

# **The Role of Financial Indicators in Rationalizing of Investors' Decisions in the Jordanian Stock Exchange Market**

Dr. Osama Samih Shaban<sup>1</sup>

Associate Professor

Dr. Ziad Al-Zubi<sup>2</sup>

Assistant Professor

Accounting Department

Al-Zaytoonah University of Jordan, Amman, Jordan

Corresponding Address: P.O. Box 130, 11733

Tel No.: +962798 793 473

<sup>1</sup>[shaban\\_osama@hotmail.com](mailto:shaban_osama@hotmail.com)

<sup>2</sup>[dr.ziadzubi@yahoo.com](mailto:dr.ziadzubi@yahoo.com)

## **ABSTRACT**

The annual financial reports provided by the accounting system, is considered the main source for information for decision-makers especially the investors. Therefore, the validity and accuracy of the decisions depend on the proper analysis of financial statements. This study aims to identify the role of financial indicators in the rationalization of investors' decisions in the Jordanian stock exchange market. Despite, the fact that there are other factors affecting investment decisions, such as, economic, political and the reputation of the commercial bank, but still the financial analysis factors constitute the main tool in attracting investment. This study focuses on the efficiency of financial indicators to influence the decisions of investors. For achieving this purpose, number of 150 questionnaires has been designed, circulated by hand to a selected sample of investors trading at Amman Stock Exchange market. Resolution data were analyzed using the statistical program Smart PLS,(Partial Least Square). Finally, the study concluded that, the use of financial indicators has a significant positive effect on decision of investment taken by investors.

Keywords: Financial Analysis, Financial Reports, Investors Decisions. Financial Indicators.

## ***1. Introduction***

A financial analysis assists in identifying the major strengths and weaknesses of a business enterprise. It indicates whether a firm has enough cash to meet obligations; a reasonable accounts receivable collection period; an efficient inventory management policy; sufficient plant, property, and equipment; and an adequate capital structure (Moyer, McGuigan, Kretlow, 2005).

The economic climate calls for investors to apply vigorous financial analysis as they evaluate business performance, weigh potential investments, and assess global competition. In response, strategic financial analysis for business evaluation focuses on the frameworks required to monitor performance, forecast capital utilization, value strategic assets, and review restructuring opportunities.

Investment is putting money into an asset with the expectation of capital appreciation, dividend or interest earnings. Financially, investment is the purchase of an asset or item with the hope that it will generate income or appreciate in the future and be sold at the higher price. (Wikipedia, 2014)

Ratio analysis is one of the main financial indicators extracted from financial statement analysis that is used to obtain a quick indication of a firm's financial performance in several key areas. Ratio Analysis as a tool possesses several important features. The data, which are provided by financial statements, are readily available. The computation of ratios facilitates the comparison of firms which differ in size. Ratios can be used to compare a firm's financial performance with industry averages. In addition, ratios can be used in a form of trend analysis to identify areas where performance has improved or deteriorated over time.

Making big investment decisions means that, we must allocate substantial amounts of major resources of people, time, technology, intellectual capital, and money. A high quality decision process requires that our choices are précised and the consequences are understood and well explored. Investment decisions could be made on the basis of cost-benefit analysis. Cost benefit analysis, is an economic analysis tool that has the potential to help investors to make decisions. It enables investors to assess the alternative options available by comparing the benefits and costs of each option. Through this process it is expected investors will able to decide which option will generate the highest net benefits. Also it will also help them to achieve economic efficiency in the essence that it improves allocation of scarce resources (Campbell & Brown 2005).

In making investment decisions, investors should take into considerations the following points; first, what is the scale of the investment which the company can afford? Second, how long will it take before the investment starts to yield returns, and at what rate? Third, how long will it take to payback the investment? The answer to theses question will take place only after the investors take the right investment decision, which means the right investment place where he is going to invest his money. The right investment place is the core of our research paper, which depends on ratio analysis performed by financial analyst or the investor himself.

## ***2. Study Problem***

Lack of investment knowledge easily lead a person to the bad practice of following the public and taking advises from wrong personnel or investing through believing reports from stock analysts and tipsters. Approaching a qualified and experienced financial planner is a right move by beginner investor till getting required knowledge and thus confidence for self investment. A good adviser can help investors to not commit big mistake that may lead people to huge failures.

## ***3. Study Importance***

Ratio analysis is an important technique of financial statement analysis. Ratios are useful for understanding the financial position of the company. Investors, management, bankers and creditors use the ratio to analyze and judging the company's efficiency, locating weakness of the company's operations even though its overall performance may be quite good. Although financial ratios are used to analyze the company's past financial performance, they can also be used to establish future trends of its financial performance. As a result, investors can predict the company's performance over the coming years and then facilitates comparison to make the suitable investment decisions.

## ***4. Study Objectives***

The main objective of the study is to evaluate of ratio analysis in investment decision making by applying ratio analysis to determine the strengths and weaknesses of the firm. In assessing the significance of various financial data for effective investment decision, experts engage in financial analysis, the process of determining and evaluating financial ratios.

## ***5. Literature Review***

Ratio Analysis is one of the basic tools of financial analysis. It is an important tool in business planning and decision making as it explores the strengths, weaknesses, opportunities and threats facing the company (B.F Online, 2014). Smart investors use financial ratios to analyze a company's financial performance before making an investment. Financial ratios reveal how a company is financed, how it uses its resources, its ability to pay its debts and its ability to generate profit. Ratios provide a glimpse of a company's position at a particular time, and are most useful when compared across time periods and when comparing companies in the same industry. Ratios alone do not give a complete picture of a company's investment potential, but they are a wise place to start the analysis (Young, 2014).

Nowadays, the financial analysis of an enterprise is one of the main prerequisites for successful management of financial resources, and, according to several scientists, is one of the most significant elements of financial management. The efficient operation of a company requires economically well-founded management decision making,

which is based on the analysis of current operating and financing activities ( Zelgave ,2012).

A problem with using ratios as tools is that the extant literature testing their value is limited. For example, there is little evidence that a capital accumulation ratio of 0.7 is better than one of 0.3, or that the protection provided by holding 6 months of assets in liquid investments is worth the tradeoff in expected return (Harness, Chatterjee, Finke, 2008).

Financial ratios allow for comparisons and, therefore, are intertwined with the process of benchmarking, comparing one's business to that of others or of the same company at a different point in time. In many cases, benchmarking involves comparisons of one company to the best companies in a comparable peer group or the average in that peer group or industry. In the process of benchmarking, investor identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied to one's own results and processes on a specific indicator or series of indicators. (Boundless, 2014).

For ratios to be useful and meaningful, they must be:

- Calculated using reliable, accurate financial information
- Calculated consistently from period to period
- Used in comparison to internal benchmarks and goals
- Used in comparison to other companies in your industry
- Viewed both at a single point in time and as an indication of broad trends and issues over time
- Carefully interpreted in the proper context, considering there are many other important factors and indicators involved in assessing performance.

Ratios can be divided into four major categories:

- Liquidity ratios
- Profitability Ratios
- Debt or Solvency Ratios
- Cash Flow Adequacy ratios
- Market Value ratios

### **1- Liquidity Ratios**

Liquidity ratios measure a firm's ability to pay its bills as they come due. Two commonly used liquidity ratios are the current ratio, and the quick ratio.

**Current Ratio:** The current ratio is found by dividing current assets by current liabilities. A ratio of 1 means the business has just enough current assets to pay current liabilities. Ratios above 1 mean a firm has more current assets than current liabilities; ratios below 1 mean more current liabilities than current assets. Investors typically prefer a lower current ratio because it shows that a firm's assets are working to grow the business.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

**Quick Ratio:** The quick ratio, also called the acid test, subtracts inventory from current assets before dividing them by current liabilities. The acid test gives a more accurate view of the firm's short-term liquidity than the current ratio because it removes inventory that the firm may not be able to sell from the equation.

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

**Accounts Receivable Turnover Ratio:** It measures the number of times trade receivables turnover during the year. The higher the turnover, the shorter the time between sales and collecting of cash. This ratio tells the investor what are the customer payment habits compared to firm's payment terms. Accordingly the firm may need to step up the collection policies or tighten the credit policies. These ratios are only useful if majority of sales are credit sales.

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average Accounts Receivable}}$$

**Inventory Turnover Ratio:** It measures the number of times inventory turns over into sales during the year or how many days it takes to sell inventory. This is a good indication of production and purchasing efficiency. A high ratio indicates inventory is selling quickly and that little unused inventory is being stored (or could also mean inventory shortage). If the ratio is low, it suggests overstocking, obsolete inventory or selling issues.

$$\text{Inventory Turnover} = \frac{\text{Cost of Sales}}{\text{Average Inventory}}$$

## 2- Profitability Ratios

Profitability ratios measure a firm's ability to generate profits. It consist four main ratios; net profit margin, assets turnover ratio, return on assets and return on equity.

**Profit Ratio :** Measure of net income produced by each dollar of sales.

$$\text{Profit ratio} = \frac{\text{Net Income}}{\text{Net Sales}}$$

**Assets Turnover Ratio:** It measures how efficiently the business generates sales on each dollar of assets. An increasing ratio indicates that the firm is using assets more productively.

$$\text{Asset Turnover Ratio} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

**Return on Assets: (ROA)** Measure of overall earning power of profitability.

$$\text{ROA} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

**Return on Equity:** (ROE) Measure of profitability of stock holders' investment.

$$\text{ROE} = \frac{\text{Net Income}}{\text{Average Total Equity}}$$

It is important to remember that ROA and ROE ratios are based on accounting book values and not on market values. Thus, it is not appropriate to compare these ratios with market rates of return such as the interest rate on Treasury bonds or the return earned on an investment in a stock (Ahsan, 2013)

### 3- Debt Ratios

Debt Ratios attempt to measure the firm's use of Financial Leverage and ability to avoid financial distress in the long run. These ratios are also known as Long-Term Solvency Ratios.

Debt is called Financial Leverage because the use of debt can improve returns to stockholders in good years and increase their losses in bad years. Debt generally represents a fixed cost of financing to a firm. Thus, if the firm can earn more on assets which are financed with debt than the cost of servicing the debt then these additional earnings will flow through to the stockholders. Moreover, our tax law favors debt as a source of financing since interest expense is tax deductible (B.F Online, 2014).

With the use of debt also comes the possibility of financial distress and bankruptcy. The amount of debt that a firm can utilize is dictated to a great extent by the characteristics of the firm's industry. Firms which are in industries with volatile sales and cash flows cannot utilize debt to the same extent as firms in industries with stable sales and cash flows. Thus, the optimal mix of debt for a firm involves a tradeoff between the benefits of leverage and possibility of financial distress.

**Debt to Equity Ratio:** Measure of Capital Structure and leverage

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

**Debt to Assets Ratio:** Measure of assets debt structure

$$\text{Debt to Assets Ratio} = \frac{\text{Total Assets}}{\text{Total Equity}}$$

**Interest Coverage Ratio:** Measure of Creditors' protection from default on interest payment

$$\text{Interest Coverage Ratio} = \frac{\text{Income before Income Taxes} + \text{Interest Expenses}}{\text{Interest Expenses}}$$

### 4- Cash Flow Adequacy Ratios:

**Cash Flow Yield Ratio:** Measure of a company's Ability to generate operating

cash flows in relation to net income

$$\text{Cash Flow Yield Ratio} = \frac{\text{Net Cash Flow from Operating Activities}}{\text{Net Income}}$$

**Cash Flow to Sales Ratio:** Measure of the ability of sales to generate operating cash flow

$$\text{Cash Flow to Sales Ratio} = \frac{\text{Net Cash Flow from Operating Activities}}{\text{Net Sales}}$$

**Cash Flow to Assets Ratio:** Measure of the ability of assets to generate operating cash flow

$$\text{Cash Flow to Assets Ratio} = \frac{\text{Net Cash Flow from Operating Activities}}{\text{Average Total Assets}}$$

### 5- Market Value Ratios:

Market Value Ratios relate an observable market value, the stock price, to book values obtained from the firm's financial statements.

**Price-Earnings Ratio (P/E Ratio):** The Price-Earnings Ratio is calculated by dividing the current market price per share of the stock by earnings per share (EPS). (Earnings per share are calculated by dividing net income by the number of shares outstanding.) The P/E Ratio indicates how much investors are willing to pay per dollar of current earnings. As such, high P/E Ratios are associated with growth stocks. (Investors who are willing to pay a high price for a dollar of current earnings obviously expect high earnings in the future.) In this manner, the P/E Ratio also indicates how expensive a particular stock is. This ratio is not meaningful, however, if the firm has very little or negative earnings.

$$\text{P/E Ratio} = \frac{\text{Price Per Share}}{\text{Earnings per Share}}$$

$$\text{Where: Earnings per Share} = \frac{\text{Net Income}}{\text{Number of Shares Outstanding}}$$

**Market-to-Book Ratio:** The Market-to-Book Ratio relates the firm's market value per share to its book value per share. Since a firm's book value reflects historical cost accounting, this ratio indicates management's success in creating value for its stockholders. This ratio is used by "value-based investors" to help to identify undervalued stocks.

$$\text{Market-to-Book Ratio} = \frac{\text{Price Per Share}}{\text{Book Value per Share}}$$

$$\text{Where: Book Value per Share} = \frac{\text{Total Owners' Equity}}{\text{Number of Shares Outstanding}}$$

P/E ratio is a widely used ratio which helps the investors to decide whether to buy shares of a particular company. It is calculated to estimate the appreciation in the market value of equity shares. The average P/E ratio is normally from 12 to 15 however it depends on market and economic conditions. P/E ratio may also vary among different industries and companies. P/E ratio indicates what amount an investor is paying against every dollar of earnings. A higher P/E ratio indicates that an investor is paying more for each unit of net income. So P/E ratio between 12 to 15 is acceptable. A higher P/E ratio may not always be a positive indicator because a higher P/E ratio may also result from overpricing of the shares. Similarly, a lower P/E ratio may not always be a negative indicator because it may mean that the share is a sleeper that has been overlooked by the market. Therefore, P/E ratio should be used cautiously. Investment decisions should not be based solely on the P/E ratio. It is better to use it in conjunction with other ratios and measures (ReadyRatio, 2014).

## **6. Method**

The primary data needed for the study objectives were collected through a survey conducted among traders at Amman Stock Exchange Market. The term trader means a person who has special rules for trading, and they file taxes. Generally there are many types of traders, and they can be classified as follows: A "day trader" tries to make money by taking advantage of very short term movements in the price of a stock. A "day trader" typically would sell a stock within seconds, minutes or hours after buying it. The vast majority of people who try day trading end up losing money and move on to trying to make money in other ways, but those who do actually make money day trading are most likely to consider trading their profession. A "swing trader" has a somewhat longer outlook, usually selling a stock days, weeks or months after buying it. Swing traders are more likely to make money than day traders, but they are less likely to consider trading their profession, they are more likely to consider themselves secretaries, teachers, computer programmers, etc. who also trade stocks to try to make some additional income. An "investor" has a longer outlook, usually selling a stock months, years or decades after buying it. Investors are the most likely to make money, but they rarely consider buying and selling stocks as their profession. There are a lot of investors who only trade stocks to build up enough to be able to retire comfortably.

A questionnaire has been designed for this purpose, and it was distributed by hand to selected sample of investors trading at Amman Stock Exchange market in November 2013. Resolution data were analyzed using the statistical program Smart PLS.

Likert scale quintet has been used, five options for each question was identified. Quantitative data were collected using a self-administered questionnaire, in which the investors were asked to state the likelihood (on a 5-point scale: [5] strongly agree; [4] agree; [3] neutral; [2] disagree; [1] strongly disagree), 150 copies of the questionnaire were delivered by hand on the respondents, 130 copies were returned (percentage of



87% ); 112 copies were accepted and used in the pilot analysis (percentage of 74%) of the original distributed copies).

Other Data is collected from secondary sources. Secondary data is collected from articles published by the well-known periodicals, books, and dissertations.

### 6.1: Statistical Analysis:

The Statistical Package for Social Sciences (Smart PLS) was applied in analyzing the data received; Statistical Analysis tools include the followings:

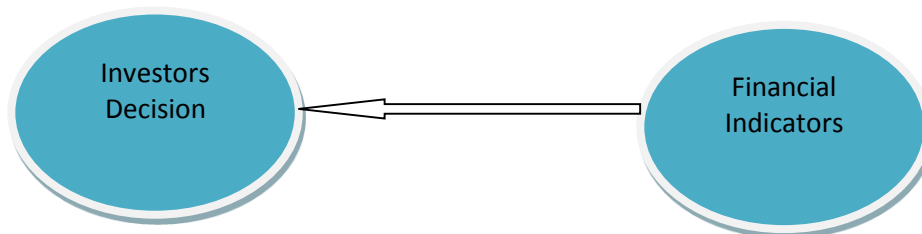
1. Descriptive Statistics, mainly frequencies and percentages, were used to analyze sample characteristics according to job, educational level, professional certificates, and experience.
2. Correlation, Inter-correlation, and Path Coefficient were used to analyze and describe study variables from a statistical point.
3. Reliability Test using Cronbach's Alpha was used to test the reliability of the scale (Sekran, 2003). Table (1) illustrate the reliability results:

**Table (1): Reliability Test**

	<b>Cronbachs Alpha</b>
<b>Financial Indicators</b>	0.977922
<b>Investors Decision</b>	0.758886

The results showed that, the reliability coefficient are very high, which indicates that, the questionnaire is reliable. Table (1) shows that, the total reliability coefficient values (internal consistency) using Cronbach Alpha vary between 0.758 and 0.977, which is a high value, and suitable for the objectives of the study.

### 6.2 Research Design



Research design is formed out of two elements only; the financial indicators and the investors' decision. The design tests the role of financial indicators on investors' decision.

### 6.3 Study Hypothesis

H1: The financial ratios has a significant role in rationalizing the investor's decision in Jordanian stock exchange market

#### 6.4 Data Analysis of the Demographic Characteristics of the Respondents:

Table (2), illustrates the demographic characteristics distribution of the study sample.

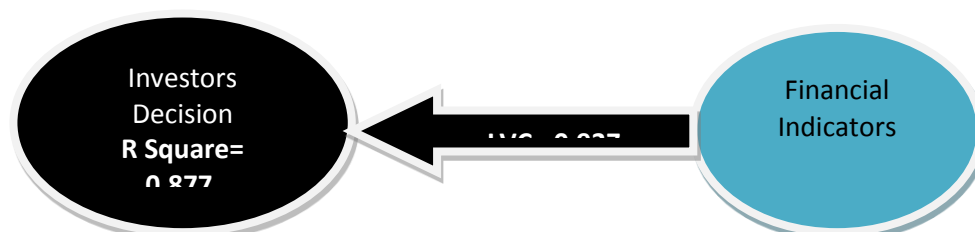
Table(1): Variable	Group	Frequencies	%
Sex	Male	76	67.9
	Female	36	32.1
Total		112	100%
Age	Less than 25 years	12	10.7
	From 25 years—35 years	29	25.9
	More than 35 years—45 years	42	37.5
	More than 45 years	29	25.9
Total		112	100%
Professional Certificate	Professional Certificate	18	16.1
	Bachelors Degree	78	69.6
	Other	16	14.3
Total		112	100%
Job Title	A Day Trader	13	11.6
	Swing Trader	24	21.4
	Traders	31	27.7
	Representative of Investing Dept.	44	39.3
Total		112	100%
Experiences	Less than 5 years	6	5.4
	From 5 years – 10 years	46	41.1
	More than 10 years – 15 years	34	30.4
	More than 15 years	26	23.2
Total		112	100%

The respondents were 67.9% male and 32.1% female; most of them were between the age of 25 years and 45 years and 25.9% were above the age of 45 years. Most respondents had average experience more than 5 years. The Job title of 11.6% of the respondents were A day traders, 21.4% were A swing traders, 27.7% were traders, and finally 39.3% were representative of investing department of their companies. Most of respondents 69.6% had Bachelors Degree, and 16.1% were having professional certificate, and 14.3% were having other degrees. Demographic data is shown in Table No. (2).

#### 6.5 Smart PLS Results

The structural model results are shown in Exhibit 2. Examining the path coefficients (Latent Variable Coefficient LVC); the numbers on the screen enables us to determine, that Financial Indicators has a strong effect on Investors Decision (0.937), Moreover, the model constructs explain that 87.7 percent of the variance of the endogenous latent construct Managers' Behavior ( $R^2 = 0.877$ ). Table 3 illustrates the r square results and Table 3 illustrates the LVC results.

#### Exhibit 2.



**Table (3): R Square**

	<b>R Square</b>
<b>Financial Indicators</b>	
<b>Investors Decision</b>	0.877226

The results show that the relationship between the variables is statistically significant. Based on their sizes, it would appear that the relationships between Financial Indicators and Investors' Decision are significant. The hypothesized path relationship between Financial Indicators and Investors' Decision, (0.937) is high and significant, as the findings of Smart PLS rule explains that the path Coefficient is significant if it is above 0.015.

The convergent validity assessment which is based on the Average Variance Estimated AVE value, as the evaluation of quality criterion in table 4 illustrates that the AVE values of Financial Indicators equal (0.633), which is above the required minimum level of 0.50. Thus, the measure of the reflective constructs has high level of convergent validity. Investors' Decision results shows that the AVE values of Investors Decision equal (0.246), which is somehow lower than the required level of 0.50 but still it is acceptable as the composite reliability is high. Table (4) illustrates the AVE results. (Fornell, & Larcker, 1981).

**Table (4): Quality Criteria**

	<b>AVE</b>	<b>Composite Reliability</b>	<b>R Square</b>	<b>Cronbachs Alpha</b>
<b>Financial Indicators</b>	0.633548	0.979846		0.977922
<b>Investors Decision</b>	0.246572	0.839143	0.877226	0.758886

**Table (5): Latent Variable Correlations**

	<b>Financial Indicators</b>	<b>Investors Decision</b>
<b>Financial Indicators</b>	1.000000	
<b>Investors Decision</b>	0.936603	1.000000

### **7. Conclusions & Recommendations**

According to Data Analysis, and Hypothesis testing the study had concluded the following:

- a. The use of financial indicators has a significant positive effect on investment taken by investors.

- b. Financial indicators represented in ratio analysis plays a vital role in a business planning process and figuring out the strength, weaknesses, and opportunities of a business enterprise.
- c. High significance to individual ratios doesn't always result in a good decision. Sometimes higher profitability may be accompanied with low liquidity.

According to the study conclusions the researcher recommends the following:

- a. Financial indicators should be used wisely after complete check of the past history of the company, and through auditing check of the financial cycle.
- b. Other tools than financial indicators has significant effect on decision making which should be taken into consideration.
- c. Financial indicators will not say why something is going wrong and what to do about a particular situation, they only pinpoint where is the problem.
- d. Management policies and action could lead to high profit readings, comparison of such company with another could be misleading.

## **8. References**

- 1- Campbell, HF & Brown, 2005, A multiple account framework for cost-benefits analysis, Evaluation and Program Planning, vol.28, no.1, pp. 23-32.
- 2- B.F Online, (Business Finance Online), 2014 Accessed 13 Feb 2014 Available [www.businessfinanceonline.com](http://www.businessfinanceonline.com).
- 3- Robert C. Young, Accessed 13 Feb 2014 Available at <http://smallbusiness.chron.com>
- 4- Zelgalve, Elvīra (2012) " Transformation of the role of financial analysis in enterprise management" Finance Department, University of Latvia. ORGANIZACIJŪ VADYBA: SISTEMINIAI TYRIMAI 2012.64
- 5- Nathaniel J. Harness, Swarn Chatterjee, Michael Finke "Household Financial Ratios: A review of Literature" Journal of Personal Finance 2008 Volume 6, Issue 4. pp77.
- 6- Boundless, 2014. Accessed 13 Feb 2014. Available at [www.boundless.com](http://www.boundless.com)
- 7- ReadyRatio, 2014. Accessed 14 Feb 2014. Available at [www.Readyratio.com.com](http://www.Readyratio.com.com)
- 8- (Moyer, McGuigan, Kretlow, (2005), "Contemporary Financial Management", SouthWestern Publishers, 10th, Tenth Edition.
- 9- Wikipedia, The Free Encyclopedia, (2014) Accessed 13 Feb 2014. Available at [en.wikipedia.org](http://en.wikipedia.org).
- 10- Uma, Sekrran. Research Method for Business: A Skill Building Approach, 7th Edition, John Wiley and Sons, New York; 2003.
- 11- Ahsan, A.F.M. (2013), "Can ROE be Used to Predict Portfolio Performance?" Journal of academic research in economics. Vol.5 No.1.

12-Fornell, C., Larcker, D.F., (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1), 39-50.