

INFLUENCE OF CAPITAL STRUCTURE ON FIRM PERFORMANCE: EMPIRICAL EVIDENCE FROM JORDANIAN BANKING INDUSTRY

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ABSTRACT

This research examines the influence of capital structure on firm performance in the Jordanian context, data is obtained of 15 listed banks on Amman Stock Exchange (ASE) from 2002 to 2015. For this reason the Ordinary Least Squares method of multiple regression is applied in carrying out this analysis. The dependent variable for the research is both accounting and market performance measures, while the independent variable is capital structure measured by debt ratio. In addition to other controlled variables: size, growth opportunities, tangibility, risk, and dividend policy.

The main result reveals a significant positive influence of capital structure on banks performance, in general. This implies that profitable Jordanian banks depend more on debt as their main financing option with an average of Debt Ratio equals to about 86%, therefore, a support of Trade-Off theory evidence is provided.

KEY WORDS:

Capital Structure, Firm Performance, Debt Ratio, Banking Sector in Jordan.

JEL CLASSIFICATION: G32.

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RÉSUMÉ

Cette recherche examine l'influence de la structure du capital sur la performance des entreprises dans le contexte jordanien. Des données ont été obtenues de 15 banques cotées sur Amman Stock Exchange (ASE) de 2002 à 2015. Pour cette raison, la méthode des moindres carrés de régression multiple est appliquée afin de réaliser cette analyse. La variable dépendante de la recherche est à la fois les mesures de comptabilité et du marché pour la performance, tandis que la variable indépendante est la structure du capital mesurée par le ratio d'endettement. En plus des autres variables contrôlées: Taille, Opportunités de Croissance, la Tangibilité, le Risque et la Politique des Dividendes.

Le résultat principal révèle une influence positive significative de la structure du capital sur la performance des banques en général. Cela implique que les banques jordaniennes rentables dépendent davantage d'endettement comme leur principale option de financement avec un ratio d'endettement moyen égal à environ 86%; par conséquent, une preuve de la théorie d'arbitrage - Trade-Off - est fournie.

MOTS CLÉS

La structure du capital, la performance de l'entreprise, le ratio d'endettement, le secteur des banques en Jordanie.

JEL CLASSIFICATION: G32.

ملخص

يختبر هذا البحث تأثير هيكل رأس المال على أداء الشركات في السياق الأردني، تم الحصول على بيانات من 15 بنكا مدرجا في بورصة عمان من عام 2002 إلى عام 2015. لهذا السبب تم تطبيق طريقة المبيعات الصغرى العادية للانحدار المتعدد للقيام بهذا التحليل. يتمثل المتغير التابع للبحث في كلا من الأداء المحاسبي و المالي للشركات، في حين أن المتغير المستقل هو هيكل رأس المال مقاس بنسبة الدين. بالإضافة إلى متغيرات مراقبة أخرى: الحجم، فرص النمو، الأصول المادية، المخاطر، و سياسة توزيع الأرباح. تكشف النتيجة الرئيسية عن التأثير الإيجابي الدال لهيكل رأس المال على أداء البنوك بشكل عام. ما يعني أن البنوك الأردنية ذات الربحية تعتمد أكثر على الديون كخيار تمويل رئيسي لها بمتوسط نسبة ديون تساوي إلى حوالي 86٪، ما يدعم نظرية التوازن.

كلمات مفتاحية:

هيكل رأس المال، أداء الشركة، نسبة الدين، القطاع البنكي في الأردن.

تصنيف جال: G32.

INTRODUCTION AND PROBLEM STATEMENT

Capital structure is considered as one of the very important aspects of financial management. It represents a mix of debt and equity that is used by a firm to finance its assets and progress its operation. It is important since it involves a huge amount of money and has long-term consequences on the firm (Idode, Adeleke, Ogunlowore and Ashogbon, 2014). Thus, capital structure decision is fundamental for the survival of firm businesses in which the roots of capital structure theory and the start for all modern researches refer to more than fifty decades since the seminal work presented by Modigliani and Miller (1958). The choice between debt and equity financing has been directed to seek the optimal capital structure. The firm's ability to effectively determine the optimum and appropriate capital mix is necessary to ensure that the shareholders get returns through various implications, where one of them is its effect on the value of the firm which formed the basis of the present research. The relationship between capital structure and firm performance received considerable attention in the finance literature of either developed countries like (Berger, 1995; Hortlund, 2005; Berger and di Patti, 2006, among others) or undeveloped ones like (Pratomo and Ismail, 2006; Davydov, 2014, Anarfo, 2015, among others). The capital structure decision of a firm influences its shareholders return and risk, consequently, the market value of its shares may be affected. Hence, the objective of a firm should therefore be directed towards the maximization of its value by examining its capital structure or financial leverage decision (Antwi, Mills and Zhao, 2012). Other than, previous researchers have reported conflicting results, the lack of a consensus about this crucial topic is taken as a motivation to conduct this research in a new context that of Jordanian banking sector. Hence, it is essential to recognize that this decision can only be wisely taken if firms know how debt policy influences their profitability, this leads to the fundamental question: *"Does capital structure influence firm performance?"* This research sought to investigate the influence of capital structure on performance of banks listed at Amman Stock Exchange (ASE) during the period of

2002-2015 and try to provide further evidence by answering the following questions:

- Is there any relationship between capital structure (Debt Ratio) and firm performance in the Jordanian banking sector?
- What is the nature of the relationship that exists between capital structure (Debt Ratio) and firm performance in the Jordanian banking sector?
- How does the capital structure (Debt Ratio) influence the firm performance in the Jordanian Banking Sector?
- Are there any other variables (determinants) that can influence the Jordanian banks' performance?

1- EMPIRICAL LITERATURE ON CAPITAL STRUCTURE AND FIRM PERFORMANCE

Capital structure has been studied by many scholars during the past six decades, which in turn generated some theories and various findings. Initially with Modigliani and Miller "MM" theorem of capital structure that produced a significant contribution on developing literature in this area. They proposed two approaches, based on Modigliani and Miller (1958), it doesn't matter to employ either debt or equity financing under perfect market assumptions, and so capital structure decision is irrelevant. In their second seminal paper, Modigliani and Miller (1963) showed that firm value is an increasing function of leverage due to the tax deductibility of interest payments at the corporate level. Since then, a vast body of research on capital structure has advanced useful theoretical and empirical models by explicitly relaxing some of the key assumptions underlying the MM's theorems, these attempts have led to two dominants but competing theories, known as the Trade-Off Theory (TOT) and the Pecking Order Theory (POT) (Dang, 2005), in addition to the present relationship with firm performance. Previous studies that were analyzing firm's financing behavior showed various impacts of capital structure on firm performance depending on the country they analyze. In addition to the fact that this subject has long been

examined in the corporate finance literature of the developed countries, a deep discussion, that focuses more on some Arab countries will be offered in order to extort more results as possible for comparative reasons.

In *Saudi Arabia*, Sakatan (2008) explored in the second part of his research the relationship of capital structure with firms' value for a sample of non-financial companies among a period of 1988-2007. He found that changes in the capital structure have no effects on the market price and the price earnings ratio, meanwhile, there is a positive relationship between the aggregate debt ratio and the EPS, and a negative relationship between the short debt ratios, the long term ratio with the EPS. These results could be confusing and may be explained that the total liabilities include other debt items such as trade credits (accounts payable), non-debt liabilities such as the provision for employees end of service (pension) or either there are other factors affecting the dependent variables. In the most recent period of 2008-2011, Al Ajlouni and Shower (2013) reached the same findings by testing the same relationship between the capital structure measured by Debt Ratio and the profitability measured by ROI, ROE and net profit of the Saudi petrochemical industry firms. The results revealed that there's no significant relationship, this means that the profitability performance of the petrochemical industry firms is not relevant to capital structure, and there are other factors that affect the profitability of these firms.

Rao, Al-Yahyaee and Sayed (2007) tried to explain debt used by *Omani* firms. The findings of this study implied that contrary to the Trade-off Theory of capital structure, there is a negative association between the level of debt and financial performance. The regression results further suggested that liquidity, age, and capital intensity also have a significant influence on financial performance. This can be attributed to the high cost of borrowing and the underdeveloped nature of the debt market in Oman. The tax savings that the firm receives by using debt does not seem to be sufficient to outweigh the costs of using debt including the high interest cost.

In contrast with the *Jordanian* case, some consensus is established. Through examining the effect on 76 firms for the period 2001-2006 Soumadi and Hayajneh (2012) said that capital structure associated negatively and statistically with firm performance, with no difference between high financial leverage firms and low financial leverage firms. Soumadi and Hayajneh's study supported other research done by Zeitun and Tian (2007) on a sample representing of 167 Jordanian companies during 1989-2003. In addition, they also found that the short-term debt to total assets level has a significantly positive effect on the market performance measure (Tobin's Q). Another confirmation is made by Shubita and Alsawalhah (2012) through their analyses of the 39 industrial companies listed on ASE during a six-year period 2004-2009. Results also showed that profitability increases with size and sales growth, which suggested that profitable firms consider equity as an important source of financing.

2- VARIABLES DESCRIPTION AND HYPOTHESES DEVELOPMENT

Measurement problems arise in investigating this effect since the literature employs a number of different proxies to measure capital structure and firm performance (Berger and di Patti, 2006). The Table (2) below recapitulates all the variables selected in the present research as well as the expected signs from these latter.

2.1- Capital structure and firm performance variables

Following a huge body of previous works (Chinaemerem and Anthony, 2012; Chang, Lee and Lee, 2009, among others). The only independent (explanatory) variable in this research is the Debt Ratio, it serves as a proxy of capital structure. Concerning firm performance, the present research makes use of both Accounting and Market measures proxies of performance which symbolize the dependent variable. Hence, in favor of accounting measures, four key indicators were advanced to measure the banking performance. It is about the profitability of the assets ROA and ROE and the Net Interest Margin, in addition to Liquidity (Nouaili, Abaoub and Ochi, 2015; Anarfo,

2015; Noor and Abdalla, 2014). Although, there is no unique measurement of firm performance in the literature, ROA and ROE were chosen because they are important accounting - based and widely accepted - measures of financial performance to evaluate management's efficiency in utilizing all the assets under its control, regardless the source of financing (Chinaemerem and Anthony, 2012). Regarding Market measures, this research chooses other four indicators in track with (Dada and Ghazali, 2016; Zeitun and Tian, 2007; Soumadi and Hayajneh, 2012) which are: Tobin's Q, Price earnings ratio (PE), Market capitalization to shareholders equity (MBVR), and Market capitalization plus liabilities to shareholders equity (MBVE). Based on the previous discussion in empirical literature about the effect of capital structure on firm performance, some authors got positive influence, some got negative influence while others got mixed or no effect. So, the first hypothesis will be proposed:

Hyp.1: A firm's capital structure (Debt ratio) does influence its performance (Accounting and Market ratios).

Table 2. **Variables and Proxies**

Variables name and Abbreviations	Definitions and Proxies	Expected Sign
Dependent Variable: Firm Performance - Accounting Measures -		
Return On Asset: [ROA]	Net Income / Total Assets	-
Return On Equity: [ROE]	Net Income / Total Shareholders' Equity	-
Net Interest Margin: [NIM]	(Interest Revenues - Interest Expenses) / Total Assets	-
Liquidity: [LIQ]	The Banks' Total Deposits / Total Assets	-
Dependent Variable: Firm Performance - Market Measures -		
Tobin's Q: [TOBIN]	(Market Value of Equity + Book Value of Debt) / Book Value of Assets	-
Price Earnings Ratio: [PE]	Price per Share / Earnings per Share	-
[MBVR]	Market Value of Equity / Book Value of Equity	-
[MBVE]	(Market Value of Equity + Book Value of Debt) / Book Value of Equity	-
Independent Variable: Capital Structure		
Debt Ratio: [DR]	Book Value of Debt / Total Assets	(+) or (-) or mixed

Controlled Variables		
Size: [SIZE]		Natural logarithm of Total Assets (+)
Growth Opportunities: [GROWTH]		The percentage change in Total Assets (+) = (TA t - TA t-2) / TA t-2
Tangibility: [TANG]		Book Value of Fixed Assets / Total Assets (+)
Risk: [RISK]		Standard Deviation of ROA (+)
Dividend Policy: [DIV]		Dividend Per Share (DPS) to Earnings Per Share (+)

Source: Prepared by the researcher based on prior studies.

2.2- Controlled variables

However, a number of other factors may impact the firm performance, hence, the need for controlled variables to be included in the model. These controlled variables will be treated in the same way as explanatory variables. On the basis of several studies in the same topic (e.g., Zeitun and Tian, 2007; Chinaemerem and Anthony, 2012; Nouaili et al., 2015; Baharuddin and Azmi, 2015), the controlled variables used are: firm's Size, Growth Opportunities, Asset Tangibility, Risk and Dividend policy. Hence, the following hypotheses will be developed relying on the prior empirical literature.

Hyp.2: A firm's size is expected to have a significant positive influence on a firm's performance.

Hyp.3: A firm's growth is expected to have a significant positive influence on a firm's performance.

Hyp.4: A firm's asset tangibility is expected to have a significant positive influence on a firm's performance.

Hyp.5: A firm's risk is expected to have a significant positive influence on a firm's performance.

Hyp.6: A firm's dividend policy is expected to have a significant positive influence on a firm's performance.

3- RESEARCH DESIGN AND METHODOLOGY

3.1- Sample and data collection

The number of Jordanian commercial banks listed in ASE reached 15 banks by the end of 2015 - See Table (1) in appendices -. For the empirical analysis, the study sample comprised all Jordanian

commercial banks over 14 years period, going from 2002 up to 2015. Data were extracted from annual balance sheets and income statements reports of Jordanian commercial banks available on the web site of ASE.

3.2- Economic model

In the same line of the earlier literature like San and Heng (2011), Idode et al. (2014), data analysis is proceeding with multiple linear regression. The *equation (1)* is estimated to test the hypotheses that a firm's capital structure influences its performance for banking sample using Ordinary Least Square (OLS) method. Following Berger and di Patti (2006) averages are used for each bank over the research's period in order to reduce the effects of temporary shocks on the measurement of variables. Hence, the empirical model to be estimated is as follows:

$$Per_{it} = \beta_0 + \beta_1 DR + \beta_2 SIZE + \beta_3 GROWTH + \beta_4 TANG + \beta_5 RISK + \beta_6 DIV + \varepsilon_{it} \dots \dots \dots (1)$$

Where Per_{it} is alternatively ROA, ROE, NIM, LIQ for bank i at year t as a measure of accounting performance, and TOBIN, PE, MBVR, MBVE for bank i at year t as a measure of market performance. The independent variables are represented by DR, SIZE, GROWTH, TANG, RISK, and DIV. ε_{it} is the error term of the equation. As 8 dependent variables are employed, it should be 8 linear models whose each dependent variable is a function of the 6 independent proposed variables: Model M_1 (ROA), Model M_2 (ROE), Model M_3 (NIM), Model M_4 (LIQ), Model M_5 (TOBIN), Model M_6 (PE), Model M_7 (MBVR) and Model M_8 (MBVE).

4- EMPIRICAL RESULTS AND INTERPRETATION

Before proceeding with data analysis using the linear regression¹, it is useful to present a summary of descriptive statistics of all variables

¹ additional pre-statistical tests for these key assumptions are conducted: Kolmogrov-Smirnov test for normality, Variance Inflation Factor test for multicollinearity, and

described in the previous section. In addition to offer a brief reading of correlation that exists among different variables.

4.1- Descriptive statistics and correlation

Table (3) synthesizes means, standard deviations, as well as the minimal and maximal values of dependent variable and independent variables for the entire banks listed. All variables' averages (means) measuring accounting performance show very low values: 1.417%, 2.805%, 10.768%, and 71.44% for ROA, NIM, ROE and LIQ, respectively compared to the measures of market performance (except of PE) that demonstrate a high percentage of banking performance with average values of 101%, 139.67%, and 788% (where the maximum value reached to 1122.346%) for TOBIN, MBVR, and MBVE, respectively. The elevated ratios of market performance measures can be attributed to the increase of market capitalization and equity without any followed increase in the real results of the banking sector as a whole. The lower accounting returns may also be a result of low averages of some controlled variables for example: GROWTH (26.626%), TANG (1.776%), RISK (0.015%) and DIV (36%); in the light of these results, it can be noticed that banks performance may be affected by these variables. In addition, the worst accounting returns of Jordanian banks may reflect the lowest SIZE with a considerable average equal to 21 for the entire sample, so, the small size could have a significant impact on performance. In regard to the average PE ratio which equals to -15, it indicates the great heterogeneity of the Jordanian banks (min. value = -582.714 and max. value = 145). Indeed, the standard deviation is rather high (160.673) this indicates that dispersion is significant, confirming the character of high concentration of the Jordanian banks.

Durbin Watson test for serial correlation. In order to save space, the tests' results are not reported here while the above assumptions are not violated.

Table 3. A Summary Statistics of Main Variables, 2002-2015

Variables	Mean	Std. Deviation	Min.	Max.	Skewness	Obs.
ROA (%)	1.417	0.477	0.608	2.565	0.626	15
ROE (%)	10.768	2.957	6.305	16.582	0.424	15
NIM (%)	2.805	0.611	1.921	3.875	0.415	15
LIQ (%)	71.440	15.371	19.142	83.930	-3.165	15
TOBIN (%)	101.049	12.476	63.281	117.290	-2.211	15
PE (Time)	-15.071	160.673	-582.714	144.986	-3.543	15
MBVR (%)	139.670	37.067	80.320	229.193	0.864	15
MBVE (%)	787.978	207.176	212.053	1122.346	-1.270	15
DR (%)	85.709	7.104	61.872	92.682	-2.951	15
SIZE (Ln)	21.023	1.065	19.476	23.776	1.127	15
GROWTH (%)	26.626	12.509	9.169	54.191	0.515	15
TANG (%)	1.776	0.573	0.688	2.605	-0.258	15
RISK (SD)	0.015	0.025	0.00006	0.094	2.431	15
DIV (%)	35.905	18.438	6.672	68.282	-0.112	15

Source: Prepared by the researcher based on data collected

In Table (3), the average Debt Ratio is also reported with a very high value equals to about 86% for Jordanian banks during the period of 2002 until 2015. This result presents a clear picture of specifications related to the banking sector that relies extensively on debt financing compared to a lower ratio of about 30% for other different sectors like industry and services as reported by Zeitun and Tian (2007), Soumadi and Hayajneh (2012) and Shubita and Alsawalhah (2012).

From Pearson correlation calculated DR shows strong significant coefficient of correlation with LIQ (96.4%), MBVE (93.3%), ROA (-76.6%), and TOBIN (67.1%) by demonstrating mixed signs. While SIZE shows positive insignificant low down relation with approximately every measure of performance despite for MBVR measure = 70.7% which is significant and for ROA and PE by negative sign, the same results are reported by DIV. These outcomes may predict that larger banks have a propensity to produce high returns with small ratio of dividend distributed in order to reinvest retained earnings in future projects. GROWTH and RISK offer a negative relation with almost all performance measures, which implies that ratios of high growth opportunities and elevated risks generate the

most low-performing banks. Similar relation is recorded by the TANG variable that has a negative sign with all banks performance measure with no significance only for ROE (-53%) which indicates that more profitable banks rely less on tangible assets.

4.2- Regression finding and discussion

In the following section the multiple linear regression models - M₁, M₂, M₃...until M₈ - are employed to identify the main variables that influence Jordanian banks' performance and test the hypotheses developed earlier.

4.2.1. Fitness of regression models

At the first glance on Table (4) / Panel A, it is noticeable that from all accounting measures regression models, the model (M₃) using NIM is the only one excluded from the analysis because this measure does not have any significant variable in the estimation. The model is not statistically significant at any level as ($F_3 = 0.668$) and the R-square value using this measure is very fair = 33.4%. Furthermore, the results related to regression models of TOBIN (M₅), PE (M₆), and MBVR (M₇) are not reported also as the R-square are very small and ranged between 48.7% and 65.3%, accompanied with no statistical significance as ($F_5 = 2.505$, $F_6 = 1.267$, $F_7 = 2.488$), respectively. These outcomes make the accounting performance variables the most powerful measures of performance in the Jordanian banking sector². Therefore, the following discussion will focus on these three accounting measures: ROA ROE, and LIQ besides to the MBVE as market measure.

² It is worth noting that market performance measures are calculated based on market capitalization and share price, which can not reflect the real situation of banks because these variables are not only dependent on the fundamental financial information of the firm but also on the qualitative decision of management, level of good governance, investor psychology, market reputation, etc... Consequently, a suggestion of different explanatory market performance variables for Jordanian banks can arise.

4.2.2. Determinants of banking performance (testing hypotheses)

Hypothesis 1 predicts that *“Firm’s capital structure (Debt ratio) does influence its performance (Accounting and Market ratios)”*. Reading from regression results reported in Table (4) indicates that DR variable is statistically significant - in most cases at 1% level -, means the Debt Ratio has a significance impact on ROE, LIQ, and MBVE as performance measures with positive signs of 0.502, 0.813, 1.112, respectively. Except of ROA where negative sign is recorded with - 0.944. In general, Debt Ratio has significant positive influence on banks performance. A result that suggests that in the Jordanian case increasing leverage, by increasing the proportion of debt in the bank’s capital structure, would increase its value. These findings contradict with prior empirical studies done in the Jordanian context (Zeitun and Tian, 2007; Shubita and Alsawalhah, 2012; Soumadi and Hayajneh, 2012) due to different composition of capital structure through various sectors where banking sector rely more on dept (deposits) to finance their operations especially for short term deposits which is less expensive leading to increase in profit levels and improve performance ratios, this also lead to consider debt financing as a common practice among the most profitable banks. While some consistency exist with other body of studies like (Idode et al., 2014; Pratomo and Ismail, 2006), that provide evidence in support of TOT.

Table 4. Determinants of Jordanian Banks' Performance

Panel A: Determinants of banks' accounting performance.

Model Variables	M ₁ ROA	M ₂ ROE	M ₃ NIM	M ₄ LIQ
Constant	15.278 (6.422)***	66.995 (3.132)**	11.499 (1.518)	-77.451 (-2.884)**
DR	-0.944 (-5.589)***	0.502 (2.048)*	0.145 (0.345)	0.813 (13.731)***
SIZE	-0.788 (-3.587)***	-1.134 (-3.558)***	-0.686 (-1.257)	-0.013 (-0.170)
GROWTH	-0.274 (-1.741)	-0.257 (-1.126)	-0.473 (-1.209)	-0.016 (-0.295)
TANG	-0.689 (-4.041)***	-1.043 (-4.218)***	-0.540 (-1.273)	-0.001 (-0.010)
RISK	-0.282 (-1.756)	-0.033 (-0.142)	-0.198 (-0.498)	-0.223 (-3.969)***
DIV	0.395 (2.460)*	0.565 (2.427)**	0.186 (0.467)	2.796 (0.023)
Obs.	15	15	15	15
R ²	0.892	0.773	0.334	0.987
F	(11.026)***	(4.543)**	(0.668)	(99.357)***

Panel B: Determinants of banks' market performance.

Model Variables	M ₅ TOBIN	M ₆ PE	M ₇ MBVR	M ₈ MBVE
Constant	-29.784 (-0.267)	2977.784 (1.705)	-466.193 (-1.402)	-2802.093 (-3.973)***
DR	0.249 (0.821)	-0.544 (-1.478)	0.292 (0.959)	1.112 (9.641)***
SIZE	0.394 (0.999)	-0.499 (-1.043)	0.589 (1.492)	0.149 (0.990)
GROWTH	0.039 (0.138)	0.013 (0.037)	0.380 (1.344)	0.066 (0.618)
TANG	0.060 (0.195)	-0.628 (-1.689)	-0.082 (-0.268)	0.126 (1.083)
RISK	-0.454 (-1.579)	-0.549 (-1.570)	-0.007 (-0.025)	0.268 (2.448)**
DIV	-0.148 (-0.516)	0.018 (0.051)	0.335 (1.160)	0.151 1.376/0.206
Obs.	15	15	15	15
R ²	0.653	0.487	0.651	0.950
F	(2.505)	(1.267)	(2.488)	(25.190)***

***, ** and * stands for statistical significance at the 1, 5 and 10 percent level, respectively. Source: Prepared by the researchers based on multiple regression analyses

From Hypothesis 2 *“A firm’s size is expected to have a significant positive influence on a firm’s performance”*. Despite the insignificance influence of banks size on LIQ and MBVE - See Table (4) -, it is concluded that this latter influences negatively two important measures of accounting performance that of ROA and ROE with a coefficient of -0.788, -1.134, respectively, at 1% level, that encourages to support Hypothesis 2 on the ground of its significance but with an inverse sign. This result proves that large banks did not profit from advantages of economies of scale. Since, enlarge investments opportunities and take an aggressive growth strategy tended to raise the profits, but later, they affect them negatively as argued by Pratomo and Ismail (2006), Nouaili and his colleagues (2015), Baharuddin and Azmi (2015) who found some identical results.

The influence of GROWTH on firm’s performance shows different signs with any statistically significance with both accounting and market measures (ROA, ROE, LIQ and MBVE) - See Table (4) -. An outcome, that leads to reject Hypothesis 3 expecting that *“A firm’s growth is expected to have a significant positive influence on a firm’s performance”*. Thus, Growth Opportunity is not a major determinant of the sampled Jordanian banks performance. These findings are in the same line with Chinaemerem and Anthony (2012) and Gómez, Castro and Ortega (2016).

Hypothesis 4 suggests that *“A firm’s asset tangibility is expected to have a significant positive influence on a firm’s performance”*. By taking the two measures of accounting performance that of ROA and ROE, this hypothesis is supported at 1% level still the sign is inverse -0.689, -1.043, correspondingly - See Table(4) -. While, with LIQ and MBVE this significance is not at hand. The acceptance of Hypothesis 4 provides evidence that Jordanian banks didn’t rely on tangible assets or they had not the ability to utilize their fixed assets efficiently to improve their performance. This leads to conclude the same results as Chinaemerem and Anthony (2012).

Test of Hypothesis 5 predicting that *“A firm’s risk is expected to have a significant positive influence on a firm’s performance”*, reveals some mixed outcomes. Results of Table (4) / Panel B confirms this

hypothesis when MBVE is used as a bank market performance measure where the influence is positive (0.268) and significant at 5% level. Thus, more risky banks tend to perform well through an effective risk management and a good balance of trade-off between risk and returns. This positive influence of risk on banks performance is supported by many prior researchers like (Nouaili et al., 2015; Berger and di Patti, 2006; Noor and Abdalla, 2014), while contradicts other body of researchers like (Zeitun and Tian, 2007) when LIQ is used as a bank accounting performance measure - See Table (4) / Panel A - with negative coefficient (-0.223) at 1% as significance level. Means higher risk ratios involve a higher probability of financial distress and bankruptcy costs, so, lower banks performance measures are produced by consequence. For that reason, Hypothesis 6 is inconclusive due to the different signs exhibited of risk influence on Jordanian banks performance, a fact that may be attributed to the proxy used to compute the risk variable which is a standard deviation of ROA or the significance differences between banks size including in the Jordanian sample that make a different sensitivity of their returns to high and low ratios of risk.

The impact of DIV variable on banks performance is significant at 5% level only for the two accounting measures (ROA and ROE) with positive coefficients: 0.395 and 0.56, respectively - See Table (4) -. These findings make from Hypothesis 6 *"A firm's dividend policy is expected to have a significant positive influence on a firm's performance"* supported, which implies that firm can increase its value through paying more dividend out of their current income or from their previous income. Similar findings are reached by Uwuigbe, Jafaru and Ajayi (2012), Ayunku and Etale (2016).

5- CONCLUSION AND RECOMMENDATIONS

The capital structure decision is crucial for any firm. Hence, the success of banks in Jordan's dynamic business environment depends on their ability to effectively determine the optimum and appropriate

capital structure mix in order to maximize the firm value, thereby improving its competitive advantage in the marketplace.

Overall, the research achieved the main objective, which is to identify the relationship between Capital structure measured by Debt Ratio and firm performance of the fiftieth Jordanian listed banks at ASE for the period of 2002-2015. In addition, it is meant to investigate the impact of Debt Ratio on accounting and market banks performance. It concluded that about 86% of the banks' total assets in Jordan are financed by debts, a ratio that is considered high compared to other sectors in the same country (See Zeitun and Tian (2007); Shubita and Alsawalhah (2012); Soumadi and Hayajneh (2012), however, it fits the nature of a banking system that relies more on customer and other financial institutions deposits to turn on its credit facilities. A note which is confirmed by the strong significant positive relation between Debt Ratio and the banks performance mainly those related to LIQ with a Pearson coefficient of 96.4%. Regression results reveal the positive significant influence of capital structure on banks performance, in general. This outcome suggests that increasing leverage, by acquiring more debt should have positive implications for banks value and performance, means that in an emerging economy like Jordan, debt financing as a component of capital structure is relevant to the value of a bank. This is in agreement with the claims put forward by the proponents of Trade-Off Theory because interest payment on debt is tax deductible, the addition of debt in the capital structure will improve the profitability. Nevertheless, it is important that listed banks intensify their efforts to rely on internally generated funds to finance their operational activities. Even where external debt is used, the banks also should search for low interest-bearing loans so that the tax shield benefit of the loan still always exceeding the financial distress associated with it.

Furthermore, controlling the influence of capital structure by other variables demonstrate that Size and Tangibility have a negative significant impact on Jordanian banks performance, these findings support the assumption that large size banks tend to be unlevered. While, the negative impact of tangibility can be clarified by the

incompetently of banks to use their tangible assets as collateral in securing their debts due to many factors such as considering the recovery of collateral in case of default costly and time-consuming process. More findings show positive influence of dividend policy measured by dividend per share to earnings per share on banks performance, attributed behind the reason of signaling effect of dividend payment on performance. A result that is not similar to Growth opportunities that record insignificant influence on Jordanian banks, in addition to inconclusive results reported by risk effect on performance which lead to propose other measures and factors in order to get more convince and precise results.

References

- Al Ajlouni A., and Shawer M., (2013),** "The Effect of Capital Structure on Profitability: Evidence from the Petrochemical Companies in the Kingdom of Saudi Arabia", *In International Journal of Research in Commerce, IT and Management*. Vol. 3, No. 11, pp. 56-62.
- Anarfo E.B., (2015),** "Capital Structure and Bank Performance - Evidence from Sub-Sahara Africa", *In European Journal of Accounting Auditing and Finance Research*. Vol. 3, No. 3, pp. 1-20.
- Antwi S., Mills E.F.E.A., and Zhao X., (2012),** "Capital Structure and Firm Value: Empirical Evidence from Ghana", *In International Journal of Business and Social Science*. Vol. 3, No. 22, pp. 103-111.
- Ayunku P.E., and Etale L.M., (2016),** "Dividend Payout Policy and Firm Performance: Evidence from Nigeria", *In Social Science Learning Education Journal*. Vol. 1, No. 1, pp. 6-9.
- Baharuddin N.S., and Azmi S.N.A., (2015),** "The Determinants of Financial Industry Profitability in Malaysia", *In Academia Journal*. Vol. 4, No. 2, pp. 18-25.
- Berger A.N., (1995),** "The Relationship Between Capital and Earnings in Banking", *In Journal of Money and Credit*. Vol. 27, pp. 432-456.
- Berger A.N., and di Patti, E.B., (2006),** "Capital Structure and Firm Performance: A New Approach to Testing Agency Theory and an

Application to the Banking Industry”, In *Journal of Banking and Finance*. Vol. 30, No. 4, pp. 1065-1102.

Chang C., Lee, A.C., and Lee C.F., (2009), “Determinants of Capital Structure Choice: A Structural Equation Modeling Approach”, In *The Quarterly Review of Economics and Finance*. Vol. 49, pp. 197-213.

Chinaemerem O.C., and Anthony O., (2012), “Impact of Capital Structure on the Financial Performance of Nigerian Firms”, In *Arabian Journal of Business and Management Review (OMAN Chapter)*. Vol. 1, No. 12, pp. 43-61.

Dada A.O., and Ghazali Z.B., (2016), “The Impact of Capital Structure on Firm Performance Evidence from Nigeria”, In *Journal of Economics and Finance*. Vol. 7, No. 4, pp. 23-30.

Dang V.A., (2005), “Testing the Trade-Off and Pecking Order Theories: Some UK Evidence”, In *Money Macro and Finance (MMF) Research Group*. Online: http://repec.org/mmfc05/paper_28.pdf

Davydov D., (2014), “Essays on Debt Financing, Firm Performance, and Banking in Emerging Markets”, In *ActaWasaensia Series*. Vol. 299, pp. 1-127.

Gómez A.P., Castro, G.Á. and Ortega, M.F. (2016), “Determinants of Leverage in Mining Companies, Empirical Evidence for Latin American Countries”, In *Contaduría y Administración*. Vol. 61, pp. 26-40.

Hortlund P., (2005), “The Long-Term Relationship between Capital and Earnings in Banking”, Working Paper In *Series in Economics and Finance*. No. 611.

Idode P.E., Adeleke, T.M., Ogunlowore A.J., and Ashogbon O.S., (2014), “Influence of Capital Structure on Profitability: Empirical Evidence from listed Nigerian Banks”, In *Journal of Business and Management*. Vol. 16, No. 11, pp. 22-28.

Modigliani F., and Miller M., (1958), “The Cost of Capital, Corporation Finance and the Theory of Investment”, In *The American Economic Review*. Vol. 48, No. 3, pp. 261-297.

Modigliani F., and Miller M., (1963), “Corporate Income Taxes and the Cost of Capital: A Correction”, In *The American Economic Review*. Vol. 53, pp. 433-443.

- Noor J.A.M., and Abdalla A.I., (2014),** "The Impact of Financial Risk on the Firm's Performance", *In European Journal of Business and Management*. Vol. 6, No. 5, pp. 97-101.
- Nouaili M., Abaoub A., and Ochi A., (2015),** "The Determinants of Banking Performance in Front of Financial Changes: Case of Trade Banks in Tunisia", *In International Journal of Economics and Financial Issues*. Vol. 5, No. 2, pp. 410-417.
- Pratomo W.A., and Ismail A.G., (2006),** "Islamic Bank Performance and Capital Structure", *In Research Gate*. On line: <http://www.researchgate.net/publication/24114734>
- Rao N.V., Al-Yahyaee K.H.M and Sayed L.A.M., (2007),** "Capital Structure and Financial Performance: Evidence from Oman", *In Indian Journal of Economics and Business*. Vol. 6, No. 1, pp.1-15.
- Sakatan R., (2008),** "The Capital Structure in Developing Countries: Saudi Arabia", Doctoral Dissertation. On line: <http://ssrn.com/abstract=2144187>
- San O.T., and Heng T.B., (2011),** "Capital Structure and Corporate Performance of Malaysian Construction Sector", *In International Journal of Humanities and Social Science*. Vol. 1, No. 2, pp. 28-36.
- Shubita M.F., and Alsawalhah J.M., (2012),** "The Relationship between Capital Structure and Profitability", *In International Journal of Business and Social Science*. Vol. 3, No. 16, pp. 104-112.
- Soumadi M.M., and Hayajneh O.S., (2012),** "Capital Structure and Corporate Performance Empirical Study on the Public Jordanian Shareholdings Firms listed in the Amman Stock Market", *In European Scientific Journal*. Vol. 8, No. 22, pp. 173-189.
- Uwuigbe U., Jafaru J., and Ajayi A., (2012),** "Dividend Policy and Firm Performance: A Study of Listed Firms in Nigeria", *In Accounting and Management Information Systems*. Vol. 11, No. 3, pp. 442-454.
- Zeitun R., and Tian G.G., (2007),** "Capital Structure and Corporate Performance: Evidence from Jordan", *In Australasian Accounting, Business and Finance Journal*. Vol. 1, No. 4, pp. 40-61.

APPENDICES

Table 1. List of Banks of the Sample

Denomination	Start	Sym.
Arab Bank	1930	ARBK
Arab Banking Corporation / Jordan	1990	ABCO
Arab Jordan Investment Bank	1978	AJIB
Bank Al Etihad	1978	UBSI
Bank of Jordan	1960	BOJX
Cairo Amman Bank	1960	CABK
Capital Bank of Jordan	1996	EXFB
Invest Bank	1982	INVB

(*): Not listed at Amman Stock Exchange.

Source: Prepared by the researcher based on Annual Reports of ASE

Table 1. (suite)

Denomination	Start	Sym.
Jordan Ahli Bank	1955	AHLI
Jordan Commercial Bank	1977	JCBK
Jordan Kuwait Bank	1976	JOKB
Societe Generale de Banque / Jordan	1965	SGBJ
The Housing Bank for Trade and Finance	1973	THBK
Islamic International Arab Bank (*)	1997	-
Jordan Dubai Islamic Bank	1965	INVB
Jordan Islamic Bank	1978	JOIB
Jordan Ahli Bank	1955	AHLI
Jordan Commercial Bank	1977	JCBK
Jordan Kuwait Bank	1976	JOKB
Societe Generale de Banque / Jordan	1965	SGBJ
The Housing Bank for Trade and Finance	1973	THBK
Islamic International Arab Bank (*)	1997	-
Jordan Dubai Islamic Bank	1965	INVB
Jordan Islamic Bank	1978	JOIB