

Ijlal Haider \*

Rais Khan †

Muhammad Suhail‡

## The Impact of Corporate Governance on Working Capital Management (WCM) Efficiency: An Empirical Study of Manufacturing Firms of Pakistan



**Abstract** *This article examines the impact of corporate governance of manufacturing firms of Pakistan considering Working Capital Management. A quantitative approach is used to analyze and test research hypothesis. Annual reports of forty-seven (47) companies are studied for a period of five years (2010-2014) from 100 index population with the total of 235 observations. Analysis on the obtained data were done using descriptive and regression analysis (Ordinary Least Square) method. Factors considered for corporate governance included Board Size, Board Meeting, and Board Committee Peshawar. Whereas, Working Capital Management was measured by account receivable (days), account inventory (days) and account payable (days). The results of study concludes that no significant impact of corporate governance was observed on Working Capital Management of manufacturing firms in Pakistan.*

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**Key Words:** Corporate Governance, Working Capital Management (WCM), Pakistan

### Introduction

Working Capital Management (WCM) is viewed as one of key mechanism in short term objectives of the companies. It is considered a vibrant issue in decisions related to financial management and has major effect on liquidity and profitability of the firm. Moreover, an optimum clearly contributes in generating strong values ([Bagchi & Khamrui, 2012](#)).

The optimal level refers to the elements of working capital should not increase neither decrease than the requirements, because both levels of working capital may harmful for the corporation. To maintain WCM at a promising level, the financial management of a company should have to keep an eye on those factors affecting optimal

\* Lecturer in HR, Department of Management Sciences, The University of Agriculture Peshawar, KP, Pakistan. Email: [haidersijlal29@gmail.com](mailto:haidersijlal29@gmail.com)

† MS scholar, CECOS University, Peshawar, KP, Pakistan.

‡ Lecturer, Department of Math's, Stats & Computer Science, University of Agriculture, Peshawar, KP, Pakistan.

level of working capital, as there are certain internal and external factors effecting the ideal level of working capital. Factors that effect WCM consist on Economic and business environment, Industrial effects, Legislation, Competition, Financing regulations, Managerial practice, Investment policy, Supply chain and production management, Inventory management, Payable management, and Firm size ([Chaudhry & Ahmad, 2015](#)). These factors can affect WCM by different dimension. Besides these factors, corporate governance is also an important factor that needs a study to find out impact on WCM.

[Cadbury \(1992\)](#) defines corporate governances a system to control, regulate and direct the companies and firms. Corporate governance is the process, structure, and mechanism which ensure value for the firm shareholders and enhance the performance of firm through accountability ([Velnampy, 2013](#)). According to Valnampy and Pratheepkjanth (2012), risk factors for investors can be reduced if efficient and noble corporate governance practices are used consequently investment capital can be gained thus improving performance of companies and firms. Corporate governance is fundamental for economic growth and development because business is the key to national economic development. In his study [Gomez \(2005\)](#) noted, *“If enterprise businesses do not prosper, they will stagnant and collapse. If business enterprises do not prosper, there will be no economic growth; no employment, no tax paid and invariably the country will not develop.”*

More specifically, the manufacturing sector of business has a very large contribution in national economy so there must have standard governance for manufacturing business in the country. In context, the manufacturing firms need the better level of WCM through corporate governance practices to achieve goals of business. Finally, the study will be examined about corporate governance and its impact on the WCM of manufacturing firms in Pakistan.

## **Problem Statement**

After certain financial debacles and scandals, the corporate governance becomes an important factor of the economy in a different jurisdiction. The financial scandal as happened in the case of Enron, Tyco, WorldCom the researcher starts to justify the system of corporate governance. The leak of these frauds and scandals become a very debatable topic in the world. Likewise, in Pakistan frauds like Mehran bank, Crescent bank, Taj Company and PTCL are the clear examples of corporate scandals. After the leak of these scandals, the corporate governance became an important research area in Pakistan. Many of researcher and academician studied it in relation to different parameters like profitability and performance. [Shah and Butt \(2009\)](#) studied the impact of corporate governance on the cost of equity. Jived and Iqbal (2010) studied corporate governance with corporate evaluation, ownership, and financing. [Azeem and Hassan \(2013\)](#) analyzed performance of firms using corporate governance as factor of study. Reference to above, there is lagging in studying Pakistani firms to examine the performance and profit using corporate governance as factor of study. Specifically, large gap is observed in the area of corporate governance on WCM especially, in manufacturing firms. Therefore, the studies of corporate governance on WCM have a growing interest in Pakistani firms and is a vital subject in this area which needs in-depth study.

## **Objective of the Study**

The study is composed of two objectives i.e., general and specific objectives. General objective is based on determining the influence of corporate governance on WCM of the manufacturing firms of Pakistan. Whereas, the specific objectives of the study are to examine following traits:

- 1) To analyze Board Size (BS) effect on WCM of manufacturing in Pakistan.
- 2) To analyze Board Meeting (BM) effect of management of WCM in Pakistan
- 3) To analyze the outcome of Board Committee (BC) on WCM of manufacturing in Pakistan.

The researcher wants to answer these questions after testing following null hypothesis ( $H_0$ ) and alternative hypothesis  $H_1$  respectively.

**H<sub>01</sub>:** Board Size (BS) has no major influence is observed in WCM.

**H<sub>11</sub>:** Board Size (BS) has major influence is observed in WCM.

**H<sub>02</sub>:** Board Meeting (BM) has no major influence in WCM.

**H<sub>12</sub>:** Board Meeting (BM) has major influence in WCM.

**H<sub>03</sub>:** Board Committee (BC) has no major influence on WCM.

**H<sub>13</sub>:** Board Committee (BC) has major influence on WCM.

## **Literature Review**

[Gill and Biger \(2013\)](#) studied American manufacturing firms the check efficacy of corporate governance in the field of WCM. In this study, sample size studied was 180 was taken for the period of 2009 to 2011. Corporate governance was measured using BS, duality of Chief Executive Officers (CEO), and audit committee, whereas, WCM is measured and analyzed on the basis of account receivable, inventory, and payable, Cash conversion cycle and cash holding. Regression analysis test indicated that efficiency of management working is enhanced by capital corporate governance up to certain extent.

[Dolatabadi & Faradonbeh \(2015\)](#) studied the impact of corporate governance of the company's current assets. They established non-significant relationship between the research variable (account receivable, account payable, inventory and cash holding) for WCM and BS, Chief Executive Officer (CEO) tenure, and CEO duality for corporate governance. In this study total of 70 samples were taken for companies enlisted in Tehran Stock Exchange the impact for the period 2008 to 2012. But the article of [Jamalinesari and Soheili \(2015\)](#) reveals that corporate governance has an important role in WCM. In this article a sample of 115 companies from Tehran Stock Exchange for a period of five (05) years (2008-2013).

[Kamau & Basweti \(2013\)](#) found that there is no statistical significance between WCM and corporate governance having a sample size of 42 firms listed in Nairobi Securities Exchange over the period of three (03) years i.e., from 2010 to 2013.

[Kajananthan and Achchuthan \(2013\)](#) also studied Corporate Governance and WCM. The sample size of 25 was taken from the listed firms of Sri Lanka over the period of 2007 to 2011. Their study also revealed no significant effect between corporate governance and WCM. The factor considered for corporate governance included board leadership structure, BS, BM and BCs, while factors considered for WCM included cash conversion cycle (CCC), current assets to total assets, and current liabilities to total liabilities While [Chaudhry and Ahmed \(2015\)](#) found significant effect of corporate governance on WCM via feasible generalized square method. The independent variables

considered for corporate governance included BS, Audit Committee, BC, BM and board independence. While dependent variable for WCM were collection, payment and inventory averaged over a period. 168 manufacturing firms were considered for the period of 2010 to 2013 from Pakistan.

## **Methodology**

### **Sample Selection**

47 manufacturing firms are selected from 100 index of Pakistan Stock Exchange. These manufacturing firms are selected on the basis of availability and accessibility of data, which is 47% of the total population. The period range of sample size was from 2010 to 2014.

### **Method of Data Collection**

Multiple reports are collected from website of the manufacturing firms using D space Repository and official site of Security and Exchange Commission of Pakistan (SECP). Secondary data is extracted from these reports collected from registered firms of Pakistan stock exchange. Similar methodology is adopted to collect data related to WCM and data for Corporate Governance from financial statement and company information is composed sequentially.

### **Statistical Techniques of Analysis**

Subsequently data have been recorded and arranged in excel for arrangement whereas analysis were performed in EVEIWS and SPSS. Initially, namely Auto Correlation, Multicollinearity, Heteroscedasticity and Hypotheses were performed using F-test and P-value. Then regression test was performed.

## **Data Analysis and Discussion**

This section presents and discuss descriptive statistic and regression. Regression diagnostics were performed before the regression test so that best fit model can be adopted for the data followed by panel diagnostics test.

**Table1.** Descriptive Statistics

	<b>Factors N</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Std. Dev.</b>
BS	235	5.00	13.00	8.5830	1.72603
BM	235	3.00	35.00	5.6213	2.95934
BC	235	1.00	5.00	2.1957	1.04390
Receivable	235	.00	140.00	19.5361	26.12731
Inventory	235	3.00	417.00	79.5191	65.64078
Payable	235	12.00	355.00	70.7191	44.44258

The value of BS lies between 5 and 13 i.e.,  $5 \leq BS \leq 13$ . BS actually reflects Board of Directors of Pakistani manufacturing firms. But the recorded mean and Std. Dev. shows that there are nearly 9 Board of Directors which is 8.53 as 1.72 respectively

Similarly, the minimum and maximum values of Board of Mangers (BM) are 3 and 35 respectively, which indicate the minimum and maximum number of the BM held by

the Board of Directors in manufacturing companies. The mean of BM is almost 6 which show average BM held by the Board of Directors in firms.

The minimum and maximum score of BC is 1 and 5 respectively, which show the minimum and maximum range of BC maintain by the Board of Director in firms. The mean value is almost 2 which reveal the average BC maintain in the firms.

Manufacturing firm in Pakistan credits to customer for 20 days on average, selling their inventory in upcoming 80 days whereas the payment is bill-backed to suppliers in around 70 days. The WCM variables that are receivable, inventory and payable have standard deviation 26, 66 and 44 respectively, which show larger variation. This variation reveals that WCM is very sensitive in manufacturing firms of Pakistan. Further indicated that management of firms continuously revises their WCM policies.

### Regression Diagnostics

**Table 2.** Regression Diagnostics

Assumptions	Test	Model Probability values					
		Model 1		Model 2		Model 3	
Auto correlation	Bruesh-Godfrey	0.5762		0.5706		0.5002	
Heteroscedasticity	Breush-pagan	0.0724		0.7943		0.4537	
Multicollinearity	Tolerance(T)/VIF(V)	<u>T</u>	<u>V</u>	<u>T</u>	<u>V</u>	<u>T</u>	<u>V</u>
		.903	1.107	.903	1.107	.903	1.107
		.993	1.007	.993	1.007	.993	1.007
		.897	1.115	.897	1.115	.897	1.115

- Table 2 indicates that  $H_{11}$  is rejected in favor of  $H_{01}$  for model 1, 2 and 3 as Auto Correlation value is greater than 0.05 ( $p > 0.05$ ) at 95% significance level, therefore, accept  $H_0$  due to sufficient evidence in data. Similarly, Heteroscedasticity is also more than 5% ( $P > 0.05$ ). Therefore,  $H_0$  is accepted again in favor of  $H_1$  due to sufficient evidence in data at 95% confidence interval.
- Similarly, VIF values of Multi-collinearity of all the Models 1, 2, and 3 lies below 10 i.e., between 1-10. Whereas tolerance values of models 1, 2, and 3 are greater than .2, therefore leads to the favor of accept  $H_0$  due to sufficient evidence in data.

### Panel Data Diagnostics

**Table 3.** Panel Data Diagnostics

Model	Test	Chi-Sq. Statistics	P-value	Hypothesis	Result
Model 1	Hausman	21.89606	0.0002	H1	Fixed Effect
Model 2	Hausman	79.08540	0.0000	H1	Fixed Effect
Model 3	Hausman	92.97152	0.0000	H1	Fixed Effect

### Regression Test

ARD =  $B_0 + B_1 (BS) + B_2 (BM) + B_3 (BC) + r$

Dependent Variable: RECIEVABLE (Log)

**Table 4**

Variables	Coefficient	Std. Error	T-Statistics	Prob
Model 1: ( $R^2 = 0.839$ ; Adjusted $R^2 = 0.781$ ; F-statistics=14.358; Sig=0.000)				

LOGBS	-0.846052	1.082512	-0.781563	0.4358
LOGBM	-0.251339	0.359452	-0.699227	0.4856
LOGBC	0.153647	0.223570	0.687240	0.4931
C	0.513787	2.355124	0.218157	0.8276

Note: Log has been taken on the model due to elimination of heteroscedasticity problem.

The table revealed the summary statistic of regression model 1. The coefficient of determination ( $R^2$ ) is 83 %, which indicate that 83 % variation is explained by model and the rest of 17 % attribute to errors. The f- statistics indicate that model is fit with F- statistic 14.35 at p-value of 0.000.

The study found that there is no significant effect of BS, BM and BC on ARD. Further, indicate that 1 unit increase in BS and BM can lead to decrease ARD by 0.846 and 0.2513 respectively. This negative relationship reveals that increase in BS and BM can lead to fast receivable collection from customers. Similarly, the result of BC indicates that 1 unit increase in BC can bring an increase in ARD by value of 0.1536. This positive relationship indicates that increase in BC can slow receivable collection from customers.

The coefficient of C indicates that an absence of independent variables (BS, BM&BC) can increase ARD by 0.514 units with p-value of 0.8276. This indicates that an absence of these variables can slow receivable collection from customers.

$$AID = B_0 + B_1 (BS) + B_2 (BM) + B_3 (BC) + r$$

Dependent Variable: Inventory

**Table 5**

Variables	Coefficient	Std.Error	T-Statistics	Prob
Model 2: ( $R^2 = .0.847$ ; Adjusted $R^2 = .0.791$ ; F-statistics= $15.204$ ; Sig= $0.000$ )				
BS	2.032888	4.548549	0.446931	0.6556
BM	-0.437587	1.213176	-0.360696	0.7189
BC	-0.994753	4.617018	-0.215454	0.8297
C	58.90555	41.52455	1.418572	0.1583

The table revealed the summary statistic of regression model 2. The coefficient of determination ( $R^2$ ) is 84 %, which indicate that 84 % variation is explained by model and the rest of just 16 % attribute to errors. The f- statistics indicate that model is fit with F- statistic 15.20 at p-value of 0.000.

The study found that there is no significant effect of BS, BM and BC on AID. Further, indicate that 1 unit increase in BS can lead to increase the AID by 2.033 units. This positive relationship reveals that increase in BS can lead to slow the inventory turnover over efficiency of manufacturing firm. Similarly, the results of BM and BC indicate that 1 unit increase in BM and BC brings decrease in AID by value of 0.437 and 0.995 respectively. This negative relationship indicates that increase in BM and BC can lead to fast the inventory turnover efficiency of manufacturing firms.

The coefficients of C indicate that an absence of independent variable (BS, BM and BC) can increase AID by value 58.905 units with significant value of 0.1583. It reveals

that an absence of these variables can slow the inventory turnover efficiency of manufacturing firms.

$$\text{AID} = B_0 + B_1 (\text{BS}) + B_2 (\text{BM}) + B_3 (\text{BC}) + r$$

## Dependent Variable Inventory

**Table 6**

Variables	Coefficient	Std. Error	T-Statistics	Prob
Model 3: (R <sup>2</sup> = .0.798; Adjusted R <sup>2</sup> = .0.725; F-statistics=10.874; Sig=0.000)				
BS	-3.857466	3.668242	-1.051584	0.2948
BM	-1.439870	0.977839	-1.472502	0.1432
BC	0.751273	3.734526	0.201170	0.8409
C	109.4926	33.93173	3.226848	0.0016

The table revealed the summary statistic of regression model 3. The coefficient of determination (R<sup>2</sup>) is almost 80 %, which indicate that 80 % variation is explained by model and the rest of 20 % attribute to errors. The f- statistics indicate that model is fit with F- statistic10.87 at p-value of 0.000.

The study found that there is no significant effect of BS, BM and BC on APD. Further, indicate that 1 unit increase in BS and BM can lead to decrease APD by 3.857 and 1.439 respectively. This negative relationship reveals that increase in BS and BM can lead to fast the efficiency of payment to suppliers of manufacturing firms. Similarly, the result of BC indicates that 1 unit increase in BC can bring an increase in APD by value of 0.751. This positive relationship indicates that increase in BC can slow the efficiency of payment to suppliers.

The coefficient of C indicates that an absence of independent variables (BS, BM & BC) can increase APD by 109.492 units with p-value of 0.0016. This indicates that an absence of these variables can slow the efficiency of payment to suppliers of manufacturing firms.

## Conclusion

The aim of the study was to determine the impact of corporate governance on WCM efficiency. The regression analysis of the account receivable in days (ARD) indicate that there is no significant influence of Board Size (BS), Board Meeting (BM) and Board Committee (BC) on account receivable. Further BS and BM have negative relationship which reveals that increase in BS and BM can lead to fast receivable collection of the firms. Similarly, BC has a positive relationship which reveals that increase in BC can slow receivable collection of the firms.

The regression analysis of the Account Payable in Days (APD) indicates that there is no significant influence of BS, BM and BC on account payable. Further BS and BM have negative relationship which reveals that increase in BS and BM can lead to fast payment efficiency to suppliers of the firms. Similarly, BC has a positive relationship which reveals that increase in BC can slow payment efficiency to suppliers of the firms.

The regression analysis of the account inventory in days (AID) indicates that there is no significant influence of BS, BM and BC on account inventory in days (AID).

Further BM and BC have negative relationship which reveals that increase in BM and BC can lead to fast inventory turnover efficiency. Similarly, BS as positive relationship which reveals that increase in BS can lead to slow the inventory turnover efficiency of the firms.

In short, of the above models the BS and BM have negative relationship with dependent variables which lead to increase the efficiency of WCM that seem a bit good exercise for the firms. On the flip side, BC seem not a good exercise because it has positive relationship with dependent variables which leads to slow the efficiency of WCM. So above results reveal that increase in BS and BM can be a good exercise for manufacturing firms of Pakistan.



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