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THE EFFECT OF CAPITAL STRUCTURE ON PROFITABILITY: AN EMPIRICAL ANALYSIS OF LISTED FIRMS IN IRAQ

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ABSTRACT: *This study tests the effect of capital structure on the profitability of the Iraqi firms that listed in Iraq stock exchange. The study used statistical methods such as multiple regression model represented by ordinary least squares (OLS) as a technique to investigate the claimed effect of capital structure on the profitability by applying the same on four firms from the Iraqi industrial sector for the period (2004-2013). The study findings suggest that capital structure positively influence, in a significant way, on the profitability of listed firms in Iraq. Furthermore, profitability, and assets (firm-size) have been found to be negatively influencing the capital structure of the listed firms. These findings generally concur with the predictions of the pecking order theory and the signalling effects of capital structure decisions of firms. The concerned companies must have to enhance their firm size that negatively correlated with ROE, its growth and continuity.*

KEYWORDS: Capital Structure; Profitability; Empirical Analysis, Iraqi Listed Firms

INTRODUCTION

Capital structure is about putting in place the structure, processes and mechanism that may ensure the firm is being directed and managed in a way that enhances long-term equity value through accountability of managers and enhancing organizational performance, (Kajananthan & Nimalthasan 2013). Therefore, capital structure refers to a set of rules and incentives by which the management of a company is directed and controlled, hence, sound capital structure will have effects on profitability and long-term value of the firm for shareholders. Firm performance and capital structure has succeeded in attracting a good deal of public interest because it is a tool for socio-economic development. Also when there is good firm performance and capital structure, there will be proper and efficient practice in the administration of business entities. The choice between debt and equity for a business firm has implications on the value of a firm as well as strategic importance for corporate managers (Brealey et al, 2006 and Ross et al 2008, and Bodie et al 2009).

Corporations' capital structure mainly depends upon the size and composition of debt or equity well-known as hybrid financing that is then used by firms to be operational ((Brealey et al, 2006). The research work of Modigliani and Miller (1958) propounded a theory of capital structure, known as MM theory, which states that there is no optimal capital structure because each structure is based on different assumptions such as a perfect market, no taxes. They puts forward a solid platform for today's research of capital structure. MM-I proposition, irrelevance theory, states that under specific conditions of no taxes, no bankruptcy cost, an efficient market, and in asymmetric information, the worth of firm is irrelevant that how the

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firm is financed from equity or debt. It does not matter that what is the dividend policy and how the capital of the firm is raised. In other words, value of the firm totally relies upon the real assets and not on the capital structure. The same was supported by Hamada's research (1969), Stilglitz, (1972), and Hatfield, et al (1994). MM-II proposition (1963), however, concludes that required rate of return, debt-equity ratio and cost of debt provide bases of firm's value. The MM-II recognizes that firm value is relevant to its capital structure, which, concluded that with one hundred percent debt, the capital structure of a firm is optimum due to interest and tax shield.

Capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. The successful selection and use of capital is one of the key elements of the firms' financial strategy (Kajananthan, 2012; Velnampy and Aloy Niresh, 2012). Profitability should be re-invested into the business for its' survival (Velnampy, 2006), where, profitability is the most prominent issues in the world of corporate finance literature, and the ultimate goal for any firm is to maximize profitability. However, too much attention paid to profitability, which may lead the firm into a pitfall by diluting the liquidity position of the organization. This study reverses this order by investigating the influence of capital structure on profitability of a few from listed firms in Iraq Stock Exchange, namely, Baghdad Soft-Drink Industries, Iraqi Mats & Tufted Carpets, Modern Chemical Industries, and Middle-East for Fish Producing & Marketing. Using secondary data from audited financial reports for the period 2004 to 2013, the study has applied ordinary least squares, which fixed the effect regression models to estimate the influence of firm characteristics on capital structure measure such as debt equity ratio as a financial leverage. The corporate characteristics that have been considered are:, profitability measures PM, ROA, ROE, size of assets and firm growth(Brealey et al, 2006 and Ross et al 2008, and Bodie et al 2009).

Theoretical Foundation

Regarding this subject, the reviews of literature are sub-divided into several parts, which it is going to explain respectively.

Measures of leverage: There are various measures of leverage, which can be classified as accounting based measures, market-value measures and quasi-market value measures. When choosing a measure of leverage, it is useful to keep in mind that the theoretical framework for the relationship between leverage and performance is based on market values of leverage. Since market values of leverage may be difficult to obtain, accounting based measures are often applied as proxies. Rajan & Zingales (1995) discuss various accounting based measures of leverage and their informational content. They suggest that the choice of measure should be based on the objective of the analysis. For instance, the ratio of total liabilities to total assets can be considered as a proxy for what is left for shareholders after liquidation, but is not a good indication of the firm's risk of default in the near future. Also, since total liabilities include such balance sheet items as accounts payable, which are used for transactions purposes rather than for financing, it may overstate the amount of leverage. There is still one issue of concern since the measure contains liabilities that are not related to financing, e.g., pension liabilities, thereby underestimating the size of leverage. The ratio of total debt to capital, where capital is defined as total debt plus equity, is assumed to solve this problem and can be seen as the best accounting based proxy for leverage (Rajan, Zingales,1995).

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Different theories about capital structure: Since Modigliani and Miller published their seminal work in 1958, capital structure has generated great interest among financial researchers. They argued that in efficient markets the debt-equity choice is irrelevant to the value of the firm and benefits of using debts will compensate with decrease of companies stock. Prior to MM theory, conventional perspective believed that using financial leverage increases company's value. In this respect, there is an optimized capital structure that minimizes capital costs. In a subsequent study, Modigliani and Miller (1963) eased the conditions and showed that under capital market imperfection where interest expenses are tax deductible, firm value will increase with higher financial leverage. Models based on impact of tax, suggest that profitable companies should have more debts these firms have more need for tax management in corporation's profit. However, increasing debt results in an increased probability of bankruptcy. Hence, the optimal capital structure represents a level of leverage that balances bankruptcy costs and benefits of debt finance.

Static trade – off theory: Jensen and Meckling (1976) suggest that the firm's optimal capital structure will involve the trade-off among the effects of corporate and personal taxes, bankruptcy costs and agency costs, etc.

Agency costs theory: Agency costs rose from separation of ownership and control and conflicts of interest between categories of agents. One of the problems that cause conflict between managers and shareholders is free cash-flows. Jensen (1986) and others define debt as a disciplinary tool to ensure that managers give preference to wealth creation for the equity-holders. Thus, in the firms that have high cash flows and profitability, increasing of debts can be used as a tool of reducing the scope for managers until resources of company may not be waste as a result of their individual benefits, and is seen when manager's share in ownership of company is low. But when the manager's share in the ownership increases, here, something would be done so as to let the stock as high as possible, this may lead to an inefficiency decreases. Therefore, it is appropriate that by increasing debts instead of stock issuance prevent from decreasing of manager's share of ownership interest. (Huang & Song 2005).

Choice – picking order theory of financing: Managers in comparison to investors have more information about the firms operations. Myers and Majluf (1984) believe that this causes the pricing of the stock with investors be understate. In this condition that there is asymmetric information, companies prefer financing by internal sources to stock issuance and where there is not adequate internal sources, they prefer to borrow from financial institutions, and from the asymmetric information theories point of view that there is a hierarchy of firm preferences with respect to the financing of their investments. This hierarchy of preferences suggests that firms may finance their investments through their owned funds such reserves and return earnings, and then followed by debt through bonds, loans and others, and finally through external equity(Myers and Majluf, 1984).

Significance and Importance of the Study

The firms' performance measurement is the base of investing, putting and making financing decisions. Debt-holders evaluate efficiency and performance of the firms and then they may be able to decide about rate of return. Investors, on the other hand are interested in evaluating the performance to have knowledge of how a successful skills of management in applying their capital. Thus, to help investors to recognize the link between capital structure and financial performance and choosing appropriate measures to evaluate and analyse the firms' financial status is the sole purpose of this study. Due to interest payment on debt is tax deductible, the

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addition of debt in the capital structure will improve the profitability of the firm. Therefore, it is important to test the relationship between capital structure and the profitability of the firms, which may give a room to make sound capital structure decisions. The lack of a consensus about what would qualify as optimal capital structure in the service and manufacturing industries has motivated many to conduct such studies. A better understanding of the issues at hand requires a look at the concept of capital structure and its effect on the firms' profitability.

Objectives of the Study

This study provides an evidence on capital structure alternative by using an Iraqi data. Where the way in which capital structure is managed by firms will have a significant effect on the profitability of companies, therefore, the main objectives of the study:

(i) To analyze and identify the relationship between capital structure and firms' profitability.

(ii) To find out the effect of capital structure on firms' profitability evaluation.

(iii) To suggest adoption of capital structure towards better firms performance the firms and organizations.

Research Hypothesis*:* from the above mentioned theoretical foundation, this study derives the following hypotheses:

First hypothesis:

HA: There is a significant effect of variable return on equity (ROE) on financial leverage (FL).

H0: There is no significant effect of return on equity (ROE) on financial leverage (FL).

Second hypothesis:

HA: There is a significant relationship between firms' capital structure financial performance, namely profitability.

H0: There is no significant relationship between firms' capital structure financial performance, namely profitability.

Third hypothesis:

HA: There is strong relationship between total debt to total assets and profitability

H0: There is no relationship between total debt to total assets and profitability

Scope of the Study

The absolute accounting figures reported in the financial statement does not provide a meaningful understanding of the performance and financial position of the firm, the study is concerned with the effect of capital structure on the industrial performance of in Iraq. The evaluation of financial performance was for period of ten years from 2004 to 2013.

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Limitation of the study

Data may be taken from firms' audited annual reports and it has its own limitations, thus, the competitive nature of any organization may prevent of revaluation of a any confidential details. Therefore, it is only rearrangement of data given in financial statements. Analysis and discussions are based on the available data and the knowledge of the selected firms.

Purpose and Originality of the study*:* This is the first study that examines the relationship between capital structure (equity, debt and others) and firms' performance (profitability) in Iraq.

SURVEY OF LITERATURE

literature examines the impact of the association among capital structure and financial performance of the developed economies, very slight is identified concerning such implications in developing economies like Iraq which is considered to be the main exporter of oil to the World and still backward in industrial sector. In such a country common problems of market includes less efficiency, incomplete information and irregularities as compared to developed economies. Previous studies have addressed the issue of capital structure decisions from the point of view of large firms. The capital structure has become a research topic in developing nations only recently despite the fact that all enterprises play a very crucial role in fostering growth and employment in many countries (Modigliani & Miller, 1958). Some research studies have investigated the relationship between capital structure mix as an independent variable and specific corporate characteristics as dependent variables.

Several studies examined the agency cost as one of the determinants of capital structure in non-financial firms such as the study of Jensen and Meckling (1976) who find the possible conflict between owners and managers that results in an increasing agency cost. A vast literature on such agency cost theoretic explanation of capital structure has developed such as Harris and Rajiv (1991) and Myers 2001. Some studies incorporated debt in capital structure in terms of tax advantage of debt(Miller 1977). Booth et.al.(2001) examined the effect of debt on tax in some developing countries and found that debt ratio is negatively related to tax rate. While Antoniou et.al.(2002) found a mixed results when they used data from European countries in their study. Some others used debt as signal for quality firms management, Leland and Pyle 1976 and Ross 1977, while others used debt as an anti-takeover device Harris and Rajiv (1990).

Stulz (1990) like Jensen believes that debts payment decreases cash flows available for managers. But, on the other hand, he states that this decrease will decrease the opportunities of profitable investing. Thus, companies with less debt, have more opportunities for investment and in comparison with other active firms in industry, have more liquidity. Additional costs of debt include potential bankruptcy costs, and agency costs associated with the monitoring of investments by bondholders. Costs and benefits of alternate financial sources are "traded off" until the marginal cost of equity equals the marginal cost of debt, yielding the optimal capital structure, and maximizing the value of the firm. The alternative theory, discussed by Meyers (1984) and Fama and French (2002), describes a firm's debt position as the accumulated outcome of past investment and capital decisions. In this theory, commonly called the "Pecking Order" theory, firms with positive net present value investments will finance new investments first using internal funds, and in the absence of internal funds will finance them with safe debt,

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then risky debt, then with equity, but only if there is no other alternative. Thus, financing investments using internally generated funds may be the cheapest source, and the firm's financial structure is the outcome of past cash flows and investment opportunities. The conflict between benefits of shareholders and creditors has consequences like increase of interest rate by creditors, addition of supervision costs and decrease of investment. So, this conflict demonstrates that high leverage leads to poor performance (Jenson, 1976).

Dimitrov and Jain (2003) with operational performance of firms proposed another theory . They argued that if manager have access to private information about becoming worse in future operational performance they will be increase debt. Thus, increasing the leverage is a negative sign and demonstrates poor forward performance. While, Rajan and Zingales (1995) argue that larger firms tend to disclose more information to outside investors than smaller ones. Overall, larger firms with less asymmetric information problems should tend to have more equity than debt and thus have lower leverage. However, larger firms are often more diversified and have more stable cash flow; the probability of bankruptcy for large firms is smaller compared with smaller ones.

Abor (2005) investigated the relationship between capital structure and profitability of listed firms on Ghana Stock Exchange for five years. He applied regression to estimate functions related to return on equity (ROE) with measure to capital structure. The results of the study reveal a significantly positive relation between the ratio of short-term debt to total assets and ROE was found. Also the results, significant positive association between the ratio of total debt to total assets and return on equity. The study suggested that profitable firms depend more on debt as their main financing option.

Zeitun and Tian (2007) experienced that financial leverage is negatively related to both market performance measures and accounting measures but one of the variables of market performance is PE ratio shows an insignificant effect, while other variables of the study were Tobin's Q, market value of equity to book value, ROE, ROA. Another similar research related to Egypt is studied by Ebaid (2009) who empirically investigated the impact of capital structure choice on firm performance. he applied multiple regression analysis in his study so as to estimate the relation between the leverage level and the firm's performance. Three accounting-based measures of financial performance i.e. return on equity, return on assets, and gross profit margin were used by the study and based on a sample of non-financial Egyptian listed firms for the period (1997-2005), the results reveal that capital structure choice decision, in general terms, has a weak-to-no impact on the firm's performance.

A research study related to Iranian firms was done by Salehi and Biglar (2009) that studied the issue of whether the capital-structure decision impacts firms' performance? Where they used three definition of capital structure in scope of book value to market value and five measures were assumed for financial performance. They applied the data of 117 corporate in Tehran Stock Exchange for the period from 2002 to 2007.Results of their study demonstrated that capital structure influences financial performance. The significance of the influence of capital structure on performance respectively is belonged to measures of adjusted value, market value and book value.

Gill, et al., (2011) followed the path of Abor's (2005) findings regarding the effect of capital structure on profitability by examining the effect of capital structure on profitability of the American service and manufacturing firms. They have used a sample of 272 American firms listed on New York Stock Exchange for the years (2005-2007). They applied correlations and

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regression analyses to estimate the functions relating to profitability that measured by return on equity with measures of capital structure. Empirical results show a positive relationship between debt to total assets and profitability and between total debt to total assets and profitability in the service industry. Also, the findings of their study show a positive relationship between debt to total assets and profitability in the short-run, long-term debt to total assets and profitability, and between total debt to total assets and profitability in the manufacturing industry.

While, Ting and Lean (2011) studied the cross-sectional variation in leverage among publicly listed government-linked companies and non-government-linked companies in Malaysia for the period from 1997 to 2008. Their study applied balanced panel data with multivariate regression as the method of analysis. The results reveal that the government-linked companies are consistently more heavily leveraged than non-government-linked companies. The findings indicate a significantly positive association between debt ratio and tangible assets but a negative relationship between debt ratio and profitability for both government-linked and non-government-linked companies. However, firm size is significantly negatively related to debt ratio for government-linked companies and significantly positively related to debt ratio for and non-government-linked companies. The study also finds that tangible assets and profitability have an inverse relationship with long-term debt. Therefore, a significant negative association between asset structure, profitability and short-term debt is found. However, firm growth and cash flow have no influence on the determination of short-term and long-term debt.

In 2013, Ghazouani studied the capital structure of firms and the explanation of their behaviour in the context of trade-off theory. It analyzes the determinants of capital structure of Tunisian firms through the existence or not of a dynamic model of adjustment to target leverage ratio. This validation leads to test two complementary successive models, the first is a static, while the second is a dynamic model that incorporates the variable of transaction costs to see how can talk about a speed adjustment allowing firms to get closer to the target ratio. The results of the first model show that the profitability and asset structure are the main explanatory variables of the level of leverage of Tunisian firms. While for the dynamic model, the most remarkable result is manifested at the level of the adjustment costs that are relatively high which engendered a slow adjustment towards the optimal ratio.

A study that's related to Sri Lankan listed companies was done in 2013 by Kajananthan and Nimalthasan who examined the relationship between capital structure and firms performance of 25 companies using the data covering the periods of 2008-2012. Gross profit, net profit, returns on equity and return on assets, were used as the measures of firm performance whereas debt equity ratio and debt assets ratio were used as the measures of capital structure. The statistical tests were used, where, the results show that gross profit, net profit, return on equity, return on assets, are not significantly correlated with debt equity ratio. And gross profit margin and return on equity are significantly correlated with debt assets ratio as the measures of capital structure, and capital structure has significant impact on gross profit and return on equity. However, the findings have highlighted the effects on the firm performance and capital structure.

Awan and Amin (2014) investigate which factors affect the textile firms and which type of capital structure theory does more prevail in textile sector of Pakistan. This empirical study is done by applying the panel data techniques in analyzing sample of 68 textile firms of Pakistan listed on Karachi Stock Exchange during 2006-2012. The determinants of their study like liquidity of firms, non-debt tax shields like depreciation, more collateral net fixed assets,

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earnings volatility, size of firms, net commercial trade position and firms' profits have impact on the capital structure choice.

Hermawana, and Mulyawan (2014) investigated whether companies' profitability contributes to corporate social responsibility in Indonesia. Their study includes company's profitability of net profit margin, ROA and ROE, in relation to number of lines in corporate social responsibility (CSR) disclosure. Firm's size, Kompas100 companies and industry-specific are included as control variables. The samples are taken from 543 listed companies in Indonesia from 2007 to 2009 after fulfilling certain requirements. The result of their suggests that not all profitability ratios are significantly correlated to CSR disclosure. Kompas100 and industry-specific tend to have a relationship with number of lines in the CSR report. Their study suggests that the motivation of Indonesian CSR disclosure is merely to maintain good reputation to shareholders, rather than a consequence of allocating surplus funds.

Soumadi and Hayajneh (2015) have highlighted the effect of capital structure on the performance of the public Jordanian firms listed in Amman stock market. They applied multiple regression model represented by ordinary least squares (OLS) as a technique to examine what is the effect of capital structure on the performance of 76 firms from industrial firms, service corporation for the period (2001-2006). The results of their study concluded that capital structure associated negatively and statistically with firm performance on the study sample generally. Also the study found out that there is no differences for the impact of the financial leverage between high financial leverage firms and low financial leverage firms on their performance. The study also showed that the effect of financial leverage on the basis of the growth that there is no difference between the financial leverage of high growth firms and low growth firms on the performance, which it was negatively and statistically.

In summary, the literature documents that certain firm-level characteristics have a significant positive or negative relationship in determining a firm's capital structure and profitability Therefore, this study extends the work of Abor (2005), Gill, et al., (2011), and Shubita and Alsawalhah (2012) in examining the variables that determine capital structure decisions for Baghdad Soft-Drink Industries, Iraqi Mats & Tufted Carpets, Modern Chemical Industries, and Middle-East for Fish Producing & Marketing, which is an important issue in Iraq. Furthermore, this study may use firm size, total assets, profitability and others to further analyse the effects of firm capital structure on financial leverage. This study also extends the existing literature by including capital turnover ratio as an additional variable.

RESEARCH METHODOLOGY AND DATA COLLECTION

The purpose is to describe the research methodology of this study. Since the aim of the study is to test the effect of capital structure on firms' profitability, the design of the methodology is based on prior research into these relationships. Therefore, this study investigates the effect of capital structure on profitability for the enterprises that operate in Iraq, which selected only four firms of various activities for a period of ten years, without classify them according to law that defines the activity of firms in the real sector of economy. The research methodology used in this study is built on the basis of the methodology that considered the descriptive statistical analysis, correlation matrix and ordinary least squares (OLS) that to be applied through regression, using data to cross, and may enables that through multivariable regression

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analysis, to analyze the effects of different variables that affect business decision, on the basis of capital structure and profitability.

Sample and Data

This section describes the method of data collection, the variables used to test the hypothesis and statistical techniques employed to report the results. Thus, the necessary data that are used to conduct the study is collected from the audited financial reports of the concerned firms that listed with Iraq Stock Exchange. The sample includes four companies were then screened on the basis of accessibility of data, and the selected period for the ten years (2004-2013).

Variables of the Study

Profitability Performance

This study selected the three essential proxies for companies' measurement of profitability as independent variables, namely (PM, ROE, and ROA), and the research attempts to consider whether higher profit results in firms adopted mixture of capital structure and thus addresses the issue of time lag between profitability and capital structure. The common sense behind this is because the firms need evaluate their performance last year to plan how much money they can spend next year, for this study chart no 1 shows the behaviour. This study uses the following profitability ratios:

The first indicator for profitability is **profit margin ratio (PM**) also called the return on sales ratio or gross profit ratio, according to Gibson (2013) is a profitability ratio that measures the amount of net income earned with each monetary unit of sales generated by comparing the net income and net sales of a firm. In other words, the profit margin ratio shows what percentage of sales are left over after all expenses are paid by the business. The external users of accounting and financial such as the creditors and the investors use this ratio to measure how effectively a firm can convert sales into net income (Bodie et al 2009). Investors want to make sure profits are high enough to distribute dividends while creditors want to make sure the firm has enough profits to pay back its loans and other liabilities (Gibson 2013). In other words, outside users want to know that the company is running efficiently. An extremely low profit margin would indicate the expenses are too high and the management needs to budget and cut expenses. The return on sales ratio is often used by internal management to set performance goals for the future. That is why companies strive to achieve higher ratios. They can do this by either generating more revenues while keeping expenses constant or keep revenues constant and lower expenses (Gibson 2013).

The second indicator for profitability is **return on assets (ROA)** ratio is an indicator of how effectively a company is using its assets to generate earnings before payment of taxes and dividends. In other words, it measures the effectiveness of management in employing the resources available to it. It is, however, a good indicator of a firm’s financial performance with respect to profitability side and managerial efficiency, so the higher such ratio, the higher is the profitability performance of a firm, (Gibson 2013, and Bodie et al 2009). The third indicator for profitability is **return on equity (ROE)** ratio measures a corporation's profitability by revealing how much profit a firm generates with the money shareholders have invested. The higher such ratio, the more efficient is the performance of profitability of a firm. Such profitability ratios measure the financial performance and the managerial efficiency of firm.

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However, profitability ratios are only part of a firm performance story, (Gibson 2013, and Bodie et al 2009)

Capital Structure Components

Financial Leverage ratios (FL): sometimes called equity or debt ratios, measure the value of equity in a company by analyzing its overall debt picture. These ratios either compare debt or equity to assets as well as shares outstanding to measure the true value of the equity in a business. In other words, the financial leverage ratios measure the overall debt load of a company and compare it with the assets or equity. This shows how much of the company assets belong to the shareholders rather than creditors. When shareholders own a majority of the assets, the company is said to be less leveraged. When creditors own a majority of the assets, the company is considered highly leveraged. All of these measurements are important for investors to understand how risky the capital structure of a company and if it is worth investing in. Here are the most common financial leverage ratios debt ratio and debt to equity ratio, (Gibson 2013, and Bodie et al 2009).

Debt to equity ratio (DE): is a financial ratio that compares a company's total debt to total equity. The debt to equity ratio shows the percentage of company financing that comes from creditors and investors. A higher debt to equity ratio indicates that more creditor financing (bank and moneylenders' loans) is used than investor financing (shareholders). The debt to equity ratio is calculated by dividing total liabilities by total equity. The debt to equity ratio is considered a balance sheet ratio because all of the elements are reported on the balance sheet. Each industry has different debt to equity ratio benchmarks, as some industries tend to use more debt financing than others. A lower debt to equity ratio usually implies a more financially stable business, firms with a higher debt to equity ratio are considered more risky to creditors and investors than firms with a lower ratio. Unlike equity financing, debt must be repaid to the lender. Since debt financing also requires debt servicing or regular interest payments, debt can be a far more expensive form of financing than equity financing. Companies leveraging large amounts of debt might not be able to make the payments. Creditors view a higher debt to equity ratio as risky because it shows that the investors haven't funded the operations as much as creditors have. In other words, investors don't have as much skin in the game as the creditors do. This could mean that investors don't want to fund the business operations because the company isn't performing well. Lack of performance might also be the reason why the company is seeking out extra debt financing, (Gibson 2013, and Bodie et al 2009).

Capital turnover (CTO) indicates the efficiency of the firm's utilisation of employed capital that to be used. A high capital turnover ratio indicates the capability of the organization to achieve maximum sales with minimum amount of capital employed. It is a profitability ratio that measures how efficiently a company can generate profits from its capital employed by comparing net operating profit to capital employed. In other words, return on capital employed shows investors how many dollars in profits each dollar of capital employed generates. Capital turnover is a long-term profitability ratio because it shows how effectively assets are performing while taking into consideration long-term financing. This is why capital turnover is a more useful ratio than return on equity to evaluate the longevity of a company. Capital employed is a fairly convoluted term because it can be used to refer to many different financial ratios. Most often capital employed refers to the total assets of a company less all current liabilities, (Gibson 2013, and Bodie et al 2009).

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DESCRIPTIVE STATISTICS ANALYSIS

Descriptive analysis was conducted in order to assistant an empirical analysis to support the findings of empirical analysis. Chart no. 1 and table no. 1 shows that there are negative signs for the minimum values, for example observe any of the firms has operated at a loss during the fiscal year. First row of the table shows the mean of the variables including profit margin (PM), Return on Assets (ROA), Return on Equity (ROE), Capital Turnover Ratio (CTO), Financial Leverage (FL), Debt/Equity Ratio (DE), and Firm-size (FS). The respective mean values are 0.1718, 0.0933, 0.5258, 3.5404, 0.6575, 7.2076, and 22.1017. The mean value of 7.2076 of DE Ratio shows that in Iraq on average firms' uses 7.2 fold debt in their capital structure. It is also analyzed that average ROE of the firms' is 52.58 percent during the period of 2004-2013. Average profit margin of firms' is 17.18 percent of their sales during the period analyzed. Average ROA is 9.338 percent and average capital turnover ratio is found more than three-folds, and the FL ratio of firms in 2004-2013 is 651.76 indicating the effect of long-term debt on value of the selected firms. The second row of the table explains the median of the given variables, median is defined as the middle value of data when it is arranged in ascending or descending order. Third and fourth row gives details of firms' ratios in terms of maximum and minimum values respectively. The fifth row explains the variability of variables from their mean value, through the standard deviation, meanwhile, the eighth row, shows the Jarque-Bera statistics, which explains whether the sample data follows the normal distribution, (Kothari, 2007).

Table No. 1: Descriptive Statistics (years 2004 - 2013)

	PM	ROA	ROE	CTO	FL	DE	FS
Mean	0.171838	0.093388	0.525839	3.540475	0.657597	7.207668	22.10176
Median	0.200663	0.091870	0.371706	1.604535	0.793373	3.847981	21.60782
Maximum	0.485157	0.230375	1.624522	20.10586	0.987534	79.21565	25.96256
Minimum	-0.124414	-0.059987	-0.110662	0.635936	0.082069	0.089406	19.63466
Std. Dev.	0.130593	0.071288	0.475503	4.300108	0.252676	15.29014	2.152095
Skewness	0.191737	0.155210	0.764776	2.424897	-0.751033	3.590723	0.726433
Kurtosis	3.054900	2.365383	2.507677	8.879762	2.386016	15.53934	2.107550
Jarque-Bera	0.250110	0.831832	4.303186	96.82017	4.388632	348.0138	4.845473
Sum	6.873524	3.735522	21.03356	141.6190	26.30386	288.3067	884.0705
Sum Sq. Dev.	0.665125	0.198199	8.818021	721.1463	2.489966	9117.746	180.6290
Probability	0.882448	0.659736	0.116299	0.000000	0.111435	0.000000	0.088679
Observations	40	40	40	40	40	40	40

Sources: computed by the authors

Correlation Matrix: (years 2004 - 2013)

	PM	ROA	ROE	Capital Turnover	Financial Leverage	Debt Equity	Firm Size
PM	1.000000	0.645123	0.299625	-0.150769	0.439046	-0.023150	-0.615733
ROA	0.645123	1.000000	0.483942	0.093288	0.287897	-0.226447	-0.696192
ROE	0.299625	0.483942	1.000000	0.777611	0.739778	0.601219	-0.565743
Capital Turnover	-0.150769	0.093288	0.777611	1.000000	0.536048	0.665775	-0.255061
Financial Leverage	0.439046	0.287897	0.739778	0.536048	1.000000	0.480594	-0.719391
Debt Equity	-0.023150	-0.226447	0.601219	0.665775	0.480594	1.000000	-0.053184
Firm Size	-0.615733	-0.696192	-0.565743	-0.255061	-0.719391	-0.053184	1.000000

Sources: computed by the authors

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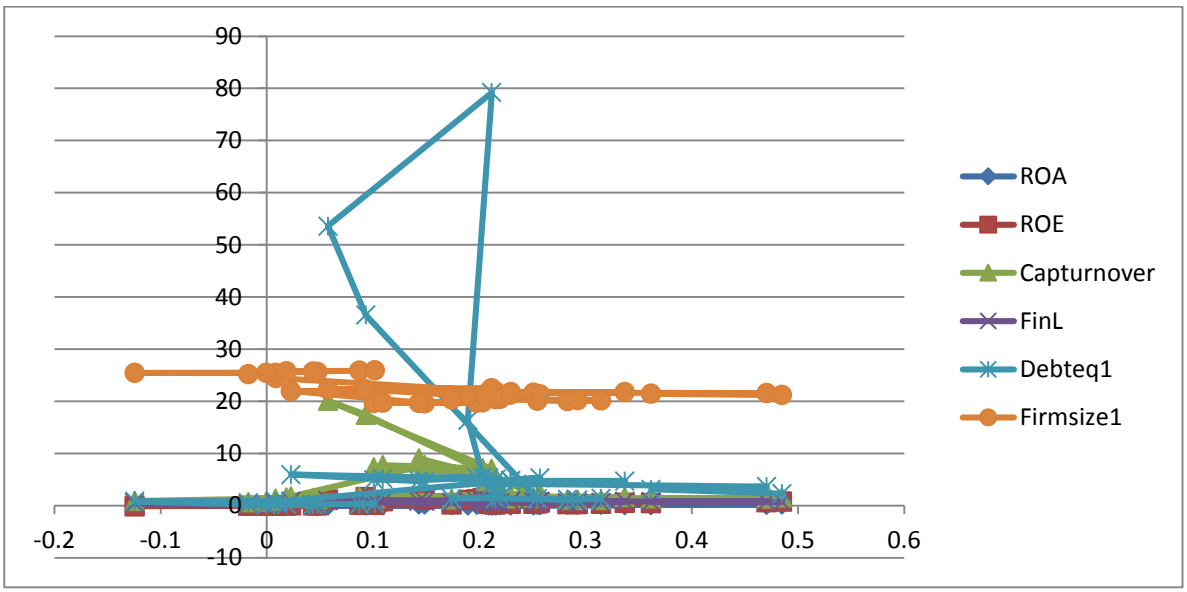
Correlation analysis was built in order to assess the individual association level of explanatory variables with dependant variable and to test the linear relationship between the explanatory variables. Mainly, correlation explains dependence of an explanatory variable to another variable, in cases where there is a perfect correlation between explanatory variables, this means, two or more variables, among whom there have correlation, show the same information. Such result leads to the conclusion that the model descriptive power is low and the statistical implication of individual coefficients decrease. This undermines the relevance of explanatory variables included in the model. Table no. 2 above shows that the highest correlation is marked between coefficient of financing, where, capital turnover to ROE stands at 0.7776, FL to ROE indicates 0.7397, and DE to ROE stands at 0.6012. This means that correlation is not be a problem in our empirical analysis.

Chart No. 1



Sources: done by the authors

REGRESSION ANALYSIS

Descriptive analysis, Correlation matrix analysis are performed. The regression models utilized to test the relationship between the determines capital structure such as debt equity ratio (DE) and debt asset ratio as financial leverage (FL) and firms' profitability such as profit margin ratio (PM), return on equity (ROE), return on assets (ROA), capital-turnover ratio (CTO), firm-size (FS) and its growth rate, as follows:

Stationarity Test: The times series or pooled-data are often non stationary in nature; they exhibit stochastic trends and need to be checked for stationarity in order to avoid spurious analysis (Altaee & Adam 2013). Therefore, this employs Elliot-Rothenberg-Stock (hereafter, DF-GLS) test to ascertain the stationarity of variables in the study, as are shown in table no. 2 below.

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Table 2: Unit Root Estimation - Elliott-Rothenberg-Stock DF-GLS test statistic for stationarity:

Variable	Coefficient	t-statistic	Probability
Return on Equity - GLSRESID(-1)	-0.297464	-2.528639	0.0157
Return on Assets - GLSRESID(-1)	-0.283064	-2.547831	0.0150
Profit Margin - GLSRESID(-1)	-0.155091	-1.804648	0.0791
Financial Leverage - GLSRESID(-1)	-0.106296	-1.302424	0.2006
Debt/Equity - GLSRESID(-1)	-0.337161	-2.772246	0.0086
Capital Turnover - GLSRESID(-1)	-0.331584	-2.746786	0.0091
Firm Size - GLSRESID(-1)	-0.031445	-0.497556	0.6217

Note: Durbin-Watson statistic stands between 1.62 and 2.87

The Regression Models and Analysis

The following regression models are estimated (Abor 2005), (Gill, et al., 2011), and, Shutiba & Alsawalhah (2012), are used so as to test the relationship between capital structure and firm's profitability, the following function was considered: profitability variables = *f* (FL, D/E, CTO, FS, FG) and re-written as follows:

$$ROE_t = \beta_0 + \sum_{i=1}^{k} Fl_{t-k}\beta_k + \sum_{i-1}^{k} D/E_{t-k} + \sum_{i-1}^{k} CTO_{t-k} + \sum_{i-1}^{k} FS_{t-k} + \sum_{i-1}^{k} G_{t-k} + \varepsilon_t \ldots\ldots\ldots (1)$$

$$ROA_t = \beta_0 + \sum_{i=1}^{k} Fl_{t-k}\beta_k + \sum_{i-1}^{k} D/E_{t-k} + \sum_{i-1}^{k} CTO_{t-k} + \sum_{i-1}^{k} FS_{t-k} + \sum_{i-1}^{k} G_{t-k} + \varepsilon_t \ldots\ldots\ldots (2)$$

$$PM_t = \beta_0 + \sum_{i=1}^{k} Fl_{t-k}\beta_k + \sum_{i-1}^{k} D/E_{t-k} + \sum_{i-1}^{k} CTO_{t-k} + \sum_{i-1}^{k} FS_{t-k} + \sum_{i-1}^{k} G_{t-k} + \varepsilon_t \ldots\ldots\ldots (3)$$

Each equation would be tested using OLS, Granger Causality, and Johansen Cointegration tests (Altaee & Adam 2013). below are the empirical results that are presented in tables no 3 to 5, as follows:

Table No 3 - Regression results:

Variable	Coefficient	R-squared	Akaike info criterion	Schwarz criterion	Durbin-Watson statistic	t-statistic	Probability (F-statistic)
Profit Margin (PM)	-0.2568	0.7379	-2.2481	-1.9526	1.212	-0.7414	0.4637
Return on Equity (ROE)	-1.5327	0.9102	-0.7349	-0.4394	2.092	-2.2060	0.0344
Return on Assets (ROA)	0.8399	0.6106	-3.1628	-2.9517	1.384	5.4107	0.0000
Capital Turnover	2.2763	0.7931	4.5040	4.799	1.971	0.2229	0.8250
Financial Leverage (FL)	2.2596	0.8552	-1.5218	-1.2262	1.201	7.2379	0.0000
Debt/Equity (DE)	22.9997	0.7745	7.1273	7.4228	2.045	0.6097	0.5462
Firm Size (FS)	27.5948	0.8148	3.0091	3.3046	0.801	47.3190	0.0000
Firm Growth (FG)	1.0979	0.3054	2.4263	2.7675	1.866	0.2943	0.7704

Sources: computed by the authors via E-Views

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Table No 4 Granger Causality (Pair-wise Granger Causality Tests):

Null Hypothesis:	Obs.	F-Statistic	Probability
Financial Leverage does not Granger Cause ROE	39	3.41319	0.07291
ROE does not Granger Cause Financial Leverage		0.04291	0.83706
Debt/Equity does not Granger Cause ROE	39	0.37915	0.54193
ROE does not Granger Cause Debt/Equity		1.14357	0.29202
Firm Size does not Granger Cause ROE	39	3.19804	0.08215
ROE does not Granger Cause Firm Size		0.18348	0.67095
Debt/Equity does not Granger Cause Financial Leverage	39	0.30660	0.58320
Financial Leverage does not Granger Cause Debt/Equity		1.32712	0.25691
Firm Size does not Granger Cause Financial Leverage	39	4.61821	0.03843
Financial Leverage does not Granger Cause Firm Size		1.05920	0.31026
Firm Size does not Granger Cause Debt/Equity	39	0.83652	0.36648
Debt/Equity does not Granger Cause Firm Size		1.40502	0.24365

Sources: computed by the authors via E-Views

Table No 5 Johansen- Cointegration

Test assumption: Linear deterministic trend in the data (observations 38 - Lag Interval 1 to 1):

Series: ROE FINL DEBTEQ1 FIRMSIZE1

Eigenvalue	Likelihood Ratio	5% Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.469821	37.42552	47.21	54.46	None
0.198667	13.31296	29.68	35.65	At most 1
0.118736	4.896751	15.41	20.04	At most 2
0.002461	0.093627	3.76	6.65	At most 3

*(**) denotes rejection of the hypothesis at 5%(1%) significance level - L.R. rejects any cointegration at 5% significance level.

Unnormalized Cointegrating Coefficients:

ROE	Financial Leverage	Debt/Equity	Firm Size
0.573504	-0.152010	-0.016416	0.033435
0.286532	0.836605	-0.005507	0.121938
0.350987	-1.038398	0.007986	-0.046607
0.135039	-0.308777	-0.002465	0.068576

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Nnormalized Cointegrating Coefficients: Cointegrating Equation(s) No. 1

ROE	Financial Leverage	Debt/Equity	Firm Size	C
1.000000	-0.265056	-0.028625	0.058299	-1.422092
	(0.40325)	(0.00549)	(0.00549)	
Log likelihood	-155.6285			

Nnormalized Cointegrating Coefficients: Cointegrating Equation(s) No. 2

ROE	Financial Leverage	Debt/Equity	Firm Size	C
1.000000	0.000000	-0.027842	0.088865	-2.277698
		(0.00610)	(0.02950)	
0.000000	1.000000	0.002953	0.115318	-3.228021
		(0.00773)	(0.03740)	
Log likelihood	-151.4204			

Nnormalized Cointegrating Coefficients- Cointegrating Equation(s) No. 3

ROE	Financial Leverage	Debt/Equity	Firm Size	C
1.000000	0.000000	0.000000	0.144948	-3.722102
			(0.07059)	
0.000000	1.000000	0.000000	0.109370	-3.074831
			(0.02829)	
0.000000	0.000000	1.000000	2.014361	-51.87874
			(2.48228)	
Log likelihood	-149.0189			

Sources: computed by the authors via E-Views

The coefficient of determination (R^2) shows that 91.02 % of the variations of the return rate (ROE) were explained in conjunct by the independent variables, which, allied to the level of significance of the test F (1%), indicates a good adjustment degree. The result indicates that the return rates are inversely proportional to the debt, in other words; the larger the debt, the lower is the profitability. Those results are in conformity with the conclusions of Booth et al (2001), Fama & French (1998), Graham (2000) and Miller (1977)**.** On the other hand, the initial propositions of Modigliani and Miller (1958 and 1963) don't find back up for in the results now discussed. The debt-equity presented (DE) positive sign and level of significance of 54.6%, and the coefficient of determination (R^2) related to financial leverage (FL) stands with 85.5 % and its level of significance of 1% that showing to be an important variable in the model. The explanation for such fact can recite in the moderate relative participation of that debt, and can also suggest that (DE) is a common practice among the most profitable companies, meanwhile, considered the instability of the Iraqi economy, which arises the need of short run funds to provide the necessary capital, which are the type of resources supposedly offered with relative abundance and easiness by financial institutions. The results of Granger causality show there's a relationship between financial leverage (FL) and return on equity, which confirmed the mentioned findings. The concerned companies must have to enhance their firm size that negatively correlated with ROE, its growth and continuity.

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CONCLUSION, POLICY RECOMMENDATION AND FURTHER STUDY:

Concluding Remarks: The study findings suggest that capital structure positively influence, in a significant way, on the profitability of listed firms in Iraq. Furthermore, profitability, and assets (firm-size) have been found to be negatively influencing the capital structure of the listed firms. These findings generally concur with the predictions of the pecking order theory and the signalling effects of capital structure decisions of firms. The relative participation of the equity in the capital structure of the company, represented by the index equity divided by the total liability, was significant at the level of 56% and its sign indicates positive relationship with profitability. This fact is in unison with the above mentioned works and shows to main financing option chosen by the Iraqi companies. The theoretical models on capital structure don't indicate to be an optimum composition, one that would be the ideal for the company to adopt as seeking to maximize the value of its shares. However several studies relate high return rates with low debt level, contradicting the works of Modigliani and Miller (1958 and 1963), which affirm that the value of the company does not depend on the capital composition, also indicating the existence of taxes benefits of the debt.

Policy Recommendation: Furthermore, the findings of the study can be considered as helpful for managers and users who are anxious to develop financial description quality and practices of performance of capital structure, and may help the businesses and government officials to formulate a policy for the industrial sector in Iraq that may enhance the decision-making as follows:

(i) This study shows that capital structure matters in industrial sector in context of Iraq, therefore executive finance managers should give more considerations to each factor that may influence their capital structure so to attain optimal one.

(ii) The determinants of this study like profitability of firms, non debt tax shields like depreciation, more collateral net fixed assets, earnings volatility, size of firms, net commercial trade position and firms' profits have effect on the capital structure choice. Therefore these factors may be given more consideration while deciding financial leverage of firms in optimal capital structure of industrial firms in Iraq.

Further Studies: This research paper may be extended by including all listed firms in Iraq Stock Exchange from all sectors of the economy and other factors like assets efficiency and free cash flows etc. may be included. This study is based on the static (OLS) theories of trade-off and pecking order; it may be analysis with the dynamic model of trade-off, pecking order and free cash flow or agency theory. The dependent variable long-term debts to total assets may be used for further analysis or extension of this study. This study is a model of long term financial leverage, firms size and its growth, and capital turnover so as to see the effect of each type of debt with profitability variables, but also liquidity variables may be applicable on the same matter.

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