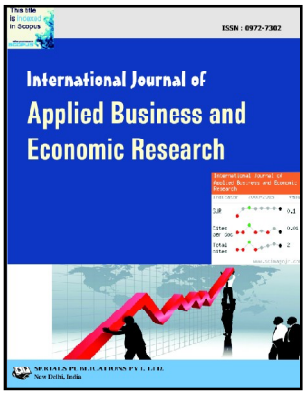

International Journal of Applied Business and Economic Research

ISSN : 0972-7302

available at http: www.serialsjournals.com

Volume 15 • Number 19 (Part-II) • 2017

The impact of Profitability Ratio on Gross Working Capital of Jordanian Industrial Sector

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Abstract: Working capital is one of the most critical aspects in business operations, because it plays a significant role in better performance of industrial sector companies. This paper aimed to discuss the impact of profitability ratios on gross working capital in some companies of Jordanian Industrial Sector covering the period from 2011 to 2015. For this purpose, the researchers studied the impact of profitability independent variables: Gross Profit margin (GPM), operating profit margin (OPM), Net profit margin (NPM) and the dependent variable gross working capital (GWC). The study showed that there is significant impact of independent variable gross profit margin (GPM), Operating profit margin (OPM) net profit margin(NPM), on the dependent variable gross working capital (GWC)

Keywords: Gross Working Capital , Operating Profit Margin , Net Profit Margin, industrial Sector, Amman Stock Exchange (ASE).

1. INTRODUCTION

The industrial sector is one of the most important sectors in the Jordanian economy, as it contributes about a quarter of gross domestic product directly, in addition to its association with a number of other economic sectors. It also absorbs part of the Jordanian labor force and contributes to cover part of the trade deficit through exports, which constitute an important part of the total exports with estimated industrial exports about 90% of total merchandise exports.

Industries in Jordan are divided into eleven sectors: Pharmaceutical and Medical Industries, Chemical industries, Cosmetics, Paper and Cardboard Industries, Printing and Packaging, Food and Beverages, Tobacco

and Cigarettes, Mining and Extraction Industries Engineering and Construction, Electrical Industries, Electrical Industries, Textiles, Leathers and Clothing's, Glass and Ceramic Industries (*http://www.jci.org.jo*).

Working capital is given higher priority by the managers, because it measures the firm's efficiency and represents liquid assets available at a firm. It is an indicator of a firm's short-term financial health and of its ability to meet day-to-day operating expenses. Singhania *et al.* (2014).Al rawashdeh (2014) confirmed that even management quality has an effects. The researchers focused on evaluating the Gross working capital and profitability; Other studies focused on the relationship between profitability and working capital, Therefore, this study concentrated on evaluating the impact of profitability on gross working capital of the Jordanian industrial sector companies listed on (ASE) and to identify important variables that are influencing profitability Operating Profit Margin , Net Profit Margin on Gross Working Capital, and included a large sample of 11 sectors in industrial sector listed on Amman Stock Exchange (ASE) covering the period 2011 - 2015.

2. PREVIOUS RESEARCH

Enqvist *et al.* (2014): the aim of this paper to examine the role of business cycles on the working capital-profitability relationship using a sample of listed companies over an 18-year period. The researsher found that the impact of business cycle on the working capital-profitability relationship is more pronounced in economic downturns relative to economic booms.

Singhania *et al.* (2014): This paper aim to inspect the relationship between working capital management strategies of and profitability. the important conclusion was there is impact of the efficient working capital management practices on improve the profitability of companies

Jagelavicius (2013): This study presents a framework which allows understanding and managing gross margin and gross profit in firms with large assortment of products. The conclusion is that firms with large assortment of products have to manage financial results and gross profit through gross margin management by evaluating merchandising decisions impact on both gross profit and gross margin.

Senthilmani Thuvarakan (2013): Working capital management is given higher priorities by the corporate world. Companies which are effectively using their working capital components are likely to have competitive advantage over their competitors. The aim of this Paper is to examine the relationship between the working capital components and corporate profitability in different industries listed on the London stock exchange are used for this research covering the period of 2006-2011. The results show that there is no significant relationship between the working capital components and profitability. There is a negative relationship between gearing and profitability in manufacturing firms.

3. RESEARCH METHODOLOGY

This section presents research methodology adopted in this study. It explains sample selection criteria, variables of the study and research model hypotheses.

Hypotheses

To study the impact profitability ratios (GPM, OPM, NPM) on gross working capital the researchers test the following hypotheses:

H_{01}: There is no significant impact of independent variable, Gross profit margin (GPM), Operating profit margin (OPM), Net Profit Margin (NPM) on dependent gross working capital (GWC).

H_{11}: There is no significant impact of independent variable Gross Profit Margin (GPM) on dependent gross working capital (GWC).

H_{12}: There is no significant impact of independent variable Operating Profit Margin (OPM) on dependent gross working capital (GWC).

H_{13}: There is no significant impact of independent variable Net Profit Margin (NPM) on dependent gross working capital (GWC).

The Research Sample

The study examines financial reports of 11 Jordanian Industrial sectors listed on the Amman Stock Exchange (ASE) covering the period of 2011-2015.

Variables of the Study

Dependent Variable :Gross Working capital = Current Assets

Gross Working capital includes current assets that are listed on the balance sheet in order of liquidity (the ability to be converted to cash). Current assets typically include cash, marketable securities, short-term receivables, inventories, and prepaids. In some cases, assets other than these may be classified as current. If so, management is indicating that it expects the asset to be converted into cash during the operating cycle or within a year, whichever is longer. Gross working capital equals to current assets. (Gibson, 2009, pp 96).

Independent variables (Profitability ratios):

Profitability is the ability of the company to generate earnings. Analysis of profit is of vital concern to stockholders, creditors and management, profitability analysis, measured a percentage the productive assets, the owners' and creditors' capital employed, and sales.

The study uses three ratios:

1. Net Profit Margin(NPM)
2. Operating Profit Margin (OPM)
3. Gross profit margin(GPM)

- Net Profit Margin(NPM) = Net Profit/Net Sales
  This ratio gives a measure of net income dollars generated by each Jordanian dinar of sales.
- Operating Profit Margin (OPM) =Operating profit/ net sales.
  It is used as a measure of company's performance from operating income only
  Gross profit margin (GPM) = Gross Profit/Net Sales
  Gross profit is the difference between revenue and cost of goods sold. Gross Profit Margin (GPM) is the ratio of gross profit to revenue. Horngren (2008).

Research Model

In order to test the study hypotheses, the research model can be designed as follows:

Liner Regressions

To test the research, hypotheses SPSS program was used to prepare the table of analysis of variance (ANOVA table) as shown in table below:

H_{11}: There is no significant impact of independent variable Gross Profit Margin (GPM) on dependent gross working capital (GWC).

Table 1
ANOVA[b]

Model	*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig*
Regression	1946.768	1	1946.768	10.887	.002[b]
Residual	11444.435	64	178.819		
Total	13391.203	65			

a) Predictors: (constant),Gross profit margin (GPM)
b) Dependent variable Gross Working capital (GWC)

By reviewing the table above the researchers find that the P value = (.002) < 5% is significant, and this supports the rejection of null hypothesis. There is significant impact of independent variable Gross Profit Margin (GPM) on dependent Gross working capital (GWC).

H_{12}: There is no significant impact of independent variable Operating Profit Margin (OPM) on dependent Gross working capital (GWC).

Table 2
ANOVA[b]

Model	*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig*
Regression	1836.427	1	1836.427	33.749	.000[b]
Residual	3482.525	64	54.414		
Total	5318.952	65			

a) Predictors: (constant),Operating profit margin (OPM)
b) Dependent variable Gross Working capital (GWC)

By reviewing the table above, the researchers find that the P value = (.000) < 5% is significant, and this supports the rejection of null hypothesis. There is significant impact of independent variable Operating Profit Margin (OPM) on dependent Gross working capital (GWC).

H_{13}: There is no significant impact of independent variable Net Profit Margin (NPM) on dependent Gross working capital (GWC).

Table 3
ANOVA[b]

Model	*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig*
Regression	1458.773	1	1458.773	41.146	.000[b]
Residual	2269.010	64	35.453		
Total	3727.783	65			

a) Predictors: (constant),Net profit margin (NPM)
b) Dependent variable Gross Working capital (GWC)

By reviewing the table above the researchers find that the P value = (.000) < 5% is significant, and this supports the rejection of null hypothesis. There is significant impact of independent variable Net Profit Margin (NPM) on dependent Gross working capital (GWC).

H_{01}: There is no significant impact of independent variable Gross profit margin (GPM), Operating profit margin(OPM), Net Profit Margin (NPM) on dependent Gross working capital (GWC).

Table 4
ANOVA[b]

Model	*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig*
Regression	1458.773	1	1458.773	41.146	.000[b]
Residual	2269.010	64	35.453		
Total	3727.783	65			

a) Predictors: (constant),Net profit margin (NPM)

b) Dependent variable Gross Working capital (GWC)

By reviewing the table above the researchers find that the P value = (.000) < 5% is significant, and this supports the rejection of null hypothesis. There is significant impact of independent variable Net Profit Margin (NPM) on dependent Gross working capital (GWC)

4. STATISTICAL ANALYSIS

This section presents the results of descriptive statistics of the study variables:

Table 4
Rank industrial sector according to Gross working capital

Ser.	*Sector name*	*Rank*
1	Pharmaceutical and Medical Industries	10
2	Chemical Industries	8
3	Paper and Cardboard Industries	1
4	Printing and Packaging	3
5	Food and Beverages	9
6	Tobacco and Cigarettes	7
7	Mining and Extraction Industries	11
8	Engineering and Construction	4
9	Electrical Industries	5
10	Textiles, Leathers and Clothings	6
11	Glass and Ceramic Industries	2

According to the above table, the sector of Paper and Cardboard Industries has the lowest Gross working capital (1036586.333), while the Mining and Extraction Industries has the highest Gross working capital (664923966).

Table 5
Rank industrial sector according to gross profit margin

Ser.	*Sector name*	*Rank*
1	Pharmaceutical and Medical Industries	11
2	Chemical Industries	6
3	Paper and Cardboard Industries	3
4	Printing and Packaging	7
5	Food and Beverages	4
6	Tobacco and Cigarettes	9
7	Mining and Extraction Industries	10
8	Engineering and Construction	5
9	Electrical Industries	2
10	Textiles, Leathers and Clothings	8
11	Glass and Ceramic Industries	1

According to the above table, the sector of Glass and Ceramic Industries has the lowest Gross profit margin (-42.97), while the Pharmaceutical and Medical Industries has the highest Gross profit margin (51.91).

Table 6
Rank industrial sector according to operation profit margin

Ser.	*Sector name*	*Rank*
1	Pharmaceutical and Medical Industries	7
2	Chemical Industries	6
3	Paper and Cardboard Industries	2
4	Printing and Packaging	8
5	Food and Beverages	5
6	Tobacco and Cigarettes	10
7	Mining and Extraction Industries	11
8	Engineering and Construction	4
9	Electrical Industries	3
10	Textiles, Leathers and Clothing	9
11	Glass and Ceramic Industries	1

According to the above table, the sector of Glass and Ceramic Industries has the lowest operating profit margin (-90.98), while the Mining and Extraction Industries has the highest operating profit margin (24.06).

Table 7
Rank industrial sector according to net profit margin

Ser.	*Sector name*	*Rank*
1	Pharmaceutical and Medical Industries	6
2	Chemical Industries	7
3	Paper and Cardboard Industries	2
4	Printing and Packaging	8
5	Food and Beverages	5
6	Tobacco and Cigarettes	10
7	Mining and Extraction Industries	11
8	Engineering and Construction	4
9	Electrical Industries	3
10	Textiles, Leathers and Clothings	9
11	Glass and Ceramic Industries	1

According to the above table, the sector of Glass and Ceramic Industries has the lowest net profit margin (-100.47), while the Mining and Extraction Industries has the highest net profit margin (20.11)

5. SUMMARY AND CONCLUSION

This study is achieved to approve that there is a significant impact of independent variable Gross profit margin (GPM), Operating profit margin (OPM), Net Profit Margin (NPM) on dependent Gross working capital (GWC). The results approved those of some previous studies such as. In general most previous studies: Jagelavicius, Gediminas (2013) the conclusion was that companies with large assortment of products have to manage financial results and gross profit through gross margin management by evaluating merchandising decisions impact on both gross profit and gross margin, Enqvist, *et al.* (2014) : They found the impact of business cycle on the working capital-profitability relationship is more pronounced in economic downturns relative to economic booms, Singhania; *et al.* (2014) : They found that working capital improved the profitability of companies. Otherwise the study differed with Senthilmani Thuvarakan (2013) who says there is no significant relationship between the working capital components and profitability.

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