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Financial Performance and Identify Affecting Factors in this Performance of Non-oil Manufacturing Companies Listed on Libyan Stock Market (LSM)

[1]Khalifa Mohamed Khalifa, [22]Zurina Shafii
Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia (USIM)

Abstract
The major objective of this study to assess the financial performance level and identify affecting factors in this performance of non oil manufacturing companies listed on Libyan stock market (LSM), for the years from 1999 to 2008. Many previous studies examined the subject of financial performance in the various economic sectors, such as industrial, service, commercial, banking, and tourism from developed and developing countries. Researchers have studied in these subjects on evaluating the financial performance such as Medhat Tarawneh, 2006, Liargovas and Skandalis, 2008, Amalendu Bhunia (2010), Almajali, et al, 2012, and many more. The sample of this study consists of eight companies which were selected based on the criterion of size of the capital. This study is based on the secondary data obtained from the balance sheets and profit and loss accounts. This study used the financial ratio analysis to measure the level of liquidity, operational efficiency and profitability, while the statistical method used to identify the variables that affect on financial performance. The model of this study consists of nine variables; including the dependent variable is financial performance measured by the return on assets (ROA) and eight independent variables namely current ratio (CR), quick ratio (QR), net working capital (NWC), inventory turnover ratio (ITR), account receivable turnover ratio (ARTR), general administrative expenses ratio (GAER), company size (CZ) and company age (CG). The data collected was analyzed using financial ratio analysis approach and a number of basic statistical techniques such as descriptive statistics, correlation test (Pearson's correlation) and regression analysis (Multiple Regression Analysis). the findings of the study, first with regarding of financial ratio analysis approach , the study concluded that there is a high liquidity, this makes these companies have the capacity to meet its financial obligations in the short term, while operational efficiency indicators were unsatisfactory, such inventory turnover ratio and accounts receivable turnover ratio. While regarding the statistical analysis it can be conclude that there are significant relations between liquidity variables and operational activity variables with return on assets as findings suggested that, working capital components and financial performance (ROA) in selected companies disclose both positive and negative association. three variables are negative significant relations with return on assets (ROA namely current ratio (CR), quick ratio (QR) and account receivable (ARTR)) illustrate negative significant relations with return on assets (ROA), while five variables positive significant relations with return on assets (ROA), namely net working capital (NWC), inventory turnover ratio (ITR), general administrative expenses ratio (GAER), company size (CZ) and company age (CG).
Keywords: manufacturing industry, financial performance, financial ratio analysis.

Introduction

1.1 Background of the Study

The manufacturing industries sector is one of the most important contemporary economic sectors, because of their role and high impact in the development of the economy at the local and global level, depend on it most of the national economies of industrialized advanced countries, the manufacturing industries sector plays, significant role cannot be ignored in the process of economic development in any state and became this sector occupies an increasing importance in the development plans in developing countries which seeks to break the cycle of industrial underdevelopment have in order to achieve economic development, miscellaneous contribute to increased of national income. Libya, one of the developing countries which focused on the non-oil manufacturing industries through an ambitious industrial development plans prepared for this sector in order to be an important

[1] Corresponding author, Faculty of Economy and Muamalat, Universiti Sains Islam Malaysia, 71800, Nilai, Negeri Sembilan, Malaysia
[2] Islamic Finance and Wealth Management Institution (IFWMI), Universiti Sains Islam Malaysia, 71800, Nilai, Negeri Sembilan, Malaysia

source of national income and contribute to the progress of the national economy and increase the rate of growth and diversify the production, reduce the dependence on oil to a level necessary for financing the transformation plan, reduce imports, increase the non-oil exports and expand the economic infrastructure. The Libyan economy still suffers of a disturbance in its foreign sector, because of the in elastic it of its exports as a result of the domination of the crude oil on almost all exports, since it represents about 96.4%, while other exports represented only 3.6% in 2007 (Central Bank of Libya from 2007 to 2008) based on the foregoing, the researcher wondering, why the non-oil manufacturing industries sector is still unable to be main resource and an active contributor to the Libyan economy. Accordingly, the researcher believes that there is a problem may be related to weak of financial performance of companies this sector. This study will attempt to evaluate the financial performance and identify factors affecting in this performance of companies this sector. In order to study this case the researcher chose the non-oil manufacturing industries companies , listed in the main branch (B) on Libyan stock market as a sample for this study the main reason for this choice because these companies are the largest non oil manufacturing industries sector companies in Libya.

The main objective of this selection is to study and measure the strength and the weakness of the financial performance and identify the affecting factors on this performance of these companies, as well as discover the extent of the application of these companies to the principles of financial management, which aims mainly to develop financial performance in various economic units, through the use of financial analysis methods, especially the method of financial ratio analysis.

Measuring performance is very important because it builds on the results, make different decisions in economic units. According to (Benjalux Sakunasingha, p. 9, 2006) performance measurement is the life blood of economic units, becouse it provides useful information about the economic units before decisions or actions. Financial performance measure is one of the important performance measures for economic units. Financial performance measures are used as the indicators to evaluate the success of economic units in achieving stated strategies, objectives and critical success factors (Katja Lahtinen, p. 11, 2009).

The main objective of financial performance measuring is to determine the operating, financial characteristics and the efficiency and performance of economic unity management, as reflected in the financial records and reports (Amalendu Bhunia, p. 429, 2010). Financial ratio analysis method is an important measure to financial performance analysis in the economic units. Ratio analysis method is the most commonly used financial tool to evaluate the current and past performance in the economic unit and to assess its sustainability (Dick W. Feenstra, et al, p. 7, 2000).

It's the important analytical tools of finance, which provides managers with executives important insights regarding overhead cost structure, ability to raise capital, adequacy of working capital and contingency reserves, and efficient use of assets through the evaluation of a set of financial ratios, observations of trends in those ratios, and comparisons to average values for other companies in the industry, also this method it can be a productive starting point for assessing financial strengths and weaknesses, creditworthiness, and other attributes of a firm based on past performance (Joy S. Rabo, p. 91, 2008). Ratio analysis helps to determine the performance of liquidity, profitability and solvency position of economic units and it provides all assistance to the management to fix responsibilities (P. Periasamy, p. 234, 2005).

1.2 Problem Statement

The problem of this study may be related of weak of financial performance, this weakness is confirmed from the financial statements, published by the financial departments of non-oil manufacturing companies listed on Libyan stock market (LSM) during the study period, namely the balance sheet and income statement. These financial statements show that there are large fluctuations in the profitability of these companies. This variation of profits among these companies suggests that firm-specific factors play crucial role in influencing of financial performance in these companies. It is therefore essential to identify what are these factors and how they help manufacturing companies to take actions that will increase their profitability and investors to forecast the profitability of manufacturing companies listed on Libyan stock market (LSM).

1.3 Objectives of the Study

The main objective of this study is to assess the level of financial performance, and to identify the affecting factors on this performance of non- oil manufacturing companies listed on the Libyan Stock Market (LSM), during the period of the proposed study. To achieve the main objective the study will covers the following specific objectives:

1-To assess the liquidity performance of the non-oil manufacturing industries companies listed on Libyan stock market during the period of study.

2-To assess the operational efficiency performance of the non-oil manufacturing companies listed on Libyan stock

market during the period of study.
3-To assess the profitability of the non-oil manufacturing companies listed on Libyan stock market during the period of study.
5-To measure the relationship between liquidity performance and financial performance in the non-oil manufacturing companies listed on Libyan stock market during the period of study.
6- To measure the relationship between operational efficiency performance and financial performance, in the non-oil manufacturing companies listed on Libyan stock market during the period of study.
7- To measure the relationship between company's size and financial performance in the non-oil manufacturing companies listed on Libyan stock market during the period of study.
8- To measure the relationship between company's age and financial performance, in the non-oil manufacturing companies listed on Libyan stock market during the period of study.

Literature Review

Many previous studies in various developed and developing countries were examined the subject of financial performance in the various views, different environments, and also from different economic sectors, are as follows:

Study (Medhat Tarawneh, 2006). The main objective of this study to compare the financial performance between five commercial banks in the Sultanate of Oman, during period from 1999 to 2003, the researcher used method of simple regressions in order to determine the impact of independent variables on dependent variables in the research sample, the researcher used the return on assets and the interest income as proxies (dependent variables), while used the bank size, asset management, and operational efficiency as independent variables. The study found there is positive strong effect of the operational efficiency, asset management and bank size on financial performance (ROA).The study concluded that the bank with higher assets, deposits, credits and shareholder equity, does not always mean that has better profitability.

Study (Liargovas and Skandalis, 2008). The main aim of this study is to identify the factors affecting the financial performance of Greece, industrial firms during the period from 1997to 2004, this study used the return on sales (ROS), return on assets (ROA) and return on equity (ROE) as proxies (dependent variables), while used the factors of leverage, liquidity, capitalization, investment, size, age, location, export and management efficiency as independent variables. The results of this study showed that leverage, export , location, size and management efficiency significantly affect on financial performance of Greece industrial firms, these results implies that profitable in Greece industrial firms are large, young, exporting firms with a competitive management team , which have an optimal debt-equity ratio and use their liquidity to finance their investments.

The study of Amalendu Bhunia (2010) stated in his study that the financial performance of Indian pharmaceutical Industry, this study has been undertaken for the period of twelve years from 1997 to 2009, the researcher used the return on investment (ROI) as proxy (dependent variable), while used the current ratio (CR), liquid ratio (LR), debt to equity ratio (DER) , interest coverage ratio (ICR) , inventory turnover ratio (ITR) , debtors turnover ratio (DTR) , net profit to total asset ratio (NPTAR), return on investment ratio (ROIR), debt to total asset ratio (DTAR) , debt to net worth ratio (DNWR), net worth to total asset ratio (NWTAR) and total liabilities to net worth ratio (TLTWR) as independent variables. The results of this study showed that there is statistically significant relationship between most of study variables with return on investment

Study (Almajali, et al, 2012). The purposes of this study is to examined and identify the factors affecting the financial performance of Jordanian insurance companies listed at Amman stock exchange during the period from 2002 to 2007, the researcher used the return on assets (ROA) as proxies (dependent variable), while used the factors of leverage, liquidity, age, size and management competence index as independent variables. The study findings showed that leverage, liquidity, size and index management competence index, significantly affect on financial performance of Jordanian insurance companies listed at Amman stock exchange.

Methodology

3.1 Sample of the Study

The study sample consisted of all non-oil manufacturing companies listed on Libyan stock market (LSM) during the period (1999-2008) which consists eight of non-oil manufacturing industries companies. Table 3.1 shows the sample of study.

Table 3.1: companies of non-oil manufacturing companies

No	Company name
1	Ahlia Cement Company(ACC)
2	Al- Enmaa Company For Pipe manufacturing (AECPM)
3	Libyan Company Of Tobacco (LCT)
4	The National Company For Mills & Fodder (TNCMF)
5	Al- Enma Company For Cables (AECC)
6	Al-Enma Company For Pipeline (AECP)
7	Al- Enma Company For Engineering Industries (AECEI)
8	Al- Enmaa Company Extraction and Refining of Vegetable Oils. (AECERVO)

3.2 Data Collection Methods

The present study mainly based on secondary data. Secondary data means is the data that have been already collected by and readily available from other sources (Management Study Guide: 2012). The data for this study was collected from the financial statements, published by the financial departments of non-oil manufacturing companies listed on Libyan stock market (LSM) during the study period, namely the balance sheet and income statement. Moreover, the researcher used other resources such as books texts and Journals. In order to collect the scientific content of the theoretical framework of the study and to explain the basic concepts of the study, also this data use to study, measuring and identified on a numerical scale.

Quantitative data can be analyzed using financial ratio analysis method and statistical methods, and results can be displayed using tables, histograms and figures. The researcher will followed quantitative method in this study because the collected data will be in the form of numerical digits and researcher used financial ratio analysis and statistical tools for data analysis. In this study the researcher used SPSS software version 17.0 to explain the relationship between liquidity variables, operational activity variables, company size, company age and (ROA) financial performance.

3.3 Data Analysis Methods

In this study the researcher used two methods of data analysis, first by the method of financial ratio analysis In order to determine the level of financial performance in the study sample, secondly the methods of the statistical analysis, In order to determine the factors affecting the financial performance in the study sample.

3.3.1 Method of Financial Ratio Analysis

The researcher used financial ratio analysis method to assess the level of financial performance, in non-oil manufacturing companies listed on Libyan stock market (LSM), through the use of some indicators of financial ratios that have been selected to evaluate the financial performance of the companies mentioned above and these indicators are liquidity ratios, operational efficiency ratios and profitability ratios.

Current Ratio (CR)

This ratio refer to a relationship between current assets and current liabilities , major objective of this ratio to measure the ability of the firm to meet its short term liability, from current assets, Some authors consider 2:1 as standard norm for current ratio (Tofael Hossain Majumder, et al, p. 24, 2012). This ratio calculated by dividing current assets by current liabilities. The below Table 4.1 shows that the annual average of current ratio ranges from 1.5:1 in ACC to 4:1 in AECC . The annual average of current ratios in the cases of AECPM (3.5:1) , LCT (2.3:1) , TNCMF (3:1) , AECC (4:1), AECP (3.4:1), AECEI(2.4:1) and AECERVO (3.4:1) are above the standard norm (2:1) . The annual average of current ratio in the case ACC (1.5:1) is nearly the standard norm (2:1). It is seen from the table that all these ratios are more than standard norm. Therefore, it can be said that the liquidity in terms of current ratio had been satisfactory in all the years under study for all the companies.

Table 4.1: Current ratio from 1999 to 2008

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVO
1999	1.4	3	2	3	3	5	2.3	2.4
2000	1.1	2	2	3	3	5	5	2.3
2001	1.4	3	2.5	3.5	4	3.5	2.4	8.4
2002	1.4	3	2.4	2.4	3	4	3	1.2
2003	1.3	3	2.4	2	3.5	3	3.6	1.7
2004	1.1	4	2.2	2	6	3	1.5	3.7
2005	1.6	5	2	3	6	3.4	1	3.7
2006	2	7	2	3	3.5	3	1	4.3
2007	2	3	2	3.3	4	2	2.5	5
2008	1.4	2	3	6	4	2	2	1.1
Annual average	1.5:1	3.5:1	2.3:1	3:1	4:1	3.4:1	2.4:1	3.4:1
standard norm	2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1

Quick Ratio (QR)

Quick ratio is more rigorous test of liquidity than the current ratio, because it is easily converted into cash at turn to their book values, and it is measures the economic unit's ability to meet short term obligations from its most liquid assets. Some authors consider 1:1 as standard norm for quick ratio (Tofael Hossain Majumder, et al, p. 25, 2012). This ratio calculated, the current assets minus inventories then divide by current liabilities. The Table 4.2 shows that the annual average of quick ratio ranges from 1.1:1 in ACC to 2.3:1 in AECC. The annual average of quick ratio in the cases of ACC (1.1:1) AECPM (1.5 :1) , LCT (1.5 :1) , TNCMF (2.2 :1) , AECC (2.3 :1) , AECP (1.3 :1) , AECEI (1.5 :1) and AECERVO (1.5 :1) are above the standard norm ratio (1:1) . It is seen from the table that all these ratios are more than standard norm.

Table 4.2: Quick ratio from 1999 to 2008

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVO
1999	1	1	1.3	3	2	2.4	1.3	1
2000	0.6	0.5	2	2.4	2	2	3	1.2
2001	1	0.5	1.4	3	2.3	1.3	1.6	1
2002	1	1	1.4	2	2	1.5	2	1
2003	1	1.3	2	1	2	1	2	1.5
2004	0.6	2	1.4	1	3	1	1	2
2005	1.3	2.3	2	1.6	3	1.3	1	2
2006	1.5	3.5	1.5	1.5	1	1	1	2
2007	1.6	2	1.3	2	2.6	1	1.5	1.3
2008	1.1	1	2	4	3	0.5	1	2
Annual average	1.1:1	1.5:1	1.5:1	2.2:1	2.3:1	1.3:1	1.5:1	1.5:1
standard norm	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1

Net Working Capital (NWC)

Net working capital refers to the difference between current assets and current liabilities. This ratio is a useful indicator in the field of financial management, because it reflects the efficiency of economic unity in the use of available cash in order to meet current liabilities. It's calculated by minus current assets the current liabilities. From the Table no 4.3 shows that the annual average of net working capital ranges from 6.8 million Libyan dinars in AECERVO to 8.1 million Libyan dinars in TNCMF. The annual average of net working capital in the cases of ACC (7.7) AECPM (6.9) , LCT (7.6) , TNCMF (8.1) , AECC (7.5) , AECP (7.4) , AECEI (7.3) and AECERVO (6.8) . Therefore it can be said that the liquidity in terms of net working capital had been more satisfactory in all the years under study for all the companies.

Table 4.3: Net working capital ratio from 1999 to 2008

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVO
1999	7.5	6.8	7.6	8.1	7.5	7.6	7.3	6.6
2000	7.2	6.9	7.6	8.1	7.5	7.6	7.5	6.7
2001	7.6	6.8	7.6	8.1	7.5	7.5	7.4	6.7
2002	7.6	6.8	7.6	7.9	7.4	7.5	7.4	6.6
2003	7.5	6.9	7.6	7.9	7.4	7.4	7.6	7
2004	7	7	7.6	7.9	7.5	7.4	7.2	7
2005	8.1	7	7.6	7.9	7.6	7.4	6.6	7
2006	8.3	7	7.7	7.9	7.3	7.4	6.7	7
2007	8.5	7	7.7	8.3	7.6	7.2	7.6	6.6
2008	8.1	6.7	7.8	8.4	7.7	7.1	7.4	6.6
Annual average	7.7	6.9	7.6	8.1	7.5	7.4	7.3	6.8

Inventory Turnover Ratio (ITR)

Inventory turnover ratio is a critical performance to assess the effectiveness of inventory management in economic unity because it measures the number of times on average which was converted inventory to sales during the year. Some authors consider 8 to 9 times of inventory turnover ratio as the reasonable norm for an efficient concern (Tofael Hossain Majumder, et al, p. 26, 2012). This ratio calculated by dividing cost of goods sold by the inventory. From the above Table no 4.4 shows that the standard ratio norm inventory turnover is 8 times. It is seen from the table that the annual average inventory turnover ratio ranges from 0.2 times in AECP to 3.3 times in AECERVO. The annual average of inventory turnover ratio in the cases of ACC (1.2) AECPM (1.1), LCT (0.9), TNCMF (3.1), AECC (1.2), AECP (0.2), AECEI (1.7) and AECERVO (3.3). From the analysis it is seen that the annual average inventory turnover ratio for all selected companies, is lower than the standard ratio norm (8 times), which implies excessive inventory levels or a slow moving or obsolete inventories.

Table 4.3: Inventory turnover ratio from 1999 to 2008

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVO
1999	0.9	0.8	0.6	3.7	0.5	0.2	2.6	0.9
2000	0.9	0.7	0.9	3.3	0.6	0.2	4.2	0.6
2001	1	0.7	0.7	3.9	0.7	0.2	1.4	1.5
2002	1	0.8	0.3	2	0.7	0.2	1.9	0.4
2003	1.1	1.2	0.4	5.9	0.1	0.2	0.3	2.2
2004	1.2	1.7	0.6	3.4	0.6	0.2	0.4	7.7
2005	1.4	1.8	0.6	2.6	1.1	0.2	0.5	7.7
2006	1.3	1.3	0.6	3	1.3	0.2	0.3	8.2
2007	1.3	0.6	0.3	3.8	3.4	0.1	0.1	2.8
2008	1.4	1.7	3.6	3.7	3.3	0.2	5.1	9
Annual average	1.2	1.1	0.9	3.1	1.2	0.2	1.7	3.3
Standard ratio norm	8	8	8	8	8	8	8	8

Account Receivable Turnover Ratio (ARTR)

Account receivable turnover ratio it is means the comparison of the size of the economic unit sales and uncollected bills from customers, this ratio use to measures the ability of the economic unity to collect debts from its customers, and refer the effectiveness of an economic unites credit policy by calculating how often accounts receivable are converted into cash during the year. This ratio calculated by dividing net sales by the account receivable. The standard ratio norm for this ratio is 3.74 times, 97.71 days (Achim Monica, et al, p. 18, 2008). The Table 4.4 shows that the annual average of account receivable turnover ratio ranges from 0.44time in AECP to 7.6 times in AECERVO. The annual average account receivable turnover ratio of AECPM (2.89) , LCT (3.25) , AECC (2.11) , AECP (0.44) and AECEI (1) are below the standard ratio norm (3.74 times) , This result means that these companies do not have the ability to collect debts from its customers during study period . While the annual average account receivable of ACC (5.13), TNCMF (4.48) and AECERVO (7.6) are above the standard ratio norm (3.7 times), the calculated ratios indicate that the credit sales management of the selected companies has ability to collect the debts from its customers during study period.

Table 4.4: Account receivable turnover from 1999 to 2008

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVO
1999	4	3.4	0.1	3.3	1	1	0.1	9
2000	4	3	2.5	3	1	1	0.4	10
2001	2.1	4	0.4	2.5	1.2	0.3	0.2	8
2002	2.6	5	1.5	1.5	1.2	0.1	0.5	6
2003	3	3	2	5	1.3	0.1	0.3	7
2004	3.4	2.2	1	5	1	0.1	0.4	6.5
2005	5	2.4	5	4	3	0.5	0.5	6.5
2006	7.2	2	8	7	7	0.4	0.3	6
2007	10	1.4	2	5.5	3	0.4	2.2	8
2008	10	2.5	10	8	1.4	0.5	5.1	9
Annual average	5.13	2.89	3.25	4.48	2.11	0.44	1	7.6
Standard ratio norm	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74

General Administrative Expenses Ratio (GAER)

This ratio measures the management efficiency to achieving sales, the lowest cost of administrative expenses. This ratio calculated by dividing general administrative expenses by the net sales. The Table 4.4 shows that the annual average of general administrative expenses ratio ranges from 2.8% in AECPM to 130% in AECP. As well as the table shows the most of annual average values for the study sample is less than 50%, this result indicates decrease the proportion of administrative expenses in the sales of these companies.

Table 4.5: General administrative expenses ratio from 1999 to 2000

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVO
1999	17.3	20	2	4.8	19.7	91.1	17.1	11
2000	17.4	0.8	6	11.7	16.3	68.3	42.4	7
2001	18.7	1.1	47	8.6	21.8	187.1	62.4	2
2002	13.7	1.2	34	8.2	24.1	197.8	27.8	8
2003	11.3	2.2	15	2.6	12.4	116	67.3	6
2004	9.1	0.6	21	2.6	12.1	183.5	37.8	1
2005	9	0.8	5.2	3.4	8.7	108.1	23.1	2
2006	8	0.5	5.2	7.9	15.8	86.6	66.6	19
2007	10	0.7	2.2	3.2	16.9	110	18	4
2008	10	0.3	4.3	2.7	11.5	152.3	7.7	6
Annual average	12.5%	2.8%	14.2%	5.6%	15.9%	130.1%	37%	6.6%

Return on Assets Ratio (ROA)

Return on asset ratio measures how well the effectiveness of economic unity to utilize their assets and also measure of efficiency this economic unit in generating profits, Some authors consider the standard figure of return on assets is 10%-12% as reasonable norm for a profitable economic unit's (Tofael Hossain Majumder, et al, p. 24, 2012). This ratio computed by dividing the Profit by total assets. The Table 4.9 shows that the annual average return on assets ranges from 7% in AECERVOR to 8.6% in ACC. The average returns on assets of all non-oil manufacturing companies are below the standard norm which cannot be considered as satisfactory and desirable. The calculated ratios showed a decreasing trend for most of the non-oil manufacturing companies during the period of study and lower ratios indicate the assets were not being utilized properly during the period

Table 4.7: Return on assets from 1999 to 2008

Financial year	ACC	AECPM	LCT	TNCMF	AECC	AECP	AECEI	AECERVOR
1999	8.3	7.2	8	8.3	7.7	7.8	8.1	6.7
2000	8.4	7.2	7.9	8.4	7.8	7.8	8.1	6.9
2001	8.4	7.2	7.9	8.4	7.7	7.8	8.1	6.7
2002	8.4	7.1	7.8	8.3	7.6	7.8	8	6.7
2003	8.4	7.1	7.8	8.3	7.6	7.8	8	7
2004	8.5	7.1	7.8	8.4	7.7	7.7	7.9	7.1
2005	8.9	7.1	7.9	8.3	7.7	7.7	7.6	7.1
2006	8.9	7.1	8	8.3	7.7	7.8	7.7	7.1
2007	9	7.4	8	8.7	8	7.8	7.9	7.2
2008	9	7.5	8.1	8.7	8	7.9	7.7	7.3
Annual average	8.6%	7.2%	8.2%	8.4%	7.8%	7.8%	8%	7%
standard norm	10%	10%	10%	10%	10%	10%	10%	10%

3.3.2 Methods of Statistical Analysis

In order to identify the level of impact of the independent variables on the dependent variable, and also to identify the type of relationship and correlation between variables and testing the hypotheses; to achieve these aims, this study used descriptive statistics, correlation test (person correlation) and regression test(multiple linear regression).

3.3.2.1 Dependent variable

The financial performance is the dependent variable and will be measured by the return on assets (ROA). The reason for choosing this variable is that the return on assets (ROA)) it measures the effectiveness of the economic unity in using its assets to generate profit especially manufacturing, the higher this ratio, the better the economic unity of the as it indicates the management's efficiency in using its assets to generate profit (Mahdi Salehi and Kumars Biglar, p. 98, 2009), and also it represents the ratio of how much a firm has earned on its asset base, and the return on assets (ROA) .Will also be used in this study as dependent variable because accordingly the net profit in relation to the selected companies asset base is a good way to measure the extent of returns on investments made in the companies , return on assets (ROA) has been used as dependent variable by, Liargovas, p, and Skandalis, k, (2008) , Hifza Malik (2011) , Ahsen Saghir et al (2011) Sayeda Tahmina Quayyum (2011), Amal Yassin Almajali , et al (2012) . The ROA will be calculated as follows:

Return on Assets = Net profit/Total Assets

3.3.2.2 Independent Variables

This study will use six independent variables include: the liquidity performance variables namely current ratio (CR), quick ratio (QR) and net working capital (NWC), operational activity variables are, inventory turnover ratio (ITR) and account receivable turnover ratio (ARTR), leverage variable is debt to equity ratio (DER), which will be measured in order to determine the effect on the dependent variable (financial performance), these variables are:

Current Ratio (CR)

The reason for choosing this variable is that the current ratio (CR) because it refer to a relationship between current assets and current liabilities, the major objective of this ratio to measure the ability of the firm to meet its short term liability, from current assets, which can be converted into cash in the short term. It is mainly used to show the economic unit ability to pay back its short-term liabilities (debt and payables), with its short-term assets (cash, inventory, receivables) (Michael Havser & Romuaid Bert, p. 53, 2006). Current ratio (CR) has been used as independent variable with (ROA) by, Mehmet Sen And Eda Oruc (2009), Nor and Noriza, (2010), Hassan Mobeen Alam, et al, (2011), Farzaneh Nassirzadeh, et al (2012), Melita Charitou, et al, (2012), Faisal Shakoor, (et al. 2012). The current ratio (CR) will be calculated by using the following formula:

Current ratio = Current Assets / Current Liabilities

Quick Ratio (QR)

The researcher has choose this ratio as a variable for the liquidity performance, because it a more rigorous and penetration test of the liquidity position of the economic unit as compared to the current ratio of the firm (Niranjan Mandal and Mahavidyalaya, p. 27 , 2010) .This ratio also reflects the fact that inventory might not be easily and quickly converted into cash, and furthermore, that a economic unit would probably not be able to sell all of its inventory for an amount equal to its carrying value, especially if it were required to sell the inventory quickly (Thomas R. Robinson. et al, p.286, 2009). Quick ratio (QR) has been used as independent variable with (ROA) by, Nassirzadeh (2011), Sayeda Tahmina Quayyum (2011). Will be computed by using the following formula:

Quick ratio = Current Assets-(Inventory+ Prepayments) / Current liabilities

Net Working Capital (NWC)

The main reason has chosen this ratio as a variable for the liquidity performance. Because it one of important financial elements to evaluate financial performance in the economic units, because it directly affects on liquidity and profitability (Abdul Raheman and Mohamed Nasr, p. 278, 2007) also is a useful indicator in the field of financial management, because it reflects the efficiency of economic unity in the use of available cash in order to meet current liabilities (I. Pirvutoiu & Agatha Popescu, p. 1, 2007). Net working capital (NWC) has been used as independent variable whit (ROA) by, John and Varsakelis,(2008), Mehmet SEN and Eda ORUC, (2009). Will be computed by using the following formula:

Net working capital = Current Assets - Current liabilities

Inventory Turnover Ratio (ITR)

The reason for choosing this ratio as a variable for the operational efficiency performance, because it is the critical performance to assess the effectiveness of inventory management in economic unity because it measures the number of times, which was converted inventory to sales during the year (C. Madhusudhana and K. Prahlada, p. 43, 2009). The higher of this ratio is better because it refers to the ability of economic unity on the sale of its inventory quickly and reduces the chances of obsolete inventory, and to use available resources efficiently and effectively (Noor Asma Jamaludin, et al, p. 116, 2009). Has used this ratio as an independent variable with the (ROA) by, John Ananiadis and Nikos C. Varsakelis, 2008, Shaskia G. Soekhoe, 2012, Chandrapala and Wickremasinghe, 2012, Faisal Shakoor, et al , 2012 . It is calculated by dividing cost of net sales by the inventory, according to the following equation:

Inventory Turnover Ratio = Net sales /Average inventory

Account Receivable Turnover Ratio (ARTR)

Study has chosen this ratio as a variable for the operational efficiency performance, because it measures the speed of movement of inventory from the point of purchase of raw materials to the point of sale of commodities ready for sale. This ratio indicates that there is a relationship between incomes from sales to the amounts receivable within one year; it indicates how rapidly an economic unity receives payments for goods and services sold and reflect its capability of securing payments (A lgimantas Misiunas, p. 39, 2010) The high value of this ratio indicates the effectiveness of the credit policy in the economic unity (Krishna Sahay. et al 1984). This ratio has used as an independent variable with the (ROA) by, Olufemi and Ajilore, 2009, Hasan Agan Karaduman, et al, 2010, Ahsen Saghir, et al, 2011, Shaskia G. Soekhoe, 2012, Faisal Shakoor, et al, 2012. Calculated this ratio by dividing net sales by the account receivables .according to the following equation:

Account receivable turnover rate = Net sales / Account receivable

General Administrative Expenses Ratio (GAER)

Researcher had chosen this ratio as a variable for the operational efficiency performance, because it measures the percentage of general administrative expenses to sales. Manufacturer with a high percentage of general administrative expenses to sales expends more effort per sales and is expected to be bad effect on profits as a result. Calculated this ratio by dividing general administrative expenses by the net sales .according to the following equation:

General Administrative Expenses Ratio = General Administrative Expenses / net sales

Company Size (CZ)

Researcher has chosen this variable for this study. Becouse the size of a company plays an important role in determining the kind of relationship the company enjoys inside and outside its operating environment, and it affects its financial performance in many ways. Company size has been considered as an important determinant of company profitability (Babalola, p. 90, 2013).Large companies can exploit economies of scale and scope and thus being more efficient (Amal Yassin Almajali, et al, p. 272, 2012). This variable has used with the (ROA) by, Jayesh Kumar, 2004, Babalola, 2013, Mesut Doğan, 2013. In this study, the variable of company size is measured as the natural log of total sales.

Company Age (CG)

The main reason has chosen this variable in this study. Because the researcher believes that this variable plays significant role in determining financial performance of any company. The older companies gain experience-based economies of scale based on learning, they can enjoy superior (Jayesh Kumar, p. 13, 2004). When the company becomes older, it enjoys economies of scale. This means that the company can produce products at lower costs and this will cause an increase in sales and profits (Chandrapala and Guneratne. p172, 2012). This variable has used with the (ROA) by Jayesh Kumar, 2004, Hifza Malik, 2011, Amal Yassin Almajali, 2012, Chandrapala and Guneratne, 2012, Mesut Doğan, 2013. Calculated this variable by number of years since incorporation until the date for which data are incorporated.

3.4 Model of the Study

In order to achieve the aims of this study the researcher used the multiple linear regression analysis to identify the relationship between the financial performance of non-oil manufacturing industries companies listed on Libya stock market and liquidity ratios, operational efficiency ratios , company size and company age . Data will be analyzed with one dependent variable (financial performance) will be used to measure by return on assets (ROA) and eight independent variables (current ratio (CR), quick ratio (QR), net working capital (NWC), inventory turnover ratio (ITR), account receivable turnover ratio (ARTR) and General Administrative Expenses Ratio (GAER), company size (CZ) and company age (CG), α is constant and e is error term. Following is the regression equation:

$$Y = \alpha + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots + b_n X_{nit} + e$$

Where: Y. Dependent Variable, α: Constant Coefficient.bn: Regression Coefficient, Xn: Independent Variable, e: Error Value. In this study, CR, QR, ITR, NWC, ARTR, GAER, CZ and CG, will be taken as the explanatory variables and ROA will be used as the dependent variable. The regression model will be as follow:

$$ROA = \alpha + b_1CR + b_2QR + b_3\ ITR + b_4\ NWC + b_5\ ARTR + b_6\ GAER + b_7\ln CZ_{+}\ b_8\ CG_{\ +}\ e$$

Independent Variables

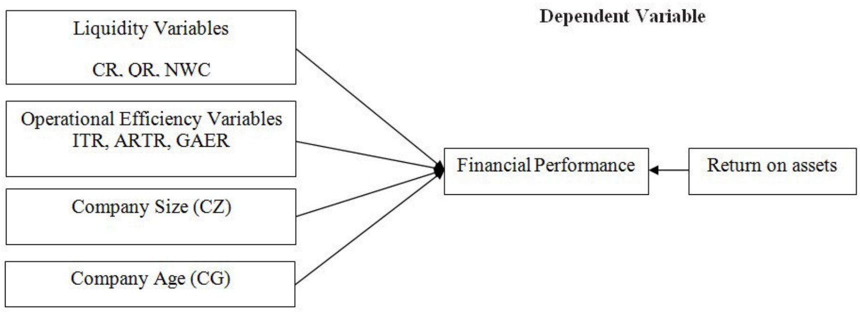

Figure 3.1: Conceptual framework of the study

3.5 Hypotheses of the Study

Based on the problem statement, objectives of the study and the review of the related literature; for this study are several key hypotheses derived from a set of sub-hypotheses to reach the desired objective of the study as follows:

1-There is a significant relationship between current ratio (CR) and return on assets (ROA).
2-There is a significant relationship between quick ratio (QR) and return on assets (ROA)
3-There is a significant relationship between net working capital (NWC) and return on assets (ROA).
4-There is a significant relationship between inventory turnover ratio (ITR) and return on assets (ROA).
5-There is a significant relationship between account receivables turnover ratio (ARTR) and return on assets (ROA).
6-There is a significant relationship between General Administrative Expenses Ratio (GAER) and return on assets (ROA).

7-There is a significant relationship between companies size (CZ) and return on assets (ROA).
8- There is a significant relationship between company age (CG) and return on assets (ROA).

Data Analysis and Results

4.1 Descriptive Statistics

The researcher will conduct descriptive statistic using SPSS software version 17.0, in order to give the audience more understanding about the study variables that are being analyzed. According to (Abdul Raheman and Mohamed Nasr, p.286, 2007) Descriptive statistics is the first step in our analysis. Descriptive Statistics is the foundation stone for any type of analysis which enables the researcher to describe the relevant aspects to all the study variables that will entail detailed information about each relevant variable (Saswata Chatterjee, p. 24, 2012). Descriptive statistics is derived from statistical analysis before another test performed using multiple regression analysis (Djoko Suhardjanto, et al, p. 240, 2009).

Descriptive studies produced the mean, minimum, maximum and standard deviation for each variable of non-oil manufacturing companies listed on Libyan stock market (LSM) during 1999-2008. Based 4.1 the mean value of return on assets (ROA) is 7.82 and the value of standard deviation is 0.542. The mean value of current ratio (CR) is 1.67 and the value of standard deviation is 0.393. The mean value of quick ratio (QR) is 1.24 with the standard deviation is 0. 278. The mean value of net working capital (NCW) is 2.72 with the standard deviation is 0.085. The mean value of inventory turnover ratio (ITR) is - 0.02 while the value of standard deviation is 0.473.

The mean value of account receivable turnover ratio (ARTR) is 1.65 and the value of standard deviation is 0.815. The mean value of General administrative expenses ratio is 1.018 and the value of standard deviation is 0.651. The mean value of Company size (CZ) is 7.24 and the value of standard deviation is 0.741. The mean value of Company age (CG) is 26.88 and the value of standard deviation is 9.664. there are big differences between values of company age because of standard deviation is high at 9.664, Table 4.1 shows that the values of standard deviation ranges from 0.085 to 9.664, revealing that there is not much of variation, and this also implies that the model of multiple regression analysis will be lead into significant results indicating the strength of data.

Table 4.1: Data descriptive statistics results for all variables

Variables	N	Min	Max	Mean	SD
Return on assets (ROA)	80	7	9	7.82	0.542
Current ratio (CR)	80	1	2.9	1.67	0.393
Quick ratio (QR)	80	0.71	2	1.24	0.278
Net working capital (NWC)	80	2.57	2.92	2.72	0.085
Inventory turnover ratio (ITR)	80	-1	0.91	-0.024	0.473
Account receivable turnover ratio (ARTR)	80	0.32	3.16	1.650	0.815
General administrative expenses ratio(GAER)	80	-0.52	2.30	1.018	0.651
Company size (CZ)	80	6	9	7.24	0.741
Company age(CG)	80	4	43	26.88	9.664

4.2 Correlation Test

The second step in the statistical analysis is correlation test, comes before the start of regression analysis. According to (Wajahat Ali, p.35, 2010) before the start of regression analysis it is important to check the correlation test between dependent variable and independent variables. In this study the researcher will use Pearson's correlation coefficient matrix will be generated through the SPSS software version 17.0, which will show the cross-relationship between all of the variables. Pearson correlation coefficient is the most commonly used to measure the association between two quantitative variables (Robert Hutchinson, p. 110, 2007). Pearson's correlation coefficients are test in order to determine the strength of the relationship between independent and dependent variables. The Pearson correlation scale ranges from -1 to +1, Any value greater than zero indicates a positive direct relationship between the two variables, which implies that every increase in the independent variable will led to the increase in dependent variable, while any value less than zero indicates a negative indirect relationship between the two variables, that means that every increase in the independent variable will led to the decrease in dependent variable (Abdul Hafiz, p.14, 2012).

Correlation test shows that return on assets (ROA) is significant with current ratio (CR), net working capital (NWC), General Administrative Expenses Ratio (GAER), company size (CZ) and company age (CG). Table 4.2

shows that there is significant strong negative correlation between current ratio (CR) and return on assets (ROA) with a significant value of 0.008, while there is positive and insignificant relationship between quick ratio (QR) and return on assets (ROA). Result shows that there is significant strong positive correlation between net working capital (NWC) and return on assets (ROA) with a significant value of 0.000. There is an insignificant and positive correlation between inventory turnover ratio (ITR) and return on assets (ROA). There is an insignificant and negative correlation between account receivable turnover ratio (ARTR) and return on assets (ROA). There is a significant strong positive correlation between General Administrative Expenses Ratio (GAER), company size (CZ), company age (CG) and return on assets (ROA). The Pearson correlation analysis indicates that the correlations between the continuous independent variables in this study are low, that means; there is no multicollinearity problem.

Table 4.2: Pearson's correlation coefficient

Variables	Person Correlation	Significant
CR	-0.295-**	0.008
QR	0.082	0.468
NWC	0.848**	0.000
ITR	0.121	0.287
ARTR	-0.037	0.746
GAER	0.228*	0.0042
CZ	0.622**	0.000
CG	0.0349**	0.002

4.3 Regression Analysis

In order to test multiple linear regression models, the researcher must assess the study data collected through four assumption tests; these tests include normality test, multicollinearity test, autocorrelation test and heteroscedasticity test.

4.3. 1 Normality Test

The examination of the normal distribution of the data of the study is one of the fundamental requirements for linear regression analysis between the study variables. Normality tests are used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed (Gujarati, 2009). In SPSS software, the distribution of normality can assess by skewness and kurtosis statistics , that values of Skewness (SK) and Kurtosis (KU) should be within the range from -1 to +1(Jyh-Tay Su and Lim Veron Nardy, p. 983. 2012) also can assess the distribution of normality by looking at the spread of the data in the graph that are expressed by dots. If when the point spread around the diagonal line and follow the direction of the diagonal line in the Normal Probability Plot graph (Gujarati, p. 175, 1999). The result of the normality test can be seen from the Table 4.3, this Table shows that the Skewness values for all variables in this study, it's ranging from -0.014 to 0.607, while values of Kurtosis for all the variables, it's ranging from -1.000 to 0.471, based on these results we can say the skewness and kurtosis scores of the current data in this study indicate an approximately normal distribution. The result of the normality test can be seen from the figures, 4.1, 4.2, respectively, are shows that the data are scattered around the diagonal line of the Normal Probability Plot; it seems that the normality assumption might be satisfied for these data.

Table 4.3: Normality tests for all variables

Variables	Skewness	Kurtosis
ROA	-0.025	-0.291
CR	0.607	0.471
QR	0.374	-0.151
NWC	-0.014	-0.494
ITR	-0.153	-0.537
ARTR	0.236	-1.000
GAER	-0.107	-0.212
CZ	-0.184	-0.576
CG	-0.672	-0.294

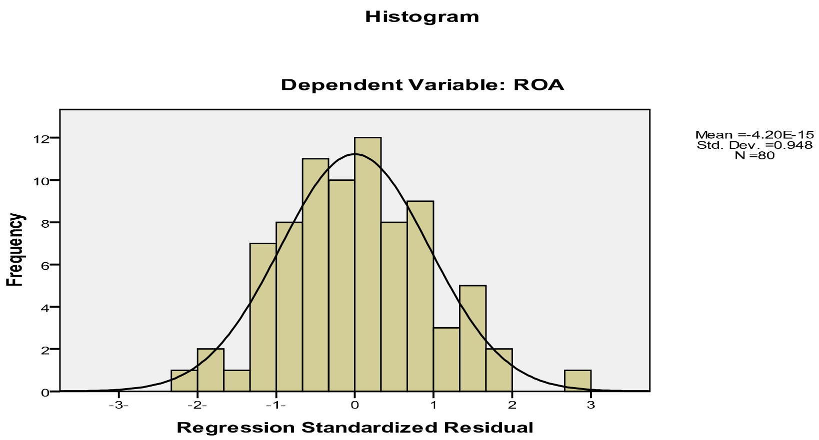

Figure 4.1: Histogram Graph of This Study

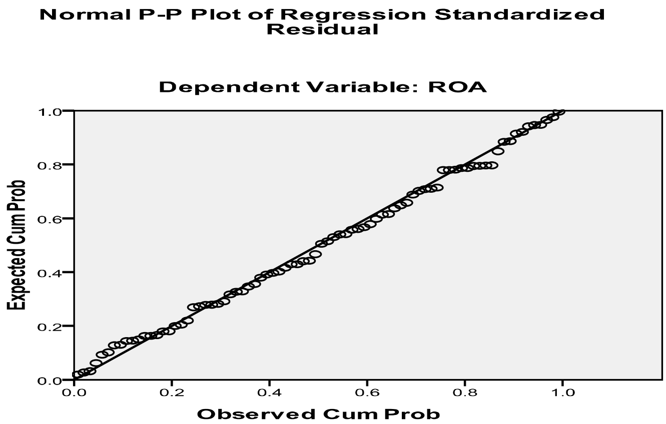

Figure 4.2: Normal Q-Q Plot of Studentized Residual

4.3.2 Multicollinearity Test

According to (Gujarati, 2003, p. 374) one of the assumptions of linear regression model is that there is no multicollinearity among the explanatory variables. Multicollinearity can be controlled by tolerance values and values of variance inflation factor (VIF), high value of multicollinearity can result in both regression coefficients being inaccurately estimated, and difficulties in separating the influence of the individual variables on the dependent variables. Any variables with a tolerance value below 0.10 or with a value above 10.0 of variance inflation factor (VIF) would have a correlation of more than 0.90 with other variables, indicative of the multicollinearity problem (Hair et al. 1998). Table 4.4 shows that multicollinearity does not exist among all independent variables because the tolerance values for all independent variables in this study is more than 0.10 it's ranging from 0.341 to 0.557, while values of Variance Inflation Factor- VIF for all the independent variables is less than the limited valued 10.0 it's ranging from 1.796 to 2.935.

Table 4.4: Results of multicollinearity test for dependent variables

Variables	Tolerance	Variance Inflation Factor (VIF)
CR	0.557	1.796
QR	0.419	2.388
NWC	0.341	2.935
ITR	0.496	2.242
ARTR	0.546	1.830
GAER	0.421	2.378
CZ	0.343	2.919
CG	0.549	1.820

4.3. 3 Autocorrelation Test

According to (Rafika and Muhamad, p. 149. 2012) autocorrelation test objective to test the linear regression model there is have a correlation between the error in period t with bullies error in period t-1 (previous period). Durbin-Watson (DW) is use to test the independent variables of errors (autocorrelation), for a level of significance of 0.05 (Nagib, et al, p. 13). (Nagib, et al, p. 13.2012) quoted (Field, 2009). For result accuracy, the Durbin-Watson d value greater than 3 or less than 1 is definitely reason for concern. Table 4.5 shows that the Durbin-Watson statistic in this data was 2.42 and they do not be greater than 3 or less than 1 or 2, it means that there was no autocorrelation between independent variables and return on assets (ROA), this result indicating lack of autocorrelation error in model of this study.

Table 4.5: Results of autocorrelation test

Model	R	Standard Error of the Estimate	Durbin-Watson (DW)
1	.935	.204	2.42

4.3.4 Heteroscedasticity Test

According to (Gujarati, 2003, p. 387) Heteroscedasticity test an important assumption of linear regression model is that the disturbances appearing in the population regression function are homoscedasticity; that is, they all have the same variance. Heteroscedasticity test aims to test whether the regression has difference variance from the residue between observations (Djoko, et al, p. 240, 2009). If this assumption is not satisfied, there is heteroscedasticity. (Paskah, p.39. 2007) If the variance of the residuals of the observations to other observations fixed, then called Homoskedastisitas, If the variance of the residuals of the observations to other observations different or changing, then called Heteroskedastisity, a good regression model, is a model of free Heteroskedastisity, to detect and presence or absence Heteroskedastisity through looking at the scatter plot graph (Rafika and Muhamad, p. 149. 2012). The result can show from the below figure 4.3 there is no heteroscedasticity, becouse there is no clear pattern of the spread in the below graph.

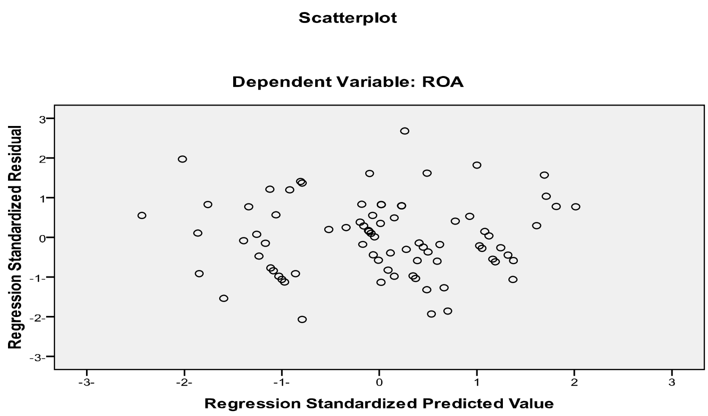

Figure: 4.3: scatter plot

4.3.5 Multiple Regression Analysis

After screening missing values, assess and treatments outliers had been deleted and data satisfy the normal distribution without any problem of non response bias, the data was fully screened and clean, After assess the study data, through several important tests namely as normality test, multicollinearity test, autocorrelation test and heteroscedasticity test, we can say that the data was ready and could be used to run a multiple regression analysis. Table no 4.6 shows the result of multiple regression analysis. Results show that the variables of current ratio (CR), quick ratio (QR) and account receivable turnover ratio (ARTR) are negatively related with return on assets (ROA). While the variables of net working capital (NWC), inventory turnover ratio (ITR), general administrative expenses ratio (GAER), company size (CZ) and company age (CG) are positively related with return on assets (ROA). R-square shows that only 87.3% of variations in dependant variable return on assets (ROA) are explained by the variations in the eight independent variables. The adjusted R square is slightly below the R-square with the value of 85.9%. F-statistics shows the validity of model as its value 61.216 is well above its sig value of 0.000. On the other hand, the regression coefficients of these variables are as follows: Regression coefficient of current ratio at -0.322 indicates that when the current ratio (CR) increases by 1 per cent with the assumption that other variables remain constant, then the return on assets (ROA) will decrease by 32.2 per cent. Regression coefficient of quick ratio (QR) at -0.227 indicates that when the quick ratio increases by 1per cent with the assumption that other variables remain constant then the return on assets (ROA) will decrease by 22.7 per cent. Regression coefficient of account receivable turnover ratio (ARTR) at -0.116 indicates that when account receivable turnover ratio increases by 1percent with the assumption that other variables remain constant then the return on assets (ROA) will decrease by 11.6 per cent. Net working capital (NWC), inventory turnover ratio (ITR), general administrative expenses ratio (GAER), company size (CZ) and company age (CG) are positively related with return on assets (ROA). On the other hand, the regression coefficients of these variables are as follows: Regression coefficient of net working capital (NWC) at 4.493 indicates that when net working capital (NWC) increases by 1percent with the assumption that other variables remain constant then the return on assets (ROA) will increase by 449.3 per cent .Regression coefficient of inventory turnover ratio (ITR) at 0.230 indicates that when inventory turnover ratio increases by 1percent with the assumption that other variables remain constant then the return on assets (ROA) will increase by 23 per cent .Regression coefficient of general administrative expenses ratio (GAER) at 0.157 indicates that when general administrative expenses ratio (GAER) increases by 1percent with the assumption that other variables remain constant then the return on assets (ROA) will increase by 15.7 per cent. Regression coefficient of company size (CZ) at 0.115 indicates that when the company size (CZ) increases by 1per cent with the assumption that other variables remain constant then the return on assets (ROA) will increase by 11.5 per cent. Regression coefficient of company age (CG) at 0.007 indicates that when the company age (CG) increases by 1per cent with the assumption that other variables remain constant then the return on assets (ROA) will increase by 0.7 per cent. Based on calculated coefficients, which are described in the Table 4.6 the linear multiple regression model identified for the variables studied is as follows:

$$ROA = -4.559 - 0.322CR - 0.227QR + 4.493\ NWC + 0.230\ ITR - 0.116\ ARTR + 0.157GAER + 0.115 \ln CZ + 0.007CG.$$

Table 4.6: Results of multiple regression analysis

Variables	B	Sig
(Constant)	-4.559	0.000
CR	-0.322	0.000
QR	-0.227	0.078
NWC	4.493	0.000
ITR	0.230	0.002
ARTR	-0.116	0.003
GAER	0.157	0.005
CZ	0.115	0.034
CG	0.007	0.035

R-Squared	0.873
Adjusted R-Squared	0.859
F-Statistics	61.216
Sig (P-Value)	0.000

CONCLUSION

Based on the findings of this study, the following conclusions are derived regarding the financial performance of non- oil industrial sector companies listed on Libyan stock market. The main objective of this study, to assess the financial performance level, and to identify the factors affecting this performance of non-oil industrial sector companies listed on Libyan stock market, for the period of 1999-2008. The findings of this study will contribute towards a better understanding of financial performance in non-oil industrial sector companies listed on Libyan stock market. On the basis of findings of the study, regarding financial ratio analysis approach , the study concluded that there is a high liquidity, this makes these companies have the capacity to meet its financial obligations in the short term, while operational efficiency indicators were unsatisfactory, such inventory turnover ratio and accounts receivable turnover ratio. While regarding the statistical analysis it can be conclude that there are significant relations between liquidity variables and operational activity variables with return on assets as findings suggested that, working capital components and financial performance (ROA) in selected companies disclose both positive and negative association. three variables are negative significant relations with return on assets (ROA namely current ratio (CR), quick ratio (QR) and account receivable (ARTR)) illustrate negative significant relations with return on assets (ROA), while five variables positive significant relations with return on assets (ROA), namely net working capital (NWC), inventory turnover ratio (ITR), general administrative expenses ratio (GAER), company size (CZ) and company age (CG).

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