Diversification and Corporate Performance: An Evaluation of Pakistani Firms

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Diversification continues to be an important strategy for corporate growth and better financial performance. The relationship between the diversification strategy and profitability as well as diversification and market power has been explored by a number of studies for the developed economies. The present study is an attempt to investigate the relationship between diversification and a firm's financial performance in the case of Pakistan. A sample of 65 firms have been categorized as diversified and non-diversified. For these firms, the financial performance in terms of risk and return has been analyzed with the return measured by Return on Assets (ROA), Return on Equity (ROE), Market Rate of Return (MKRT) and Tobin's q*, and the coefficient of variation used as the measure of risk. The results show that the non-diversified firms performed better than the diversified firms. However, the high return of non-diversified firms is accompanied by low risk and the low return of diversified firms is more risky. But there is a contrast in results based on book values and market values. The paper concludes that managers have to be careful while selecting the degree of diversification since the diversified firm may capture more market share but it can reduce its profitability.*

INTRODUCTION

Corporate diversification has remained an important strategy for many firms worldwide for the last half century. It may not be considered as just a trend; rather it is based on logical reasons. These reasons include increased profitability, reduction in risk, increased market share, increased debt capacity, higher growth, extension of business life cycle, and efficient utilization of human and financial resources. Many writers proved diversification to be a successful strategy in their studies but still a number of researchers are having different views. Most of these studies are carried out on the US and European economies.

The motivation for this study is to test some common hypotheses concerning the effects of diversification on the financial

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performance of the firm in the developing economy of Pakistan. A sample of 65 public firms have been taken from the Karachi Stock Exchange (KSE) and further divided into diversified and non-diversified groups of firms for the period 2001-2003.

Due to the lack of consensus on the general theory of diversification effect, the following two justifications have been tested in the study. First, diversification may be related to higher profitability or vice versa. The higher profitability may be attributed to increased market share, economies of scale, and better exploitation of resources. However, agency problem and divergent approach of managers may result in lower profitability. Second, diversification can be linked to risk, with the objective of controlling the relative or total risk associated with firm performance.

On the one hand, the present study confirms that firm performance is correlated with diversification on the basis of market measures of returns i.e., market rate of return and Tobin's *q*. It has been found that non-diversified firms perform better than diversified firms in the emerging Pakistan economy. On the other hand, the statistical tests applied in the study corroborate that diversified firms are more risky than non-diversified ones.

The paper first presents literature review, research design and analyzes the effect of diversification on financial performance of firm. It ends with the concluding remarks.

RESEARCH JUSTIFICATION

Diversification is being considered as one of the important strategies for corporate growth and better financial performance. The different dimensions of relationship between the diversification strategy and profitability have been investigated by a number of researchers from developed as well as from developing economies. Few of these studies have supported the unrelated diversification strategy whereas; the others have focused on related diversification. However, there seem to be almost equal number of studies which have reported the positive effect of diversification in few economies and the others with the negative effect of diversification in other economies. Over the last 50 years, both these relationships—between a firm's degree of diversification and subsequent corporate performance have been extensively researched in the literature (Rumelt, 1974; Christensen and Montgomery, 1981; and Bettis and Mahajan, 1985). Rumelt (1974) took the sample of Fortune 500 firms to investigate the relationship between firm diversification and financial performance. He developed the different categories of firms on the basis of their degree of diversification and regressed against the financial performance of the firm in a given period. The study concluded that the related diversified firms outperformed the unrelated diversified firms.

Later on, some studies have also used the Rumelt's sample and diversification categories, incorporated some market characteristics such as market share, market growth and firm size (Christensen and Montgomery, 1981), and measures of risk (Bettis and Mahajan, 1985) while analyzing the relationship between

diversification and performance. Christensen and Montgomery (1981) used the sub sample of 128 firms from Rumelt's (1974) study and did not find any significant difference in the performance of related diversified, unrelated diversified and non-diversified categories of firms. Bettis and Mahajan (1985) selected a sample of 80 firms to examine the relationship of risk/return performance in two categories of related and unrelated diversified firms on the basis of accounting data. They found that, on an average, the related diversified firms perform better than the unrelated diversified firms. However, no significant difference in terms of risk measurement was explored.

Most of the studies in 1990s also remained inconclusive on the role of diversification on firm performance. Hill and Hensen (1991) examined diversification and its impact on performance in pharmaceutical industry of USA for the period 1977-86. They concluded that the motive behind diversification of the US pharmaceutical industry was to reduce the risk based on technological dynamism. They reported that such diversification contributed to a decline in the economic performance of the firm. Baker (1992) analyzed the time series data of Beatrice company since its inception in 1891 to its growth as a food conglomerate and reported that the related diversification of the firm produce value whereas unrelated diversification could not contribute in terms of value addition of the firm. Lubatkin and Chatterjee (1994) created a random sample of 246 Fortune 500 firms to study the relationship of diversification with risk and return. They found a U shaped graph for the relationship between corporate diversification and stock return as well as risk. They suggested that the diversification in similar business can reduce the risk without hampering the economic performance as compared to diversification in terms of diversified business. Pandya and Rao (1998) selected a sample of 2,637 US firms for the period 1981-90 to study the difference in performance between diversified and undiversified firms and reported that the undiversified firms outperformed the diversified firms. However, in the context of risk, the undiversified firms have a higher risk as compared to diversified firms.

Researchers remained divided on the diversification effect in the first decade of the 21st century. Lins and Servaes (2002) used a sample of over 1,000 firms from five emerging economies to study whether a diversified firm's shares were traded at a premium or a discount and found that the diversified firms' shares were traded on a discount of 7% as compared to undiversified firms' shares. Maksimovic and Gorden (2002) also collected the 3,74,339 segment observations of the US firms for the period 1975-92 to study the optimal size of conglomerates and their growth across different industries. They found higher growth in the conglomerates in similar industry as compared to different industry. Recently, Villalonga (2004), using a new data source of Business Information Tracking Series (BITS), found that diversified firms are traded at relatively larger premium than the firms engaged in specialized businesses.

Some evidence from emerging economies also reported mixed

relationship between diversification and firm performance. The joint effect of both related and unrelated diversification strategies on firm performance has been analyzed by Li and Wong (2003) on a sample of 106 firms from the transition economy of China. The study found that a match between related and unrelated diversification strategies produces better economic performance in the emerging economies. Moreover, in line with the researches of developed economies, specialization strategy is found to be effective whereas, a pure unrelated diversification was found to be value-destroying strategy in China. In a recent study, Khanna and Yafeh (2005) studied the diversified business groups from all over the world operating in 12 emerging markets. They noted that the endogenous formation of the firm was the force behind diversification instead of the diversification for the sake of better corporate performance.

Existing literature remained inconclusive on the effect of diversification on corporate performance. One group of researchers reported the positive impact of diversification on a firm's performance while the other group could come up with a negative effect on performance. However, the major part of this research literature is based on the evidence from developed economies, a very few studies have focused on diversification and corporate performance in Pakistani context. Among these studies of Pakistani stock market, the focus has been on the volatility in stock returns of KSE (Ahmad and Zaman, 2000), price change analysis of stocks (Irfan and Nishat, 2002), and informational efficiency analysis of KSE (Hussain, 2000). This dearth of empirical evidence in the developing market of Pakistan provides a justified base for the present study to evaluate the effect of diversification on firm performance.

RESEARCH DESIGN

The study attempts to measure the impact of diversification on the firm's performance measured by Return on Assets (ROA), Return on Equity (ROE), Market Rate of Return (MKRT) and Tobin's *q*. Most of the previous studies have taken Rumelt's (1974) Specialization Ratio (SR) as a measure to categorize the diversification strategies of the firms. But according to Pandya and Rao (1998), related diversification has not been considered as diversification because financial economists believe that a diversified firm is essentially a conglomerate with unrelated businesses in its portfolio. They do not consider related diversification as being diversified because they do not represent different product-market investments. Hence, there can be only two groups on the basis of diversification strategy, one diversified and the other non-diversified group.

Therefore, the present study has divided the selected sample into two groups of diversified and non-diversified firms. The requisite data for the SR ratio was also not available for Pakistani firms. Therefore, diversification of a firm is measured on the basis of product line that a firm offers. A single product firm has been categorized as a non-diversified firm whereas a firm with two or more products has been classified as the diversified firm.

The KSE-100 index firms, representing about 90% of the total capitalization of the market, have been selected as a sample for the study. Out of these 100 firms, the specialized and highly structured financial firms were excluded from the sample since they do not qualify for the criteria of diversification, which reduced the sample size to 65 non-financial firms listed at KSE. As per our definition of diversification, 25 firms were categorized as diversified group and 40 firms in the non-diversified group. Data on each firm has been taken from the firms' annual reports, websites and managers, the Daily Bulletin of KSE, and the State Bank of Pakistan Publications for the period of 2001-03.

The existing literature on the firms' performance evaluation has used a number of accounting variables to measure the performance of the firm. Some have used ROA as a measure of the firms' performance (Bettis and Mahajan, 1985, and Inderst and Muller, 2003). Whereas, Pandya and Rao (1998), and Khanna and Palepu (2000a and 2000b) have used the ROE as a measure of performance. As a measure of risk, the coefficient of variation and standard deviation of each performance variable have been used by McDougall and Round (1984), and Pandya and Rao (1998). Many researchers have used the Tobin's *q* as a measure of the firms' value (Lang and Stulz, 1994, and Villalonga, 2004). Since the earlier literature was not available on the subject under the study related to Pakistan (Ahmad and Zaman, 2000; Hussian Fazal, 2000; and Irfan and Nishat, 2002), all of the above performance measures have been used in the current exploratory study. In this regard, ROA, ROE, Average Market Return (AMRKT), and Tobin's *q* have been used as a measure of performance and CV as a measure of risk.

The first performance measure is the ROE. It is a frequently used variable in judging top management performance, and for arriving at executive compensation decisions. The study has used the Average Return on Equity (AROE) across all sampled firms for the period 2001-03. Furthermore, the Standard Deviation (SD) and the Coefficient of Variation (CV) have been calculated for both groups as a measure of risk. ROE is defined as net income (income available to common stockholders) divided by stockholders' equity.

The second performance measure, ROA is the most frequently used measure in the previous studies. It is defined as net income (income available to common stockholders), divided by the book value of total assets. We also calculated the AROA across all sample firms and time periods. In order to measure the risk, the SD and the CV for both the groups have also been calculated.

Market Return (MKRT) is taken as the third performance variable. MKRT is computed for a calendar year by taking the difference between the current year's ending stock price, and the previous year's ending price, adding to it the dividends paid out for the year, and then dividing the result by the previous year's ending price. In addition, we calculated the AMRKT for both the groups. The SD and CV of AMRKT have also been calculated

as a measure of risk. Furthermore, Tobin's *Q* calculated as the ratio of the sum of the market value of equity and the book value of debt over the book value of total assets is used to find out the value of a firm.

The financial performance of diversified and non-diversified groups has been compared to identify the differences between both the groups. There are two possibilities in the results. Either there will be no significant difference between the performance of diversified and non-diversified firms or there will be a significant difference between the performance of both the categories. First, the Paired Sample *t*-test has been carried out to find the difference between diversified and non-diversified firms for each measurement variable of performance. As a second test, the following regression model has been used to find the relationship between the performance variable and the firm category. If the test failed to find any significant relationship between performance and firm category, it means diversification did not matter for the performance of the firm and vice versa.

$$Y = \alpha_0 + \alpha_1 CATG + \varepsilon \quad \ldots(1)$$

where,

Y is a row vector and

Y = [AROA, AROE, AMRKT, AQ]

AROA = Average Return on Assets for sample firms

AROE = Average Return on Equity for sample firms

AMRKT = Average Market Rate of Return for sample firms

AQ = Average Tobin's *q* for sample firms

CATG = Category of firm a binary variable, 1 for diversified and 0 for non-diversified firm.

α_0 = Intercept, ε is the error term.

Parameters have been estimated to validate the relationship between the diversification strategy of a firm and its performance.

STATISTICAL ANALYSIS

The descriptive statistics of the sample firms are reported in Table 1 to observe the behavior of data collected. The first panel of the table describes the statistics of firms following a diversification strategy. The AMRKT has the highest mean value with the maximum variation in market return for the firms adopting a diversification policy. Among all the performance variables for the diversifiers, AROA is generating minimum returns with relatively greater variation. Whereas, the Tobin's *q* has very low standard deviation which is relative to its mean value. On the other hand, non-diversified firms, on an average, are earning much more profitability especially in terms of AROA and AMRKT i.e., 45.6% and 21.7% approximately. The Tobin's *q* is the only exception where non-diversified firms could not beat the firms with diversification

strategy. The descriptive statistics of sample firms reveal significant differences between performance variables of diversified and non-diversified firms which statistically validate by using paired *t*-test.

The performance and risk data of diversified and non-diversified firms based on ROA has been reported in Table 2. The AROA for diversified firms is 8.37% compared to 10.42% of non-diversified firms, which shows that non-diversified firms outperformed the diversified firms. However, there is reverse behavior in terms of risk. It might be due to the loose focus of managers on the business in the case of diversified firms. The diverged approach of managers towards business may result in volatile earnings and high risk for these firms.

The AROE and associated risk for the each group of diversified as well as non-diversified firms have been reported in Table 3. The behavior of results is similar to the Table 2 here the performance of non-diversified firms is better than the diversified firms with a lower level of risk. Therefore, both the performance measures based on the accounting information give consistent results.

In Table 4 market information has been used to discover the performance and risk behavior of both diversified and non-diversified firm groups. Once again the non-diversified firms have higher AMRKT than that of the diversified firms but the risk of the non-diversified firms is slightly higher than that of the diversified firms. However, the behavior of risk and

Table 1: Descriptive Statistics of Sample Firms

Variables	Minimum	Maximum	Mean	Std. Deviation	Skewness
Diversified Firms					
AROA	–10.32	28.48	8.3708	8.7847	–0.128
AROE	–63.37	53.08	16.9612	23.5652	–1.931
AMRKT	–20.70	95.66	27.2732	28.3234	0.724
AQ	0.78	3.03	1.2960	0.5242	2.152
Non-Diversified Firms					
AROA	–1.05	27.77	10.4150	7.5236	0.930
AROE	–2.70	52.62	21.6560	13.2042	0.261
AMRKT	–24.04	155.31	45.5932	35.0400	1.002
AQ	0.44	1.92	00.9570	0.2707	1.116
All Firms					
AROA	–10.32	28.48	9.6288	8.0273	0.341
AROE	–63.37	53.08	19.8503	17.8826	–1.733
AMRKT	–24.04	155.31	38.5471	33.6110	0.976
AQ	0.44	3.03	1.0874	0.4187	2.375

Table 2: Performance As: Average Return on Assets (AROA)				
Category	**N**	**AROA**	**SD**	**CV**
Diversified	25	8.37	8.79	1.05
Non-Diversified	40	10.42	7.52	0.72

return measured by CV is consistent with the above two tables that non-diversified firms have better risk-return profile than the diversified firms.

Table 3: Performance As: Average Return on Equity (AROE)				
Category	**N**	**AROE**	**SD**	**CV**
Diversified	25	16.75	23.69	1.41
Non-Diversified	40	21.66	13.20	0.61

The market assesses the better value of diversified firms with an average value of Tobin's *q* of 1.30 as compared to 0.96 of non-diversified firms (Table 5). These results conform to the notion of a direct relationship between risk and return. Diversified firms have a better average Tobin's *q* with higher SD than non-diversified firms.

In order to reconcile the variation in results of the above four tables, paired sample *t*-test has been carried out to quantify the relationship between diversified and non-diversified firms on the basis of each measurement variable. The results have been reported in Table 6. According to the results, a significant difference between diversified and non-diversified firms has been reported while taking the performance measures of AMRKT and AQ, whereas no significant difference has been reported in AROA and AROE measures of performance. It shows that the market perceives a variation between performance of diversification and non-diversified strategies of the firms. However, no statistical significant support has been found for the variation between the performance of diversification and non-diversified firms while using accounting rate of returns based on book values. It means the diversification strategy matters for the performance of the firm. As mentioned that non-diversified firms perform better than the diversified firms.

Table 4: Performance As: Average Market Return (AMRKT)				
Category	**N**	**AMRKT**	**SD**	**CV**
Diversified	25	27.27	28.32	1.04
Non-Diversified	40	45.59	35.04	0.77

Table 5: Performance As: Tobin's *q*				
Category	**N**	**AQ**	**SD**	**CV**
Diversified	25	1.30	0.52	0.40
Non-Diversified	40	0.96	0.27	0.28

In order to further validate the relationship between the diversification strategy and the performance of the firm, Equation 1 has been estimated and the results are reported in Table 7. The results are consistent with Table 6 that the market rate of returns are dependent on diversification strategy of the firm, whereas the accounting rate of returns which are based on book values had no significant relation with the diversification strategy of the firm.

Table 6: Paired Sample *t*-test of Diversified and Non-Diversified Firms

Statistic	AROA	AROE	AMRKT	AQ
Mean for: Diversified Firms	8.37	16.96	27.27	1.30
Non-Diversified Firm	10.42	21.66	45.60	0.96
t-test$_{12}$	0.023	0.597	1.209*	3.102**
Significance	0.982	0.556	0.098	0.005

Note: *Significant at about 0.10, **Significant at 0.01.

The results of Table 7 show that the performance of the firm based on market data depends upon the diversification strategy of the firm. It has validated the above results that the performance of the firm is associated with its diversification strategy. These results seem to be consistent with many previous studies from developed as well as from developing economies.

CONCLUDING REMARKS

The motivation for the current study stemmed from the inconclusive empirical evidence on the relationship between firm diversification and performance and the absence of such evidence for an emerging economy such as Pakistan. The results suggest that the average performance of non-diversified firms is better than diversified firms on the basis of accounting measures, whereas, the analysis of risk measures of the study reveal that the weak performance of diversified firms accompanied with the high risk and higher return in comparison with non-diversified firms containing lower risk and return.

Table 7: General Linear Multivariate Model Results

Dependent Variables	*F*-Value	Significance
AROA	0.998	0.322
AROE	1.061	0.307
AMRKT	4.845*	0.031
AQ	11.783*	0.001

Note: *Significant at 0.05.

The empirical investigation to assess the statistical difference between the performance of diversified and non-diversified firms reported a statistically significant difference between the two groups on the basis of market measures of performance. However, the results did not support any statistically significant difference between diversified and non-diversified firms in terms of book value based accounting measures. Moreover, the General Linear Multivariate Model (GLMM) test was applied to validate the relationship between the diversification strategy and firm performance through a regression analysis and the estimated results supported the notion that there is a significant relationship between the diversification strategy and firm performance based on market rates of returns.

One major implication of these statistically significant results in a developing economy like Pakistan for prospective investors is that they should

focus on the performance of diversified firms based on the market values in order to earn higher returns since it may develop a feeling of security in the minds of investors while investing in those firms which efficiently diversify their business. As the firms diversify, they may be able to reduce their business risk and, hence market participants value their decision, which is ultimately revealed in increased performance in the market.

Moreover, the findings of the present study, in terms of using the accounting based performance measures, seem to be consistent with the agency proposition of Fama (1980) and Lang and Stulz (1994) that the diversified firms perform lower than non-diversified firms due to agency problems because most of the firm managers diversify not to outperform in the market rather to save their jobs and to keep the business going. The agency problem appears to be one of the major factors, which could contribute to the lower performance of diversified firms and may exist in both developed as well as developing economies. Similar results were reported by Khanna and Yafeh (2005) while analyzing the performance of diversified versus non-diversified firms in emerging economies. This finding also leads to a significant implication for the practitioners in Pakistan that the established theorem of agency problem should be one of the major concerns of their corporate governance decisions in order to increase the accounting performance.

The second factor contributing to the reduced accounting earnings and higher risk of diversified firms may be the limited size of the total market of Pakistan. Due to small market size and low aggregate demand, the firms are unable to achieve economies of scale, which, in turn, increases their cost of doing business goods and lowering their accounting profits. Moreover, the diversified firms are unable to deeply penetrate into the market, making their revenue become resulting in higher risk of diversified firms. Another interesting finding of the present study is that the market-based performance measures are more relevant measures of firm performance than book-based performance accounting measures.

The empirical investigation of diversification and firms' financial performance undertaken herein is exploratory in nature with reference to Pakistan and still leaves many doors open for further research in this area. Some of these areas may include the influence of group size on diversification, the nature of corporate diversification whether it is related one or unrelated, level of related diversification, influence of group size on nature of diversification. The answer to these questions would, undoubtedly, help make investment decisions more accurate and establish the body of knowledge-based on strong empirical evidences.

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