THE IMPACT OF TAX SHIELD ON CAPITAL STRUCTURE: EMPIRICAL EVIDENCE FROM NIGERIA

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Abstract
This study evaluates the impact of tax shield on capital structure of quoted non-financial firms in Nigeria. Five hypotheses were formulated following the dependent variables of Long Term Debt Ratio and Short Term Debt Ratio. The independent variables employed for this study include: Non-Debt Tax Shield, Debt Tax Shield, Trade Payable Ratio, Firm Size and Firm Leverage. This study is based on ex-post facto research design and made use of panel data set collected from thirty five (35) non-financial companies over a five year period of 2013 and 2017 financial year. The data set used panel least square regression analysis. The result showed that both variables of debt tax shield and firm leverage significantly impact on capital structure of non-financial firms in Nigeria during the period under investigation. The study recommends among others that concerted efforts should be made by financial regulatory bodies to stabilize the tax structure/system in Nigeria. This is based on the fact that reduction of tax frictions not only increases capital buffers for all firms; it also decreases the "Risk Taking" levels of firm managers.

Keywords: Non-Debt Tax Shield, Debt Tax Shield, Trade Payable Ratio, Firm Size, Firm Leverage.

1. Introduction

In the past several decades, the role of a firm's capital structure has been an important issue in corporate finance. Interestingly, among the determinants of capital structure, taxation is probably the most debated. In line with the influential trade-off theory of debt, the optimal level of debt in a firm's capital structure is determined by the balance of the tax shield provided by debt and the present value of financial distress costs (Myers, 2001). Also Marcel and Bjarne (2019), assert that the issue of tax shields is an increasingly important object of interest for both business managers and academics. Worldwide in recent years, the volume of leveraged buyouts and management buyouts (MBOs) has increased. In this case, debt is an important component of value. Along this line, the trade-off theory developed by Modigliani and Miller's (1963) explained that, "the relevance of debt with the existence of taxes and bankruptcy costs is beneficial for debt and serves to shield earnings from taxes. Specifically, Tomas and Lucia (2018) found that non-debt tax shields are the substitute of tax shields as it relates to debt financing. They argue that depreciation deductions and tax-loss carry forwards can be a replacement for tax benefits of debt financing.

The results from extant empirical literatures on the impact of debt tax shield and non-debt tax shield on capital structure has been inconsistent. While some documented a positive relationship between tax and performance (Athula et al., 2011; Kebewar & Shah, 2012), others reported a significant negative relationship between leverage and non-debt tax shields (Klapper & Tzioumis, 2008; Deesomsak et al. 2004). Based on these conflicting squabbles on the relationship between debt tax shield and non-debt tax shield on firm capital structure and specifically the unacceptable situation which the recent economic recession have produced, we deem it fit to empirically expand previous studies in order to empirically ascertain whether tax shields could actually influence capital structure of quoted companies in Nigeria.

The study aims at investigating the impact of tax sheltering on Capital Structure in Nigeria. Specifically, its objective is to determine the extent to which Trade Payable, Non Debt Tax Shield, Debt Tax Shield, Firm Size, and Firm Leverage respectively affect Capital Structure of quoted Companies in Nigeria. It shall also make recommendations on how tax shielding can enhance capital structure in Nigeria.

2. Literature Review

Conceptual Framework

Tax Shield and Capital Structure

According to Tomas and Lucia (2018), Tax Shield is defined as the reduction in income taxes that results from taking an allowable deduction from taxable income.eg because interest on debt is a tax deductible expense, taking on debt creates a tax shield. It is a reduction in taxable income for an individual or corporation achieved through claiming allowable deductions such as medical expenses, charitable donations amortization and depreciation, Accounting Tool (2019). Tax expenses generate tax savings (tax shields), which significantly affect business decision making, especially investment decision-making and capital

structure issues. The most important sources of tax savings are interest and depreciation. In trade-off theory, debt is preferable because it provides firms with the valuable interest tax shield and increases the income after taxes, since the interest is deductible. The higher the tax rate, the more advantage a firm has from additional borrowing. A firm borrows to the point where tax shield benefits intercept with costs of debt (bankruptcy costs, financial distress and agency cost), thus the relationship between interest tax shield and debt can be described as u-shaped (Qureshi et al 2012). Therefore, the trade-off theory assumes that taxes and debt are positively correlated. The findings of Graham (2000) suggest that firms do not exploit tax benefits, as predicted by trade-off theory. MacKie-Mason (1990) argues that most studies fail to find significant tax effects due to the fact that tax shield have a negligible effect on the marginal tax rate for most firms.

Capital Structure

Capital structure indicates the firm's financial framework which consists of the debt and equity used to finance the firm. Capital structure is a mixture of a company's debts (long-term and short-term), common equity and preferred equity. Capital structure is essential on how a firm finances its overall operations and growth by using different sources of funds. Modigliani-Miller (MM) theorem is the broadly accepted capital structure theory and has been employed by many researchers. According to MM Theorem, these capital structure theories operate under perfect market assumed to be free from taxes, operate with rational investors, has perfect competition, absence of bankruptcy costs and efficient market. MM theorem states that capital structure or finances of a firm is not related to its value in perfect market. In reality, capital structure of a firm is difficult to determine since financial managers find it difficult to exactly determine the optimal capital structure which is a minimum weighted-average cost of capital that maximizes the value of firms.

Non-Debt Tax Shield and Capital Structure

Non debt tax shield takes into account tax deductions for depreciation and investment tax credits, and it is substitute for interest tax shield of debt financing. The non-debt tax shield decreases the incentive of using debt financing for the purpose of tax shield exploitation. In trade-off theory the optimal ratio is on the interaction between marginal tax benefit and marginal expected bankruptcy costs. This theory predicts an inverse relationship between non-debt tax shield and debt tax shield, since it captures the substation effect between interest tax shield and other tax-deductible entities.

Debt Tax Shield and Capital Structure

DeAngelo and Masulis (1980) proposed a trade-off model including the impact of debt tax shield and non-debt tax shields for optimal capital structure. Myers (1984) document that firms should be considered on balancing the value of debt tax shields against various bankruptcy costs though there is a continuous argument about how valuable the tax shields are, and which, if any, of the costs of financial embarrassment are material. Firms can substitute equity for debt or debt for equity up to the point where firm’s value is maximized.

Trade Payable and Capital Structure

Accounts payable is one source of short-term financing recourse. Brealey et al (2004) argue that long-term debt financing has less liquidity risks than short-term debt financing since long-term financing's payment period is longer, but this advantage also present the long-term financing to have higher expenditures than short-term financing due to the greater uncertainties of long-term financing. Trade payables is the financing which is provided by the suppliers of a firm in the form of delayed payments due on purchases made by the firm, (Leach & Melicher, 2012).

Trade payable has a major role in financing of firms. Leach & Melicher (2012) opine that trade payable is an important source of funding often paid within 30 or 60 days (the most common periods of time). Firms that are denied finance by other financial sources can still gain access to finance through trade payable account (Seifert, Seifert & Protopappa-Sieke, 2013).

Firm Size and Capital Structure

Firm size has been seen to be strongly positively related to capital structure. The driving force is the presence of fixed costs of external financing that lead to infrequent restructuring and creates a wedge between small and large firms. Small firms choose higher leverage at the moment of refinancing to compensate for less frequent rebalancing.

Firm size has been used as a determinant of firm's capital structure in most of empirical studies on capital structure and is not uncommon among the most significant variables, (Panigrani, 2011). The tradeoff theory predicts a positive relationship between firm size and leverage, because size is assumed as a proxy for earnings volatility. Obviously, larger firms are more diversified and show less volatility. On the contrary, Singh and Kumar (2008), in pecking order theory predicts a negative relationship between firm size and leverage because large firms are mostly more profitable and need more retained earnings.

Theoretical Framework

Static Trade-off Theory

Myers described the static trade-off framework as in which the firm is viewed as setting a target debt-to-value ratio and gradually moving towards it, Myers (1984). The static trade-off theory states that companies choose the optimal mixture (substitute debt for equity) by balancing the advantages and disadvantages associated with additional debt, holding the firm's assets and investments plan constant. This theory affirms the existence of an optimal debt ratio.

Dynamic Trade-off Theory

Unlike Modigliani and Miller (1958) theory stating that a firm should borrow as much as they can, the trade-off theory predicts moderate debt ratios. In the dynamic model with frictions, a firm's debt ratio will always differ from the optimal debt ratio, due to the reasons discussed above. In their studies Baker and Martin (2011) found out that shock on leverage is more likely caused by adjustment cost rather than capital structure indifference.

Pecking Order Theory

Another important theory in the capital structure literature is the pecking order theory. Myers (1984) proposed this theory

as a different perspective on capital structure. Pecking order theory predicts a firm's capital structure being a result of both its financial requirements over time and minimizing the adverse selection costs, rather than aiming for an optimal debt ratio. Pecking order theory explains why most firms use debt as a source of external financing. This theory does well in predicting the relationship between profitability and leverage, but it does not provide any help in explaining many other factors that affect a firm's financing decisions. (Fama and French 2012).

Empirical Review

De Mooij et al. (2013) analyze the relationship between corporate taxes, bank leverage and the probability of financial crisis for a worldwide panel of banks. They find that a favorable corporate tax treatment of debt is positively correlated with higher bank leverage and a higher probability of experiencing a financial crisis.

Glenn (2014) exploits exogenous variation in the tax treatment of debt and equity created by the introduction of a tax shield for equity in Belgium. This quasi-natural experiment demonstrates that a more equal treatment of debt and equity significantly increases bank capital ratios, driven by an increase in common equity. Additionally, the results illustrate that both high and low capitalized banks react to changes in tax legislation, but that the latter profit more in terms of overall risk reduction. Overall, the findings confirm that reducing the tax discrimination between debt and equity could be an innovative policy tool for bank regulators.

Affandi et al. (2012) reports the significant positive relationship between size and capital structure. This is consistent with the Trade-Off model of capital structure where large firms seem to employ more debt. Furthermore, their study suggested property asset intensity and firm size to have more impacts on the dependent variable of debt ratio.

Psillaki and Daskalakis (2008) investigated the capital structure of Greek, French, Italian and Portuguese small and medium sized enterprises. They argue that larger firms are more diversified and they are expected to go bankrupt less often then smaller ones. They found a positive relationship between firm size and leverage, but significantly only for France, Greece and Portugal enterprises.

Koksal et al. (2013) investigated the factors that determine the capital structure choices in Turkey. One of the major findings in their analysis is that what matters most for a firm's capital structure is not firm's age or industrial membership but rather its size. They provide evidence that leverage is positively correlated with size. According to their results, larger firms have higher long-term leverage but lower short-term leverage than small firms. They concluded that young and small manufacturing firms have the highest level of short-term indebtedness.

3. Methodology

In determining the possible impact of tax shield on capital structure in Nigeria, we conducted descriptive statistics, correlation, normality test, and Panel fixed and random effect Regression analysis. Other post estimation test conducted were:

multicolinearity using the Variance Inflation Factor Test (VIF) and the test for heteroskedasticity. The study employed secondary data covering a period of 5 years (2013 – 2017). A sample of 35 non-financial quoted companies was employed for the study. The random sampling technique was used for selecting these firms. In addition, availability of data in complete and consistent format was the basis for selecting these companies that make up the study sample.

Model Specification

Five explanatory variables (trade payable, Non Debt Tax Shield, Debt Tax Shield, Firm Size and Firm Leverage) (proxies for Tax Shield) are employed for the work and Long debt and short debt are proxies for Capital Structure (dependent variable). The functional specification of the models are:

Long_Term_Debt = f(tax_shield, ndebt_tax_shield, trade_payable, firm_size and leverage). … 1

Short_Term_Debt = f(tax_shield, ndebt_tax_shield, trade_payable, firm_size and leverage). … 2

The econometric specification of the models are:

$$Long\_Term\_Debt_{it} = \beta_0 + \beta_1 tax\_shield_{it} + \beta_2 ndebt\_tax\_shield_{it} + \beta_3 trade\_payable_{it} + \beta_4 firm\_size_{it} + \beta_5 firm\_ leverage_{it} + \mu_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

$$Short\_Term\_Debt_{it} = \beta_0 + \beta_1 tax\_shield_{it} + \beta_2 ndebt\_tax\_shield_{it} + \beta_3 trade\_payable_{it} + \beta_4 firm\_Leverage_{it} + \beta_5 firm\_ size_{it} + \mu_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

Where:

Long Term Debt = Long Debt to Asset in percentages. It is computed as non-current liabilities divided by Total asset.

Short Term Debt = Short Debt to Asset in percentages. It is computed as current liabilities divided by Total Asset.

tax_shield = Debt Tax Shield in Percentage. It is computed as finance cost divided by total asset.

ndebt_tax_shield = Non-Debt Tax Shield in Percentage. It is computed as Depreciation and amortization divided by total asset.

trade_payable = Trade Payable to Asset in percentages. It is computed as Trade payables or trade creditors divided by Total asset.

Firm_size = Firm size will be measured by the logarithms of total assets

Firm_leverage = Debt to Fixed Asset in percentages is computed as total liabilities divided by Fixed asset

β_1, β_2, β_3, β_4 and β_5, represent the rate of change in the dependent variable for each unit change in the explanatory variables respectively; β_0 is the constant term and μ_t is the error term.

Results and Discussions

Descriptive Analysis

Table 4.1 Descriptive Statistics

Stats	tax_sh~d	ndebt_t~d	short_~t	long_d~t	trade_~t	firm_s~e	leverage
mean	7.132457	3.169486	41.59103	16.6188	21.86377	17.35857	58.21006
p50	6.27	2.51	39.98	13.68	20.78	17.73	59.74
max	21.99	19.	01.18	79.08	52.31	21.23	106.22
min	.63	0	4.82	0	.89	13.89	18.53
sd	4.255292	3.016878	16.67677	13.01904	11.69643	1.870067	18.24143
Variance	18.10751	9.101555	278.1147	169.4954	136.8064	3.497151	332.7499
se(mean)	.3216698	.2280546	1.260645	.9841468	.8841669	.1413638	1.378923
sum	1248.18	554.66	7278.43	2908.29	3826.16	3037.75	10186.76

Source: Computer Estimate

The average tax shield, non-debt tax shield, trade payable to asset, firm size and leverage were 7.13, 3.17, 41.59, 16.62, 21.86, 17.36, and 58.21 respectively. This result shows that leverage has the highest mean value among the variables employed in the study. Another variable of interest is that of firm size. The descriptive statistics show that the average firm size is 17.39. That is reasonably high.

Pearson Correlation Statistics

Multicollinearity implies the existence of a linear association between two or more explanatory variables. Pearson correlation matrices in the table below show that the correlation coefficients among the variables are less than 0.8, which is the limit or cut off correlation percentage commonly suggested by prior studies after which the consequences of multicollinearity is likely to be present Gujarati (2003).

TABLE 4.2 Pearson Correlation Matrix

	tax_sh~d	debt_t~d	short_~t	long_d~t	trade_~t	firm_s~e	leverage
tax_shield	1.0000						
debt_tax_s~d	0.7623	1.0000					
short_debt~t	0.4456	0.5077	1.0000				
long_debt_~t	0.0902	0.0630	-0.2645	1.0000			
trade_paya~t	0.3001	0.1282	0.5271	-0.1668	1.0000		
firm_size	0.0734	0.0733	0.0119	0.4101	0.1222	1.0000	
leverage	0.4717	0.5091	0.7255	0.4719	0.3628	0.3035	1.0000

Source: Computer Estimate

The correlation matrix result suggests that there is no multicollinearity among the independent variables of interest. The possible existence of multicollinearity is further tested by computing for variance inflation factor (VIF) seen in the table below. According to Gujarati (2003), there is no consequence of multicollinearity if the mean VIF is less than 10.

TABLE 4.3 Variance Inflation Factor Test Result

Variable	VIF	1/VIF
ndebt_tax_s~d	2.74	0.364992
tax_shield	2.66	0.376300
leverage	1.68	0.594470
trade_paya~t	1.26	0.794357
firm_size	1.11	0.898442
Mean VIF	1.89	

Source: Computer Estimaate

The table shows that the mean VIF is 1.89. Therefore, the results from Variance Inflation Factor test indicate that there is no unacceptable level of multicollinearity among the independent variables of interest further confirming that there is no presence of multicollinearity.

Data Normality Test

In the data normality test result shown in table 4.3, the result of skewness and kurtosis test for normality shows that all the variables of interest are not normally distributed since they are all significant at 1%.

TABLE 4.4 Data Normality Test

		------- joint ------			
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
tax_shield	175	0.0000	0.0212	24.51	0.0000
ndebt_tax_s~d	175	0.0000	0.0000	52.70	0.0000
short_debt~t	175	0.1357	0.9998	2.26	0.0000
long_debt_~t	175	0.0000	0.0000	43.47	0.0000
trade_paya~t	175	0.0141	0.2777	6.79	0.0000
firm_size	175	0.7050	0.0000	29.75	0.0000
leverage	175	0.8930	0.0064	6.98	0.0000

Source: Computer Estimation

Test for Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of long_debt_to_asset

chi2(1) = 59.89

Prob > chi2 = 0.0000

The value of Breusch-Pagan / Cook-Weisberg test for heteroskedasticity showed that there is the presence of heteroskedasticity in the dataset. However, we resort to the use of fixed and random effect regression analysis which is a good tool for correcting this abnormality in the data set. (Greeen 2003)

Cause-Effect Relationship Test (fixed effect and random effect)

Table 4.5 presents the two panel data estimation techniques results. The results revealed differences in the magnitude of the coefficients, signs and a number of insignificant variables. The estimation of the fixed effect panel regression was based on the assumption of no correlation between the error term and explanatory variables, while that of the random effect, considers that the error term and explanatory variables are correlated. In selecting from the two panel regression estimation results, the Hausman test was conducted, based on the null hypotheses that the random effect model is preferred to fixed effect model. However, a look at the p-values of the Hausman test result implies that we should accept the null hypothesis leading to the adoption of the random effect panel regression results in drawing our conclusion and recommendations.

Table 4.5 Short Term and Long Term Capital Structure Models

. esttab, r2 ar2 beta p

	(1)	(2)	(3)	(4)
	STD (FE)	STD (RE)	LTD (FE)	LTD (RE)
tax_shield	-0.117	-0.114	0.150	-0.114
	(0.342)	(0.192)	(0.342)	(0.192)
debt_tax_s~d	0.176	0.189*	-0.225	0.189*
	(0.092)	(0.015)	(0.092)	(0.015)
trade_paya~t	0.186**	0.248***	-0.238**	0.248***
	(0.006)	(0.000)	(0.006)	(0.000)
firm_size	-0.318	-0.242**	0.407	-0.242**
	(0.252)	(0.002)	(0.253)	(0.002)
leverage	0.762***	0.703***	0.425***	0.703***
	(0.000)	(0.000)	(0.000)	(0.000)
N	175	175	175	175
R-sq	0.626		0.173	
adj. R-sq	0.518		-0.066	

Standardized beta coefficients; p-values in parentheses
* p<0.05, ** p<0.01, *** p<0.001

In both the Short Term Capital Structure and the Long Term random effect Capital Structure Models, all the explanatory variables were statistically significant except Tax Shield. The Short Term Capital Structure Model showed that tax_shield and

firm_size have negative effects on capital structure but the variable of tax shield is not statistically significant. This implies that as the size of the firm increase, it has a damping effect on capital structure of the firms. On the other hand, debt tax shield, trade payable, and leverage were found to have positive effects on short term capital structure model. This is the same in the Long Term Capital Structure Model.

4. Discussion of Findings

The study found that tax shield has no significant effect on capital structure. Firm size has a negative effect on capital structure; while debt tax shield, trade payable, and leverage were found to exert a positive effect on both forms of capital structure. Interestingly, debt tax shield negatively affects long term debt and positively affects short-term debt. The negative coefficient (effect) on long-term debt is consistent with the hypothesis of DeAngelo & Masulis (1980). The positive relationship between capital structure and debt tax shield, trade payable and leverage the prediction of the pecking order theory but consistent with the trade-off theory. The transaction cost theory suggests that transaction cost is derived from the limit rationality of the manager, the uncertainty of the transaction and opportunism. One of the objectives of the enterprise is to minimize the transaction costs.

At present, Nigeria's financial market exhibit elements of imperfection and there are many financing constraints. Hence, debt contract is likely to increase the transaction costs of the enterprise because of high interest of bank loan. However, the non-debt tax shield does not require companies to pay the high cost, so it could reduce the amount of funds occupied. Therefore, companies have a strong incentive to choose the non-debt tax shield way to delay or reduce the taxes. Aggregately, non-debt tax shield may be preferred over debt tax shield, (Beneish, 1999). Trade payable is one of the major sources of secured short-term financing (Gitman, 2009). From our result we can see that on the average, adopted policies on trade payable transactions have been very profitable for the companies under consideration. As a consequence, it indicates a strong alliance between company and its suppliers which will strategically improve production lines and strengthen credit record for future expansion. However, the need to beware that purchasing initiates cash outflows since overzealous purchasing function can create liquidity problem. This should not be taken carelessly.

Following the discussion above we can deduce that our study supports the pecking order theory; hence we can carefully say that on the average most firms quoted on the stock exchange in Nigeria prefer equity financing to debt financing. Our results are consistent with several studies on international markets (Jong et al., 2008; Serrasqueiro & Rogao, 2009; Bayrakdaroglu et al., 2013).

5. Conclusion and Recommendation

Thus this study examined the impact of tax shield on capital structure in Nigeria. The study covered 35 non-financial firms in Nigeria. The regression results indicate that tax_shield and firm_size have negative impact on capital structure; while debt_tax_shield, trade_payable_to_asset, and leverage were found to positively exert on capital structure. The results of this

study also suggest that the capital structure decisions of companies listed on the Nigerian stock market can be explained with reference to the trade off and pecking order theories, and that these companies prefer to utilize internal funds over debt and external equity.

Based on the findings, the study offers the following recommendations:

1. Corporate boards and organization management may consider internal financing over external financing of the firms.
2. Investors should carefully verify the firm's debt level when they are making investment decisions on debt.
3. Since a reduction of tax frictions could be an important part of a regulatory incentive scheme that leads to better capitalized financial institutions, efforts should be made by financial regulatory bodies to stabilize the tax structure in Nigeria. This is because the reduction of tax frictions not only increases capital buffers for all firms; it also decreases risk taking behavior.

REFERENCES

Accounting Tool copyright 2019, www.accountingtools.com, May 2019

Affandi, S., Mahmood, S.M.W., & Shukur, N.A., (2012) Capital Structure of Property Companies in Malaysia Based on Three Capital Structure Theories, *South East Asian Journal of Contemporary Business, Economics and Law*, 1 131-136.

Baker, H. K. and Martin, G.S. (2011) *Capital structure and financing decisions: theory, evidence, and practice*. Kolb Series in Finance. John Wiley & Sons, Inc.

Bayrakdaroglu, A., Ege, I., & Yazici, N. (2013). A panel data analysis of capital structure determinants: Empirical results from Turkish capital market. *International Journal of Economics and Finance*, 5(4), 131.

Brealey A. Richard, Myers C. Stewart, and Marcus J. Alan, (2004), Fundamentals of Corporate Finance, McRAW-HILL, INC

De Mooij, R. A., M. Keen, and M. Orihara (2013). *Taxation, bank leverage, and financial crises*, Volume 13. International Monetary Fund.

DeAngelo, H. and Masulis, R. (1980). Optimal Capital Structure under Corporate and Personal Taxation. *Journal of Financial Economics*, 8(1), 3-29.

Deesomsak, Paudyal and Pescetto (2004). The determinants of capital structure: evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14 (4-5), 387-405.

Fama, E. F. and French, K. R. (2012), Capital Structure Choices, *Critical Finance Review*, 1, 59-101.

Glenn S. (2014) *Taxes and bank capital structure*, National Bank of Belgium and Department of Financial Economics, Ghent University

Graham, J R., (2000), How big are the tax benefits of debt? Journal of Finance 55, 1901–1940.

Gujarati, D. (2004). *Basic Econometrics* 4th ed McGraw−Hill Companies.

Investopedia. Tax shield [Internet]. Available from: http://www.investopedia.com/terms/t/taxshield.asp [Accessed: 7 Apirl 2019.

Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital structure around the world: The roles of firm and country-specific determinants. *Journal of Banking & Finance*, 32(9), 1954-1969.

Klapper, L. and Tzioumis, K. (2008). *Taxation and Capital Structure: Evidence from a Transition Economy*. Policy Research Working Paper 4753, World Bank, October 2008.

Koksal, B., Orman, C., Oduncu, A., (2013.), Determinants of capital structure: evidence from a major emerging market economy, http://mpra.ub.uni-muenchen.de/48415/ (accessed 23 January 2015)

Marcel Fischer and Bjarne Jensen 2019 The debt tax shield in general equilibrium. Journal Banking &Finance, 100[2019], 151-166, www.elsevier.com\locate\jbf

Modigliani F, Miller MH. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review*. 53: 433-443.

Myers, S.C. (1984) The Capital Structure Puzzle, *The Journal of Finance*, 39(3), 574–592

Ooi, J. (1999), The Determinants of Capital Structure: Evidence on UK Property Companies, *Journal of Property Investment and Finance*, 17(5), 464-480.

Panigranhi, A.K. (2011), Firm size and capital structure: evidence from Indian corporate, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2342488 (accessed 20 January 2015)

Qureshi, M.A., Imdadullah, M. and A. Tanveer (2012*).* What determines leverage in Pakistan? A panel data analysis. *African Journal of Business Management*. 6(3), 978-985

Seifert, D., Seifert, R.W. & Protopappa-Sieke, M. (2013). A review of trade credit literature: Opportunities for research in operations. *European Journal of Operational Research* 231 245- 256

Singh, P., Kumar, B., (2008), Trade Off Theory or Pecking Order Theory: What Explains the Behavior of the Indian Firms?, http://ssrn.com/abstract=1263226 , (accessed 11 September 2014).

Tomas Kliestik and Lucia Michalkova [2018] Review of Tax Shield Valuation and Its Application to Emerging Markets Finance, http://dx.doi.org/10.5772/intechopen.70943, www.intechopen.com Open Access Books.

Investopedia. Tax shield [Internet]. Available from: http://www.investopedia.com/terms/t/taxshield.asp [Accessed: 7 July 2017]