Impact of Financial and Operating Leverages on firm's profitability

(A Case study of consumer product companies in Pakistan)

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Abstract

The objective of the paper is to recognize the impact and relationship between the financial and operating leverages on firm's profitability of the consumers' product companies of Pakistan. Return on equity (ROE) of a firm is a key factor of the growth rate of its earning. The study sample included two Consumers' product companies on the Karachi Stock Exchange extended from the period 2002 to 2013. Data analyzed by descriptive statistics, correlation and regression model; the dependent variables comprised of Return on Equity (ROE), Return on Assets (ROA) and Net Profit ratio whereas the independent variable was the leverage ratio. The result of the study shows that there is no significant impact of the leverages on ROA and ROE. But there is a significant impact of the leverages on net profit.

***Keywords*:** financial leverage, operating leverage, Return on assets, Return on equity, Net Profit.

JEL Classification: **M1; M10; M12**

Introduction

Each organization requires Liquidity management. It can also be expressed as the fee of current obligations on business. Operating expenses, which are termed as short term however they are growing long term debt, are included in payment obligations. Liquidity ratio which contains Ratio, Quick ratio and Acid test ratio are utilized for liquidity management in the organization that has an influence to a great extent on profitability of organization. Thus there are loads of liquid assets (Cash, Bank) in business utilized to go through the payment schedule by means of matching the cash with the payment obligations. Liquidity ratios are comprised of two types, cash and near to cash assets (both called "current" assets) of a business and the quickly given obligations (current liabilities). The receivables (main part of current assets) are provided by buyers and inventories of completed goods and raw materials provide receivables. The terms liabilities to suppliers, operating and financial expenses are enlisted under the payment obligations which are soon to be paid and maturing installments under the heading long-term debt. There's this goal of fulfilling the payment obligations done by comparing the cash and near to cash with it, manipulation of the Liquidity ratios is done to measure the ability of the business. The unsatisfactory reporting is a sign that the business possibly will face the troubles in order to meet its instant financial obligations. This will have an influence on the company's business operations and profitability. Trade-off theory which defines that it is a firm that selects the requirement of equity finance and debt finance because it is up to the company which will evaluate the costs and benefits of each type of such funds. These preference are not recent, it has been a tool for researchers and managers. The firm management must go through from the available kinds of prices and their benefits of choices leverage strategy, with the goal being set to match the debts and the value. This will establish a balance among the shields, debt tax and cost of going into bankruptcy (Alkhatib 2012; Butters 1949; Myers1984).

This study is use full for both academic and professional levels. Students and professional research can use it for further research; this is also creating an idea that the leverages effect on profitability.

In this paper sample is limited to Pakistan and also specific in Consumers' product companies. In this study results may be generalized to only Consumers' product companies which are selected in this research paper.

This paper will attempt to achieve following objectives:

- To recognize and examine the leverage effects of the chosen consumers' product companies of Pakistan.
- To investigate the impact of financial & operating leverage on profitability, return on the owner's equity (ROE), return on assets (ROA) and net profit.
- To identify the interrelationship between Financial, operating leverage & financial performance of the consumers' product companies in Karachi.

Literature Review

Archer and D‟ Ambrosio (1972), Qasimet. (2012) the sum of fixed cost to total costs and operating leverages are directly proportional. Luoma and Spiller (2002) first taught financial leverage under accounting education. Mostly quarrelling in support of particular reporting of financial leverage in introductory accounting textbooks, the liquidity ratio was termed by Morris and Shin (2010) as "the only attainable cash on the balance sheet to short term liabilities." This term of Liquidity ratio has the words "attainable cash" which are classified as liquid assets and any further assets which already have a haircut. George H. Pink, G. Mark Holmes (2005) named ratio analysis as one of the conducts which is expected and financial statements are applied to assess the company and also to build such values which are comprised of simple interpreted financial sense. Liang and Singh (2001) have declared that the fundamental financial statement approach utilized in textbooks are not concentrating on the major concern but are building confusion among the students by initiating additional information that must be described for their conception. A break-even point, involve by the usual EBIT-EPS analysis that make use of in textbooks, is recommended by them. Their proposal contained a clear-cut cost of funds point that is grasped easily by the students. Even though Liang and Singh have given the details of their unconcern argument regarding operating ROI but they have proved that the conclusions recommended by their standard are identical to those that was set up by them by means of examples that depends upon break-even EPS analysis and the affiliated supposition concerning many shares outstanding. Wald (1999) declared that the most vital factor of firms are the profitability in the heteroskedastic to bit regression model the debt to asset ratios and financial leverage have negatively proportionate. Varsha, Virani (2010) in her study on "Impact of leverage on Profitability of Pantaloon Retail India Ltd" had affirmed that finance pronouncement was involve with choice of accurate mix of debt and fairness in its principal formation. The company must rebuild its principal construct and facility consumption for additional potential in upcoming. Chandra kumaramanglam and Govindasamy (2010) they observe the leverages impact on the productivity/profitability of some chosen cement companies of India and they explicate the association among earning per share & debt equity ratio and also explicate that how effectively and efficiently debt financing uses by the firms. The outcome of the study recommended that profitability growth and leverage have absolute positive association and leverage (financial and operating) have impact the firm's profitability.

Shilpa, Peswani (2011) she went through the outcome of leverage on profitability of both the marvelous companies of FMCG sector (Britannia Industries Ltd and Marico Industries). In leverage, the firm of The Marico Industries Ltd is greater than the Britannia Industries Ltd. Bigger and smaller leveraged firms provide the high return and low return to their shareholders on equity excluding the productivity, which is equal in the both companies. Jagdish and Raiyani (2011) the outcome of the study prove that the risk, which is the part of returns on equity (ROE) contain major impact on the uses of debt financing variation.

Love (2003) and Beck et al. (2005) clarified that the advantages of improved financial market progress must increase primarily to minor firms within a country since they are the trivial borrowers. The awareness, that the undersize firms are comparatively fewer beneficial than the larger ones, was give by Hall and Weiss (1967), Fama and French (1995), or Li et al. (2012).

Beck et al. (2008) made clear in survey data that the undersize firms differ from larger ones when it is about financing options. It is stated by small firms that comparatively they get fewer bank financing and are unable to balance this requirement of trade credit with financial credit. Zhang and Li (2008) have stated that the leverage and agency cost are indirectly proportional. It is also proved by the conclusion of the study. It is also confirmed that if there is an increase in the leverage from its finest stage, then the consequences in the opposite lay impact of free cash flow on the agency cost. They also stated that occasionally an enlargement in the money owing is the reason of bankruptcy cost. The debt level is directly proportionate with bankruptcy cost and indirectly proportionate with agency cost. Khushbakht Tayyaba (2013) she analyzed the effect of leverage on the profitability of the oil and gas sector. The companies with high leverages are more risky with regards to Return on Equity (ROE).It is also proved by the conclusion of the study that in the accounting-based and market-based measures, firms with High leverage are less risky and hypothesis one is opposite to it. These unexpected findings can be explained through Industry specific variables.

Research Methodology

Variables

The dependent variables of the study are;

- Returns on equity (ROE)
- Returns on Assets (ROA)
- Net Profit Ratio

The independent variables of the study are;

- Financial Leverage
- Operating Leverage

Theoretical Framework:

A statement or working pattern is produced by every researcher regarding the research problem under this kind of Conceptualization. In between the major thoughts of variables, the pattern of relationship can be shown the conceptual frame work on better framework of the leveraging strategy on firm performance.

Conceptual Frame Work

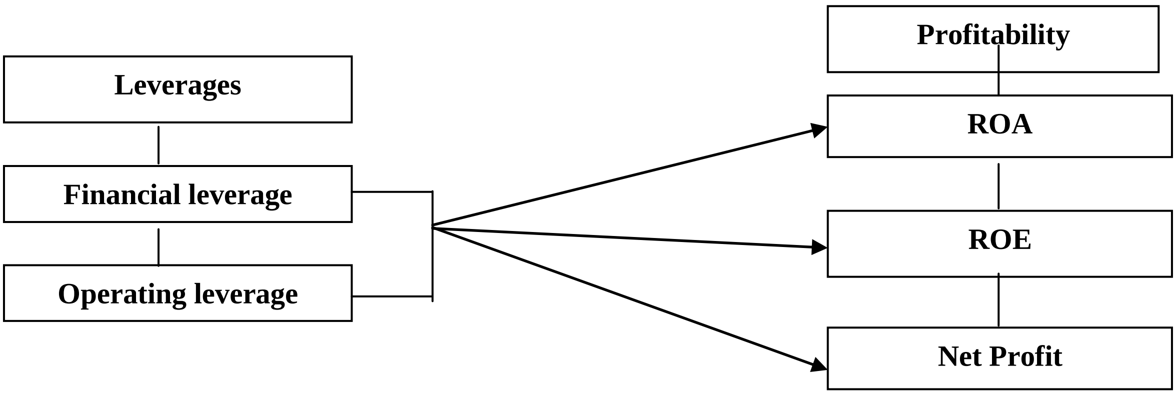

Figure 01: Framework

The above frame work shows the relationship between the key variables (Key variables of independent and dependent). Firm financial performance is considered as dependent variables and in depended on the financial and operating leverage.

Research hypothesis

H_{1o}: There is no influence of leverages on net profit in consumers' product companies.

H_{1a}: There is an influence of leverages on net profit consumers' product companies.

H_{2o}: There is no influence of leverages on ROE consumers' product companies.

H_{2a}: There is an influence of leverages on ROE consumers' product companies.

H_{3o}: There is no influence of leverages on ROA consumers' product companies.

H_{3a}: There is an influence of leverages on ROA consumers' product companies.

Sample design

Sampling Techniques: This paper is associated to the three best consumers' product companies' i.e. Unilever (pvt) Ltd, Gillette Pakistan Limited and Nestle Pakistan. Convenient Sampling techniques are used because selected companies data or financial statements are easily available. The sample is selected from three best consumers' product companies'.

Collection Method: secondary data is collected through financial statements of the selected companies' websites and from various other websites.

Data Analysis: To analyze the data used Descriptive Statistics, Correlation Coefficients and Regression. The software SPSS 17 is used to analysis of research data.

Time Period of the Study: The data for analysis purpose in this research, is collected for 10 years' time period from 2001-2002 to 2013-2014.

Limitation: This research comprises of the secondary data 10 years durations is utilized for analysis. There were few external factors not taken under considerations that produce the changes on the leverage.

Data Analysis and Interpretation

The prerequisite for Regression analysis is Normality of data. There are further techniques but the commonly used the normality of the data is skewness and kurtosis analysis which according to cline 2.05 should be between ± 1.5.

The summarized results consist of Mean, Std. Deviation, skewness and kurtosis analysis presented in Table 1:

Table 1 Descriptive Analysis:

Construct	Mean	Std. Deviation	Skewness	Kurtosis
OL	**1.8963**	**4.71445**	**3.754**	**18.048**
ROA	**0.2709**	**0.35559**	**3.572**	**16.295**
ROE	**2.2147**	**3.58767**	**2.059**	**3.252**
NP	**0.3019**	**0.32377**	**0.563**	**-1.596**
FL	**0.8736**	**0.41051**	**-1.017**	**-0.339**

The above table shows that Net Profit ratio (Mean =0.3019, SD=0.32377) has the lowest skewness (0.563), and Operating Leverage (Mean = 1.8963, SD= 4.71445) has the highest skewness (3.754). On the other hand Financial Leverage (Mean = 0.8736, SD= 0.41051) has the lowest kurtosis (-1.596), and Operating Leverage (Mean = 1.8963, SD= 4.71445) has the highest kurtosis (18.048).

Table 2: Correlations

Variables	Operating Leverage	Return on Assets	Return on Equity	Net Profit
Operating Leverage	**1**			
Return on Assets	**.044**			
	.812**	**1**		
Return on Equity	**-.057**	**-.164**		
	.756**	**.354**	**1**	
Net Profit	**.011**	**.525****	**-.104**	**1**
	.953**	**.001**	**.557**	

The correlation coefficients are based on Pearson Correlation. The above table shows the relationship between the dependent variables (Return on Assets, Return on Equity and Net Profit) to independent variable Operating Leverage. The relationship between financial leverage and Return on Assets is 0.044. It shows positive relationship which means increase in operating leverage, increases the ROA. The relationship between financial leverage and Return on Equity is -0.057 which is negative relationship. Increase in OL decreases the ROE. The relationship between financial leverage and Net Profit ratio is 0.011 which is positive relationship.

Table 3: Correlations

Variables	Financial Leverage	Return on Assets	Return on Equity	Net Profit
Financial Leverage	**1**			
Return on Assets	**-332**			
	.055**	**1**		
Return on Equity	**392**	**-.164**		
	.022**	**354**	**1**	
Net Profit	**-.672**	**0.525****	**-.104**	**1**
	.000**	**.001**	**0.557**	

The correlation coefficients are based on Pearson Correlation. The above table shows the relationship between the dependent variables (Return on Assets, Return on Equity and Net Profit) to independent variable Financial Leverage. **-0.332** relationship with financial leverage and Return on Assets is negative it means decreases the ROA and increase in FL.**0.392** show the moderate positive relationship with Financial Leverage to Return on Equity. **– 0.672** show the moderate positive relationship with Financial Leverage to Return on Equity.

Hypothesis # 01 Testing:

Ho: There is no influence of leverages (Operating Leverage and financial Leverage) on net profit in consumers' product companies.

H_A: There is influence of leverages (Operating Leverage and financial Leverage) on net profit in consumers' product companies.

Table 4: Regression Analysis:

Model	R	R Square	Adj. R Square	Std. Err of Estimate	F Change	Sig. F Change
1	.667[a]	.445	.407	.25164	11.637	.000[a]

A Predictors: (Constant), FL, OL

R square is 0.445 which indicates that about 44.5% of the variation on the dependent variable is explained by the predictor variable which is significant.

Table 5: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.767	.105		7.307	.000
OL	.000	.010	-.010	-.072	.943
FL	-.520	.108	-.667	-4.824	.000

The coefficient table expounds the beta values of the dependents variable Net Profit (NP) to independent variables FL (Financial Leverage) and OL (Operating Leverage) by using Least Square. Constant explains the NP coefficient is 0. 767. The fact that OL has no impact on NP is proved by the intercept of OL that is -0.000. The negative impact that FL has on NP is shown by the intercept of FL which is -0.520. The significant value is 0.943, which is bigger than α value 0.05. The null hypothesis is taken. Therefore the result is that OL didn't have considerable difference hence it clarifies that there is not enough effect on NP.

The significant value is 0.000, which is smaller as compared to α value 0.05 therefore the substitute hypothesis is accepted. At the end, the result shows that the FL has greater difference which means that there is enough effect on NP.

Hypothesis # 02 Testing

Ho: There is no influence of leverages (Operating Leverage and financial Leverage) on ROE in consumers' product companies.

H_A: There is no influence of leverages (Operating Leverage and financial Leverage) on ROE in consumers' product companies.

Table 6: Regression Analysis:

Model	R	R Square	Adj. R Square	Std. Err of Estimate	F Change	Sig. F Change
1	0.390[a]	0.152	0.093	3.03809	2.593	0.092[a]

A Predictors: (Constant), FL, OL

R square is 0.152 which indicates that about 15.2% of the variation on the dependent variable is explained by the predictor variable which is significant.

Table 7: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.649	1.267		-.512	.612
OL	-.030	.116	-.045	-.263	.794
FL	2.932	1.302	.385	2.253	.032

The coefficient table expounds the beta values of the dependents variable ROE (Return on Equity) to independent variables FL (Financial Leverage) and OL (Operating Leverage) by using Least Square. Constant explains the ROE coefficient is -0. 649. Intercept of OL is -0.030 which explains that OL negatively impact on ROE. Intercept of FL is 2.932, which shows that FL positively impact on ROE. The significant value is 0.794 and 0.032, which are greater than α value 0.05 so the null hypotheses are accepted. Therefore, conclusion is that the FL and OL are not significantly differ which means that there is no significant impact of leverages on ROE.

Hypothesis # 03 Testing:

Ho: There is no influence of leverages (Operating Leverage and financial Leverage) on ROA in consumers' product companies.

H_A: There is no influence of leverages (Operating Leverage and financial Leverage) on ROA in consumers' product companies.

Table 04: Regression Analysis:

Model	R	R-square	Adj. R Square	Std. Err. of the Estimate	F Change	Sig. F Chng
1	.324[a]	.105	.043	.35501	1.702	.200[a]

A Predictors: (Constant), FL, OL

R square is 0.105 which indicates that about 10.5% of the variation on the dependent variable is explained by the predictor variable which is significant.

Table 05: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.517	.148		3.494	.002
OL	.003	.014	.034	.192	.849
FL	-.278	.152	-.321	-1.828	.078

The coefficient table expounds the beta values of the dependents variable ROA (Return on Asset) to independent variables FL (Financial Leverage) and OL (Operating Leverage) by using Least Square. Constant explains the ROA coefficient is 0. 517. Intercept of OL is 0.003 which explains that OL positively impact on ROA. Intercept of FL is -0. 278;

which shows that FL negatively impact on ROA. The significant value is 0.849 and .078, which are greater than α value 0.05 so the null hypotheses are accepted. Therefore, conclusion is that the FL and OL are not significantly differ which means that there is no significant impact of leverages on ROA.

Conclusion

The aim of the study is to recognize the relationship and impact of the financial and operating leverages on firm's profitability of the consumers' product companies of Pakistan. The companies Panel data between 2002 and 2013 used and also observe that there is an impact and relationship between leverage and profitability or not.

Dependent variables are Return on Asset (ROA), Return on Equity (ROE) and Net Profit ratio and independent variables are financial leverage and operating leverage. Panel data is analysis by regression, correlation and descriptive statics. Results show that the ROA has a positive relationship with Operating Leverage (OL). It means that OL and ROA have similar relationship. So when ROA increased, operating leverage will be increase. And ROA has negative relationship with FL, which means increase in operating leverage, decreases the ROA.

The ROE has negatively related with Operating Leverage and positively related with financial Leverage. The Net Profit ratio positively related with Operating Leverage, but the negatively related with financial Leverage. There is no significant impact of leverages (Operating Leverage and financial Leverage) on ROA and ROE of consumers' product companies. Null hypotheses are accepted. There is a significant impact of leverages (Operating Leverage and financial Leverage) on Net Profit of consumers' product companies. Alternative hypothesis accepted. Normally it is assume that the high leveraged companies have lower profitability but this research is opposites of the assumptions.

Recommendations

The debt- Equity ratio is a good measurement of the firm's capital structure. Increase in the company's profitability although tends to reduce the capital cost and increase the investment returns.

Two recommendations can be drawn from the study. Firstly, the firms would maximize their leverage in case they tend to have wealthy shareholders (such as companies working in Oil and gas sector need more debt financing to get through their development projects).

Secondly those firms that ensure stakeholders performance should optimize their assets. Return on Equity would be higher if a firm works less on capital base and does debt financing as well. In general, a better capital structure for the firms requires a combination of firms' leverage and assets at a suitable proportion though it may vary from industry to industry.

References

Allen, D. E., (1993). The pecking order hypothesis: Australian evidence. Applied Financial Economics, 3, 101 - 112.

AmalenduBhunia (2012). Leverage Impact on Firms Investment Decision: A Case Study of Indian Pharmaceutical Companies. International Journal of Contemporary Business Studies, 3, 1, 35-45.

Bhaduri, S. (2002). Determinants of corporate borrowing: some evidence from the Indian corporate structure. Journal of Economics and Finance, 26, 200-215.

Chandrakumaramangalam, S. &Govindasamy, P. (2010). "Leverage- An Analysis and its Impact On Profitability With Reference to Selected Cement Companies in India" European Journal of Economics, Finance and Administrative Sciences, Issue 27, pp 53-65.

Figlewski, S., and X. Wang, (2000), "Is the "Leverage Effect" a Leverage Effect?" Working Paper New York University.

John K. Wald (1999) "Capital Structure with Dividend Restrictions"Journal of Corporate Finance, Vol. 5, June 1999

KhushbakhtTayyaba "Leverage" – An Analysis and Its Impact On Profitability With Reference To Selected Oil And Gas Companies International Journal of Business and Management Invention ISSN (Online): 2319 – 8028, ISSN (Print): 2319 – 801X www.ijbmi.org Volume 2 Issue 7ǁ July. 2013ǁ PP.50-59.

Lawrence, Denis, W. ErwitDiewert, and Kevin J. Fox.The Contributions of Productivity, Price Changes and Firm Size to Profitability. JEL classification: C43, D24, September 2004, page 1-26.

Liquidity-profitability tradeoff: an empirical investigation in an emerging market. International Journal of Commerce & Management Publication Date: 01-JUN-04

Madan, K. (2007), An analysis of the debt-equity structure of leading hotel chains in India. International Journal of Contemporary Hospitality Management, 19(5), 397-414.

Manzler, D. (2004). Liquidity, liquidity risk and the closed-end fund discount. Working paper, University of Cincinnati.

Mian, S. and C. Smith, Jr. (1992). „„Accounts Receivable Management Policy: Theory and Evidence.‟‟ Journal of Finance 47, 169–200.

Peswani ,Shilpa(2011). "Does A Highly Leveraged Capital Structure Of A Firm Influence Its Performance? A Comparative Study of High and Low Leveraged FMCG Companies in India", Indian Journal of Finance, vol.5, June.

QasimSaleem"Leverage" – An Analysis and its Impact on Profitability with Reference to Selected Oil and Gas Companies of Pakistan International Journal of Management Sciences and Business Research (ISSN-2226-8253) VOLUME 1, ISSUE 12.

R. Amsaveni (2009), "Impact of Leverage on Profitability of Primary Aluminum Industry in India", Indian Journal Finance.

Titman, S. &Wessels, R. (1988), The determinants, Journal of Finance, 43(1), pp. 1–19.

Varsha, Virani (2010). "Impact of Leverage on Profitability of Pantaloon Retail India Ltd." Advances in Management, Vol 3(8), pp52-59, August.

Working Paper/Document de travail 2010-38 (The Impact of Liquidity on Bank Profitability)

Zhao Bei, Wijewardana, W. P. (2012). Financial leverage, firm growth and financial strength in the listed companies in Sri Lanka', Procedia - Social and Behavioral Sciences 40, 709-715.

Zhang, X. (2000). „„Conservative Accounting and Equity Valuation.‟‟ Journal of Accounting and Economics 29, 125–149.

Zubairi, H. J., & Rashid, A. Leverage, Size and Profitability: The Case of Pakistan‟s Automobile Industry.