



## THE FINANCING CHOICE OF LISTED AND NON-LISTED FIRMS IN JORDAN: DOES MORE VISIBILITY MAKE A DIFFERENCE?

DOI: 10.17261/Pressacademia.2015313059

Bashar Abu Khalaf<sup>1</sup>, Ghassan Omet<sup>2</sup>, Majed Shami<sup>3</sup>, Adel Bino<sup>4</sup>

<sup>1</sup>University of Jordan. [b.abukhalaf@ju.edu.jo](mailto:b.abukhalaf@ju.edu.jo)

<sup>2</sup>University of Jordan. [gomet@ju.edu.jo](mailto:gomet@ju.edu.jo)

<sup>3</sup>University of Jordan. [m.shami@ju.edu.jo](mailto:m.shami@ju.edu.jo)

<sup>4</sup>University of Jordan. [a.bino@ju.edu.jo](mailto:a.bino@ju.edu.jo)

### Keywords

Capital Structure,  
Jordan, Listed  
Firms,  
Non-Listed Firms,  
Tangibility.

### ABSTRACT

It is common knowledge that growing firms constantly look for new capital. This is why, going public is one way forward. Firms that seek stock exchange listing realize a number of advantages. An initial public offering (IPO) creates greater public awareness of the firm's products and services. In addition, such firms can improve their debt to equity ratio and as a result, reduce their cost of capital. In view of the benefits of listing, this paper examines the capital structure of listed and non-listed Jordanian non-financial firms. Based on the time period 2008-2011, and a total of 62 listed and 30 non-listed firms, the results indicate that the leverage ratio of listed Jordanian firms is significantly lower than their listed counterparts. Also, it is interesting to note that while the extent of the impact (negative) of profitability on leverage is more apparent in the case of the non-listed firms. The asset structure of assets is a significant determining factor of leverage in the case of non-listed firms only.

**JEL Classification**  
G30, G31, G32

## 1. INTRODUCTION

For so long, listed firms have been the subject matter of some intense research activities. At the forefront of this effort is the issue of capital structure. For example, it is stated that "129 (roughly 10%) of the articles published in the three leading journals in finance (Journal of Finance, Journal of Financial Economics, and Review of Financial Studies) over the past three years have been related in some way to the capital structure question" (Denis, 2012). The interest in the capital structure choice is not expected to abate. The reason for this is straightforward. The fact that firms finance their assets from debt and equity sources, and the cost of equity capital, on average, is higher than that of debt, they must optimize this financial decision (capital structure). Indeed, it is in the interest of firms to minimize their

cost of capital because this would positively impact the availability of capital that is critical in financing their future investment decisions, and hence their economic performance. The publication of Modigliani and Miller's (1958) paper, where they illustrated that the

market value of the firm is not dependent on its capital structure, laid the economic framework for all future research on this subject. In other words, the importance of the paper by Modigliani and Miller (1958) lies in its impact on finance scholars to provide arguments under which an optimal financing decisions for firms would be relevant. This research effort has generated a number of theoretical models with testable implications. These theories include the Pecking Order Theory, Trade-off Theory, Agency Theory, and the Signaling Theory. Whilst all capital structure theories are well-explained in standard corporate finance textbooks, it must be noted that none of them provides financial managers with any equation that can help them in optimizing the capital structure of their respective firms. This is why, following any examination of the empirical literature, one cannot but realize that it is full of papers that examine what really explains, or determines, the capital structure of firms. As expected, this literature has started with some detailed analysis of the capital structure of firms which are listed on advanced economies' stock markets. Later on, firms in developing countries have started to attract their share in the empirical literature.

It is common knowledge that the empirical literature which examines the capital structure of listed firms is extremely large to even summarize. However, following the early, and well-known papers by Titman and Wessels (1988) and Rajan and Zingales (1995), many papers examined what impacts the capital structure of firms in various advanced countries. To name but a few, these include Demirgüç-Kunt and Maksimovic (1996), De Jong et al. (2006), Antoniou et al. (2008), Lin et al (2013), Rampini & Viswanathan (2013), Cohn et al (2014), Ramirez and Ruiz-Cabestre (2014), and Devereux et al. (2015). As stated above, listed firms in developing countries have also been attracting the attention of researchers. This interest is due to several reasons (Prasad et al., 2001). First, stock markets in developing countries are not as developed as those in the developed countries. They tend to be relatively small, highly concentrated, and lack liquidity. Second, before getting listed, many of the firms used to be state-owned enterprises with different management styles and objectives. Finally, the issue of information asymmetry in developing countries is probably more apparent and as expected, this problem must have implications in the financing of listed firms. On average, the empirical literature which examines the capital structure of firms in developing and transitions countries reports three main observations. First, firms have relatively low leverage ratios. Second, firms do not rely on long-term financing as much as their counterparts in the developed countries do. Finally, the capital structure is affected or determined by similar variables. Again, some of the papers which contributed to these conclusions include Booth et al. (2001), Mutenheri and Green (2002), Shah and Hijazi (2004), Klapper et al. (2006), Eldomiaty (2007), Teker et al. (2009), Bokpin (2010), Lee and Cheong (2010), Olayinka (2011), Ramjee and Gwatidzo (2012), Ganguli (2013), Koksai and Orman (2014), Pecina and Orsag (2015). These conclusions are also supported by the findings of the papers which examined the capital structure choice in some Arab countries including, for example, Saudi Arabia (Al-Sakran, 2001), Jordan (Omet, 2006), Kuwait, Oman, and Saudi Arabia (Sbeiti, 2010), Qatar (Ba-Abbad and Ahmad-Zaluki, 2012), and more recently, by Omet et al. (2015). Relative to listed firms, the capital structure choice of non-listed firms has received limited attention. However, and notwithstanding that fact that financial information about non-quoted firms

is difficult, if not impossible, to obtain, some researchers have examined this specific issue. This line of research is interesting due to several reasons (Schoubben and Van Hulle, 2004). First, based on the trade-off theory, listed firms' increased transparency (information) reduces their bankruptcy costs and this makes it in their interest to rely on more debt than non-listed firms. Second, based on the agency theory, non-listed firms are expected to have lower debt levels because debt, as a disciplining device, is more relevant and important in the case of listed firms. Third, the signaling theory states that non-listed firms do not need to use leverage to signal their financial performance to the various stakeholders and this implies less debt on their books. Fourth, the fact that listed firms enjoy superior access to financial markets in general, they are expected to obtain more debt financing than their non-listed counterparts. However, the fact that listed firms enjoy lower cost of issuing new equity, their capital structure might also have less debt as compared to non-listed firms. In addition to the above-mentioned four factors, it can be argued that companies that seek stock exchange listing realize a number of advantages. For example, following an initial public offering (IPO) and distributing shares to a wider and more diverse investor base, creates greater public awareness of the firm's products and services. In addition, a public firm can provide an enhanced stock-based compensation strategy for attracting and also retaining good managers and employees. Finally, going public is expected to improve a firms' equity base and this creates more leverage for financing growth. In other words, such firms can improve their debt to equity ratio (capital structure) and as a result, reduce their weighted average cost of capital (WACC). Although limited in number, some of the papers which examine the capital structure choice of non-listed firms include Claessens and Tzioumis (2006), Hol and Van der Wijst (2008), Ramlall (2009), Aquino (2010), and Andani and Al-Hassan (2012). On average, this empirical evidence does not point out much difference between listed and non-listed firms in terms of the choice of capital structure and its determinants. Against the above brief account of the literature, the primary objective of this paper is to examine the capital structure of listed and non-listed Jordanian firms. Indeed, the motivating factor behind the paper stems from the fact that the Authors managed to obtain enough financial information about not only listed firms, but more importantly, non-listed firms.

## **2. THE DATA, METHODOLOGY AND RESULTS**

The empirical analysis is based on a total of 62 listed Jordanian non-financial firms and 30 non-listed firms and the period 2008-2011. Based on the published literature, and the available data, the following model is estimated:

$$\text{Leverage}_{i,t} = \alpha_0 + \beta_1 \text{TANG}_{i,t} + \beta_2 \text{ROA}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{DEP}_{i,t} + \varepsilon_{i,t} \quad (1)$$

where Leverage is total liabilities to total assets, TANG is fixed assets to total assets, ROA is income before interest and tax to total assets, SIZE is the natural logarithm of total assets, and DEP is the depreciation expense (depreciation to total assets).

It can be argued that the value of fixed assets can be used as collateral and thus improves the terms of debt financing (Myers and Majluf, 1984). Also, according to the pecking order theory, firms prefer internal over external funds and if external funds are required, their first choice would be to issue debt (Myers and Majluf, 1984). Therefore, this theory

predicts a negative relationship between firm profitability and leverage. However, due to the tax deductibility of interest payments, it can also be argued that highly profitable companies tend to have high levels of debt (Modigliani and Miller, 1963). In addition, the fact that large firms tend to be more diversified and older than small firms, such firms find it easier to seek debt financing (Rajan and Zingales, 1995). Finally, the fact that depreciation expenses are deducted for tax purposes, this non-debt tax shield can be looked at as a substitute for debt financing. In other words, firms with greater levels of non-debt tax shield might choose to have less debt. In Table 1, we report some descriptive statistics about the dependent and all independent variables. Based on these Table, the following comments can be made. First, whilst it is not argued that the sample of the non-listed firms is a good representation of the Jordanian private (non-listed) sector, it is clear that their mean leverage ratio (46.7 percent) is much higher than their listed counterparts (34.7 percent). This observation is obviously unfortunate because it indicates that listed firms rely more on equity financing, and this is, as commonly known, more expensive.

**Table 1: Some Descriptive Statistics**

	LEV	TANG	ROA	SIZE	DEP
<b>Listed Firms</b>					
Mean	0.347	0.424	0.024	16.988	0.033
Median	0.318	0.389	0.032	16.737	0.029
Max.	0.938	0.936	0.433	20.602	0.119
Min	0.047	0.089	-0.437	13.790	0.000
Std. Dev.	0.196	0.211	0.110	1.384	0.022
<b>Non-Listed Firms</b>					
Mean	0.467	0.293	0.062	14.954	0.169
Median	0.412	0.263	0.028	15.023	0.037
Max.	0.955	0.842	0.536	17.954	0.839
Min	0.118	0.050	-0.211	12.484	0.000
Std. Dev.	0.246	0.208	0.111	1.211	0.336

Second, and as expected, the mean size of the listed firms, measured by the natural logarithm of total assets (16.988) is larger than that of the non-listed firms (14.954). Third, the asset structure of the listed firms contains a much higher proportion of fixed assets.

Listed and non-listed firms have 29.3 percent and 42.4 percent of their assets in the form of fixed assets respectively. Finally, it is useful to note that the reported mean ratios of leverage for our sample of listed firms (34.7 percent) is much lower than the 56 percent in China (Li et al., 2009), 58 percent in Turkey (Tecker et al., 2009), and the 53 percent in the UK, 49 percent in Cyprus, 61 percent in Austria, and the 61 percent in Germany (Muradoglu et al., 2010). In actual fact, the relatively low leverage ratio among listed Jordanian firms is comparable to only the 29 percent that exists in Saudi Arabia (Al-Ajmi et al., 2009), and the 39 percent in Mexico (Bastos et al., 2009). The regression results are reported in Table 2. Again, based on these results, the following observations are made.

**Table 2: Regression Results: Listed Firms**

Variable	Coefficient	t-statistic	Coefficient	t-statistic
	Listed Firms		Non-Listed Firms	
TANG	-0.004	-0.045	-0.212	1.964**
ROA	-0.389	-5.925*	-0.886	-6.239*
SIZE	0.023	9.488*	0.041	11.599*
DEP	-0.088	-1.777	-0.057	-0.697
Adj. R <sup>2</sup>	0.391		0.592	
D-W Stat.	1.980		1.942	
F-statistic	53.820*		58.489*	

First, listed firms' asset structure (TANG) is not significant in the case of the listed firms. However, for the non-listed firms, the sign of this coefficient is negative (-0.212) and significant. This finding is not really surprising. According to the trade-off theory, a positive relationship between debt and fixed assets is expected. However, the pecking order theory argues that firms with more of their assets fixed tend to have less information asymmetry and as a result, less likely to issue debt. Second, the coefficient of firm profitability (ROA) is significant and negative in the case of the listed (-0.389) and the non-listed firms (-0.886). In other words, firms prefer to rely on retained earnings and not on external funds (pecking order theory). Whilst these coefficients are as one might expect, it is interesting to note that the extent of the impact (negative) of profitability on leverage is more apparent in the case of the non-listed firms. Third, the coefficient of firm size is consistently significant and positive. This conclusion is in agreement with the trade-off theory. In other words, larger firms tend to be more diversified and less likely to face financial distress and hence, they find it easier to obtain bank financing. Finally, for both the listed and non-listed firms, the coefficient of the non-debt tax shield (DEP) is not

significant. In addition to the above analysis, we estimate model 1 using both the listed and non-listed firms. However, in this case, we introduce a dummy variable (DUM) which is equal to zero for the non-listed firms and 1 for the listed firms. The results are reported in Table 3. On average, the results are similar to those reported in Table 2. However, what is interesting to note is the value of the dummy variable which is equal to -0.239 and statistically significant. This implies that the leverage ratio of our sample of non-listed firm is significantly greater than that of the listed firms.

**Table 3: Regression Results: Both Types of Firms**

Variable	Coefficient	t-statistic
TANG	-0.045	-0.653
ROA	-0.443	-7.169*
SIZE	0.036	12.647*
DEP	-0.101	-1.315
DUM	-0.239	-5.251*
Adj. R <sup>2</sup>	0.450	
D-W Stat.	1.952	
F-statistic	76.184*	

### 3. CONCLUSIONS

This paper has examined the nature and determinants of the capital structure choice of listed and non-listed Jordanian non-financial firms. Based on the time period 2008-2011, and a panel of 62 listed and 30 non-listed firms, and some descriptive statistics, the results indicate that listed Jordanian firms have relatively low leverage ratios. Also, the empirical results indicate that some of the known determinants of the capital structure choice of firms are applicable to both the listed and non-listed firms. However, the coefficients of these determinants are different between the two sets of firms. Based on the results of this paper, a number of questions can be stated. For example, what is the reason behind the low leverage ratios of the listed firms? In other words, is it demand-led (management of the firms) factors or supply-led (management of the banks) factors. This issue would be interesting to investigate and the only way to shed light on it is through a surveying the relevant Chief Financial Officers (CFOs) about their practice of corporate finance.

## REFERENCES

- Al-Ajmi, J., H. Abo Hussein and N. Al-Salah, 2009, "Decisions on Capital Structure in a Zakat Environment with Prohibition of Riba: The Case of Saudi Arabia", *The Journal of Risk Finance* 10, 460-476.
- Al-Sakran, S., 2001, "Leverage Determinants in the Absence of Corporate Tax System: the Case of Non-Financial Publicly Traded Corporation in Saudi Arabia", *Managerial Finance* 27, 58-86.
- Andani, A. and S. Al-Hassan, 2012, "The Determinants of the Financing Decisions of Listed and Non-Listed firms in Ghana", *Asian Economic and Financial Review* 2, 751-771.
- Antoniou, A., Y. Guney and K. Paudyal, 2008, "The Determinants of Capital Structure: Capital Market-Oriented Versus Bank-Oriented Institutions", *Journal of Financial and Quantitative Analysis* 43, 59-67.
- Aquino, R., 2010, "Capital Structure of Philippine Listed and Unlisted Firms: 1997-2008", UP College of Business Administration, Working paper 1005.
- Ba-Abbad, K. and N. Ahmad-Zaluki, 2012, "The Determinants of Capital Structure of Qatari Listed Companies", *International Journal of Academic Research in Accounting, Finance and Management Sciences* 2, 93-108.
- Bastos, D. W. Nakamura and L. Basso, 2009, "Determinants of Capital Structure of Publicly-Traded Companies in Latin America: The Role of Institutional and Macroeconomic Factors", *Journal of International Finance and Economics* 9, 24-39.
- Bokpin, G., 2010, "Financial Market Development and Corporate Financing: Evidence from Emerging Market Economies", *Journal of Economic Studies* 37, 96-116.
- Booth, L., A. Aivazian, Demircuc – Kunt and V. Maksimovic, 2001, "Capital Structure in Developing Countries", *Journal of Finance* 56, 87-130.
- Claessens, S. and K. Tzioumis, 2006, "Ownership and Financing Structures of Listed and Large Non-Listed Corporations" *Corporate Governance* 4, 266-276.
- Cohn, J., L. Mills and E. Towery, 2014, "The Evolution of Capital Structure and Operating Performance after Leveraged Buyouts: Evidence from U.S. Corporate Tax Returns", *Journal of Financial Economics* 111, 469-494.
- De Jong, A., 2006, "Capital Structure around the World: The Roles of Firm- and Country-Specific Determinants", Paper Presented at the EFA Meeting (Zurich).
- Demircuc - Kunt, A. and V. Maksimovic, 1996, "Institutions, Financial Markets and Firm Debt Maturity", World Bank Policy Research Paper 1686, World Bank, Washington DC.
- Denis, D., 2012, "The Persistent Puzzle of Corporate Capital Structure: Current Challenges and New Directions", *The Financial Review* 47, 631-643.
- Devereux, M., G. Maffini and J. Xing, 2015, "Corporate Tax Incentives and Capital Structure: Empirical Evidence from UK Tax Returns", Oxford University Centre for Business Taxation, Working Paper No. 15/07.
- Eldomiaty, T., 2007, "Determinants of Corporate Capital Structure: Evidence from an Emerging Economy", *International Journal of Commerce and Management* 4, 45-62.

- Ganguli, S., 2013, "Capital Structure – Does Ownership Matter? Theory and Indian Experience", *Studies in Economics and Finance* 30, 56-72.
- Holl, S. and N. Van Der Wijst, 2008, "The Financial Structure of Non-listed Firms", *Applied Financial Economics* 18, 559-568.
- Klapper, L., V. Sarria-Allende and R. Zaidi, 2006, "A Firm-Level Analysis of Small and Medium Size Enterprise Financing in Poland", *World Bank Policy Research Paper Working Paper* 3984.
- Koksal, B. and C. Orman, 2014, "Determinants of Capital Structure from a Major Developing Economy", *Small Business Economics* 44, 255-288.
- Lee, S. and K. Cheong, 2010, "The Political Economy of Financial Structure of Korean Firms", *The Journal of Developing Areas* 43, 221-232.
- Lin, C., P. Malatesta, and Y. Xuan, 2013, "Corporate Ownership Structure and the Choice Between Bank Debt and Public Debt", *Journal of Financial Economics* 109, 517-534.
- Modigliani, F. and M. Miller, 1958, "The Cost of Capital, Corporation Finance, and the Theory of Investment", *American Economic Review* 48, 261-297.
- Modigliani, F. and M. Miller, 1963, "Corporate Income Taxes and the Cost of Capital – A Correction", *American Economic Review* 53, 433-443.
- Muradoglu, G., C. Onay and K. Phylaktis, 2010, "Capital Structure and Debt Maturity in Europe: The Role of FDI in European Integration", *Emerging Markets Group Working Paper Series No. 24*, City University, London.
- Mutenheri. E. and C. Green, 2002, "Financial Reform and Financing Decisions of Listed Firms in Zimbabwe", *Department of Economics, Loughborough University Working Paper*.
- Myers, S. and N. Majluf, 1984, "Corporate Financing and Investment Decisions When Firms Have Information Investors Do Not Have", *Journal of Financial Economics* 13, 187-221.
- Olayinka, A., 2011, "Determinants of Capital Structure: Evidence from Nigerian Panel Data", *African Economics and Business Review* 9, 1-16.
- Omet G., 2006, "Ownership Structure and Capital Structure: Evidence from the Jordanian Capital Market (1995-2003)", *Corporate Ownership and Control* 3, 99-107.
- Omet, G., T. Al-Sharari, B. Abu Khalaf and H. Yaseen, 2015, "Determinants of Capital Structure in Various Circumstances: Could they be Similar?", *Research Journal of Business and Management* 2, 158-168.
- Pecina, E. and S. Orsag, 2015, "Capital Structure of Croatian Enterprises", *Australian Journal of Sustainable Business and Society* 1, 1-7.
- Prasad, S., C. Green and V. Murinde, 2001, "Company Financing, Capital Structure, and Ownership", *SUERF Study No. 12*, Vienna, SUERF.
- Rajan, R. and L. Zingales, 1995, "What Do we know about Capital Structure? Some Evidence from International Data", *Journal of Finance* 50, 1421-1460.
- Ramirez, M. and F. Ruiz-Cabestre, 2014, "Determinants of Capital structure: United Kingdom Versus Continental European Countries", *Journal of International Financial Management and Accounting* 25, 237-270.



- Ramjee, A. and T. Gwatidzo, 2012, "Dynamics in Capital Structure Determinants in South Africa", *Meditari Accountancy Research* 20, 52-70.
- Ramlall, I.,2009, "Determinants of Capital Structure Among Non-Quoted Mauritian Firms under Specificity of Leverage: Looking for a Modified Pecking Order Theory", *International Research Journal of Finance and Economics* 31, 83-91.
- Rampini, A. and S. Viswanathan, 2013, "Collateral and Capital Structure", *Journal of Financial Economics* 109, 466-492.
- Sbeiti, W., 2010, "The Determinants of Capital Structure: Evidence from the GCC Countries", *International Research Journal of Finance and Economics* 47, 54-79.
- Schoubben, F. and C. Van Hulle, 2004, "The determinants of Leverage: Differences between Quoted and Non Quoted Firms", *Tijdschrift voor Economie en Management* 4, 589-621.
- Shah, A. and T. Hijazi, 2004, "The Determinants of Capital Structure of Stock Exchange-Listed Non-Financial Firms in Pakistan", *The Pakistan Development Review* 43, 605-618.
- Teker, D., O. Tasseven and A. Tukul, 2009, "Determinants of Capital Structure for Turkish Firms: A Panel Data Analysis", *International Research Journal of Finance and Economics* 29, 179-187.
- Titman, S. and R. Wessels, 1988, "The Determinants of Capital Structure Choice", *Journal of Finance* 43, 1-19.