, dividend policy and earnings management (Marji, 2010; Zedan & Abunassar, 2014; Abd al-Halim, 2013; Al-Halahlah, 2013, Abbadi et al., 2016). However, most of these studies measured corporate governance through limited mechanisms, and few of them studied the quality of corporate governance and the context dependent approach. As well, less attention has been paid to the area regarding the linkage between corporate governance quality and cash conversion cycle in Jordan, which resulted in a gap in the existing literature. This study tries to fill this gap by investigating the impact of corporate governance quality, measured based on governance index, on the cash conversion cycle of all industrial companies in Jordan during the period (2009-2013) using context dependent approach (i.e. large and small firm size; high and low sales growth; high and low net profit margin ratio). The findings of this paper may be useful to the researchers in explaining the inconsistency and ambiguity in corporate governance literature through shedding a light on the context dependent approach. As well, this study may be useful to the regulatory bodies in Jordan through proving evidence that supports the "comply or explain" approach to some corporate governance rules.

The rest of the study is organized as follows. Next section includes a review of related previous literature on the effect of corporate governance on cash conversion cycle. Section three presents the study methodology including the study sample and period, the variables under examination, and models of the study. The final section reports the empirical results and conclusions of the study.

2. Literature Review

There are a very few studies investigated the impact of corporate governance on working capital management efficiency (Gill & Biger, 2013). In contrast, the impact of corporate governance as well cash conversion cycle as a proxy of working capital management on performance has been widely examined and yielded to mixed results. However, Tingbani (2015) argued that the association between working capital management and profitability may not be linear, where his argument was motivated by the contrasting results regarding the impact of corporate governance as well working capital management on profitability. To determine this association based on a sample of 225 companies listed on London Stock Exchange for the period 2001-2011; the paper adopted a contingency theory approach and interacted three contingent variables (environment, resources and Management). Particularly, industrial characteristic was used as proxy of environmental variable, company's cash flow as a proxy of resources variable and company's board size as a proxy of management variable. The results of the regression analysis showed that the interaction of environmental, resources and management factors significantly moderates the association between cash conversion cycle and profitability. The study suggested that working capital management has an indirect impact on profitability, and its impact is constrained and modified by organizational contingencies (environment, resources and management factors) of the firm.

Gill & Biger (2013) selected a sample of 180 American manufacturing firms listed on the New York Stock Exchange (NYSE) during the period from 2009-2011 and employed general least squares model with cross section weight of seven industries to test the impact of corporate governance on working capital management efficiency. Corporate governance, which measured through board size, CEO tenure, CEO duality and audit committee, was the independent variable, and WCM efficiency, which measured through cash conversion cycle, cash holdings, current ratio and cash conversion efficiency was the dependent variable. Whereas, the sales growth, internationalization of the company, company size and company performance were used as control variables. The results showed that board size has a negative coefficient, CEO duality, CEO tenure and audit committee have a positive coefficients however all the coefficients were insignificant related to cash conversion cycle.

Kajananthan & Achchuthan (2013) conducted a study to test the effect of corporate governance, measured through percentage of independent director, CEO duality, board committee and board meeting, on working capital management efficiency, measured through cash conversion cycle and current ratio, for a sample of 25 listed manufacturing firms in Colombo Stock Exchange during the period from 2007-2011. The results of the regression analysis indicated that all corporate governance mechanisms used in the study were insignificant related to cash conversion cycle.

Gill, et al. (2015) tested the impact of corporate governance on cash conversion cycle for a sample of 189

American manufacturing firms listed on the New York Stock Exchange (NYSE) for the period 2009-2013. Corporate governance was measured through, board size, percentage of independent directors, audit committee, CEO duality and CEO tenure, and company size, sales growth and net profit margin ratio were used as control variables. The results of weighted least squares (WLS) with cross section weight of seven industries showed that cash conversion cycle is affected negatively by percentage of independent directors and positively by CEO tenure. Whereas, board size, CEO duality, audit committee, firm size, sales growth and net profit margin were insignificant related to cash conversion cycle.

Goel, et al., (2015) studied the impact of corporate governance on working capital management efficiency for a sample of 127 large industrial companies in India for the period 2004-2013. The results showed that board size has a positive impact on working capital management efficiency. Percentage of independent directors and percentage of independent member in the audit committee have a negative significant impact on working capital management efficiency.

Aghajari et al., (2015) examined the impact of corporate governance on working capital management efficiency for a sample of 75 companies listed in Tehran Stock Exchange during the period (2009-2014). Corporate governance was measured through CEO duality, institutional shareholders ownership and CEO tenure. Whereas, working capital management was measured though cash conversion cycle, current ratio and cash conversion efficiency. The paper used three control variables namely; firm size, sales growth and net profit margin ratio. The findings of the regression analysis showed that cash conversion cycle is affected positively by CEO duality and negatively by institutional shareholders ownership and by CEO tenure. However, the three control variables namely; sales growth, firm size and net profit margin ratio were insignificant related to cash conversion cycle

3. Research Design

3.1 Study Sample

The study sample consisted of all industrial companies listed on Amman stock exchange (ASE) that have publically available annual reports during the period (2009-2013), which considered the most recent data available prior to the publication of this paper. In order to include the company in the study sample, required data to calculate all study variables should be available for two consecutive years. A sample of 60 companies out of 69 companies (the study population) met the required criterion. To avoid the impact of the extreme values, the top and bottom 1% of the observations on each of the study variable were excluded. The final number of companies included in the analysis was 59 companies with 257 firm-year observations.

4. Variables measurement

4.1 The Dependent Variable: Cash Conversion Cycle

Consistent with Richards & Laughlin (1980), Deloof (2003), Raheman & Nasr (2007); Garcá-Teruel & Solano (2007) and Al-Debi'e (2011), Cash Conversion Cycle (CCC) is measured as follows:

- Cash Conversion Cycle

$$CCCit = OCit - PDPit \tag{1}$$

Where:

CCCit: Cash Conversion Cycle for company *i* in year *t;*

OCit: Operating Cycle for company *i* in year *t;*

PDPit: Payables Deferral Period for company *i* in year *t*.

$$OCit = RCPit + ICPit \tag{2}$$

Where:

RCPit: Receivables Conversion Period for company *i* in year *t;*

ICPit: Inventories Conversion Period for company *i* in year *t*.

- The Receivables Conversion Period

$$RCP = 365(AvRecit / Sit) \tag{3}$$

Where:

Sit: Net credit sales for company *i* in year *t;*

AvRecit: Average of receivables for company *i*, calculated by dividing (2) into the sum of Receivable at the end of year *t-1* and Receivables at the end of year *t*.

- The Inventories Conversion Period

$$ICPit = 365(AvInvit / CGSit) \tag{4}$$

Where:

CGSit: Cost of goods sold for company *i* in year *t;*

AvInvit: Average of inventories for company *i,* calculated by dividing into (2) the sum of

Inventories at the end of year *t-1* and Inventories at the end of year *t.*

- The Payables Deferral Period

$$PDPit = 365(AvPayit / Pit) \tag{5}$$

Where:

Pit: Net credit purchases for company *i* in year *t;*

AvPayit: Average of payables for company *i*, calculated by dividing (2) into the sum of Payables at the end of year *t-1* and Payables at the end of year *t.*

4.2 The Independent Variable: Corporate Governance Quality

Corporate governance quality is measured based on governance index that used by (Prommin et al., 2014) in measuring corporate governance quality. Consistent with (Abbadi et al., 2016), the index is modified in accordance with the rules required by corporate governance code issued by Jordan Securities Commission (JSC). The governance index is classified into 4 categories with a total of 10 standards where one point is awarded for each standards that is satisfied and hence zero point otherwise. All these standards are required by corporate governance code issued by JSC under "comply or explain" approach except standards 9 which is voluntarily adopted. Table 1 provides the governance standards that ranges from 1 to 10 as well the table also provides the rule on each standard that is required by corporate governance code for shareholding companies listed on the ASE.

The paper also employs three control variables;

- **Sales growth** *(SG$_{it}$)*, is the percentage change is sales of company *i*, $((sales_t - sales_{t-1}) / sales_{t-1})$,
- **Firm size** *(FS$_{it}$)*, is the logarithm of total asset of company *i* in year *t*,
- **Net profit margin ratio** *(NPM$_{it}$)*, is net income divided by sales of company *i* in year *t*.

4.3 Study Model

The following OLS regression is utilized to examine the impact of corporate governance quality on the cash conversion cycle, taking into consideration firm size, sales growth and net profit margin:

$$CCC_{it} = \alpha_{0+} \alpha_1 \text{ Governance quality} + \alpha_6 SG_{it} + \alpha_7 FS_{it} + \alpha_8 NPM_{it} + e_{1it}$$

Where:

α_0 the constant,

$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7$ and α_8 are the slope coefficients,

e_{1it} the error term.

Table 1. Corporate governance quality index

Category	Governance standard	Rule in Corporate governance Code
	1) Member of board of directors are not less than five and not more than thirteen	"The administration of the Company is entrusted to a board of directors whose members shall be not less than five and not more than thirteen"
Board of directors	2) One-third of the directors are independent directors	"at least one third of the board members are independent members."
	3) Chairman and CEO positions are separated	"It is not allowed for one person to hold the positions of chairman of the board of directors and any executive position in the company at the same time"
Board meetings	4) Disclosure about number of the board meetings	"The board of directors shall meet at least once every two months, provided that the number of meetings in the fiscal year must not be less than six and the number of meetings shall be disclosed in the company's annual report"
	5) The number of board meetings is not less than six	
Audit	6) Existence of Audit Committee	The board of directors shall form the following permanent committees: The Audit Committee that shall undertake the task of overseeing and monitoring accounting and internal control and auditing activities in the company
	7) Disclosure of frequency of Audit Committee meetings	The Committee shall meet regularly, not less than four times a year, and minutes of its meetings must be taken appropriately
	8) Expertise of Audit Committee	All members of the Audit Committee must have knowledge and experience in finance and accounting, and at least one of them must have worked previously in accounting or finance fields, and that person must have an academic or professional certificate in accounting, finance or related fields
	9) Engagement of Big 4 auditors (PWC, KPMG, E&Y or Deloitte)	The company's external auditor should: A. Possess a valid license to practice the profession. B. Be a member of the Jordan Association of Certified Public Accountants. C. Have practiced the profession on a full time basis for at least three consecutive years, after receiving his license to practice the auditing profession. D. Have in his firm at least one partner or employee who must also meet the above- mentioned requirements.
Nominations and remunerations	10) Existence of Nominations and remunerations Committee	The board of directors shall form the following permanent committees: The Nominations and Compensations Committee, whose main tasks are: 1. Ensuring the independence of independent members on a continuous basis. 2. Setting the policy of compensations, privileges, incentives, and salaries and to review them on a yearly basis. 3. Defining the company's needs of qualifications at the upper executive management and employees levels, and the criteria for their selection. 4. Drawing the company's human resources and training policy, monitoring its implementation, and reviewing it on an annual basis

5. Analysis and Results Discussion

5.1 Descriptive Results

Table 1 presents descriptive statistics for the study variables regarding 257 firm year observations of 59 industrial companies listed on ASE during the period (2009-2013). The average sales growth of these companies is -0.01 (median -0.004), which suggests that companies within the sample over the study period face on average a decrease in sales volume relative to the previous years. Furthermore, the average net profit margin ratio of these companies is -0.02 (median 0.02), which indicates that companies within the sample over the study period face on average a bad period with negative percentage of net income to sales.

As can be noticed from the table, companies within the sample over the study period take on average 101.75 days (median 74.99 days) to collect payments on sales from their customers, sell their inventory on average after 186.87

days (median 173.77 days) and pay to their supplier on their credit purchases on average after 81.65 days (median 68.78 days). The cash conversion cycle is on average 206.959 days (median 176.54 days). From a liquidity perspective, the companies within the sample do not have a strong liquidity position since they have to pay suppliers before collecting from customers. Whereas, the governance quality ranges from 3 to 10 with an average of (5.612) an indication that part of companies within sample over the study period violate the rules of corporate governance code. So far, Jordanian companies have not yet reached the phase of full compliance with corporate governance code issued by JSC.

Table 2. Descriptive statistics of the industrial companies variables, 2009-2013, 257 firm-year observations

Variables	Percentile 1	Minimum	Mean	Median	Maximum	Percentile 99	Std. Deviation
RCP	5.288	1	101.75	74.99	589	478.95	84.89
ICP	1.162	1	186.87	`173.77	681	564.87	111.5
PDP	1	0	81.65	68.78	534	408.19	72.29
CCC	-16.47	-50	206.959	176.54	733	660.66	138.6
GOV	3	3	5.612	6	10	10	1.815
SG	-0.685	-0.89	-0.01	-0.004	1.28	0.849	0.289
FS	6.03	5.93	7.27	7.24	8.82	8.66	0.527
NPM	-1.17	-1.37	-0.02	0.02	0.785	0.698	0.253

Note: Table 2 presents descriptive statistics of the study main and control variables after deleting outliers defined as the top and bottom 1% on each of the study variables

RCP is receivables conversion period ((365*(Average receivables/Net credit sales)), ICP is inventories conversion period ((365*(Average inventories/Cost of goods sold)), PDP is Payables deferral period ((365*(Average payables/Net credit purchases)), CCC is cash conversion cycle (RCP+ICP-PDP), GOV is governance quality measured based on governance index as shown in table (1), FS is firm size (natural logarithm of total assets), SG is sales growth ((current year sales-previous year sales)/previous year sales), NPM is net profit margin ratio (net income/sales).

5.2 Correlation between Study Variables

Table 4 presents correlation coefficients between the study variables. One could argue that corporate governance quality could be associated with only one or two components of CCC, to examine this argument and to gain more insight about the relationship between governance quality and the components of CCC; each component is included separately in the correlation analysis. As can be noticed, the governance quality has a significant negative coefficient with CCC, which implies that strong governance quality is associated with short CCC and hence efficient WCM. Furthermore, governance quality is significantly associated with the three components of cash conversion cycle.

As can be observed, sales growth, firm size and net profit margin ratio have significant negative correlation coefficients with CCC, which indicate that the larger the firm size, sales growth and net profit margin ratio, the shorter the CCC, which reflects positively on the efficiency of WCM. As can be noticed, the significant positive coefficient between governance quality and firm size is an indication that large companies perform better governance quality relative to small companies.

Table 3. Correlation between study variables

Variables	RCP	ICP	PDP	CCC	GOV	SG	FS
ICP	0.105						
PDP	0.300**	0.245**					
CCC	0.540**	0.741**	-0.141*				
GOV	-0.203**	-0.229**	0.140*	-0.382**			
SG	-0.225**	-0.210**	-0.233**	-0.187**	0.103		
FS	-0.225**	-0.223**	-0.107	-0.262**	0.132*	-0.012	
NPM	-0.323**	-0.164**	-0.365**	-0.139*	0.061	0.336**	0.223**

Note: Table 3 provides Pearson correlation coefficients for the main variable of the study after deleting outliers defined as the top 1% on each of the study variables

RCP is receivables conversion period ((365*(Average receivables/Net credit sales)), ICP is inventories conversion period ((365*(Average inventories/Cost of goods sold)), PDP is Payables deferral period ((365*(Average payables/Net credit purchases)), CCC is cash conversion cycle (RCP+ICP-PDP), Gov is Governance quality measured based on governance index as shown in table (1), FS is firm size (natural logarithm of total assets), SG is sales growth ((current year sales-previous year sales)/previous year sales), NPM is net profit margin ratio (net income/sales).

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

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

5.2 Regression Analyses and Results Discussion

Table 4 presents the results of the benchmark model, which aims to examine the impact of corporate governance quality on cash conversion cycle for the full sample without taking into consideration any company characteristics as well the table provides the results of sub-samples after portioning the full sample according to company size, sales growth and net profit margin ratio. These sub-samples of the full sample are motivated by the results of the previous studies which reported a significance difference between small and large firm size; high and low sales growth; high and low net profit margin ratio.

Table 4. OLS regression results for industrial companies (2009-2013), 257 firm-year observations

	Benchmark model (CCC)	Large firm size	Small firm size	High sales Growth	Low sales growth	High net profit margin ratio	Low net profit margin ratio
GOV	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
	(-6.594)	(-4.682)	(-4.253)	(-4.839)	(-3.808)	(-4.576)	(-4.243)
Constant	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(14.215)	(8.643)	(9.858)	(8.958)	(9.455)	(9.124)	(9.846)
F value	43.481	21.922	18.084	23.417	14.498	20.940	18.000
Sig. of F	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adj-R²	0.142	0.172	0.145	0.182	0.118	0.165	0.144

Note: Table 4 provides the OLS regression results of the study model, the model is:

$$CCC_{it} = \alpha_{0} + \alpha_1 \text{ Governance quality} + \alpha_6 SG_{it} + \alpha_7 FS_{it} + \alpha_8 NPM_{it} + e_{1it}$$

RCP is receivables conversion period ((365*(Average receivables/Net credit sales)), ICP is inventories conversion period ((365*(Average inventories/Cost of goods sold)), PDP is Payables deferral period ((365*(Average payables/Net credit purchases)), CCC is cash conversion cycle (RCP+ICP-PDP), GOV is governance quality measured based on governance index as shown in table (1), FS is firm size (natural logarithm of total assets), SG is sales growth ((current year sales-previous year sales)/previous year sales), NPM is net profit margin ratio (net income/sales).

The results of the benchmark model showed that cash conversion cycle is affected negatively by governance quality, which indicates that the stronger the governance quality the shorter the cash conversion cycle and hence the more efficient management of working capital. This results support the results of (Goel, et al., 2015; Aghajari et al., 2015; Gill et al., 2015) and contradict the results of (Gill & Biger, 2013; Kajananthan, & Achchuthan, 2013).

The results across large and small firm size sub-samples confirmed the benchmark model results in that cash conversion cycle is affected negatively by governance quality. However, the explanatory power rose to 0.172 across large firm size and remained 0.14 across small firm size, which suggests that the efficiency of working capital in case of large firm size is better explained by corporate governance quality relative to small firm size. Furthermore, the results across high and low sales growth sub-samples confirmed the benchmark model results. However, the explanatory power rose to 0.182 across high sales growth sub-sample and dropped to 0.118 across low sales growth sub-sample, which suggests that the efficiency of working capital management in case of high sales growth is better explained by the quality of corporate governance relative to low sales growth sub-sample. As well, the results across high and low net profit margin ratio sub-samples confirmed the benchmark model results in that cash conversion cycle is affected negatively by governance quality. However, the explanatory power across high net profit margin ratio sub-sample rose to 0.165 and remained 0.144 across low net profit margin ratio sub-sample.

5.2.1 Categories of Governance Index

To gain more insight about which category of governance index has more impact on CCC and hence the efficiency of working capital management, the analysis was run on each category of governance index separately. Table 5 depicts the results of categories of governance index

Table 5. OLS regression results for industrial companies (2009-2013), 257 firm-year observations

	Benchmark model (CCC)	Large firm size	Small firm size	High sales Growth	Low sales growth	High net profit margin ratio	Low net profit margin ratio
Board of directors	0.006** (-2.776)	0.007** (-2.742)	0.056 (-1.932)	0.005** (-2.871)	0.087 (-1.727)	0.04* (-2.082)	0.093 (-1.697)
Adj-R^2	0.026	0.061	0.026	0.067	0.019	0.032	0.018
Board meetings	0.000** (-5.035)	0.002** (-3.159)	0.000** (-4.661)	0.011* (-2.608)	0.000** (-3.629)	0.003** (-3.018)	0.001** (-3.291)
Adj-R^2	0.087	0.082	0.17	0.054	0.108	0.074	0.089
Audit	0.000** (-4.534)	0.003** (-3.095)	0.084 (-1.747)	0.002** (-3.157)	0.01** (-2.636)	0.002** (-3.134)	0.001** (-3.561)
Adj-R^2	0.071	0.078	0.02	0.082	0.056	0.08	0.104
Nominations And remunerations	0.002** (-3.119)	0.004** (-2.908)	0.226 (-1.217)	0.000** (-4.069)	0.266 (-1.119)	0.028* (-2.233)	0.017* (-2.437)
Adj-R^2	0.033	0.069	0.005	0.133	0.002	0.038	0.047

The results of the benchmark model showed that all governance categories have negative impact on cash conversion cycle and hence positive impact on the efficiency of working capital management. The outcomes across large firm size sub-sample confirmed the benchmark model results. However, across small firm size sub-sample the results confirmed the benchmark model only in that standards regarding board meetings have significant negative impact on CCC. Whereas, standards regarding audit and board of directors became weakly significant at 10% level of significance. As can be noticed, the explanatory power for board meetings rose across small firm size sub-sample from 0.087 to 0.17, which suggests that small companies benefit from adopting board meetings standards in improving the efficiency of WCM more than large companies since board meetings standards explained 17% of the working capital management efficiency across small firm size sub-sample.

The findings across high sales growth sub-sample confirmed the benchmark model results. Whereas, the results across low sales growth sub-sample confirmed the benchmark model results only in that board meetings and audit standards have significant negative impact on CCC. As can be noticed, the explanatory power of nominations and remunerations committee across high sales growth sub-sample rose to 0.133 and dropped to 0.002 across low sales growth sub-sample, which indicates that in case of high sales growth companies benefit from the existence of this committee in improving the efficiency of WCM more than in case of low sales growth; since the existence of nominations and remunerations committee explained 13.3% of the working capital management efficiency across high sales growth sub-sample.

As can be reflected in the table, the results across high net profit margin ratio sub-sample confirmed the outcomes of the benchmark model. As well, the results across low net profit margin ratio sub-sample confirmed the benchmark model results except for the board of directors category which became weakly significant at 10% level of significance. As can be noticed, the explanatory power of the audit standards rose to 0.104 across low net profit margin ratio sub-sample, an indication that in case of low net profit margin ratio, companies benefit from adopting audit standards in improving the efficiency of WCM more than in case of high net profit margin ratio; since the audit standards explained 10.4% of the working capital management efficiency across low net profit margin ratio sub-sample.

It can be concluded that there is a variation between corporate governance categories across the sub-samples, and a category of standards that benefits or harms the efficiency of WCM in case of large firm size, high sales growth or high net profit margin ratio does not necessarily benefits or harms the efficiency of WCM in case of small firm size, low sales growth or low net profit margin ratio respectively. These variations support the contingency theory that rejects the idea of universal best practices of corporate governance and rejects the approach of "one size fits all" (Donaldson 2001). In this regards, Filatotchev et al. (2007) suggested that this inconsistency and ambiguity in corporate governance literature might be referred that corporate governance mechanisms seem to differ with respect to organizational context. Scott (2003) suggested that corporate governance mechanisms might be less or more effective depending upon the context of different organizational environments. Aguilera et al., (2008) indicated that the effectiveness of governance mechanisms might depend on firm size or age, the phases of growth or decline in the company's development, the character of innovation in different markets and sectors, and the regulatory and institutional constraints on business activity. Accordingly, Aguilera et al., (2008)

recommended future studies to deal with firm characteristics not simply as "control variables" that result in universal relationships, but to deal with firm characteristics as context-dependent. Black et al., (2012) conducted a study across (Brazil, India, Korea and Russia) and portioned the full sample according to size, growth and profitability. The results of (Black et al., 2012) showed a variation in the association between corporate governance and firm market value between sub-samples across firms and countries where they referred the reason of these variations to the approach "one size does not fit all".

5.2.2 Corporate Governance Quality

The awareness on corporate governance in Jordan has been increasing over time, and the compliance of corporate governance code by industrial companies in Jordan is also increasing over time which implies that corporate governance quality is increasing over time. From this view; it is expected that corporate governance quality in the latter part of the sample i.e 2012-2013 higher than in the earlier part of the sample i.e 2009-2010 taking into consideration that there is no reason to assume that CCC is decreasing over time or working capital management efficiency is increasing over time. As exploitation to this fact, in order to determine whether the increase in the governance quality has a direct impact on the efficiency of WCM; the earlier part of the sample is distinguished from the latter part of the sample by portioning the full sample into two sub-samples namely; recent year sub-sample and early year sub-sample. These sub-samples of the full sample are motivated by the results of previous studies who agreed that corporate governance quality increased over time (Sawicki 2009; Prommin et al., 2012; Prommin et al., 2014, Abbadi et al., 2016). Table 6 depicts the results of OLS regression analysis for the full sample and the sub-samples based on year.

Table 6. OLS regression results for full sample and sub-samples based on year

	Benchmark model (CCC)	Recent year 2012-2013	Early year 2009-2010
GOV index	0.000**	0.000**	0.001**
	(-6.508)	(-5.260)	(-3.554)
Constant	0.000	0.000	0.000
	(14.214)	(9.743)	(8.198)
F value	42.360	27.667	12.629
Sig. of F	0.000	0.000	0.001
Adj-R^2	0.14	0.216	0.10

The difference between the explanatory powers across sub-samples supports the argument that corporate governance quality has increased over time and its ability to increase the efficiency of working capital management has also increased over time.

6. Conclusions

The results of the benchmark model, which aims to examine the effect of corporate governance quality on cash conversion cycle, revealed that cash conversion cycle is affected negatively by governance quality which reflects positively the efficiency of working capital management. As well, the results of the sub-samples, which distinguished between large and small firm size; high and low sales growth; high and low net profit margin ratio, showed that CCC is affected negatively by governance quality.

The results also documented that a category that benefits or harms the efficiency of WCM to one sub-sample does not necessarily benefits or harms the efficiency of WCM to the other sub-samples which supports contingency theory that rejects the idea of universal best practices of corporate governance and rejects the approach of "one size fits all". Moreover, the results of the descriptive analysis showed that part of companies within the sample over the study period violate the rules of corporate governance code. So far, Jordanian companies have not yet reached the phase of full compliance with corporate governance code, which may mainly attributed to the flexibility given to these companies under "comply or explain" approach. However, the results of the recent year sub-sample and the early year sub-sample pointed out that corporate governance quality has increased over time, and its ability to improve the efficiency of working capital management has also increased.

Accordingly, industrial companies in Jordan particularly in case of large firm size, high sales growth or high net profit margin ratio should boost their compliance with corporate governance code in order to improve their efficiency of WCM. However, small companies should exploit the board meetings standards; companies in case of low sales growth should exploit the board meetings and audit standards; companies in case of low net profit margin ratio should exploit the board meetings, audit and nominations and remunerations committee standards in order to improve their efficiency of working capital management. It is recommended to future studies to deal with firm characteristics as context dependent rather than simply as "control variables". As well, the limitations of the study are considered as implicit recommendations for future studies where the study index was limited to

10 standards and the study period was limited to 2009-2013. Finally, this study highlights the importance of "one size does not fit all" concept. Therefore, regulatory bodies in Jordan particularly Jordan Securities Commission should take into consideration the "one size does not fit all" approach when issuing corporate governance rule and to continue with "comply or explain" approach to some corporate governance rules is better than indicating "the application would be initially be through comply or explain approach".

References

Abbadi, S., Hijazi, Q., & Al-Rahahleh, A. (2016). Corporate Governance Quality and Earnings Management: Evidence from Jordan. *Australasian Accounting, Business and Finance Journal, 10*(2), 54-75.

Abd, A. M. (2013). Corporate governance and dividend policy: an empirical investigation of Jordanian non-financial corporations. Unpublished Master's Thesis, University of Jordan, Amman, Jordan.

Abuzayed, B. (2012). Working capital management and firms' performance in emerging markets: the case of Jordan. *International Journal of Managerial Finance, 8*(2), 155-179. http://dx.doi.org/10.1108/17439131211216620

Afza, T., & Nazir, M. S. (2007). Is it Better to be Aggressive or Conservative in Managing Working Capital, *Journal of quality and technology management, 3*(2), 11-21.

Aghajari, M., Mousavi, S., & Mohammadipour, R. (2015). Examining the Effect of Corporate Governance Mechanisms on Working Capital Management Efficiency of Corporations Accepted In Tehran Stock Exchange. *International Journal of Review in Life Science, 5*(8), 63-73.

Aguilera, R., Filatotchev, I., & Jackson, H. (2008). An Organizational Approach to Comparative Corporate Governance: Costs, Contingencies, and Complementarities. *Organization Science, 19*(3), 475-492. http://dx.doi.org/10.2139/ssrn.955043

Al-Debi'e, M. M. (2011). Working Capital Management and Profitability: The Case of Industrial Firms in Jordan. *European Journal of Economics, Finance and Administrative Sciences, 36,* 75-86.

Al-Halahlah, S. (2013). *Corporate governance and earnings management: evidence from the Jordanian banking industry*. Unpublished Master's Thesis, University of Jordan, Amman, Jordan.

Appuhami, B. A. R. (2008). The impact of firms' capital expenditure on working capital management: an empirical study across industries in Thailand, *International Management Review, 4*(1), 11-24.

Black, B., Carvalho, A., & Gorga, E. (2010). What matters and for which firms for corporate governance in emerging markets? Evidence from Brazil(and other BRIK countries). *Journal of Corporate Finance, 18*(4), 934-952. http://dx.doi.org/10.1016/j.jcorpfin.2011.10.001

Deloof, M. (2003). Does Working Capital Management Affects Profitability of Belgian Firms? *Journal of Business Finance & Accounting, 30*(3), 573-587. http://dx.doi.org/10.1111/1468-5957.00008

Donaldson, L. (2001). *The Contingency Theory of Organization*. Sage Publications, Thousand Oaks, CA. http://dx.doi.org/10.4135/9781452229249

Filatotchev, I., Strange, R., Piesse, J., & Lien, Y. C. (2007). FDI by firms from newly industrialised economies in emerging markets: corporate governance, entry mode and location. *Journal of International Business Studies, 38,* 556-572. http://dx.doi.org/10.1057/palgrave.jibs.8400279

Garcia-Teruel, P. J., & Martinez-Solano, P. (2007). Effects of Working Capital Management on SME Profitability. *International Journal of Managerial Finance, 3*(2), 164-177. http://dx.doi.org/10.1108/17439130710738718

Gill, A., & Biger, N. (2013). The impact of corporate governance on working capital management efficiency of American manufacturing firms. *Managerial Finance, 39*(2), 116-132. http://dx.doi.org/10.1108/03074351311293981

Gill, A., Biger, N., & Obradovich, J. (2015). The Impact of Independent Directors on the Cash Conversion Cycle of American Manufacturing Firms. *International Journal of Economics and Finance, 7*(1), 87-96. http://dx.doi.org/10.5539/ijef.v7n1p87

Goel, U., Bansal, N., & Sharma, A. (2015). Impact of Corporate Governance Practices on Working Capital Management Efficiency: A Structural Equation Modelling Approach. *Indian Journal of Finance, 9*(1), 38-48. http://dx.doi.org/10.17010//2015/v9i1/71534

Issha, Z., Bokpin, G. A., & Onumah, J. M. (2009). Corporate government, ownership structure, cash holding,

and firm value on the Ghana Stock Exchange. *The Journal of Risk Finance, 10*(5), 88-99. http://dx.doi.org/10.1108/15265940911001394

Jensen, M., & Meckling, W. (1976). Theory of the Firm: Managerial Behaviour, Agency Costs, and Ownership Structure. *Journal of Financial Economics,* 305-360. http://dx.doi.org/10.1016/0304-405x(76)90026-x.

Kajananthan, R., & Achchuthan, S. (2013). Corporate Governance Practices and Its Impact on Working Capital Management: Evidence from Sri Lanka. *Research Journal of Finance and Accounting, 4*(3), 23-31.

Marji, M. (2010). *The Impact of Corporate Governance on the Performance of Listed Jordanian Industrial corporations: An Empirical Study*. Unpublished Master's Thesis, Applied Science Private University, Amman, Jordan.

Prommin, P., Jumreornvong, S., & Jiraporn, P. (2012). *Liquidity, ownership structure, and corporate governance*. Working paper. Pennsylvania State University, School of Graduate Professional Studies.

Prommin, P., Jumreornvong, S., & Jiraporn, P. (2014). The effect of corporate governance on stock liquidity: The case of Thailand. *International Review of Economics & Finance, 32,* 132-142. http://dx.doi.org/10.2139/ssrn.2328865

Raheman, A., & Nasr, M. (2007). Working Capital Management And Profitability – Case Of Pakistani Firms. *International Review of Business Research Papers, 3*(1), 279-300.

Richard, V. D., & Laughlin, E. J. (1980). A Cash Conversion Cycle Approach to Liquidity Analysis. *Financial Management, 9*(1), 32-38. http://dx.doi.org/10.2307/3665310

Sawicki, J. (2009). Corporate governance and dividend policy in Southeast Asia pre- and postcrisis. *The European Journal of Finance, 15,* 211-230. http://dx.doi.org/10.1080/13518470802604440

Scott, W. R. (2003). *Organizations: Rational, Natural, and Open Systems*. Prentice-Hall, Englewood Cliffs, NJ.

Sharaf, R., & Haddad, F. (2015). The Relationship between Working Capital Management and Profitability for Industrial Companies Listed in Amman Stock Exchange. *Jordan Journal of Business Administration, 11*(2), 509-523.

Siddiquee, M. M., & Khan, S. M. (2008). Analyzing Working Capital Performance: Evidence from Dhaka Stock Exchange (DSE) Ltd. *The Journal of Nepalese Business Studies, III*(1).

Tingbani, I. (2015). *Working capital management and profitability of UK firms: a contingency theory approach*. Unpublished Doctoral Dissertation, Bournemouth University, Poole, United Kingdom.

Zedan, H., & Abu, N. M. (2014). The Effect of Corporate Governance on Operating Performance of Jordanian Manufacturing Companies: Evidence from Amman Stock Exchange. *Dirasat, Administrative Sciences, 41*(2), 465-481. http://dx.doi.org/10.12816/0007483