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# **DETERMINANTS OF FINANCIAL PERFORMANCE OF FINANCIAL SECTORS (AN ASSESSMENT THROUGH ECONOMIC VALUE ADDED)**

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## **ABSTRACT**

This study investigated determinants of financial performance of listed financial sectors in Karachi Stock Exchange for the period 2008 to 2012. The objective of this study was to investigate the factors which affect financial performance of financial sectors of Pakistan. Descriptive statistics, Correlation matrix, Chow test, Hausman Test for Fixed Effect Model and Random Effect Model and Breusch-Pagan Lagrange multiplier for Random Effect were used in this study. Estimated results revealed that determinants of financial sectors such as leverage, liquidity, size, risk, and tangibility have significant effect on financial performance of financial sectors. It is recommended that financial sectors should consider EVA as an important factor for financial performance. It is suggested that increased number of independent variables will further enhanced the scope of the future studies.

Keywords: Leverage, Liquidity, Size, Risk, Tangibility, EVA (Economic Value Added)

## **I. INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

Financial performance management is a part of total performance management of an organization. Weldegiorgis (2004) investigated that organization managers have started to understand that both financial and non-financial elements of performance must be measured in calculating performance. Weldegiorgis (2004) and Zairi (1996) revealed that calculations of fiscal progress are the means of support of Firms. Fiscal progress is the major factors of assessment of Firms. Al-Enizi et al. (2006) reported that the identification of the restrictions of conventional fiscal progress calculations has facilitated to numerous research programs which promoted the utilization of non fiscal progress calculations. El-Enizi et al. (2006) observed consumer consent, transport and other “significant accomplishment aspects” as pattern of non financial performance measurements (NFPMs). Le Roux (2004) revealed that efficient administration of firms provide sound base that marks procedure which helps estimation of development of firms, activities such as transaction, client facilitation, expenditure, and supervision of workers. This may facilitate an organization to achieve fiscal progress There are many events that require to be useful and which must facilitate attainment of goals such as redistribution of a turnover (assuming that the company is

doing well) by means of a “Planning system flow chart” and refers to performance measurement points as ‘review of gap analyses” (Schutte, 1993).

Business and manufacturing sector are the foundation of a nation financial system. The company day to day affairs are carried out by different types of trade venture. Individual ownership, ownership through share, companies are the main types of business. Business and manufacturing sector are the two main types of business organization. Commerce is the activities that are carried out for buy and auction of merchandise and services (Loriaux, 1986). Commerce is sub divided in wholesalers, retailers, financial services (banks, insurance etc.). Industry is financial activities taken for the production of furnished goods from unprocessed inputs (Loriaux, 1986). This comprises manufacturing plants and natural deposits. Production is a practical knowledge which includes procedure and techniques of efficient operation of an organization. The topic of our interest in this area of investigation is financial performance of financial sectors. Company is the absolute shape of trade due to its legal identity. The samples of investigation were collected from financial firms mainly because of its legal character. The emphasis of this study is financial performance of financial sector of Karachi Stock Exchange.

The emphasis of this study was on management of fiscal progress due to facts that it is the focal point and final product of all actions carried out in particular time period. Financial performance shows an image of the sustaining progress of firms. Sustainable progress guarantee retaining human resources, business progress, and profit shares of the investors. Strong fiscal position of business is an important aspect for everyone such as workers, share holders, fiscal firms and state institutions (Lin and Piesse, 2004).

## **1.2 PERFORMANCE**

‘Performance’ is used to indicate the hard work to attain a particular goal. The attainments of goal include combination of human, fiscal and natural resources. The performance is an activity applied to a part or all of performance of an actions in a time period, often with connection to previous or proposed expenditure efficiency, management responsibility or accountability. According to Nirmal (2004) ‘Performance’ not only indicates demonstration of something but it also indicates the satisfactory output of an organization.

## **1.3 FINANCIAL PERFORMANCE**

Financial performance of an organization not just plays the function to raise the market value of that particular organization but also direct development of the financial sector which finally leads to success of market specifically for property business and its function as an engine of financial development. Several research workers have presented affirmative relationship for financial improvement and economic

development and negative connection among economic distress and development. Caprio, (1994) reported that efforts to reorganization of finance paid off in high competence and development. Financial segment is very important in nature for the financial enlargement as it facilitate funds recruitment. An established and well-organized fiscal sector signifies resourceful distribution of funds establishment of growing financial performance which leads to improve procedures and role of the business. Investment banks as a part of economic system provide as stakeholder in the financial system and effort for growth of the nation in a state. Investment banks offers sponsorship to all investment market places in financial system throughout dealing in shares, savings holdings and commercial banking activities. Investment banks carryout the credit marketplace in the nation throughout short time and medium time advances. The major part such as asset management (AM), institution size (IS) and operating efficiency (OE) will participate significant unction in development of financial performance (Tarawneh, 2006).

Financial performances represent the operation to carry out monetary actions. Generally, fiscal progress indicates measures to which economic goals being or has been achieved. Economic activities are course of action of measuring the outcome of an organization's guidelines and action in fiscal shape. It is used to calculate organization's overall economic fitness over particular time period. The fiscal progress of the organizations can be calculated by its economic outcome and by its size of earnings. Risk and profitability are two main components which together decide the significance of organization. Financial conclusion which enlarges uncertainty will reduce the value of organization and on the other hand financial conclusions which boost up the profitability will enlarge value of the organization. Risk and profitability are two essential elements of business organization.

#### **1.4 SIGNIFICANCE OF RESEARCH STUDY**

The importance of this study come from information that financial organization plays an important role in enhancing the nation economy and providing significant services for peoples of Pakistan. This research has practically put into operation complete systematic structure of financial performance in case of financial organization of Pakistan. The research study has observed the impact of key elements of organization's financial performance. This research study has examined the elements which provide a base for other future research studies in this area of research.. This study has differentiated among financial and non-financial elements and financial performance of financial organizations in Pakistan. The current research study has recognized the result of leverage, liquidity, size, risk, tangibility, and other non-identified variables of financial sectors of Pakistan.

#### **1.5 PROBLEM OF RESEARCH STUDY**

The financial performance has received more importance from academic community of different disciplines. Financial performance got great attention from experts of trade activities because financial progress has impacts on quality of firms and its sustainability. The current study has discovered the following research question.

1. What factors are significantly affecting the economic value added (financial performance) of financial sectors of Karachi Stock Exchange (KSE)?

## **1.6 JUSTIFICATION OF RESEARCH STUDY**

The current research is different from earlier research studies in term of sample procedure of analysis. Earlier researchers have used return on asset (ROA) and return on equity (ROE) as method for calculating financial performance. In this research, Economic Value added was used for calculation of financial performance. The research study has emphasized that the capacity of financial performance is significant for numerous grounds. First, financial performance is important part for financial organization planning to take out their business fruitfully in aggressive atmosphere of financial marketplace. Second, in speedily altering and more globalized financial marketplace, governments, regulators, managers and investors are worried about how professionally economic sectors convert their valuable inputs into different financial products and services. Third, the financial performance procedures are serious feature of economic sector that permit us to differentiate financial sectors which has the ability to carry on and prosper against those that may have problems with competitiveness.

## **1.7 OBJECTIVES OF RESEARCH**

The aim of research is to examine factors that affect financial progress of fiscal sector of Pakistan. The aim was achieved by following objective:

1. To identify the determinants of Financial Performance for financial sector of Karachi Stock Exchange (KSE).

## **1.8 HYPOTHESES OF RESEARCH STUDY**

The following null and alternative hypothesis was designed for research to put together hypothetical solutions for research problem:

Ho: Leverage has non significant impact on Economic Value Added.

H1: Leverage has significant impact on Economic Value Added.

Ho: Liquidity has non significant impact on Economic Value Added.

H2: Liquidity has significant impact on Economic Value Added.

Ho: Size has non significant impact on Economic Value Added.

H3: Size has significant impact on Economic Value Added.

Ho: Risk has non significant impact on Economic Value Added.

H4: Risk has significant impact on Economic Value Added.

Ho: Tangibility has non significant impact on Economic Value Added.

H5: Tangibility has significant impact on Economic Value Added.

Ho: Tangibility has non significant impact on Economic Value Added.

## **1.9 LIMITATIONS OF RESEARCH STUDY**

The data were collected, compiled, properly tabulated and analyzed to identify strength and weakness of current system. The suggested recommendations are based on the investigation from available data of financial sectors. The major drawbacks of the present research study were due to non availability of primary data from published annual reports and fact sheets of financial companies in Pakistan. The findings of this research study depend entirely on the accuracy of secondary data compiled from published reports. Our research is limited to companies of fiscal sectors. The findings of our study cannot be generalized to whole industry.

## **II LITERATURE REVIEW**

Several studies related to organization's fiscal progress have recognized different elements which has influenced progress of organizations. Limited numbers of findings are available regarding companies' progress in Pakistan compared with large number of studies conducted by foreign researchers. Some of these studies are presented as under.

Hempel et al. (1986) reported large number of previous research work on progress of fiscal sector describes goals of fiscal institutions regarding profit on investment and reducing uncertainty on their profit.

William (1987) concluded that choice of maximum leverage reduces disagreement among managers and investors. Previous research work generally differentiates among two kinds of organizational progress such as fiscal progress and innovative progress.

Molyneux and Thornton (1992) studied factors of financial sector's profitability in eighteen European states from 1986 to 1989. Their research results indicated positive impacts on ROA and range of interest with government control.

Avkiran (1995) reported that fiscal progress of fiscal sector was determined by mix of financial ratios, benchmarking and calculating progress against budget or a mix of these techniques.

Berger et al. (1995) reported that essential foundation of the operational progress of fiscal services organizations are frequently complex to distinguish because of untouchable product of outputs and lack of intelligibility over resource provision conclusion. Operational progress will be a task of efficiency of contractual instrument in focusing, maintaining and controlling administrative capacity in ways that capitalize investor's capital.

Krishnan and Moyer (1997) revealed negative and important connection among leverage and company's progress though additional elements significantly impacting company's progress such as size, growth, tax and risk.

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Damanpour and Evan (1998) reported that previous research work has frequently utilize progress as separate idea. Fiscal progress was frequently used in environment of development of sales, high dividend on investment, high share prices in market.

Bashir (2000) examined factors of Islamic bank's progress from 1993 to 1998. Internal and external elements were used to forecast productivity and effectiveness. Managing macroeconomic situation, economic marketplace position and tax duty, the outcomes confirm that large amount of leverage and high loans to asset ratios guide to high profitability. Foreign-owned banks are more money-making compare to local banks.

Demirguc-Kunt and Huizinga (2001) has studied progress of local and overseas banks in eighty states. They revealed that profit edge, transparency operating cost, tax charges and effectiveness be different among domicile and overseas banks and originate that overseas banks perform improved in term of productivity. However it was totally the reverse in emerging countries.

Guru et al. (2002) investigated performance of seventeen Malaysian customer banks from 1986 to 1999 to determine profitability performance of Malaysian banks. There were two forms of output, inside elements (liquidity, capital capability and expense administration) and outside elements

(shareholder Equity, organization size and outside financial environment). Based on their research results they found low profit performance of Banks.

Chowdhury (2002) revealed that banking sector of Bangladesh include a mix single include state-owned, and overseas customer banks. It is becoming very important for banks to suffer the stress occurring from both inside and outside elements and show to be beneficial.

Neceur (2003) studied Tunisian banks for period 1980 to 2000. He stated affirmative effect of owner investment to return on assets.

Spathis and Doumpos (2002) examined the efficiency of Greek banks based on their property size. They applied multiple method to categorize Greek banks according to the profit and operation elements, and to demonstrate the dissimilarity of banks productivity and competence among small and large banks.

Muhammet Mercan et al (2003) investigated economic progress index of Turkish commercial banks from 1989 to 1999. They revealed effects of range and means of shareholder possession of banks with fiscal progress of banks.

Mazhar M. Islam (2003) reported growth and progress of local and overseas banks in Arab Gulf States which explain that local and overseas banks in these states have operated well more than last several years. They revealed that banks in these countries are well developed and the banking industry is flourishing with strong rivalry amongst banks.

Adams and Buckle (2003) conducted research on factors of organization day to day progress in Bermudian insurance marketplace. They suggested that firms with high leverage, low liquidity and reinsurers have better operational performance.

Goddard et al. (2004) studied progress of European financial institutions. They observed comparatively feeble correlation among size and profitability calculated by return on equity. The British financial institutions present optimistic correlation among off-balance-sheet trade and profitability.

Shiu (2004) investigated the factors of progress of the UK universal Insurance Corporation, for the period 1986 to 1999 using panel data, using three key indicators: investment yield, fraction alteration in shareholder's money and profit on shareholder's investments based on the results of panel data. He empirically tested 12 descriptive variables and showed that performance of insurers have best relationship.



Ho and Zhu (2004) observed that estimation of organization's progress has been pointing the day to day organization efficiency and competence, which exert pressure the organization's endurance straightforwardly.

Chien and Song Zhu (2004) reported that several earlier research programmes about firm performance estimation have paying attention just on day to day organization effectiveness and day to day efficiency which may straight-line pressure the endurance of a firm. By applying an original two-stage data envelopment examination frame work in their research, the outcome of this research revealed that firm with improved capability does not forever signify that it has gained efficiency.

Elizabeth and Elliott (2004) reported economic progress procedures as interest rate profit on uses of organization assets. Investment was significantly related with consumer's satisfaction.

Millar (2005) revealed comparison of economic value added with comparable progress calculation; He used LBS explanation of economic value added. He reported that normal, the United Kingdom financial sectors include rate more than time, which is due to low profit for 10 year govt. securities and time of comparatively improve financial development in the United Kingdom which has accelerated banks earnings.

Tarawneh (2006) showed assessment of economic progress in the financial segment with some proof from Omani customer banks. It revealed that banks with advanced sum equity, deposit, loan or total assets does not always mean of improved productivity.

Knoben and Oerlemans (2006) reported that literature often used both financial and innovative performance as separate concepts. Firm progress is the capacity which has been accomplished by firm. There are variety of procedures of economic progress i.e. profit on sales show how much an organization make profit in connection to its sales, profit on assets find out firm's capability.

Fiordelsi (2007) developed investor value efficiency frontier using economic value added. He concluded that it is improved to moreover comparative cost or turnover competence in calculation of progress.

Lee (2008) investigated the impact of shareholder capital composition on company economic progress in South Korea. It pointed on the function of two key scope of the share holder rights composition: Ownership application (i.e. the division of shares owned by common owners) and point the shareholders (specially, overseas shareholder and organizational financier). He indicated that organization progress calculated by bookkeeping price of return on assets normally enhanced as

shareholder share attention enhance, but possessions of overseas investor and organization share are irrelevant.

Liargovas and Skandalis (2008) studied the effect of basic elements of company's economic progress. The study distinguished among fiscal and non fiscal drivers of company progress. The study showed that leverage, export movement, site, size and the index for organization capability considerably influence company progress in Greece. The research outcome showed that gainful companies in Greece are big, immature, sell abroad companies with brave administration players, which have a best debt-equity ratio and employ their liquidity to sponsor their funds.

Prasetyantoko and Parmono (2008) reported the elements shaping business progress of scheduled businesses in Indonesia particularly due to 1997 economic disaster. The investigation also pointed that shareholders shares element matter on company progress by the proof that companies with popular overseas investment have much superior progress in both dimensions.

Xiaochi Lin (2009) reported the effects of bank ownership on performance for 60 banks. He used the ROE, ROA, damaged (non-progressing) assets to total credit, Costs to working profits to calculate the progress of all the banks.

Gopinathan (2009) revealed that fiscal ratios examination can mark improved investment selection for financier as the ratio examination dealings with different feature of the progress and examine basics of a corporation or an organization.

Sufian (2009) reported that high credit uncertainty in business and high loan attentiveness in Malaysian banks has observed low profitability in business. On the opposite side, Malaysian banks with high rank of investment, high profits from non-interest resource, and high level of day to day expenses practiced high profitability points in business.

Al-Tamimi (2009) reported that liquidity and attentiveness were the most important elements of professional national banks. On the other hand, number of branches and cost was the mainly important elements of Islamic banks' progress.

Elyor and Uzhegova (2010) studied CAMEL framework to investigate the elements disturbing bank productivity with achievement. The CAMEL structure was the mainly extensively used model (Baral, 2005). The Central bank of Nepal (NRB) has applied CAMEL model for progress estimation of the banks and other fiscal organizations.

Memon et al. (2010) studied funds arrangement and company's progress on textile industry. They revealed that performance of business in this segment is lower finest stage of funds composition and corporations are unsuccessful to attain the economies of level.

Nosa and Ose (2010) reported requirement of successful financing for expansion and advancement of the business in Nigeria. They recommended improving the management structure for growing the company's progress by stressing on risk administration and commercial control.

Onaolapo and Kajola (2010) observed important and unenthusiastic connection among debt ratio and company's fiscal progress.

Marcia Millon Cornett et al (2010) examined the effects of govt. share possession in the banking organization during the Asian crisis. By using the regression they reported that govt. banks generally operated low profitable and have lower ability to take credit risks than investor's banks earlier to 2001.

Curak *et al.* (2011) conducted research on determinants of the financial performance of the Croatian composite insurers for the period 2004 to 2009. The determinant of profitability selected was explanatory variables which included both internal factors specific to insurance companies and external factors specific to economic environment. By applying panel data technique he investigated that company size, underwriting risk, inflation and return on equity have significant influence on profitability.

Siddiqui and Shoaib (2011) conducted research on determining progress through fund arrangement in Pakistan. They revealed that size of the banks play an important role in determining profitability using ROE as profitability measure.

Ahmad (2011) concluded that there is a strong unenthusiastic connection among return on asset and bank size and with day to day competence. He observed significant relationship among return on asset and asset administration relation.

Malik (2011) revealed significant profitability of insurers, while leverage and loss ratio have non significant effect on the insurers. The last variable tested, company age, have no affect on profitability of insurance companies.

Charumathi (2012) conducted research on financial performance of the Indian life insurers using six variables for analysis. In India, life insurer's profitability was significantly and positively influenced by company size and liquidity, while leverage, growth of gross written premiums and volume of equity have negative and significant influence. Moreover, it was noticed that there was no linkage between underwriting risk and profitability. In order to improve performance of insurance companies, the author proposed several recommendations regarding supervisory authority and

competition in the insurance market, capital market participation, strengthening connections with banks and increasing foreign direct investment.

Pervan et al. (2012) conducted research on Bosnia insurance sector performance and found the factors that affected the profitability of the insurance companies between 2005 and 2010, in the context of the radical changes that occurred within this industry. By using a dynamic panel model with GMM estimator, the empirical analysis showed significant and negative influence of the loss ratio on profitability and significant and positive influence of age, marketplace share and past performance on current performance. It revealed that diversification has not significantly influenced profitability, while foreign-owned companies were more efficient.

Mehari and Aemiro (2013) investigated the impact of the Ethiopian insurance companies' characteristics on their performance. The study includes 9 insurance companies which were analyzed through panel data technique for the period 2005 to 2010. According to final results of research, they concluded that company size, tangibility and leverage represent important elements of insurers' performance, while growth of gross written premiums, age and liquidity have an insignificant statistical impact.

Several research studies conducted by various researchers have studied different aspects of financial sector. However sufficient studies were not conducted on this subject. The overall aspects of financial sector were not studied in greater detail in previous studies. In some research programmes, if it was examined, the time of research has been of limited time. In addition to that large number of previous research studies have emphasized only on small number of independent variables. This study has emphasized the function of some independent variables on development and progress of financial sector in Pakistan from 2008-2012.

## **2.1 LITERATURE SUMMARY**

To sum up, various studies on financial performance of companies were conducted in variable environment in different countries. After analysis of relevant research studies, it is concluded that there are multiple factors which are responsible for the firm financial performance in financial sectors of Pakistan. All studies conducted on financial performance of financial firms are different from each other in respect of sample size, time period, country of origin, environment and selection of variables. Knoben and Oerlemans (2006) reported that literature often used both financial and innovative performance as separate concepts. Firm progress is the capacity which has been accomplished by firm and presented good situation for definite time. The reason of calculation the attainment is to get helpful information connected to flow of finances, the use of finance efficiency and competence. Zeitun and Tian (2007) conducted research study with addition in their regression model by addition of liquidity and non-debt tax shield and used this regression model at the same time on

textile and food segments of Japan. They showed that leverage has positive effect and non-significant connection with company's progress. The current study is different in Pakistani context as Economic value added (EVA) has been used for measuring the fiscal progress of the financial sectors as it has not been used in majority research studies conducted previously in Pakistan.

### III. METHODOLOGY OF RESEARCH STUDY

Firm's financial performance of financial sector was calculated by several methods, due to type of analysis and requirement of user. Different procedures were employed for calculating firm's financial performance and interpretations of financial statement analysis such as ratio analysis using financial ratios etc. This section include universe of research study, data, source of data, sample design and data analysis tools. All these methods are explained in the following sections.

#### 3.1 SAMPLE DESIGN OF RESEARCH STUDY

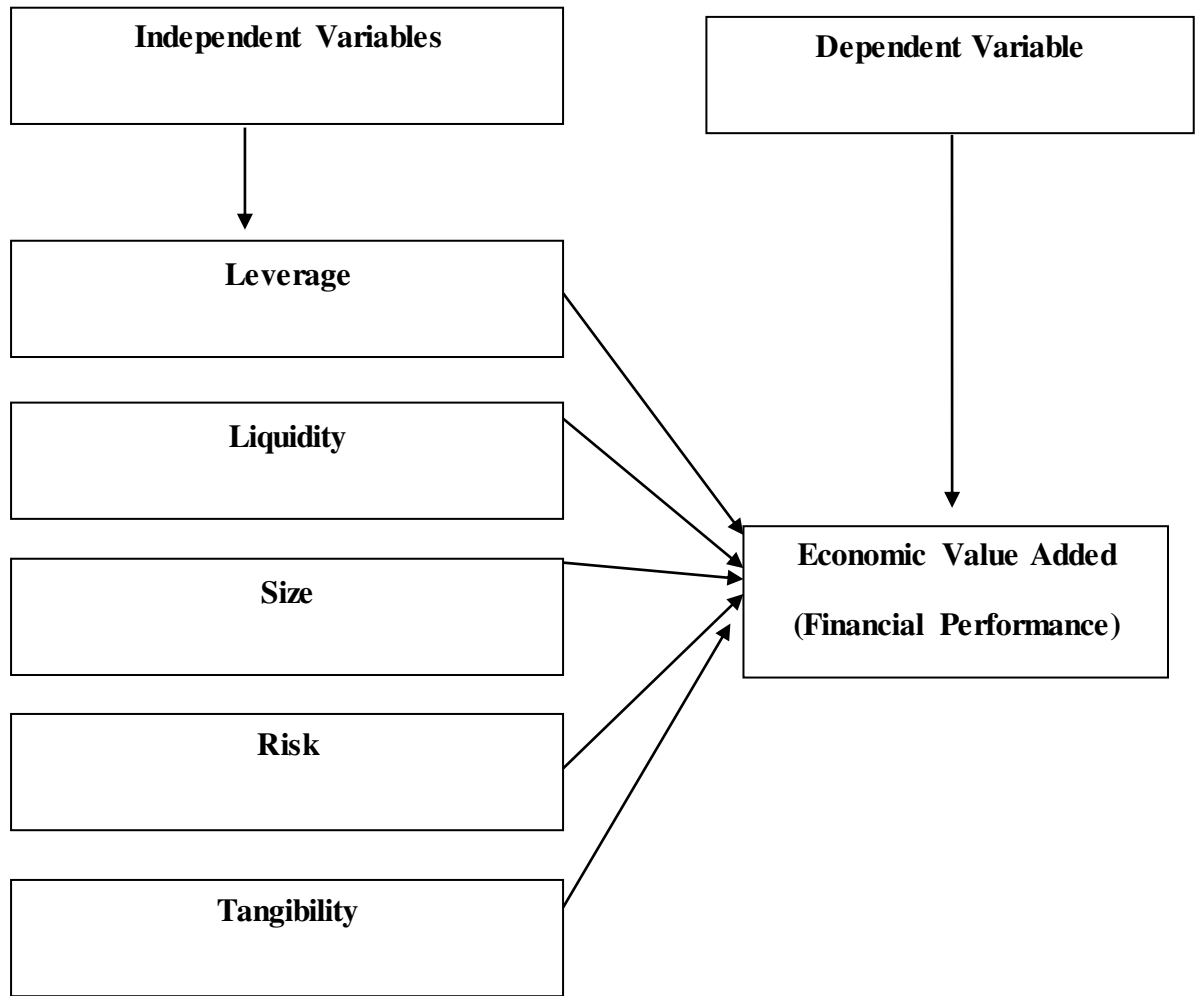
The financial sectors were purposively selected based on availability of the data during 2008 to 2012. In purposive sampling the desired information was obtained from specific sectors. This study has covered 145 financial firms from ten areas namely Banks, Development Financial Institutions, Leasing Companies, Investment Banks, Mutual Funds, Modarabas, Exchange Companies, Insurance Companies, Housing Finance and Venture Capital. The data were compiled from financial statements of financial sectors of Karachi Stock Exchange.

**TABLE 3.1 SECTOR WISE DISTRIBUTIONS OF FINANCIAL SECTORS**

S.NO	Sectors	No. of Firms
1	Banks	38
2	Insurance Companies	51
3	Exchange Companies	24
4	Mutual Fund	15
5	Modaraba Companies	26
6	Leasing Companies	10
7	DFI	7
8	Investment Banks	7
9	Housing Finance	1
10	Venture Capital	1

### 3.2 SOURCES OF DATA

The data was compiled from secondary sources such as financial statements analysis of 180 companies from 10 sectors namely Banks, DFIs, Leasing Companies, Investment Banks, Mutual Funds, Modarabas, Exchange Companies, Insurance Companies, Housing Finance and Venture Capital for the period 2008-12. The data was collected on variables such as Company leverage, company liquidity, company size, risk, tangibility, and financial performance through economic value added. All these variables are explained as under:



**FIGURE 3.1 THEORETICAL FRAMEWORK OF THE STUDY**

### **3.3. VARIABLES OF RESEARCH STUDY**

#### **(A) INDEPENDENT VARIABLES**

##### **3.4.1 LEVERAGE**

Leverage was calculated by debt/equity ratio. This indicates the extent of the amount of loans in investment. Firms with more leveraged amount may face collapse of business due to its inability to arrange timely payment of loans. These firms may lose credibility in business environment and may face hardship in future loans. Leverage is sometimes useful because, it will improve profit of investors on share of their capital and can put together proper utilization of tax benefits related to loans (Amal et al. 2012).

$$\text{Leverage} = (\text{Total debt} / \text{Equity ratio})$$

##### **3.4.2 LIQUIDITY**

Liquidity indicates the extent of debt payable in one year. This payment will be arranged from available funds in hand or conveniently cash convertible assets. This was calculated by existing assets to existing liabilities. This indicates capacity to transfer an asset to currency conveniently. More liquidity will facilitate company to face unforeseen events and to manage its responsibility during operational activities of minimum profits (Liargovas and Skandalis, 2008).

$$\text{Liquidity} = (\text{Current assets} / \text{Current liabilities})$$

##### **3.4.3 SIZE**

Company size will influence fiscal achievement in the market. Big companies may explore economies of scale. They are highly resourceful and capable than companies with little capacity and resources. Companies with little capacity and resources will carry less influence than big companies in business environment. Small companies will not be able to participate actively in market environment compared with big companies. However, performance improvement is a hard task for big companies which some time can lead to low performance in the market. Theoretically it is equivocal on the precise relationship in size and performance (Majumdar, 1997).

$$\text{Size} = \text{Natural Log of Total Assets}$$

##### **3.4.4 RISKS**

Risk intensity is the basic element of a company's fiscal achievement (Kale et al.1991). Company with maximum uncertainty and high agency costs may have more chances of fiscal collapse compared with company more business profits. According to Johnson (1997) companies of volatile earnings may face environment of low available cash hardly sufficient to recover loans. Esperanca et al.

(2003) observed hopeful connection among risk of company and both long duration and short duration debt.

$$\text{Risks} = (\text{EBIT} / \text{Earning after interest and Tax})$$

### 3.4.5 TANGIBILITY OF ASSETS

Company with more quantity of fixed asset can get loan with minimum interest through guarantees of property ownership and available resources. Companies with more permanent assets can have opportunity of more loan facility at minimum interest.

$$\text{Tangibility of Assets} = (\text{Fixed Asset} / \text{Total Assets})$$

### (B) DEPENDENT VARIABLE

### 3.5 ECONOMIC VALUE ADDED

In light of Weaver's (2001) reports and to make sure comparison with return on average assets and return on average equity, we used the LBS-First Consulting (1992) bank value added formula together with modifications endorsed by Uyemura et al. (1996).

$$\text{EVA}_{i,t} = (\text{operating profits after tax}_{i,t} - \text{capital charge}_{i,t}) / \text{factor inputs}_{i,t}$$

Where:

$$\text{Capital charge}_{i,t} = \text{capital}_{i,t} * \text{cost of capital}_{i,t}$$

$$\text{Factor inputs}_{i,t} = \text{operating costs}_{i,t} + \text{interest costs}_{i,t}$$

EVA is normalized by factor inputs to minimize possible heteroskedasticity and scale effects in the model.

### 3.6 STATISTICAL ANALYSIS

The fixed effect and random effects was processed through Hausman specification test (1978). Keeping in view more number of companies and short time duration of study, we processed short panel data type according to Baltagi (2005).

### 3.7 PANEL DATA

To examine determinants of financial performance for financial sector panel data technique was used. With the aspect of heterogeneity, Panel data procedure carry merits compared with cross-sectional and time series regression. There is maximum possibility of heterogeneity in time series regression and



cross sectional regression than panel data analysis. In addition to that panel data procedures give maximum useful information and collinearity among variables is minimum and generalized.

### **3.8 FIXED EFFECT MODEL**

One of the types of panel data is fixed effect model. Wooldridge (2001) reported that in regression model, fixed effect model give partiality because of excluded variables. In fixed effect model, intercept are unlike for individuals while the slope of coefficients are constant (Gujrati, 2003; Baltagi, 2008). This model is used for robustness in the result. This test was carried out with robust standard errors where Heteroskedasticity was investigated in data.

### **3.9 RANDOM EFFECT MODEL**

Random effect model was used which is the type of panel data analysis. In random effect model, the value of intercept is the mean of overall intercepts of the cross sectional units whereas fixed effect model gives fixed value to the intercept of the cross sectional unit (Gujrati, 2003). This model is used for robust errors, where Heteroskedasticity is found in data.

### **3.10 HAUSMAN SPECIFICATION TEST**

The Hausman specification test match up fixed and random effects with null hypothesis. Individual effects are not related with other regressors in the model (Hausman 1978). If correlated ( $H_0$  is rejected), random effect model will create unfair estimators and will abuse one of Gauss-Markov assumptions. In this situation fixed effect model is favorite choice. Hausman's essential result is that covariance of an efficient estimator with its difference from an inefficient estimator is zero (Greene, 2003). If p-value is more than 0.05, we test random effect models. If it is minimum than .05, than choice will be fixed effect model.

### **3.11 CHOW TEST**

Chow test is employed for selection of fixed effect model and Pooled OLS Model which give details if model is according to nature of data. The hypothesis of the chow test is:

**$H_0$ :** The pooled OLS model is adequate, in favor of the fixed effects alternative.

**$H_1$ :** The pooled OLS model is not adequate, in favor of the fixed effects alternative.

### **3.12 BREUSCH AND PAGAN LAGRANGIAN MULTIPLIER TEST**

The Breusch-Pagan Lagrange multiplier test decides between random effect model and pooled OLS regression. It gives details of major existing variation among units. In case of no variability across

units, OLS regression is employed than random effect model. In case of major variation in units then panel data models (fixed effect model, random effect model or between effect model) is used.

**H<sub>0</sub>:** The pooled OLS model is adequate, in favor of the random effects model.

**H<sub>1</sub>:** The pooled OLS model is not adequate, in favor of the random effects model.

### 3.13 REGRESSION MODEL

The following regression model for the estimation of current study was employed.

$$FP_{i,t} = \alpha + \beta_1 LV_{i,t} + \beta_2 LQ_{i,t} + \beta_3 SZ_{i,t} + \beta_4 RK_{i,t} + \beta_5 TN_{i,t} + \varepsilon_{i,t}$$

Where:

*i* is for company

*t* is for year

FP: financial performance through EVA= Economic Value Added

LV = leverage

LQ = liquidity

SZ = size

RK = risk

TN= tangibility

In addition,  $\alpha$ : constant  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$  are called the regression coefficients, and  $\varepsilon$  are the random error term.

#### IV. RESULTS AND DISCUSSION

The results of different diagnostic tests such as Descriptive Statistics, Correlation Matrix, Fixed Effect Model, Breusch and Pagan Lagrange Multiplier (LM) Test for Random Effect Model, Hausman Test for comparison of Fixed and Random Effect Model, Chow Test for pooled OLS Model are presented as under:

**Table 4.1 DESCRIPTIVE STATISTICS**

<b>Variables</b>	<b>Obs</b>	<b>Mean</b>	<b>S.D</b>	<b>Min</b>	<b>Max</b>
<b>Leverage</b>	725	0.67578	0.51596	0.10169	6.72802
<b>Liquidity</b>	725	0.70285	0.53583	0.20148	5.43212
<b>Size</b>	725	0.81182	0.28907	0.29159	7.43212
<b>Risk</b>	725	0.54849	0.44510	1.07337	5.00000
<b>Tangibility</b>	725	0.28607	0.36791	0.28348	2.08055
<b>Economic Value Added</b>	725	0.72323	0.06256	0.486701	0.87854

Based on secondary data obtained from financial statement

Table 4.1 reveals descriptive statistics such as mean, standard deviation, minimum and maximum of firm's performance (EVA), leverage, liquidity, size, risk, and tangibility during period 2008-2012 for financial sectors (i.e. Banks, Development Financial Institutions, Leasing Companies, Investment Banks, Mutual Funds, Modarabas, Exchange Companies, Insurance Companies, Housing Finance and Venture Capital). Table 4.1 indicates that leverage has mean value of approximately 67% in performance of financial sector, while other variables such as liquidity, size, risks and tangibility have mean values of 70%, 81 %, 54%, 28% and 72% respectively. The minimum value of leverage, liquidity, size, risk, tangibility and economic value added is 0.20148, 0.29159, 1.07337, 0.28348 and 0.48670 respectively. The maximum of leverage, liquidity, size, risk, tangibility and economic value added is 6.72802, 5.43212, 7.43212, 5.00, 2.08055 and .87854 respectively. Burca et al. (2014) revealed that parameters of fiscal progress of Romanian insurance market were financial leverage, size, risk and risk retention ratio. Abbas et al. (2013) reported that progress of textile companies in Pakistan was drastically influenced due to short term leverage, size and risks.

**Table 4.2 CORRELATION MATRIX**

Variables	Leverage	Liquidity	Size	Risk	Tangibility	Economic Value Added
Leverage	1.0000					
Liquidity	-0.2198	1.0000				
Size	0.1556	0.0432	1.0000			
Risk	-0.0395	-0.2873	-0.1340	1.0000		
Tangibility	-0.1677	0.1732	-0.1385	0.4178	1.0000	
Economic Value Added	0.1396	0.2375	0.1598	-0.4396	-0.3779	1.0000

Table 4.2 indicates the correlation matrix of dependent and independent variables in financial sectors of Pakistan for the period of 5 years from 2008 to 2012. Leverage have positive correlation with size and Economic Value Added (EVA) but have negative correlation with risk, liquidity and tangibility. The correlation of liquidity with size, tangibility and Economic Value Added is positive but have negative correlation with risk. The correlation of size with risk and tangibility is negative but have positive correlation with EVA. The correlation of tangibility with EVA is negative. The correlation of risk with tangibility is positive but have negative correlation with EVA. The correlation of tangibility with EVA is negative. Shiu (2004) reported that performance of insurers have positive correlation with interest rate, return on equity, solvency margin and liquidity, but have negative correlation with inflation. Abbas et al. (2013) indicated that leverage including tax and tangibility have negative correlation with firm's performance while growth, size, risk, liquidity have positive correlation with firm's performance. Burca et al. (2014) revealed that company size and equity have positive correlation with performance.

**Table 4.3 AUGMENTED REGRESSIONS FOR CHOW TEST**

OLS, using 725 observations

Dependent variable: EVA

	Coefficient	Std. Error	t-ratio	p-value
Leverage	0.01678	0.00746	2.248	0.0249 **
Liquidity	0.01976	0.00741	2.665	0.0079 ***
Size	0.02838	0.00905	3.137	0.0018 ***
Risk	-0.01467	0.00876	-1.675	0.0944
Tangibility	-0.05188	0.01693	-3.064	0.0023 ***

R-squared	0.316244	Adjusted R-squared	0.3057
F(11, 713)	29.979	P-value(F)	4.84E-52

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

Chow test for structural break at observation 29:5

$F(6, 713) = 2.98773$  with p-value 0.0069

Table 4.3 reveals coefficient, standard error, T-ratio and P values of leverage, liquidity, size, risk and tangibility. The chow test reveals that P values of leverage, liquidity, size, risk and tangibility are 0.0249, 0.0079, 0.0018 and 0.0023 respectively. We reject null hypothesis on the basis of P values which means that fixed effects model is more suitable than pooled regression model. The R-squared shows variation in dependent variable i.e. EVA due to leverage, liquidity, size, risk and tangibility. However remaining variation (0.68) was due to other external factors.

**Table 4.4 BREUSCH AND PAGAN LAGRANGIAN MULTIPLIER TEST**

	Var	SD = sqrt (Var)
EVA	0.003914	0.0625622
Var(u) =	0	
Chibar <sup>2</sup> (01) =	166.58	
Prob> Chibar <sup>2</sup> =	0.0000	

Table 4.4 shows variation and standard deviation of Economic Value Added. The variation and SD of Economic value added (EVA) is 0.00391 and 0.06256 respectively. On the basis of p-value we reject null hypothesis which indicates that pooled OLS model is better than random effects model. We conclude that random effect model is suitable. Shamsudin et al. (2013) revealed that random effect model is suitable for panel data analysis.

**Table 4.5 HAUSMAN TEST**

	-----Coefficients-----			
	(b) Fixed Effect	(B) Random Effect	(b-B) Difference	Sqrt(diag(V_b-V_B)) S.E
Leverage	0.007885	0.0120657	-0.0041807	0.0020815
Liquidity	-0.0101843	0.0239277	-0.0341119	0.0053865
Size	0.0079626	0.0138806	-0.005918	0.0050577
Risk	0.0043189	-0.0177196	0.0220385	0.0025674
Tangibility	0.018714	0.-0374915	0.0562055	0.0075972

$\text{chi2}(5) = (\mathbf{b}-\mathbf{B})'[(\mathbf{V}_b-\mathbf{V}_B)^{-1}](\mathbf{b}-\mathbf{B})$
$= 81.68$
<b>Prob&gt;chi2 = 0.0000</b>

Table 4.5 explains the results of the Hausman specification test. This test was used for the purpose of selecting whether to use fixed effect model or random effect model, which can provide efficient results. The p-value of  $\chi^2$  is .0000 which is less than .05. Under this assumption fixed effect model is more efficient than random effect model. We reject null hypothesis under this assumption because fixed effect model is more efficient than random effect model. Burca et al.(2014) conducted research on company operated in Romanian insurance market and revealed on the basis of their results that fixed effect model is suitable.

**Table 4.6 FIXED EFFECT MODEL**

Fixed-effects, No. of observations 725

Dependent variable: Economic Value Added with Robust (HAC) standard errors

	Coefficient	Std. Error	t-ratio	p-value
<b>Leverage</b>	0.019	0.004	3.983	0.00008***
<b>Liquidity</b>	0.031	0.006	4.807	0.00001***
<b>Size</b>	0.013	0.006	2.069	0.03891**
<b>Risk</b>	-0.033	0.009	-3.474	0.00055***
<b>Tangibility</b>	-0.057	0.008	-7.142	0.00001***

<b>R-squared</b>	0.418	<b>Adjusted R-squared</b>	0.268
<b>F(149, 575)</b>	2.781	<b>P-value(F)</b>	0.000

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

The results of Fixed Effects Model are revealed in Table 4.6. It can be observed from data that variables such as leverage, liquidity, risk, size and tangibility were statistically significant. The P value of Leverage, Liquidity, Size, Risk and Tangibility are 0.00008, 0.00001, 0.03891, 0.00055 and 0.00001 respectively. The P values of all variables are less than 0.05 which means that Leverage, Liquidity, Size, Risk and Tangibility are highly significant. The value of R-squared shows that independent variable explains 42% of the entire panel's variation. The coefficient of fixed effect model shows that Leverage, Liquidity, and Size have positive effect on Economic Value Added while Risk and Tangibility have negative effect on Economic Value Added.

Leverage has major influence on fiscal progress of financial sectors of Pakistan. Liargavas and Skandalis, 2008; Kakani et al, 2005; Bashir, 2005; Neri, 2001; Adams and Buckle, 2000 reported that enhancing leverage has positive influence on its performance. Enhancing leverage may be useful due to added management benefits and leads to more investment. In case of companies with maximum leverage may face antagonistic approaches from low leveraged competitors and may be unable to get market share in an oligopoly product market.

Liquidity has major influence on fiscal progress of financial sectors of Pakistan. Chen and Wong (2004) indicated that liquidity have positive impact on financial performance. Adams and Buckle (2000) revealed that liquidity having non-significant impact on financial performance.

Size is statistically significant which have affected financial performance of financial sector of Pakistan. Liargavas and Skandalis, 2008; Tarawneh, 2006; Kakani et al. 2005; Chen and Wong, 2004) reported that major firms are more gainful because of more investment opportunities, sufficient human resources and advanced computer system which lead to more progress and output. In addition to that financial experts are more interested in big companies due to publication and availability of regular financial reports along with bright fiscal opportunities.

Risk is significant at 5% level probability ( $p \leq 0.05$ ) of financial sectors of Pakistan. This negative relationship between risks and firm's performance is not consistent with findings of (Abbas et al. 2010; Krishnan and Moyer, 1997). They reported same relationship between risks and firm's performance. They indicated that more risky firms tend to perform well in financial sector of Pakistan.

Tangibility is statistically significant at 5% level of probability ( $p \leq 0.05$ ) in financial sectors of Pakistan. It means that tangibility have played significant role for firm's financial performance in financial sector. The negative relation between tangibility and firm financial performance is consistent with results of Abbas et al. (2013). Abbas et al. (2013) revealed that tangibility is not significant at any level in textile sector of Pakistan. It means that tangibility has not played significant role for firm's performance.

#### **4.7 HETEROSKEDASTICITY**

Distribution free Wald test for Heteroskedasticity.

Null hypothesis: The units have a common error variance

Asymptotic test statistics: Chi-square (145) = 3300.98

With p-value = 0.0000

According to results of Wald test, the p-value is 0.0000 which is less than 0.05. In this situation we do not accept  $H_0$  and conclude the problem of Heteroskedasticity in model. To address this in order to solve the difficulty of heteroskedasticity robust regression was employed (El-Melegy and Moumen, 2014).

## **V. SUMMARY, CONCLUSION & RECOMMENDATIONS**

### **5.1 SUMMARY**

The objectives of this research were to look at the determinants of financial performance of fiscal sectors of Pakistan. This research was purposively selected based on availability of data during 2008 to 2012. Panel data techniques were employed to classify determinants of fiscal progress of financial sectors in Pakistan from 2008 to 2012. This study was based on secondary data obtained from “Financial statement analysis of companies (financial sectors) listed in Karachi Stock Exchange. In purposive sampling the desired information was obtained from specific sectors. This study has covered 145 financial companies from 10 sectors namely Banks, Development Financial Institutions, Leasing Companies, Investment Banks, Mutual Funds, Modarabas, Exchange Companies, Insurance Companies, Housing Finance and Venture Capital. In order to analyze the data, various statistical methods such as descriptive statistics, correlation matrix and fixed effect model were applied. Data were processed in various diagnostic tests such as Breusch and Pagan Lagrange Multiplier (LM) Test for Random Effect Model, Hausman Test for comparison of Fixed and Random Effect Model.

Results of descriptive statistics revealed that leverage has an average (mean) value of approximately 67% in performance of financial sectors, while other variables such as liquidity, size, risks and tangibility have mean values of 70%, 81 %, 54%, 28% and 72% respectively. Leverage have positive correlation with liquidity, size and economic value added but have negative correlation with risk and tangibility. The correlation of liquidity with Size and EVA is positive but have negative correlation with risk and tangibility. The correlation between size and risk is positive with EVA but have negative correlation with tangibility. According to Chow test P-value is less than 0.05. We rejected null hypothesis on the basis of P- values which means that random effect model is not suitable and fixed model is appropriate. The panel model was not suitable due to non significant variation among companies, and therefore Random effect model can't be applied. Hausman specification test was used for the purpose of selecting fixed effect model or random effect model, which can provide useful information and valid results. In Hausman specification test p-value of  $\chi^2$  was .0000 which was less than .05, which reveals that fixed effect model is more efficient than random effect model. The results of fixed effect model indicate that leverage, liquidity, risk, size and tangibility are statistically significant.

### **5.2 CONCLUSION**

The study entitled “Determinants of financial performance for financial sectors (An assessment through economic value added) was conducted to investigate determinants of financial performance such as leverage, liquidity, risk, tangibility of listed companies in Karachi Stock Exchange for the period 2008 to 2012. This study has covered 145 financial companies from 10 sectors



namely Banks, Development Financial Institutions, Leasing Companies, Investment Banks, Mutual Funds, Modarabas, Exchange Companies, Insurance Companies, Housing Finance and Venture Capital. The main objective of this research study was to investigate the factors which affect financial performance of financial sectors of Pakistan. Results of this study were investigated by applying specific panel data techniques.

Determinants of financial sectors such as leverage, liquidity, risk, Size and tangibility have significant effect on financial performance of Banks, Development Financial Institutions, Leasing Companies, Investment Banks, Mutual Funds, Modarabas, Exchange Companies, Insurance Companies, Housing Finance and Venture Capital. The correlation of liquidity with Size and economic value added was positive but have negative correlation with risk and tangibility. The correlation between size and risk is positive with EVA but negative with tangibility.

### **5.3 RECOMMENDATIONS**

Based on results of this research study and overall situation of stock market, the determinants of financial sectors such as leverage, liquidity, risk, size and tangibility have significant effect on EVA (financial performance). Greater attention should be paid to leverage, liquidity, risk and tangibility. Companies of maximum leverage may face financial collapse in case of no payments on their debt. These companies may also face problems of future lending. Leverage may enhance shareholders profits on their invested capital and can properly utilize tax benefits related to borrowing.

It is proposed that financial sectors should consider EVA as an important factor for financial performance measurement.

The companies must not depend on short time debt, which create greater portion of its leverage. Companies must emphasize on planning of inside policy which should facilitate additional enhancement of its progress in term of accounting because of low accounting performance for the period under study.

In future research firm's financial performance may be conducted on primary data through market value measures like Tobin's Q etc.

It is recommended that increased number of independent variables will generate more useful information and will enhance further the scope of the future studies.

In addition to that it is recommended that future research studies may also consider comparison of the performance of financial sectors with non financial sectors.

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