



Munich Personal RePEc Archive

Firm and Industry Effects on Firm Profitability: An Empirical Analysis of KSE

Raza, Syed Ali and Farooq, M. Shoaib and Khan, Nadeem

Iqra University Abid Town, Block-2 Gulshan-e-Iqbal, Karachi,
Pakistan Tel: +92214800670-4 Fax: +92214987806

4 July 2011

Online at <https://mpra.ub.uni-muenchen.de/36797/>

MPRA Paper No. 36797, posted 21 Feb 2012 04:33 UTC

Firm and Industry Effects on Firm Profitability: An Empirical Analysis of KSE

Syed Ali Raza

Research Associates, Iqra University
Abid Town, Block-2 Gulshan-e-Iqbal, Karachi, Pakistan
Tel: +92214800670-4 Fax: +92214987806
Email: syed_aliraza@hotmail.com

M. Shoaib Farooq

Business Graduate, Iqra University
Abid Town, Block-2 Gulshan-e-Iqbal, Karachi, Pakistan
Tel: +92214800670-4 Fax: +92214987806

Nadeem Khan

Assistant Professor, Iqra University
Abid Town, Block-2 Gulshan-e-Iqbal, Karachi, Pakistan
Tel: +92214800670-4 Fax: +92214987806

(This paper is accepted in “International Research Journal of Finance and Economics”)

Firm and Industry Effects on Firm Profitability: An Empirical Analysis of KSE

Abstract

The study meant to explore the external and internal factors which influence firm's profitability i.e. "Firm and Industry Effects on Firm Profitability". In this research ROA and ROE has taken as profitability measure and their dependency has checked with firm effect, industry effect and market share. Data has extracted from "Balance Sheet Analysis of Joint Stock Companies Listed on the Karachi Stock Exchange Volume-II 2004-2009" which is state bank of Pakistan publications and it represents six year financial statements of the firms. By using Regression analysis technique result has found which represent that all three independent factor i.e. firm effect, industry effect and market share are significant with ROA and ROE.

Key Words: Return on Assets (ROA), Return on Equity (ROE), market share

1. Introduction

The primary task for any business regardless of its size, capital, ownership and nature is to earn profit and there are various internal and external factors which influence firm profitably. The importance of the question, whether external factors influence firm's profitability, can be judge from the fact that its strategic decisions are depend on the answer of this question. Other matters like competitive advantage and competitive policies of firm determine by the same answer.

The inter-firm heterogeneity is vital to understand the influence of firm effect on firm profitably. It helps in determining the competitive advantage of the firm over other firm and it also aid the firm to design its competitive strategies. Moreover it also creates barriers for the new firm to entry in the industry. The heterogeneity which determines the profitably level of the firm also leads to the creation of firm image in the eyes of customer which is very food full for the firm and by means of which firm multiplied its profit.

Market share also play a key role in identification of firm performance and its position in the industry and it's also identify the level of competition and the way to form all lever of strategies (corporate level, business level and product level) to counter that competition. Usually all the firm in the industry are conscious about their market share.

Schmalensee (1985) identifies the impact of firm, industry effect and market share on firm profitability and many researchers' employees his model after modification it according to their business environment and market structure like Rumelt (1991) includes firm related to manufacturing concern to enhance the research like wise competitive advantage of a firm is identified with the help of same theory by McGahan and Porter (1998).

1.2 Problem Statement:

Many researchers¹ has identifies the factors which influence firm profitability but they consider only the internal matters of the firm and external factors has been ignored in Pakistan. Internal factors include working capital, capital structure, operating cycle, ownership, leverage, investment in fixed assets. Where as external factors embrace industry effect, firm effect, market share. The aim of this study is to analyze firm and industry effect on firm profitability in Pakistan.

1.3 Research Question:

Is there a significant impact of firm and industry effect on firm profitability?

1.4 Significance of the Study:

The research aim to determine the impact of firm and industry effect on firm profitability in Pakistan therefore this dissertation helps firm in making strategies and it also help them in identification that which area is most important while making strategies against their competitors. The manuscript helps entrepreneurs about their competitive advantage and also helps them in creating competitive advantages against their competitors which leads to a better competition environment therefore the whole industry will be beneficiary.

2. Literature Review:

Tarziján and Ramírez (2010) revisited the firm, industry and corporate effect with multi level analysis. Economatica database were the source of the data, the data of 302 Chilean firms were used for the year 1998 to 2007(2,127 observations). They applied multi level analysis to come up with the results which were industry 11%, corporate 14% and firm 46% and remaining 29% were unexplained. The random effect model explained that Corporation 8.29%, Industry 7.13%, Firm 38% and error were 24.07%.

Short et al (2009) presented the same firm and industry effect as the determinate of firm performance (This study is for the guidance of new ventures).they created two models one for new ventures and second for old firms. They took the data of 7,256 Swedish firms for the year 1994. They used ANOVA test and found for the first model that Firm were 41.31%, Industry were 14.59% and error (year change) were 44.10%. The second model explained that Linear effect 5.51%, Firm effect 52.28%, Industry effect 14.02%, error 28.19%.

Holian and Ali (2009) studies the determinate of firm accounting and economic profit by involving firm and industrial effect. They involved cash flow and opportunity cost as the determinate of economic profit and firm and industry effect as the determinate of accounting profit. They include the data from 1989 to 2003 of 331 firm of United States from compustat database. They applied regression analyses in order to got the result which in accounting model were firm effect 15.3%, Industry effect 5.3% and Firm and industry effects 16.8% and in

¹ Jasir Ilyas (2008) The Determinants of Capital Structure: Analysis of Non Financial Firms Listed in Karachi Stock Exchange in Pakistan

Tariq Naeem Awan et al (2011) Analysis of the determinants of Capital Structure in sugar and allied industry
H. Jamal Zubairi and Mirza Aqeel Baig (2010) impact of working capital management and capital structure on profitability: the case of kse quoted automobile firms

Mian Sajid Nazir and Talat Afza (2009) Impact of Aggressive Working Capital Management Policy on Firms' Profitability

Attaullah Shah and Safiullah Khan (2007) Determinants of Capital Structure: Evidence from Pakistani Panel Data

economics model were effect 45.8%, Industry effect 15.8% and Firm and industry effects 50.4% and remaining were unexplained.

Galbreath and Peter (2008) presented the new empirical proof to old debate about the firm profitability. The data was collected with the help of questionnaire from 285 Australian firms in 2007. They used ANOVA test and includes Tangible assets, Intangible assets, Capabilities, Industry structure, Overall Performance and Control variables. They found that firm Size were 0.159%, firm Age were 0.016%, Entry barriers were 0.063%, Tangible assets -0.094%, Intangible assets 0.055% and Control variables 0.190%.

Victor and McGahan (2006) studied the location and industry factor as determinates of firm performance. 11 years data (1993 to 2003) of 4000 firms from 43 countries were included from compustat database. They applied ANCOVA method to analyzed the data and employees many variables like year, country, industry, year*country, year*industry. They found that year explained 0.65%, country explained 1.12%, industry explained 4.51%, year*country explained 2.98%, year*industry explained 7.31%, country*industry explained 14.79% and 68.64% were unexplained.

Hawawini et al (2005) claimed that there previous research were not misleading rather it is misunderstood by Mcnamara el al (2005) and they claimed that Mcnamara el al (2005) research were not contradict their manuscript but the extension of it. They recollect the data from 1987 to 1996 and exclude outlier (4 leading and 5 loser firms). Their finding for economic profit model were Firm's effect explained 26.8%, Industry effect explained 3.9%, Year effect explained 2.5%, industry x year explained 3.9% and 62.8% were unexplained. Result also identified that their claim is true.

Mcnamara el al (2005) criticized Hawawini et al (2003) work and declared it misleading conception. They took the data from 84 industries of 2686 firms from 1987 to 1996 and the criterion for selection of firm was minimum 100 million dollar sale from compustat database. The method they used for analyzed the data were ANCOVA. They found that stable industry effects were 9.1% and unstable industry effects were 4%, firm effects were 43.8% and after excluding extreme firm from the selected industry result were stable industry effects were 14.7% and unstable industry effects were 9.9%, firm effects were 22.9% therefore they conclude that Hawawini et al (2003) result were misleading due to wrong sample selection.

Caloghirou el al (2004) studied firm and industry as a determinate of performance. Data is collected through questionnaire for three years 1994 to 1996 and cut off used for the selection of the firm was 250 employees of large Greek firms. They applied regression analysis to come up with the results which were firm impact 38%, industry impact 11%, and Industry x Year impact 3.35% on firm profitability.

Brito and Vasconcelos (2004) analyzed the effect of region in which firm exist on its profitability. He used COMPUSTAT database to collect the data of 78 countries which includes 12,592 firms. He employees Analysis of covariance (ANCOVA) to analyzed the data and come up with the result that country effect explained 16.9%, industry effect explained 15.6% and firm effect explained 41.0% of the total variance. The new factor i.e., country effect is second most important factor which influence profitability.

Li and Greenwood (2004) identified the diversification in intra-industry firm's performance. Sample of 276 Canadian insurance firms had taken from 1993 to 1998 to come up with result and to analyze the data they used ANOVA technique. According to their result Investment risk ratio is most important factor among all. With the help of model they predict 3 main benefits which are synergies between the firms, competition and efficiencies which are

derived with in industry. The research helps firm to develop strategy better then before, it also helps the firm to cope up with competition it faces from the industry.

Eriksen and Knudsen (2003) explained interaction of firm and industry which in turn impinge on profitability of firm. Five years statistical value were used from 1991–1995 it is from small and medium size organizations including 9809 firms from Denmark and in order to analyzed the data they used Analysis of covariance (ANCOVA). They find that firm effect 42%, industry effect was not significant, and interaction effect 20.44% on firm profitability.

Hawawini et al (2003) asserts determinates of firm accounting and economic profit by involving different factors. They consider 10 years data from 1987 to 1996 of 562 firms which belongs to 55 different industries including 5620 observations. Variance components analysis were used as statistics technique and the variable involved are return on invested capital, Economic profit and weighted average cost of capital(WACC) on one hand and porter(1998) model, engage ROA(Accounting profit), industry and firm profit and market share on the other hand to identified the variance between the result obtained by both methods. Results obtained by economic profit model were Firm's effect explained 27.1%, Industry effect explained 6.5%, Year effect explained 1.9%, industry x year explained 4.2% and 60.3% were unexplained. Accounting profit model represented that Firm effect explained 35.8%, Industry effect explained 8.1%, Year effect explained 1.0%, and industry x year explained 3.1% and 50% were unexplained.

Ruefli and Robert (2003) presented a non parametric approach for the analyses of firm profitability. They used compustat database to obtain the data from 1980 to 1996 of American firms. They applied ANOVA test and obtained the result which were Time period 0.01%, Industry coefficient 0.14%, Corporate 7.06%, firm 12.33% and error 45.9%. Results for the diversified firm were Time period 0.01%, Industry coefficient 0.13%, Corporate 3.45%, firm 13.33% and error 11.8%.

McGahan and Porter (2002) reanalyzed their pervious research but this time they apply different model and technique to analyze the data. They have taken the data form compustat database for the year 1981 to 1994, the data selected was the largest among all of their researches. Nested Analysis Of Variance (ANOVA) were used by them to analyze in a better way therefore they found that result were similar to the pervious research. It indicated that the economic profit model used by other researcher has not predicted much other that the pervious researches.

Claver et al (2002) studied two factors which influence firm profitability and that are firm and industry effect. They analyzed data of 5 years from 1994 to 1998 of 679 manufacturing firm of Spain and the data were taken from Ardan database. Rumelt's (1991) model was adopted by them to analyze the data. He notice that Industry x Year explained 2.78%, year explained 0.36%, Industry explained 2.06%, Corporation explained none, Business unit explained 42.69% and model was unable to explained 52.1% of the variance.

Cheng and Jaebum (2002) studied Korean market for the determination of profitability through the industry analyses. Korea Information Service was used to collect the data 569 firms for the year 1985 to 1986. They used Schmalensee (1985) and Rumelt (1991) models and applied ANOVA test to come to conclusion. They found for first model which comprised of large firms that firm effect were 9.4%, year effects were 2.5%, industry effects were 7.6% and the remaining were unexplained. The second model which was comprised of small firms explained that firm effect 20.8%, industry effects 4.4, year 2.5% and remaining were unexplained.

Furman (2000) explained the impact of place (location) factor on profitability of the firm. Worldscope database were used to collect data of 50 countries over 13,000 firms for 5 year data

(1992 to 1996). He applied ANOVA to analyze the data and obtained that Year 0.4%, Industry 30.3%, Corporate Parent 9.0%, firm 16.8% and remaining were unexplained. Therefore the whole model was able to explain 56.5% of the variance among the firm and 43.5% were unexplained which indicated that model demand for new variable to be added.

McGahan and Porter (1998) analyzed various factors of industry which affect firm profitability. They took the data American firms from 1981 to 1994 and analyzed the data by applied components of variance analysis and Analysis Of Variance (ANOVA). They employed the following factors year, industry, corporate-parent, and business-specific effects and found that year had 2%, industry 19%, corporate-parent 4%, and business-specific 32% impact on firm profitability. The magnitude of industry effect was more or less equals to industry effect identified by Schmalensee (1985), Firm or business-specific effect had highest percentage among all factors. The result of identified that firm profitability greatly effect by business specific effect and industry effect to follow.

Roquebert et al (1996) examined market and management effect on profitability to find what really affect profitability; the study was similar to study of Rumelt (1991). They took the data from COMPUSTAT data base of 16,596 observations from 1985 to 1991. They applied variance components analysis (VARCOMP) for analysis Industry x Year, Market share, Industry, Corporation, Business unit on firm profitability and found that Industry x Year explained 2.3%, Market share explained none, Industry explained 10.2%, Corporation explained 17.9%, Business unit explained 37.1% and model was unable to explained 37.1% of the variance. Except corporate effect result was similar to old researches.

Powell (1996) analyzed the significance of industry for the profitability the firm. He obtained the data from federal trade commission for the profit of the firm and for the sake of other variable survey and interview method was used. Interviews were taken from 143 firms of United States. He used factor analysis method for the outcome of the data and found the entry barriers were 0.83, incumbent advantages were 0.85, economy of scale were 0.48, industry concentration were 0.50, customer loyalty were 0.74, intensity of competition were 0.85, advertising intensity were 0.71, R & D intensity were 0.48 and industry maturity were 0.81.

Rumelt (1991) broadened Schmalensee (1985) research by using the data of four consecutive years from the database of FTC against the one year data used by schmalensee (1985). Four years data (1974-1977 including 6,932 observations) enabled him to identified year effect; therefore he developed a new model by modifying schmalensee (1985) model which can determine year and industry effect separately. He used components of variance analysis (COV) and nested Analysis Of Variance (ANOVA) to analysis the data and found that industry had 16% (transient effects or industry * year effects), industry 8.3% (permanent effect), firm 46.4% effect.

Schmalensee (1985) identified the affect of market on the firm profitability; he analyzed 1975 (single year) statistics of American firm from FTC database. He applied components of variance analysis(COV) to find the affect of firm, industry effect and heterogeneity exist between the firms, which he measured by market share, and he found that industry effect had 20%, market share had negligible and firm effect had no impact on firm profitability. After his research many researchers try to find the external factors which affect firm profitability.

3.1 Research Approach– Quantitative:

This dissertation aims at finding out the firm and industrial effect on firm profitability. The research involving quantitative nature of variables which are return on assets, profit and sales, to determine market share. This research quantify the relationship between the variables by formulate the mathematical model; therefore the research approach is quantitative.

3.2 Correlational Research:

The research engages quantitative variables and its aim to find out the relation between firm profitability and firm, industry effect and market share on firm profitability therefore research uses correlation design which lead to better understanding of relationship maintain between the variables.

3.3 Statistical Technique/Tool:

This study employee one dependent variable i.e., return on assets (ROA) with more then one independent variable i.e., firm effect, industrial effect, market share therefore multi linear regression technique has been used to identify the effects of independent variables on dependent variable. The statistical package for social sciences (SPSS) or Statistical Analysis System (SAS) is use as computer aid to apply multi linear regression technique on the data.

3.4 Hypothesis:

H₀: Firm, industry and market share has an insignificant impact on firm profitability in Pakistan.

H₁: Firm, industry and market share has a significant impact on firm profitability in Pakistan.

3.5 Models:

3.5.1 Model 1:

$$ROA = \alpha + \beta_1 FP + \beta_2 IP + \beta_3 MS + \varepsilon$$

Where:

ROA = Return on Assets

α = Constant

β_1 = Co efficient of Firm Profit

FP= Firm Profit

β_2 = Co efficient of Industry

IP= Industry Profit

β_3 = Co efficient of Market Share

MS= Market share

ε = Error Term

3.5.2 Model 2:

$$ROE = \alpha + \beta_1 FP + \beta_2 IP + \beta_3 MS + \varepsilon$$

Where:

ROE = Return on Equity

α = Constant

β_1 = Co efficient of Firm Profit

FP= Firm Profit

β_2 = Co efficient of Industry

IP= Industry Profit

β_3 = Co efficient of Market Share

MS= Market share

ε = Error Term

3.6 Data Source:

Secondary data is required for the research which is Karachi stock exchange listed firm's profit, assets and sales. The data is taken from the "Balance Sheet Analysis of Joint Stock Companies Listed on The Karachi Stock Exchange Volume-II 2004-2009" which is state bank of Pakistan publications and it represent six year financial statements of the firms. For the purpose this study 151 firms are selected from Karachi stock exchange from all sectors i.e., Textile Sector,

Chemical Sector, Engineering Sector, Sugar & Allied Sector, Paper & Board Sector, Cement Sector, Fuel & Energy Sector, Transport & Communication, Tobacco Sector, Jute Sector and the number of observation is 903.

4. Analysis

The process of collecting, transforming and demonstrating data for the purpose of achieving valuable results by logical and analytical reasoning and the research present the same in this section.

4.1 Descriptive Statistics:

Descriptive statistics shows summary of the data use in study and by the help of this one can easily understand the range and features of the data.

Table 4.1 Descriptive Statistics:

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	903	-68.8	75.7	5.620	13.7018
Return on Equity	903	-294.9	315.0	13.161	34.7091
Firm Profit	903	-78307.4	80928.0	755.052	5828.5595
Industry Profit	903	-156341.1	132493.7	12821.169	34389.1080
Market Share	903	.0127699	89.7098	4.56332	10.05597

Table 4.1 represents the sample size (N) of the all variables i.e., Return on Assets, Return on Equity, Firm Profit, Industry Profit, Market Share, which in case of this study is 903 here it represent six year data from 2004 to 2009 of 151 firms.

The table 4.1 also represents the extreme values i.e., maximum and minimum values of all the variable of the selected data. In case of Return on Assets (ROA) minimum value is -68.8 which shows that data include a firm (worse firm of the sample according to its return on assets) which earns 68.8% loss as percentage of its Assets and maximum value is 75.7 which depict the firm whose performance is remarkable in all firms and which earns 75.7% profit as percentage of its assets. For Return on Equity minimum value is -294.9 which shows that data include a firm which earns 294.9% loss as percentage of its equity and maximum value is 315 which depict the firm whose performance is remarkable in all firms and which earns 315% profit as percentage of its equity. Firm profit (in million of rupees) minimum value is -78307.4 describes utmost lost face by the firm and maximum value 80928.0 indicates level best return earn by the firm. Minimum value for the industry profit (in million of rupees) is -156341.1 depicts the extreme lost face by the industry in the period of 2004 to 2009 and maximum value 132493.7 shows utmost profit earn by the industry. In case of market share minimum value is 0.01276 indicates the smallest firm according to market share only has 0.012% share in the market and maximum value is 89.70 describes that best or largest firm according to market share has 89.70% share of its market. From the above description it is clear that the sample selected represent all types of firm whether large or small according to return on assets, return on equity, firm profit, industry profit and market share.

Mean represent the average value of the data. In the table 4.1 mean for the return on assets is 5.620 indicates that average firm in all sectors earns 5.620 millions rupees as percentage of its assets. Return on equity has mean value 13.161 depicts that average firm in all sectors earns 13.161 millions rupees as percentage of its equity. In case of firm profit mean is 755.052 which represents average firm in all sectors earns 755.052 millions rupees of return. Mean of industry profit is 12821.169 shows that industry earns 12821.169 millions of rupees (average) in

the period of 2004 to 2009. Market share of firms has mean value 4.56332 represents that average firm has 4.56% of market share.

Table 4.1 also indicates Standard deviation which represents deviation of values from its mean, which has the value of 13.7018 for return on assets, 34.7091 for return on equity, 5828.5595 for firm profit, 34389.1080 for industry profit and 10.05597 for market share.

Table 4.2 Pearson Correlation Coefficients:

	Return on Assets	Firm Profit	Industry Profit	Market Share
Return on Assets	1	.501*	.497*	.210*
Sig. (2-tailed)		(.000)	(.000)	(.000)
N	903	903	903	903
Firm Profit	.501*	1	.479*	.076*
Sig. (2-tailed)	(.000)		(.000)	(.023)
N	903	903	903	903
Industry Profit	.497*	.479*	1	-.022
Sig. (2-tailed)	(.000)	(.000)		(.502)
N	903	903	903	903
Market Share	.210*	.076*	-.022	1
Sig. (2-tailed)	(.000)	(.023)	(.502)	
N	903	903	903	903
	Return on Equity	Firm Profit	Industry Profit	Market Share
Return on Equity	1	.330*	.403*	.136*
Sig. (2-tailed)		(.000)	(.000)	(.000)
N	903	903	903	903
Firm Profit	.330*	1	.479*	.076*
Sig. (2-tailed)	(.000)		(.000)	(.023)
N	903	903	903	903
Industry Profit	.403*	.479*	1	-.022
Sig. (2-tailed)	(.000)	(.000)		(.502)
N	903	903	903	903
Market Share	.136*	.076*	-.022	1
Sig. (2-tailed)	(.000)	(.023)	(.502)	
N	903	903	903	903

*Significant at 95% confident interval.

The intensity of association among the variables are assessed by Pearson's correlation coefficient (r). The value of Pearson's correlation lies between +1 to -1, when the value is at extreme i.e., +1 it means perfect positive relation among the variables and vice versa and 0 indicates no relationship.

For the model 1 Table 4.2 shows that Return on Assets (ROA) has positive and significantly correlated with the variables with the percentage of 50.1% with firm profit (FP), 49.7% with industry profit (IP) and 21% with its market share (MS) and the sample size (N) shows the value of 903 which indicates that data consists of 151 firms with six years of data from 2004 to 2006.

For the model 2 Table 4.2 also shows that Return on Equity (ROE) has positive and significantly correlated with the variables but the relationship has not as strong as model 1. Here Return on Equity (ROE) has 33% correlated with firm profit (FP), 49.7% correlated with industry profit (IP) and 21% correlated with its market share (MS).

Table 4.3 Ordinary Least Square Estimation & Multicollinearity Diagnostic (Model 1):

Variables	Beta	t - stat	P-value	VIF
Constant	2.07279*	4.912	(0.000)	
Firm Profit	0.00075*	10.587	(0.000)	1.311
Industry Profit	0.00013*	11.550	(0.000)	1.304
Market Share	0.26335*	7.286	(0.000)	1.010
Adjusted R-square 0.372	Durbin-Watson 1.915 Probability (0.0962)	F-stat 178.906* Probability (0.000)		

$$ROA = \alpha + \beta_1 FP + \beta_2 IP + \beta_3 MS + \varepsilon$$

Table 4.3 represents results obtained by running multiple regression analysis by the help of statistical package for social sciences (SPSS). The table consist of the following beta values, t-stat, P-values and VIF of all variables and also represent model's adjusted R², Durbin Watson with its P-value and F-stat with its P-value.

Beta coefficient shows the tendency of an independent variable to respond against dependent Variables. Therefore greater value of beta indicates the larger impact on dependent variable and vice versa. Here the value of beta is 0.00075 for firm profit, 0.00013 for industry profit and 0.26335 for market share. These values of beta and constant are use to develop the regression model which use to estimate the value of dependent variable on provided values of independent variables.

VIF is the test of multicollinearity among the variables (Excessively high correlation among the independent variables). The rule of thumb describe that VIF>4.0 indicates multicollinearity problem among the variables, since the table 4.3 shows that no variable have VIF value >4.0 therefore no multicollinearity exist in this model.

In table 4.3 column label P-value shows that all variables P-values are <0.05; i.e., firm profit (FP) has (0.00), industry profit (IP) has (0.000), market share (MS) has (0.000) therefore all variables are significant.

The ability of explanatory variables (independent variables) to alter (variate) the value of dependent variable is measures by adjusted R square. As compare to R square, adjusted R square is better and more precise goodness-of-fit measure because it allows degree of freedom to sum of squares therefore even after addition of new independent variable(s) the residual variance does not change. Table 4.3 shows the value of adjusted R square as 0.372 or 37.2% which indicate that model is 37.2% accurate or best fitted.

Durbin-Watson test is use to test autocorrelation among the data (error term). In Durbin-Watson test, null hypothesis indicate that autocorrelation does not exist in error term and alternative hypothesis depicts that autocorrelation exist in error term. Since regression model has assumption of uncorrelated error term therefore it must be fulfilled to run regression analysis. In Table 4.3 (Model 1) indicate value of durbin watson as 1.915 which shows that autocorrelation does not exist in error term and its p-value is 0.0962 which indicate that the value on durbin Watson is significant.

Regression model Overall significance has identifies by F-value and its prob. (F). It is actually the explained variance divided by unexplained variance (mean error). In table 4.3 (model 1) F-stat shows the value 78.906 and its Probability (F) (0.000).

Following is the Regression equation for model 1:

$$ROA = 2.07279* + 0.00075* FP + 0.00013* IP + 0.26335* MS$$

Table 4.4 Ordinary Least Square Estimation & Multicollinearity Diagnostic (Model 2):

Variables	Beta	t - stat	P-value	VIF
Constant	6.11687*	5.074	(0.000)	
Firm Profit	0.00096*	4.764	(0.000)	1.311
Industry Profit	0.00033*	9.661	(0.000)	1.304
Market Share	0.45282*	4.386	(0.000)	1.010
Adjusted R-square 0.201	Durbin-Watson 1.891 Probability (0.0583)	F-stat 76.651* Probability (0.000)		

$$ROE = \alpha + \beta_1 FP + \beta_2 IP + \beta_3 MS + \varepsilon$$

In table 4.4, here the value of beta is 0.00096 for firm profit, 0.00033 for industry profit and 0.45282 for market share. These values of beta and constant are use to develop the regression model which use to estimate the value of dependent variable on provided values of independent variables.

In table 4.4, column label P-value shows that all variables P-values are <0.05; i.e., firm profit (FP) has (0.00), industry profit (IP) has (0.000), market share (MS) has (0.000) means all variables are significant.

Table 4.4 shows the value of adjusted R square as 0.201 or 20.1% which indicate that model is 20.1% accurate or best fitted.

Table 4.4 (Model 2) indicate value of durbin watson as 1.891 which shows that autocorrelation does not exist in error term and its p-value is 0.0583 which indicate that the value on durbin Watson is significant.

In table 4.3 (model 1) F-stat shows the value 76.651 and its Probability (F) (0.000). Following is the Regression equation for model 1:

$$ROE = 6.11687* + 0.00096* FP + 0.00033* IP + 0.45282* MS$$

5.1 Conclusion:

This research fruitfully unfolds the literature and answers many questions which were previously not answer especially for the Pakistan market. This paper not only guided the internal management, policies & strategies of the firm but also the external strategies since this research entails both internal and external factors i.e., firm profit indicates internal factor, industry profit and market share indicate external factor of the firm. As the result identifies market share of the firm is most dominating factor among all. Therefore the study identifies that both strategies are equally important for the firm i.e., internal strategies for the survival of the firm and external strategies to gain competitive advantage.

This research also analysis the relative importance of industry and firm effects in describing ROE and ROA. ROA and ROE also different because of difference in the size of the firm, firm belong to different industry i.e. different sectors. Therefore, result of this study identify that both effect (internal and external are moderate and no effect dominates in Pakistan market thus firm has to give equal importance to both the internal and external strategies of the firm. In Pakistan market, great further research has needed in this topic.

However, this research show that market share is the dominate factor but it does not mean that firm and industry effect can be ignore. As many of the western researchers found that firm and industry effect exists and analysis of internal and external environment is vital for developing or formulating any sort of corporate strategy.

5.1 Recommendations:

- Firm should alter its strategies according to the changing condition of industry; since the result of this thesis identified that firm profitability depends on industry profit.
- If the firm is not effective in market although it is efficient there is no use of it therefore market share in much more crucial than any other matter thus firms has to improve their market share through the different means i.e., advertising, marketing campaign, creating better perspective in consumer mind.
- There is cutthroat competition among the firms hence competitive strategy should be design in the manner that meliorate firm position and goodwill in the industry.
- Market share can be increase by merger or acquisition of firm.
- Firms should have strong internal policies to be more efficient in their work hence to decrease cost and improve profitability.
- Sound internal management is vital to improve the productivity of employees so to improve productivity of the firm.

5.2 Future Recommendations:

- This research does not consider any location factor so; it does not identify any location differences among the firms. This research can be more fruitful by adding up location data.
- Industry difference also exist therefore analysis should be done industry wise.
- This study analysis the result with the help of regression analysis it can be more valuable by applying other appropriate techniques like nested anova, random or fixed effect analysis etc.
- ROA and ROE has used in this paper therefore other performance indicators should be used to analysis.

References:

- [1] Brito, L. A. L., & Vasconcelos, F. C. (2004) 'How much does country matter?' Proceedings of the National Meeting of Graduate Programs in Business Administration, University of São Paulo, vol. 27.
http://www.eaesp.fgvsp.br/AppData/GVPesquisa/P00308_1.pdf

- [2] Caloghirou, Y., Protoherou, A., Spanos, Y. E., & Papagiannakis, L. (2004) 'Industry-Versus Firm-specific Effects on Performance: Contrasting SMEs and Large-sized Firms.' *European Management Journal*, Vol. 22(2), pp. 231-243.
- [3] Chang, S. J., & Hong, J. (2002) 'How much does the business group matter in Korea?' *Strategic Management Journal*, 23(3), pp. 263-274.
- [4] Claver, E., Molina, J. and Tari, J. (2002) 'Firm and industry effects on profitability: a Spanish empirical analysis.' *European Management Journal*, Vol. 20(3), pp. 321-328.
- [5] Eriksen, B., & Knudsen, T. (2003) 'Industry and firm interaction: Implication for profitability.' *Journal of Business Research*, Vol. 56(3), pp. 191-199.
- [6] Furman, J. (2000) 'Does industry matter differently in different places? Evidence from four OECD countries' (MIT-Sloan working paper, #4121) Retrieved September 11, 2003. <http://people.bu.edu/furman/Industry%20matters.pdf>
- [7] Galbreath, J., & Galvin, P. (2008) 'Firm Factors, Industry Structure and Performance Variation: New Empirical Evidence to a Classic Debate.' *Journal of Business Research*, Vol. 61(2), pp. 109-117.
- [8] Hawawini, G., Subramanian, V., & Verdin, P. (2003) 'Is performance driven by industry- or firm-specific factors? A new look at the evidence.' *Strategic Management Journal*, Vol. 24(1). pp. 1-16.
- [9] Hawawini, G., Subramanian V. & Verdin P. (2005) 'Is performance driven by industry- or firm-specific factors? A reply to McNamara, Aime and Vaaler' *Strategic Management Journal*, Vol. 26(11), pp. 1083-1086.
- [10] Holian, M., Ali R., (2009) 'Firm and Industry Effects in Accounting versus Economic Profit Data' *Applied Economics Letters*
- [11] http://www.sjsu.edu/faculty/matthew.holian/fixed_effects.pdf
- [12] Li, S., Greenwood R. (2004) 'The effect of within-industry diversification on firm performance: Synergy creation, multi-market contact and market structuration' *Strategic Management Journal*, Vol. 25, pp. 1131-1153.
- [13] Majumdar, S. K. (1997) 'The impact of size and age on firm-level Performance: Some evidence from India.' *Review of Industrial Organization*, Vol. 12, pp. 231-241.
- [14] McGahan, A. M. & Porter, M. E. (1997) 'How much does industry matter, really?' *Strategic Management Journal*, Vol. 18(special issue), pp. 15-30.

- [15] McGahan, A.M. & Porter M.E. (2002) ‘What do we know about variance in accounting profitability?’ *Management Science*, Vol. 48(7), pp. 834-851.
- [16] McNamara G., Aime F., Vaaler P., (2005) “Is performance driven by industry- or firm-specific factors: A response to Hawawini, Subramanian and Verdin” *Strategic Management Journal*, Vol. 26(11), pp. 1075-1081.
- [17] Powell, T. C. (1996). ‘How much does industry matter: An alternative empirical test’, *Strategic Management Journal*, Vol. 17(4), pp. 323–334.
- [18] Roquebert, J. A., Phillips, R. L., and Westfall, P. A. (1996) ‘Markets vs. management: what drives profitability?’ *Strategic Management Journal*, vol. 17, pp. 653-664.
- [19] Ruefli, T.W., R. R. Wiggins. (2003) ‘Industry, Corporate and Business-Segment Effects and Business Performance: A Non-Parametric Approach’ *Strategic Management Journal*, Vol. 24 (9), pp. 861-879.
- [20] Rumelt, R. P. (1991). ‘How much does industry matter?’ *Strategic Management Journal*, Vol. 12, pp. 167-185.
- [21] Schmalensee, R. (1985). “Do markets differ much?” *American Economic Review*, 75(3), 341-351.
<http://dspace.mit.edu/bitstream/handle/1721.1/2071/SWP-1531-2689036.pdf?sequence=1>
- [22] Short, J. C., McKelvie, A., Ketchen jr., D. J., Chandler, G. J. (2009) ‘Firm and Industry Effects on Firm Performance: A Generalization and Extension for New Ventures’ *Strategic Entrepreneurship Journal*, Vol. 3, pp. 47-65.
- [23] Tarziján, J., Ramírez, C., (2010). ‘Firm, Industry and Corporation Effects Revisited: A Mixed Multi-Level Analysis for Chilean Companies.’ *Applied Economics Letters*.
<http://www.eauc.cl/publicaciones/wp-content/uploads/2010/10/papercomplappliedeconoletter2010.pdf>
- [24] Victor, R., McGahan, A. (2006) ‘The effect of industry and location on firm profitability in the global market: empirical evidence that firm performance depends on the interaction between industry affiliation and country identity’ DRUID SUMMER CONFERENCE, 2006, Proceedings. DRUID, 2006.
<http://www2.druid.dk/conferences/viewpaper.php?id=790&cf=8>