

## IMPACT OF ASSET GROWTH AND EQUITY MULTIPLIER ON THE FINANCIAL PERFORMANCE OF MICROFINANCE BANKS OF PAKISTAN

<sup>1\*</sup> Dr Ali Raza Nemati, <sup>2</sup> Taimoor Javed, <sup>3</sup> Muhammad Umar Siddiqui

<sup>1</sup> Associate Assistant Director HR, Riphah International University, Pakistan

\*Corresponding Email: [alirazanemati@gmail.com](mailto:alirazanemati@gmail.com)

<sup>2</sup> Executive HDS, Riphah International University, Pakistan Email: [taimoorjaved110@gmail.com](mailto:taimoorjaved110@gmail.com)

<sup>3</sup> PhD Scholar Superior University Email: [omer\\_ias@yahoo.com](mailto:omer_ias@yahoo.com)

ARTICLE INFO	ABSTRACT
<p><i>Article History:</i></p> <p>Received: 25 Jul, 2021 Revised: 15 Aug, 2021 Accepted: 21 Sep, 2021 Available Online: 8 Oct, 2021</p> <hr/> <p><i>Keywords:</i></p> <p>Asset Growth, Equity Multiplier, Return on Asset, Return on Equity, Financial Performance, Microfinance Bank of Pakistan, State Bank of Pakistan</p> <hr/> <p><i>JEL Classification:</i></p> <p>F34, O57</p>	<p>Microfinance is the provision of a comprehensive range of financial facilities such as loans, deposits, money transfers, payment services and insurance to low-income households and their micro enterprises, due to limited literature on evaluating the financial performance of microfinance banks. The objective of this paper is to investigate the relationship between asset growth and equity multiplier on the financial performance of microfinance banks of Pakistan. Study considers two variables, which relate to the profitability (a dependent factor): ROA and ROE. The independent factor on the other hand, AG, and EM. For this purpose, total 9 microfinance banks of Pakistan are engaged with 10-year financial data from 2010-2019 that are under the supervision of State Bank of Pakistan. E-views software is used to reveal the result by analysis of different tests including the descriptive analysis, correlation analysis and panel square regression method with. Some authors suggest that asset growth and equity multiplier have a positive impact on the financial performance of banks, while some authors suggest that asset growth and equity multiplier have a negative impact on the financial performance of banks. This study suggests that asset growth has a significant positive relationship with return on asset and return on equity, while equity multiplier has a significant negative relationship with return on asset and return on equity, finally based on the results we conducted that asset growth has a significant positive relationship on financial performance and equity multiplier has a negative relationship on the financial performance of microfinance banks of Pakistan. The study is equally beneficial and useful for future researchers and for the microfinance banks of Pakistan to improve their profitability by reducing the equity and increasing asset growth.</p>

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### 1. INTRODUCTION

A country can be able to flourish by a strong financial system. Progress of economic along with development of banking segment is always interrelated. Stability of economic growth is a significant determinant of financial system while a well sound banking system is for the solidity of financial structure (Hussain & Khan, 2019). The banking sector is playing an essential role in financial services, which provides support to development of plans by floating finances for dynamic support, managing the surge of finances from superfluous to scarcity and following the fiscal and trade and industry government policy. The significance of bank's constancy in a just beginning economy is remarkable as any misery impacts the expansion strategies thereby the economic progress (Hardy & Pazarbasioglu, 1999). Currently there are limited studies conducted to analyze the impact of asset growth and equity multiplier on the financial performance of microfinance banks of Pakistan. As the microfinance industry is emerging day by day and it plays a significant role in the economy of the country, and most of the studies have been conducted to investigate the impact of capital structure on the financial performance of Islamic and commercial banks of Pakistan not on the Microfinance sector. This paper will help to investigate the impact of asset growth and equity multiplier on the financial performance of Microfinance banks of Pakistan.

Pakistani financial sector is a combination of various financial institutions that plays a vital role in development of the country, Housing finance and mutual funds beneath the dominant governmental formation, the administrative tasks in casing of Banks, Commercial banks are dominated the financial system of Pakistan. After 1997, there were significant changes in banking system structure of Pakistan, when banking management process was aligned and compliance with best practice of international. Privatization of banks and practices of merger consolidation leads a visible change in ownership and structure in banking industry of Pakistan. (Javed & Anwan, 2011).

The aim of microfinance institution is to provide financial service, usually for low-income people who has limited access such as from commercial bank. Microfinance sector is being recognize as a significant vehicle of diversification economic, generate income and distribute, boost up growth of country economy also the contribute to reduce poverty and unemployment (Daele, 2008).

First Microfinance bank has been recognized as main source of poverty reduction, after the initiation of Grameen banks in 1984. In 1990, world recognized the significant of microfinance sector, started financial support from International Financial Institutions for development of Microfinance institution (Haque & Rasheed, 2002). In just beginning country microfinance division is the foremost support of poverty reduction. Microfinance institution aims to offering financial service to low-income people, population including self-employed. Generally, microfinance institution provides savings a credit service. At same time microfinance institution provides insurance service. Microfinance institution provides services to low level income, needy and poor population to meet their financial and social goals (Awais & Ahmad, 2019). Since 1990, microfinance institutions getting start gaining the importance in Pakistan. International financial institution financial support to microfinance institutions, inspire the public and private sector to advanced microfinance institutes in Pakistan. International financial institution financial support help to Non-Government Organization to expand their operation and was also helping to build formal structure of microfinance institution like microfinance banks

Realizing the significant of microfinance, as tool of poverty alleviation, government effort has been accelerated for establishment of strong microfinance formal sector, increase support to informal sector such NGO's (Annual assessment of the Industry, 2017). In 2000 Government launched Microfinance Sector Development Programme to promote the Microfinance formal sector. The main purpose of this development Programme was to extend and accelerate for development of the sector to help the poor by providing financial support (Ahmad, 2009)). In addition, government has considered Microfinance seeing that a significant implement of scarcity mitigation in shortage lessening scheme and consequence of this in 2002 Khushhali Microfinance bank recognized as an initial microfinance bank under a special ordinance. (State Bank of Pakistan Ordinance, 2001)

Initially in microfinance institutions were being funded by donor, but there sponsored are being reduced. In Pakistan the main source of financing of Microfinance are subsidized funding to non-regulated MFIs from Pakistan Poverty Alleviation Fund (PPAF). Deposit mobilization is only for Microfinance banks because State banks restrict to non-Microfinance banks for deposit mobilization. The source of commercial funds are commercial banks (risk averse). And these guarantees provided by SBP's Microfinance Credit Guarantee Facility (MCGF), to motivate commercial banks to providing loan service microfinance (Mohsin & Bashir, 2018).

When a country is in debt overhang situation, the creditor's country has two options for debtor country: one is debt forgiveness and second is debt financing. Creditor country must decide whether she should go for debt forgiveness or debt financing. They can finance if they hope that debtor country will repay her debt.

### **1.1 Research objectives**

The research is based on the following objectives:

- To study the Impact of asset growth on return on asset of microfinance banks of Pakistan.
- To study the Impact of asset growth on return on equity of microfinance banks of Pakistan.
- To study the Impact of equity multiplier on return on asset of microfinance banks Pakistan.
- To study the Impact of equity multiplier on return on equity of microfinance banks Pakistan

## 2. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

It is very important to study growth. Its impact externally and internally the firm performance. Further it's may help the firm to survive. Growth can be found in any sector. There are many types of growth, such total asset growth, fixed asset growth, sale and revenue, cost, number of workers etc. Business financing involves planning, procurement, and administration of fund. decision on the best of funds and how to use them are key functions of firm manger (Endiris & Egziabher, 2019).

Growth in asset is key factor of improving financial performance, reducing risk, and achieving stability. Asset growth is necessary for company to survive in a competitive and varying market also help to increase the capital. Large investment is required to purchase heavy asset, which can induce firms to source for additional externally finance. Debt is an external source of funding, acceleration of asset growth of firms, which allows companies to leverage on its current fund towards accomplishing its growth goals. It also helps for swift growth, cashflow, reduce risk and economic of scale (Hampton, 1993).

Asset growth is calculated as

$$AG = (P2 - P1)/P1$$

Pass and Davies (2005) clarified firm development as the size extension of firm over the time and indicated by them, firm development covers development of asset, or capital utilized, turnover, benefit, and quantities of employee. (Kouser & Hassan, 2019) who explained growth of firm as increase in size of asset, volume of production, increment in sale of firm, the size of employee, growth in profit, operation expansion through acquisition and merger and operation expansion and diversification? Additionally, the Classical Economics School of Thought lead by David state and Adam Smith, development of firm basically as the variety between one balance point and another equilibrium point. Kruger (2004) expressed that firm development has numerous implications. As indicated by him, it very well may be detailed as far as generating of income, esteem expansion and extension as far as limit of the business. It can likewise be appearing as subjective characteristics like market position, nature of item and client's altruism.

A measurement of assets which are owned by shareholder to comparing total asset with total shareholder equity. Whereas Equity multiplier is defined as percentage of total assets that are owned by its shareholder. Equity multiplier also helps to calculate debt level of financing is used to purchase assets and help to continue its operations. Such as all financial leverage ratio, equity multiplier is measurement of firm risk for creditors. Firms which are rely on debt financing that's have much debt service costs, will support to increase the flow cash in respect to facilitate their operations (Abraham & Auerbach, 2017). Equity multiplier is ratio to measure firm's equity and debt funding strategy. High leverage indicate that more assets were financing by equity and debt. In short, fewer assets are funded by shareholder than by creditors. Low multiplies ratios always consider more favorable than higher ratio, because firm with low ratio means low relay on funding by debt and do not have high servicing in debt cost. an ideal scenario for firm is to balance both debt and equity. So that it can beat its peers (Eliwa & Haslam, 2016).

The equity multiplier ratio is also practice in the analysis of DuPont to demonstrate how leverage impact on company's equity returns. Higher multiplier proportions lead to deliver higher returns on equity according to the DuPont method (Shi, 2017). The main aim of shareholder is to get the high return on equity with respects to taken risk. Financial leverage help to multiple the value of the return on equity that manager should be utilize. Precipitate utilization of debt may increase the bankruptcy of business as far as increment its profit in bad sense this is called financial club. The significant of equity multiplier is the structure of shareholder capital sourcing and it's cost of financing. The estimate structure can be identified, but it is not possible to identify the optimizing structure. Because single theories application problems can solve by different approaches, the optimal capital structure will have variation because of subjective approach to the optimizing process. Among optimizing helping tools the structure of capital shows the equity multiplier ( Kim, 2016).

The formula of equity multiplier is

$$E, M = (Total\ asset)/(Equity)$$

The main reason of measuring firm financial performance through different ratio, most of researchers confident that financial health of firm is not measure by single ratio, but it should measure by all level of ration. This confidence is right as most of researchers used other measure of this confidence is right as most of researcher took help of other measure of firm financial performance. This ratio included profit margin and return on asset. Still, return on equity is consider best measurement because of the quality of return on equity is to be extended into three key ratios by utilizing the model of DuPont. Mathematically, this model illustrates that operating margin of profit, asset turnover and leverage multiplier ratios are the return of equity.

(Nissim & Penman, 2001) recommending that utilization of modified version of the traditional model of DuPont with respect to eradicate the impact of financial leverage all aspects are not under the control of supervisors. They prescribed that use of operating income to sales and asset turnover relies on operating assets restrains the performance measure of management to those aspect over which under the influenced of management. both proposed that the modest DuPont model has gotten comprehensively recognized in the financial analysis literature. (Brigham & Houston, 2001) suggest that modified DuPont model is a significant measurement to demonstrate the inter-connection of company's balance sheet and its income statement, and to develop direct procedures for improving the firm's equity returns. (Hawawini & Viallet, 1999) gives another modification to DuPont model. This modified model of DuPont ROE separates into five components. They likewise perceived the budget reports that organizations get ready for their yearly budgetary reports (which are of generally important to shareholder and assessment authorities) are not generally supportive to administrators getting decisions related to operation and finance. (Soliman, 2004) proposed that the soundness of industry-explicit proportions have increment and furthermore express that industry-explicit DuPont determinative segments give more powerful assessment than economy wide parts. Prendergast et al. (2006) attempted to exhibit and investigate how a modest DuPont way to deal with proportion examination can be helpful to access to the genuine financial performance related execution respects issues in a small-scale fabricating firm Milbourn and Haight (2005) show instances of utilizing DuPont strategy in both a study hall and business settings.

(R. & Holloway, 2008) expressed that the monetary points of an association are normally worry with the prerequisites of the outside providers of value capital and obligation. The financial comes back to investors contain profits and capital gains available estimation of their investor. As profit examine the amount to be delivered out as a profit, in the vital run, speculator is principally center with money related estimates like income, ROA, ROE, ROS, and ROI. (Herciu, M & Belascu, L) did an examination base on DuPont strategy and cantered to establish that as a rule the most beneficial firms are not the most alluring. They took top twenty most productive firm far and wide as an example by utilizing DuPont strategy, they get the outcome that the positioning isn't make any difference when pointers, for example, ROA, ROI, ROE, and ROS are mulled over for the examination

(Mubeen & Iqbal, 2014) have recognized that only simple calculation is required for The DuPont model when Profitability is being analysis. They too explained that these calculations may result for understanding the relative benefit in term of finance and every single either single proprietor or Financial giant Corporation, manager is willing to know exact steps that might be taken that will lead to result of higher return and profitability? They additionally proposed that one can get esteemed bits of knowledge to return back with the help of the model coming in return on asset, however the more expanded sorts that bring the parts of return of value likewise let even smaller scale business administrators to take great money related choices which will get a positive effect on the arrival of organizations' proprietors.

Majed et al (2012) examine that three proportions of ROI, ROE and ROA together introduced a positive and solid association with share costs. Further He attempted to examine the individual effect of ROA, ROI and ROE and flourished in reasoning that ROI and ROA have positive relation however the relationship with share cost is low, yet fruitless to find the relationship of ROE with MSP independently. The for the most part acknowledged point of the board of account became "boosting the abundance of the organization's proprietors" and focus moved from ROA to ROE. This came about to the primary principle change of unique DuPont model. Notwithstanding productivity and profitability, the strategy wherein an organization financed its activities, for example the use of "influence" turned into a third territory of thought for monetary directors. The new ratio of interest is known as the equity multiplier, that's is total assets divided by total equity.

(Almazari, 2012) tried the DuPont system for financial study which is study related to return on equity model to calculation the financial performance of the commercial bank of Jordanian Arab. They get result that the financial performance of Arab Bank is relatively consistent and show ostensible unpredictability in the arrival on value. Net revenue and complete resource turnover show similar dependability. The value multiplier additionally shows practically stable markers. Regardless of the rich literature backing, the return of equity is a significant measurement of firm financial performance and accordingly, analyst conviction that for organizations that offer administrations rather than an unmistakable item, fiscal summaries are not significant nonetheless, the administration of the DuPont Model by enormous firms and its effect in augmentation work has been used for a considerable length of time on the off chance that the point of exploration is to affect practice, at that point examination should utilize the methodologies that have been emphatically utilized practically speaking (Thorpe and Holloway 2008). Research should likewise broaden the practice of standard techniques, for example, the DuPont model. The DuPont Model is the most complete scientific extension exhibiting firm money related execution. Without fiscal summaries, money related execution can't be estimated, and leaders don't have data to take educated choices. Explores contend that budget summaries and

monetary execution are identified with the effective exchange and long-haul accomplishment of organizations (Prendergast, 2006).

The profitability of the financial area has upgraded altogether in the initial seven years of the new millennium before the emergency fire up. This was a result of the general improvement of the financial framework (privatization of state-claimed banks, the presentation of advance financial strategies, discount of non-performing advances, credit expansion, and the presentation of the euro) and the high intermediation spread in nations (Ramli & Nartea, 2016). The investigation of the financial statement of a business contains additionally the choice of the reasonable index and the differentiation, in any case which the resultant ends don't have any sense and most likely they don't get to the right clarification. The assessment makes insight when it is done according to time and in comparative with the equal organizations or the part. This double assessment gives the capacity of a progressively precise portrayal of the files and along these lines of the business state (Zeitun & Temimi, 2017).

Bank profitability is determined for the most part by two proportions. The Return on Equity (ROE) that ascent the abundance of the investors and the Return on Assets (ROA) that exhibition to the contributors how link is the bank the executives to premium income and how effectively utilize the entire resources of the bank (Akhtar, 2017). (Saunders & Lewis, 2019) conveys a prototype of examination for money related an association that is established on the DuPont arrangement of budgetary examination return on equity model. The arrival on value model disaggregates execution into the three parts that decide return on value: net overall revenue, all out resource turnover, and the value multiplier. The net revenue lets the monetary master to gauge the pay explanation and the pieces of the salary proclamation. Complete resource turnover lets the money related master to evaluate the left-hand side of the monetary record which is contains of the advantage accounts. The value multiplier lets the money related master to assess the right-hand side of the asset report which is contains of liabilities and proprietors' value.

Return on equity study conveys a framework for determining (planning) notwithstanding looking at the money related foundation's exhibition. The net overall revenue lets the master to build up a proforma salary proclamation. A compressed pay explanation would contain of total compensation equivalent to incomes less costs. The budgetary designer can control the anticipated income level required to meet the objective overall gain level. The complete resource turnover proportion allows the indicator to control the absolute resource level expected to make the anticipated all out-income level. The complete resource commitment can be utilized to design the expert forma levels of the entirety of the benefit accounts dependent on the objective current advantage for fixed resource level. The fundamental condition of bookkeeping is that advantages equivalent liabilities in addition to proprietors' value. The value multiplier proportion can be utilized to decide the genius forma monetary necessities and the money related structure of the budgetary foundation.

Performance of any firm can be estimate by return on asset ratio. asset returns indicate that how much the firm assets are contributing to get net profit of the firm. It is helpful for manager to estimate that how much the firm management is efficient. And demonstrations the capability of the firm to make the profitability before the leverage, instead of using the leverage (Rosikah & Prananingrum, 2018). Return on asset will deliver us the idea regard to the capital intensity of the company. Return on asset is usage in different kind of financial analysis. Return on asset is calculated as

$$RoA = (Net\ Income)/(Total\ Asset)$$

The high return on asset indicate that firms is more profitable and indicate management efficiency that firm utilizing it economic resources efficiently. Return of asset ratio is important to investigate performance of firm. This ratio is used for comparison of firm profitability between different times and useful to compare the performance of two different but similar companies' size (Manoarfa, 2018). Low return on asset ratio alarming for firm that indicate inefficacy of firm. It is important for shareholder to accept that return on asset which has not recorded outstanding liability because it's may indicate higher profit. the ratio of return on asset is important to examine firm profitability but borrowed capital amount is not included ratio of return on asset. The utilization of asset to a firm helps us to understand the management effectiveness, earning of investor and future financial performance of firm. Return on asset ratio is being utilize by firms, investors, and bankers to evaluate the performance and strength of firm. Return on asset also called the return on investment.

Oseifuah (2016), there are advantages and disadvantages of return on asset ratio being the measurement scale of performance. The advantages of return on asset, as its measure in ration so it is comfortable to compare two different size of firms. Also, it is easy for non-accounting managers to elaborate the meaning of return on asset. As return on asset is use account relative information and it badly affect the management judgment and this is real disadvantage of

return on asset ratio. The return on asset indicates ratio through calculation, and not indicate the real value that is added by shareholder. Another disadvantage of return of asset is it encourages management to add old assets and demotivate to invest in new assets for firm.

Return on equity is vital tool to examine and demonstrate the company performance. It indicates how much firm generating profit and revenue from the funds which are being invested by investor. Firm performance is shown by return on equity (Marlina & Tri, 2013).

And it is calculated by

$$ROE = (Net\ Income)/(Shareholder\ equity)$$

The investor equity calculating as company assets deducted by company liabilities. Another name Return on equity is return on net worth of firm. Return on equity is a measurement of firm profitability, also indicate the company efficiency of firm. The high ratio of return on equity means firm is much profitable and there is good sign for inventors of the company. Some firms have high return on equity on other hand some firms have low return on equity. Therefore, it is compulsory to calculate return on equity of all firms within same industry (Sitorus & Tigor, 2016).

Return on equity also discussing the rate of return which is receiving by shareholder. Return on asset also indicate how effectively company management is using their shareholder investment. On the time of investment return on equity play significant role for shareholder to evaluate the firm performance of company. Return on equity is a combination of three indication of company and these three key indications are asset management of company, profitability, and financial leverage of company (Sadiah & Kamilah, 2018).

**2.1 Hypothesis's**

- H1: Asset growth has positive impact on return on asset of microfinance banks of Pakistan.
- H0: Asset growth has negative impact on return on asset of microfinance banks of Pakistan.
- H2: Asset growth has positive impact on return on equity of microfinance banks of Pakistan.
- H0: Asset growth has negative impact on return on equity of microfinance banks of Pakistan.
- H3: Equity multiplier has positive impact on return on asset of microfinance banks of Pakistan.
- H0: Equity multiplier has negative impact on return on asset of microfinance banks of Pakistan.
- H4: Equity multiplier has positive impact on return on equity of microfinance banks of Pakistan.
- H0: Equity multiplier has negative impact on return on equity of microfinance banks of Pakistan.

**2.2 Theoretical framework**

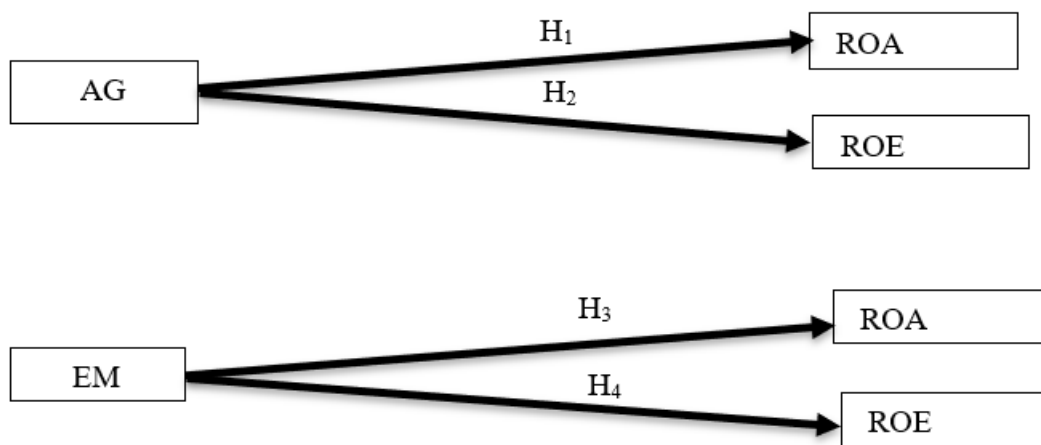


Fig. 1. Theoretical Framework

**3. RESEARCH METHODOLOGY**

Methodology is defined as a strategy which help us to identify how the research is going to be conduct. This chapter sketch the methodology that is take on in arrange to get in sequence on the association between asset growth, equity multiplier and performance of microfinance banks of Pakistan. For this purpose, total 9 microfinance banks of Pakistan are engaged with 10-year financial data from 2010-2019 that are comes under the supervisions of State bank of Pakistan. E-views software is used to revealed result by analysis different tests including the descriptive analysis, correlation analysis and panel square regression method with. Secondary data is being used for paper.

**4. RESULT AND ANALYSIS**

**4.1 Descriptive analysis**

The subsequent chart presents the descriptive analysis of variables of this research. The analysis included mean, median, maximum, and minimum value of data, while some significant measurement like as standard deviation skewness and kurtosis is included as well.

**Table 1.** Descriptive statistics

	AG	EM	ROA	ROE
Mean	0.132718	0.267917	1.138333	13.46956
Median	0.127000	0.087300	1.070000	16.09500
Maximum	1.000000	0.952000	3.180000	29.96000
Minimum	-0.114000	0.047400	-1.600000	-34.29000
Std. Dev.	0.157407	0.354448	0.889452	11.46719
Skewness	2.077782	1.329656	-0.357662	-1.585253
Kurtosis	12.05396	2.802519	4.126495	6.898442
Sum	11.94460	24.11251	102.4500	1212.260
Observations	90	90	90	90

The value of mean shows the average of whole data of each variable. The mean of asset growth is 0.132, the mean of equity multiplier is 0.267917, the average value of ROA is 1.138. Moreover, the mean of ROE is 13.46. Median indicate the central value of collective data the median of asset growth is .127, equity multiplier is 0.087 and descriptive analysis shows the median of ROA & ROE is 1.07and 16.09 respectively. Standard deviation is a significant measurement of descriptive analysis that show how a great deal collected information is diverge as of the mean. Value of standard deviation can be positive and negative. Positive value show that data value is more than mean, while negative value show that data value is less than mean. In this research standard deviation of asset growth is 0.157, equity multiplier is 0.354, return on asset 0.889 and return on equity is 11.467 respectively.

There are two importance measurement to summarize data includes the skewness and kurtosis. Skewness helps to identify the degree to which distribution differ from its normal distribution, means how much data differs from is normal distribution. Either it's on left side or right-hand side. If value of skewness is positive its show data is positive skewed and its curve on right of normal distribution, while the negative value demonstrate that the statistics is negatively skewed or is on the left side of normal distribution. The skewness of asset growth is 2.077 which show the positive skewness, the skewness of equity multiplier is 1.329 which show the positive skewness and both AG & EM curve is moving to right side. The ROA has negative skewness with value of -0.3576 and the skewness of ROE is -1.585, and both ROA and ROE curve shifted to left part of normal distribution. Hence in our research curve of asset growth and equity multiplier is on right part of usual allocation while the curve ROA & ROE on left part of normal distribution.

The kurtosis indicates that sharpness of the peak of normal distribution. In our research we examined the kurtosis of the variable that are used such as asset growth, equity multiplier, ROA & ROE. The kurtosis of asset growth is 12.05, kurtosis of equity multiplier is 2.802, the kurtosis of ROA 4.126 and the ROE is 6.898.

#### 4.2 Correlation analysis

The correlation helps to identify the strength of variables. It shows the relationship among each other. The relation can be whether the positive or negative in a study. The relationship between same variable is always one, which indicates the very strong relationship.

Correlation analysis				
	AG	EM	ROA	ROE
AG	1.000000			
EM	-0.096486	1.000000		
ROA	0.362404	-0.221689	1.000000	
ROE	0.341327	-0.372578	0.857078	1.000000

#### Relationship of Asset growth, Equity multiplier, return on asset and Return on equity with each other.

In our investigation we found that relationship between same variable is very strong, while the value correction flanked by AG and equity multiplier is -0.096 which indicates the negative relationship between these variables. The association flanked by AG and ROA with correlation value of 0.362. The correlation with AG and EM is 0.341 which shows positive relation. The correlation between EM and ROE is -0.221 which indicates the downhill relation. The value of correlation of EM and ROE is -0.372 which shows the negative relation among these variables. ROA & ROE has positive relation with value of correlation 0.857.

#### 4.3 Regression analysis

Regression analyses demonstrate the collision of one independent variable on dependent variable. In the study we checked the impact of AG and EM on the performance of microfinance banks of Pakistan. Where our independent variables are asset growth and multiplier, and dependent variable are ROE & ROA.

Regression analyses demonstrate the collision of one independent variable on dependent variable. In the study we checked the impact of AG and EM on the performance of microfinance banks of Pakistan. Where our independent variables are asset growth and multiplier, and dependent variable are ROE & ROA.

**Table 3.** Asset growth with return on asset

Dependent Variable: ROA				
Method: Least Squares				
Date: 06/09/20 Time: 20:09				
Sample: 1 90				
Included observations: 90				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.866552	0.115214	7.521259	0.0000
AG	2.047815	0.561412	3.647617	0.0004



R-squared	0.131337	Mean dependent var	1.138333
Adjusted R-squared	0.121466	S.D. dependent var	0.889452
S.E. of regression	0.833684	Akaike info criterion	2.496048
Sum squared resid	61.16260	Schwarz criterion	2.551599
Log likelihood	-110.3222	Hannan-Quinn criter.	2.518449
F-statistic	13.30511	Durbin-Watson stat	0.757790
Prob(F-statistic)	0.000448		

The Return on asset (a dependent variable) is a measurement of profitability. Based on regression analysis, we concluded that the value of t statistic is 3.64. The significant level the probability level should be equal or less than .05. The value of probability is .0004 which is significant for our result. The value of coefficient is positive 2.047. Moreover, the value of R-square is .131. if R- square value is .5 or greater it indicates that model is fitted. Results identify that asset growth as having significantly positive relation with return on asset, thus this result support our hypothesis which state that AG has positive collision on ROA. Moreover, it shows from the calculations that the model is less fitted.

**Table 4.** Equity multiplier with return on asset

Dependent Variable: ROA

Method: Least Squares

Date: 06/09/20 Time: 20:10

Sample: 1 90

Included observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.287377	0.115487	11.14741	0.0000
EM	-0.556307	0.260847	-2.132698	0.0357

R-squared	0.049146	Mean dependent var	1.138333
Adjusted R-squared	0.038341	S.D. dependent var	0.889452
S.E. of regression	0.872234	Akaike info criterion	2.586453
Sum squared resid	66.94966	Schwarz criterion	2.642004
Log likelihood	-114.3904	Hannan-Quinn criter.	2.608854
F-statistic	4.548401	Durbin-Watson stat	0.790402
Prob(F-statistic)	0.035734		

Above table show the impact of equity multiplier on ROA, where Return on asset is dependent variable and act a profitability proxy. The result of estimation demonstrates to the T-statistic value is -2.132 and the probability values is .0357 which is significant. Moreover, the value of coefficient is -.556 with value of R- square.0491. Model will be considered fit if the assessment of R -square is equal to .5 or more than .5. As per our interpretation of above result. We conclude that there is significantly negative relative flanked by equity multiplier and ROA, so we rejected our hypothesis which state that equity multiplier has positive relation by means of ROA. Moreover, result shows that form is fewer fixed

**Table 4.** Asset growth with return on equity

Dependent Variable: ROE				
Method: Least Squares				
Date: 06/09/20 Time: 20:12				
Sample: 1 90				
Included observations: 90				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.16942	1.498012	6.788608	0.0000
AG	24.86583	7.299497	3.406512	0.0010
R-squared	0.116504	Mean dependent var		13.46956
Adjusted R-squared	0.106465	S.D. dependent var		11.46719
S.E. of regression	10.83959	Akaike info criterion		7.626260
Sum squared resid	10339.72	Schwarz criterion		7.681811
Log likelihood	-341.1817	Hannan-Quinn criter.		7.648661
F-statistic	11.60433	Durbin-Watson stat		1.095552
Prob(F-statistic)	0.000994			

Refer to the above table the ROE as being dependent variable which act as profitability. Estimation indicates that value of t-statistic is 3.49. the value of probability is 0.0010, for significant level it should be equal or less than 0.05. The coefficient value is 24.86 while the value of R-square is 0.11. Thus, asset growth as having a significantly positive relation with return on equity, hence we accepted our hypothesis stated that asset growth has positive influence on ROE. Moreover, the consequence demonstrates to model is less fitted.

**Table 4.** Equity multiplier with return on equity

Dependent Variable: ROE				
Method: Least Squares				
Date: 06/09/20 Time: 20:12				
Sample: 1 90				
Included observations: 90				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.69895	1.416963	11.78503	0.0000

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EM	-12.05372	3.200454	-3.766253	0.0003
R-squared	0.138814	Mean dependent var		13.46956
Adjusted R-squared	0.129028	S.D. dependent var		11.46719
S.E. of regression	10.70186	Akaike info criterion		7.600684
Sum squared resid	10078.62	Schwarz criterion		7.656235
Log likelihood	-340.0308	Hannan-Quinn criter.		7.623085
F-statistic	14.18466	Durbin-Watson stat		1.268525
Prob(F-statistic)	0.000299			

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Base on least square method of regression analysis we inspect the impact of EM on ROE. Where ROE is proxy of financial performance. The result show that value of T-statistic is -3.766. While the value of probability of analysis .0003, for significant level is should be equal to or less than .05. And the assessment of R-square is .138. The value of coefficient show there is significantly negative relationship between equity multiplier and return on equity. And we rejected our hypothesis stated that equity multiplier has positive relations with return on equity. Moreover, The R squared significance reflect with the intention of the model is less fitted

## 5. CONCLUSION

Microfinance sector is relatively less contributing than tradition financing sector, however microfinance is growing strongly being a developing tool not only to finance low-income people but making them self-reliant as well. The relationship between asset growth and equity multiplier and financial performance of microfinance banks is necessary to measure because of rising role in changing the economic development picture. This research thus explores the association using data of 9 microfinance banks from Pakistan covering ten-year period 2010-2019. The descriptive analysis, correlation analysis and regression analysis are used in this study to reveal result. Regression model describe that asset growth has positive relation with ROA and ROE while EM has negative relation with ROA and ROE. Our result supports the hypotheses H1 and H2. And on the base of regression analysis, we rejected our hypothesis H3 and H4. As both ROA and ROE are measurement of financial performance. So, we conclude that asset growth has positive contact on financial performance of microfinance banks of Pakistan while equity multiplier has negative impact on financial performance of Pakistani microfinance banks

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**Appendix A****Table.** Abbreviations

AG	Asset Growth
EM	Equity Multiplier
ROA	Return on Asset
ROE	Return on equity
MCGF	Microfinance Credit Guarantee Facility
EIU	Economist Intelligence Unit
TMFB	Telenor Microfinance Bank Limited
FMFB	First Microfinance Banks Limited
MMFB	Mobilink Microfinance Bank Limited
KBL	Khushhali Bank Limited

Source: Author's calculations