

## IMPACT OF INVESTMENT AND FINANCIAL RISKS ON FINANCIAL INDICATORS OF INVESTMENT AND SECURITIES FIRMS IN PAKISTAN

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### Keywords:

Investment Risks, Financial Risks, Interest Rate, Size, Financial Indicators, and Weighted Least Square Regression

### ABSTRACT

The aim of this study is to investigate the impact of investment and financial risks on financial indicators of investment and securities companies listed in the Pakistan Stock Exchange after global financial crisis (2009-18) with help of Weighted Least Square regression analysis in SPSS-20. The sample selected through simple random sampling technique and consists of twenty firms, both large and small investment and securities firms. In this study investment risks and financial leverage risks are independent variables, size and interest rate as control variables and financial indicators dependent variables. The accounting risks measure; standard deviation of return on assets has significantly positive, while standard deviation return on equity significantly negative related to profitability of investment firms. Similarly standard deviation of return on assets significant negatively and standard deviation of return on equity has significant positively related to the shareholder returns. The results identified that lower investment risk leads to higher returns and higher risk leads to lower profitability. The debt ratio has significantly negative related to return on assets and significantly positive related to return on shareholder's equity. But debt to equity ratio has insignificantly related to financial indicators. Higher debt ratio leads to the lower profitability, but increases shareholder returns. The higher financial leverage risk increases profit variations but generates more returns to shareholders. An interest rate has significantly negative to return, while insignificantly found to the shareholder returns and firm size has insignificant.

### INTRODUCTION

A risk is variation in the expected return. Risks have uncertainties that exist in all business which establish for the sole aim of making profits. Risk is uncertainty in the planned activities that brings the expected results (Rusanov, 2004). The risk involves variability in the outcome (Figner & Weber, 2011;

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Markowitz, 1952). Risk is an event that carries a threat, loss, and negative earnings (Pomorina, 2014). According to Sraders (2019), risk is possibility that an outcome not expected in reference to returns on investment in finance. Financial institutions countenance and expose various kinds of risk like, interest rate risk, credit risk, liquidity risk, foreign exchange risk, currency risk, market risk, commodity risk and operational risk which are the most applicable risk to the banks (Cooperman, E., Mills D. & Gardner, J., 2000). The risk management process consists some of the fundamental steps as, risk identification, analysis, assessment, audit monitoring, and risk control (Bikker & Metzmakers, 2005; Buttimer, 2001). Firm risk can be divided into two types, a business risk due to the uncertainty in the firm's investment opportunities and management system while financial risk due to the unexpected changes in economic indicators like interest rates, exchange rates, and prices. Brigham and Houston (2001) define the financial risk is the additional risk which decrease the earning of common shareholders as a result of the debts financing decision. Financial risk is an unexpected volatility or variability in returns, consists credit risk, liquidity risk and market risk (Holton, 2004). According to the Gitman (2015) financial risk is considered risk when a firm fails to fulfill its monetary obligations. Financial risk is the behavior that entails the chance of financial losses as well as gains (Josef et al. 2016). Financial leverage risk is occurs when a firm using more borrowed capital for assets and generates return on risky debts financing (Hayes, 2019). Normally, the cost of capital is an interest rate, or the price or fee paid for money (debt financing) used over a specific time. Size can be used to access the liquidity and costs of the firm. The study has identified and analyzed the risks factors and contribution of investment sector to the economic growth of the country. This study will support investors, portfolio managers, regulators, policy makers to take an effective decision in the financial market. Investment banks, investment and securities firms are operated under the Companies Ordinance 1984, of the SECP (Securities & Exchange Commission of Pakistan) as a Non-Banking Financial Institution (NBFI).The SECP has notified NBFCs and its Regulations 2008, to carrying out non-banking financial services like asset management, investment advisory services, leasing, investment finance and house finance services.

### **Problem Statement**

Investment and financial risks are important and core interest of all the investors in the financial market especially in global financial crisis in developing economies. The most significance reasons of the financial crisis were to increase financial risks and lack of better risk management in the financial in situations. Large banks have lower risk and higher profitability than small banks in Pakistan (Hussain et al. 2017). If an ownership is changed to non-financial firm the risk level becomes up and profitability remains constant. But, if the owner is a bank the level of risk is adjusted and profitability reduced (Barry et al. 2018). Profitability has a significant negative relationship with the Chinese bank's bankruptcy and

asset-allocation risk, while insignificant to the systematic risk (Zhou, 2018). The investment diversification in banks provides higher financial performance and lower risks (Haq et al. 2018). The Islamic banks have not an excessive risk taking in financial crisis than conventional banks (Ibrahim & Rizvi, 2018). Online channel expands the arrival of appropriation banks but at a more risks (He, Ho and Xu, 2020). The study of Shah, Sukmana, and Fiantob (2021) has examined that Islamic banks risks-return under portfolio hypothesis and Islamic control; are more unsafe than commercial banks. The leverage, interest income and return on equity has positively connected with debts risk but return on asset, size and capital are negative relationship with debts risk (Yusuf et al. 2021). The debts risks have expanded and their profits have diminished (Hamdi & Hassen, 2021).

These literatures of risks have been focused mostly on the banking sector in different perspective. While there is a lack of the study conducted in the investment sector, its investment and financial risks related to financial indicators in Pakistan. Most of the investment sector firms are in continues losses with increasing debts financing after global financial crisis. So the aim of this study is to identify the impact of investment and financial risks on financial indicators of investment and securities firms listed in PSX.

### **Research Questions**

1. Does investment risk (INR) impact the financial indicators (FI) of investment firms?
2. Does financial leverage risk (FLR) impact the financial indicators of investment firms?
3. Does the interest rate (IR) affect the financial indicators of investment firms?
4. Does the size (SZ) affect the financial indicators of investment firms listed in PSX?

### **Research Objectives**

1. To examine the impact of investment risks level on FI of investment firms.
2. To examine the impact of financial leverage risks on FI of investment firms.
3. To examine the effect of interest rate on FI of investment firms.
4. To examine the effect of size on FI of investment firms listed in PSX.

### **Scope and Significance of the Research**

The study has identified the contribution of investment sector to the economic growth of the country. The study examined the investment and securities firms' profitability, investments level, growth, stability, risks and risk management system. Management of these investment firms can sustain and attract new investors by designing proper investment risk-return trade off system and better financial risk management system. The investment firms can easily formulating innovative and successful strategies of risk management for long run financial growth. The study focused on the investor's behaviour that how they can alter their investment funds flow towards the highest returns and reducing

risk in the market. This study will be helpful for active and passive investors to make diversification in investment and financial assets portfolio to minimize losses in the stock market. The study examined the growth of investment sector and it will be helpful to the government to raise new investment opportunities for boosting the economic growth through innovative, stable and diversified financial risks policies. This study will support investors, portfolio managers, regulators, policy makers to take an effective decision in the financial market. This study identified the financial and investment risks and return studies and its management strategies to remove these issues in the financial market. This study provides the background information to research scholars for identifying further research gaps in reference to developing and developed economies.

## **LITERATURE REVIEW**

**Portfolio Theory:** According to the Harry Markowitz (1952) a risk-averse investor can increase his expected return for a given level of market risk by constructing an efficient investment portfolio. An optimal investment portfolio will provide the highest possible expected return for a given level of risk. But the investment risk and return characteristics should be evaluated overall assets risk-returns, not a single asset in portfolio. The expected return of the assets portfolio calculated as a weighted sum of the each asset's return, but the weighted risk of portfolio not the risk of single asset risk. This study used the accounting risks measure, as SDROA and SDROE to measure investment risks connected to profitability of the investment firms in Pakistan. The SDROA measure the assets investment risk and SDROE measure the shareholders equity investment risk. According to this theory a risk-averse investor can reduce their risks (SDROA & SDROE) level and improve expected returns through diversification process by constructing an efficient investment portfolio. Hence the theory suggesting that lower investment risks will increases the expected returns (FI).

**Miller & Modigliani Theory:** The M&M (Modigliani-Miller) theorem provides evidence that value of a firm is calculated by using its earning power and risk, irrelevance of financing mix or distributing dividends. A firm can choose to finance by borrowing, retain profits and issuance of new shares. M & M's proposition-II focused to answer the question of why was the rate of return increased when the debt financing ratios increased. Higher debts financing increased risks level than investors demand high risk premium. This study used the debts to shareholder equity ratio (DE) to measure the firm financing mix and its impact on their profitability (FI). Similarly total debts to total assets ratio (DR) measured that how much assets are financed by creditors. According to this theory the firm financing mix (DE) are irrelevance to profitability (FI). Higher debts financing (DR) increases shareholders risks then they demand more returns (ROE). Hence DE ratio has irrelevance or insignificant to FI and DR significant negatively related to FI.

Odonkor et al. (2011) narrated that reduce risks level leads to an increase the bank profitability. When ownership interacts with risk, local banks lower risks and perform well then foreign banks, while larger banks taking lower risk has lower financial performance. Tarraf and Majeske (2013) examined that BHCs performed better with less risks-taking then with higher risks but risk is not linked to the corporate governance during financial crisis. A researcher analyzed that risk was insignificant to profitability while taxation, overheads, labor production and inflation significantly affected the Chinese bank profitability (Tan, 2016). According to Hussain et al. (2017), risk is a significant predictor of performance and all risk variables identified a significant negative relationship with ROA for large commercial banks. Large banks return on assets has higher than the small commercial banks in Pakistan. The study of Miguel and Jorge (2017) analyzed the influence of risk on banks efficiency in emerging market and identified that foreign and large banks have higher profitability and lower costs due to higher credit and market risks. But small and domestic banks have more profitability and less cost due to higher capitalization. A study of Ekanayake and Wanamalie (2017) identified the effect of bank income diversification on risk-return trade off, from an emerging economy. The non-interest income had a positive while interest income negative relationship with risk-adjusted return. Also non-interest income and risk-adjusted returns indicated that foreign exchange income and other incomes strong effect on the shareholders risk and return but, the fee based income insignificant to the risk adjusted return. Barry, Tarazi and Wachtel (2018) studied the ownership structure changes on risks and financial profitability of 17 European countries commercial banks. When the ownership changed to a non-financial organization, the risk level increased and profitability remains constant. But if owner was a bank, the level of risk adjusted and profitability declined. A theoretical model constructed by Zhou (2018) and found that profitability had significant negative relationships with the bank's bankruptcy and asset-allocation risk, while insignificant to the systematic risk. Ibrahim and Rizvi (2018) investigated the financing supply, lending, future growth and risk-taking of Islamic and conventional banks during financial crisis. The Islamic banks sustained stable in lending but conventional banks significant decrease in financing supply, and Islamic banks was not an excessive risk-taking in financial crisis. The diversification in banks provided higher financial performance and lower risk, the revenue diversification showed a positive relationship with bank stability and financial profitability. But the investment (assets) diversification varies from country to country (Huq et al. 2018). Another study of Huq (2019) identified the effect of diversification on financial performance and risks level, with the help of unbalanced panel data (2007-15), total of 1397, banks from ASEAN-5& BRICS economies by using GMM & 2SLS. The findings indicated that return from income and assets diversification were different and BRICS banks makes higher profits by using

assets and incomes diversification, while ASEAN-5 banks insignificant effects from assets diversification. Online channel expands the arrival of appropriation banks but at a more risks. Such risks-return impacts are heterogeneous relying upon the management ability, work force and size of banks. Notwithstanding, there is no critical return identifies with the expensive substance enhancement of online channel (He, Ho and Xu, 2020). The investigation of Shah, Sukmana, and Fiantob (2021) has examined that "Islamic risks-return" under the ambit of portfolio hypothesis nexus in Islamic control; Islamic banks are more unsafe than commercial banks.

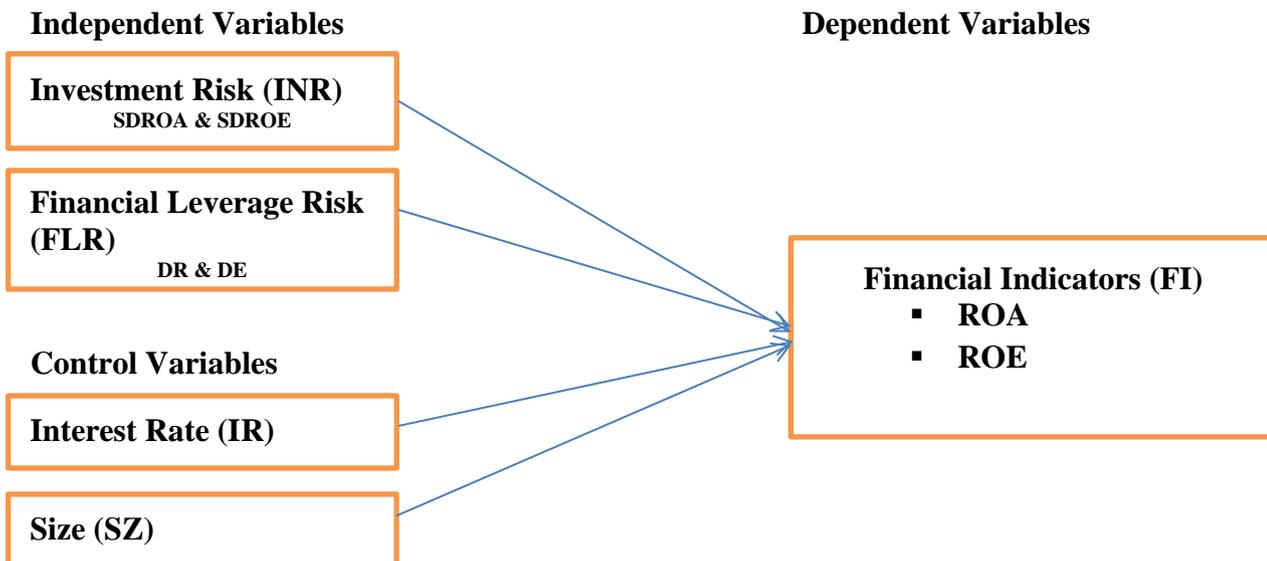
Sabin and Miras (2015) investigated the relationship between leverage level, firm performance and liquidity of 50 lower market capitalization firms listed in the Kuala Lumpur stock exchange. The DE level significantly negatively related with ROA, ROE and NPM. A researcher examined the impact of financing structure on the financial profitability of 136 industrial companies, listed in the Istanbul stock exchange. The finding indicated a statistically negative and significant relationship between leverage ratio (DR) and firm financial performance (Nassar, 2016). Das and Swain (2018) analyzed the determinants of financings and its relationships with financial performance of top 50 manufacturing companies. The debts ratios negatively affected ROA and ROE. So better financing decision improves and increased the shareholders' profitability. According to Wisdom and Isiaka (2018) risks management, excluding LEV significantly positively related to the financial profitability of Nigerian banks. All variables suggested a positive relation with performance of banks expect leverage ratios. Sivalingam and Kengatharan (2018) identified that total debt ratio is significantly negatively related to ROA, but growth significantly positively related to ROA. Size, STD/TA and LTD/TA showed no relationship with ROA of commercial banks in Sri-Lanka. A study of Rahman (2018) identified that debt ratio has a significant impact on FLR (CV). Financial leverage risks increases the possibilities of equity losses and indicated threats to insolvency. A study of Hafeez et al. (2018) identified a positive and significant relationship of EM and DR with ROA. But ER significant negatively related to ROA. The study indicated that financing structure affected the Islamic banking performance like ER, EM, DR and DE in Asian Countries.

A study investigated a significant relationship between the profitability and interest rates changes for banking sector in Nigeria (Ogunbiyi & Ihejirika, 2014). Khan and Sattar (2014) examined that interest rate changes and commercial bank's revenues were strongly negatively correlated. According to Amin et al. (2018), an inverse relationship has been found between financial risk and performance of banks in Tanzania. The leverage, interest income and return on equity has positively connected with debts risk but return on asset, size and capital are negative relationship with debts risk (Yusuf et al. 2021). The

debts risks have expanded and their profits have diminished, while profoundly utilized private banks have recorded a sharp decrease in their outcomes (Hamdi & Hassen, 2021). The cross-ownership of the sub-ordinates debts is helpful to the stability of the banking network system for small shock, but cross-ownership of the sub-ordinates debts becomes the booster of risk for a big shock, which is liable to lead to bankruptcy (Jiang, & Fan 2021). Ahmed et al. (2018) evaluated the interest rate fluctuations and identified that there was a negative correlation found among interest rates and ROA of the banks in Pakistan. Paulinus and Jones (2017) evaluated the relationship between financial risk management and the corporate profitability and identified that size insignificant related with ROE of deposit money banks in Nigeria. According to Song (2017) firm size has insignificant to the profitability. Another study conducted by Ding, Fung and Jia (2017) found that size positively significant to US banks performance showed large scale economies, while a negatively significant to Chinese banks, indicated diseconomies of scale. According to Nepali, (2018) larger bank size, higher would be the RAROA and RAROE. Ali & Puah (2019) analyzed that size significantly positively related to ROE in Pakistan.

### Theoretical Framework

Based on the above two theories and critically evaluate the literature review of different studies the following framework has been developed for the present research study.



### Research Hypotheses

- H1:** The investment risks-level (INR) has significant impact on FI.
- H2:** The financial leverage risks (FLR) has statistically significant impact on FI.
- H3:** The annual interest rate (IR) has significantly effect on FI.
- H4:** The firm size (SZ) has significantly effect on FI.

## RESEARCH METHODOLOGY

The nature and philosophy of this research design is positivism. Because it is a quantitative research and according to Crowther & Lancaster (2008) a positivism study usually adopted deductive approach for analysis. The research type is descriptive and explanatory; demonstrate the cause and effect relationship among independent, dependent and control variables (Hafeez et al. 2018; Zainullah, 2019; Chol, Nthambi & Kamau, 2019; Gathara, Kilika & Maingi, 2019; and Franca, Filho & Sandoval, 2019). The survey strategy has been used for collecting, investigating and interpreting of the historical panel data of the listed sample companies. The research study selected the time horizon from 2009-18 because it covers the period after the global financial crisis. So ten years panel data has been collected 2009-2018, from the financial statements of the listed firms in PSX and interest rate data form the official website of SBP. Currently there are total 30 investments banks and securities companies registered in the PSX. According to Uwuigbe (2011), a minimum of 5% of a defined population considered an appropriate sample size. According to Balsely & Clover (1988), it is common to use 10% of the population as a sample size and our sample size is more than 60%. According to Sekaran, (2006), a simple random sampling technique free from biasness and has been used by different researchers like (Hussein et al. 2017). Therefore we have used a simple random sampling technique, by selecting total of 20 companies (07 investment banks, 9 investment and 4 securities companies) listed in PSX.

$$FI_{it} = \beta_0 + \beta_1 INR_{it} + \beta_2 FLR_{it} + \beta_3 IR_{it} + \beta_4 SZ_{it} + e_{it}$$

Where  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  are the intercepts,

FI is the Financial Indicators (ROA and ROE)

INR is the Investment Risk (SDROA and SDROE),

FLR is the Financial Leverage Risk (DR=TD/TA and DE=TD/SE),

Control variables; IR is the annual interest rate and SZ is the Size (Natural Logarithm of TA),

$e_{it}$  is the error term and “it” is the time from (1-10) years.

Variables	Description
<b>Dependent Variables:</b>	
Financial Indicators FI	Return on assets (Net Income after Taxes ÷ Total Assets) Return on shareholder's equity (Net Income after Taxes ÷ Total shareholder's equity)
<b>Independent Variables:</b>	
Investment risks INR	Standard Deviation of Return on assets (Net Income after Taxes ÷ Total Assets) Standard Deviation of Return on shareholder's equity (Net Income after Taxes ÷ Total Shareholder's Equity)
Financial leverage risks FLR	Debts ratio (Total Debts ÷ Total Assets) Debts to equity (Total Debts ÷ Total Shareholder's Equity)
<b>Control Variables</b>	
Interest rate IR	An Annual interest rate of State Bank of Pakistan
Size SZ	Natural Logarithm of Total Assets

**Investment Risk (INR):** Investment risks measure as SDROA and SDROE. SDROA and SDROE are known as accounting risk measured by (Lee, Hsieh & Young, 2014, Barry et al. 2018 & Haq et al. 2018).

**Financial Leverage Risk (FLR):** Financial leverage risks measured with the help of leverage ratios by Van Horne et al. (2005).

**Interest Rate (IR) and Size (SZ):**  $SZ = \ln(TA)$ , (Zeitun et al. 2007 & Onaolapo et al. 2010).

**Financial Indicators (FI):** According to Van Horne et al. (2005) the following formula are used to measure these FI as,  $ROA = \text{Net Income after Taxes (NI)} \div \text{Total Assets (TA)}$  &  $ROE = \text{Net Income after Taxes (NI)} \div \text{Total Shareholders' Equity (SE)}$ .

## RESULTS AND ANALYSIS

**Table 1, Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Investment Risk[SDROA]	198	-175.17	181.38	.0661	20.74
Investment Risk[SDROE]	198	-1451.47	1428.21	.04827	155.94
Financial Risk[DR]	199	-5.72	2.28	-.0012	.57
Financial Risk[DE]	199	-48.26	37.86	-.0019	7.37
Size[SZ]	199	-2.88	3.0711	-.0014	.57
Interest Rate[IR]	199	-3.00	5.50	-.0276	2.27
Financial Indicator[ROA]	199	-319.75	310.01	-.0498	40.94
Financial Indicator[ROE]	199	-2479.94	2534.44	-.0538	283.72

The standard deviations of investment risks (SDROA and SDROE) are 20.74% and 155.94% respectively. Both predictors of investment risks are indicating high investment risk, and SDROE, showing extreme level of investment risks. Similarly the financial leverage risk ratios also indicating high variations from their mean values.

**Multi-collinearity Test:** According to Gujarati (2009) the multi-collinearity issue can be removed through data transformation method. Hence the first difference method applied on each variable of the study to remove the multi-collinearity issue in this study.

**Table 2, Collinearity Statistics**

	Tolerance-1	VIF-1	Tolerance-2	VIF-2
Investment Risk[SDROA]	.872	1.147	.883	1.133
Investment Risk[SDROE]	.853	1.173	.857	1.167
Financial Risk[DR]	.813	1.230	.884	1.132
Financial Risk[DE]	.945	1.058	.944	1.060
Size[SZ]	.968	1.033	.975	1.025
Interest Rate[IR]	.906	1.104	.970	1.031

a. Dependent Variable: FI [ROA], Model. 1

b. Dependent Variable: FI [ROE], Model. 2

The multi-collinearity statistics, the (tolerance and VIF <10 or VIF<5) are within feasible range as per the suggestion of (Nachane, 2006 & Ringle et al. 2015).

**Hausman Test:** This test is used for penal data to choose between fixed and random effect model. The null hypothesis is, **H0:** Random effect model is appropriate.

**Table 3, Hausman Test**

Models	Chi-Square	P-value
Financial Indicator [ROA]	1.4440	0.9631
Financial Indicator [ROE]	2.9026	0.8210

The Hausman test reported a chi-square of 1.4440, with a probability value of 0.9631, for FI (ROA) and a chi-square value of 2.9026, with a probability value of 0.8210 for FI (ROE). These chi-square values have statistically insignificant, rejecting the alternative hypothesis for both the models. Therefore random effect model have been recommended for both the models.

### **Weighted Least Squares (WLS) Regression Analysis**

Weighted Least Squares has a special case of Generalized Least Squares (GLS) regression. According to Gujarati (2009) when a dataset has a heteroscedasticity issue than Ordinary Least Squares (OLS) can't provide the accurate results.

### **Heteroscedasticity Test:**

**Table 4, Heteroscedasticity Test**

Models	LM	P-value
Financial Indicator [ROA]	110.222	0.000
Financial Indicator [ROE]	363.859	0.000

The Breusch Pagan test used to check the issue of heteroscedasticity (non-constant variation among residuals and predictors). The null hypothesis of this test is, **H0:** Heteroscedasticity not present (Homoscedasticity). The p-value <0.05, so we can't accept the null hypothesis and indicating the issue of heteroscedasticity in both the models. According to Gujarati (2009) heteroscedasticity issue can be removed through WLS regression by creating weight variable with the help of residuals and predictors fitted values as a standard deviation function.

## First Model-Dependent Variable FI (ROA)

**Table 5, Coefficients Statistics-Dependent Variable FI (ROA)**

Model-1	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.620	2.296		-.270	.788
Investment Risk[SDROA]	1.665	.070	.918	23.683	.000
Investment Risk[SDROE]	-.084	.016	-.210	-5.345	.000
Financial Risk[DR]	-21.263	2.893	-.295	-7.349	.000
Financial Risk[DE]	.395	.300	.049	1.316	.190
Interest Rate[IR]	-4.191	1.061	-.150	-3.949	.000
Size[SZ]	-.722	4.123	-.006	-.175	.861

a. Dependent Variable: FI[ROA], R-Square=0.751, F=95.146, SE=1.6794 and Durbin Watson=2.477

b. Weighted Least Squares Regression - Weighted by Weight

The investment risk proxy SDROE indicating inverse relationship with FI (ROA) that lower investment risks leads to higher profitability and higher risks leads to lower profitability of investment firms in Pakistan. These findings are consistent in developing and developed economies with the study of (Haq et al. 2018; Tarraf & Majeske, 2013 and Markowitz's theory, 1952). Similarly a direct relationship has found between SDROA and ROA. A higher variation in SDROA has contributed to the losses due to the harmful investment diversification and its supported by the study of (Platanakis, Sakkas & Sutcliffe 2019). The financial leverage risk DR has significant negative relationship with FI (ROA), and these findings in line with the study of (Das & Swain, 2018 and Sivalingam & Kengatharan, 2018). But DE has insignificant to ROA supported by (Ezenwakwelu & Chinweobi, 2018 and M & M theory, 1958). After global financial crisis, higher investment and financial risks has increased losses of investment sector in Pakistan. A significant inverse relationship has been found between interest rate and profitability of investment firms, and derived results consistent with the study of (Amin et al. & Ahmad et al. 2018). According to Song (2017) firm size insignificant related to the profitability and here firm size has also insignificant to FI (ROA and ROE).

## Second Model-Dependent Variable FI (ROE)

**Table 6, Coefficient Statistics-Dependent Variable FI (ROE)**

Model-2	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.016	17.240		.001	.999
Investment Risk[SDROA]	-2.812	.889	-.195	-3.163	.002
Investment Risk[SDROE]	1.051	.115	.570	9.138	.000
Financial Risk[DR]	151.367	33.222	.280	4.556	.000
Financial Risk[DE]	4.142	2.404	.103	1.723	.086
Interest Rate [IR]	2.064	7.673	.016	.269	.788
Size[SZ]	-16.016	30.551	-.031	-.524	.601

a. Dependent Variable: FI[ROE], R-Square=0.366, F= 18.243, SE=2.1822 and Durbin Watson=2.699

b. Weighted Least Squares Regression - Weighted by Weight

The investment risk SDROA indicating the inverse relationship with ROE identified that lower risks leads to higher profitability and higher risk leads to lower profitability. So investment risks findings are in a line with the study of in developing and developed economies (Haq et al. 2018; Tarraf & Majeske, 2013 & Markowitz's theory 1952). Similarly a direct relationship has been between SDROE and ROE, and these findings supported by the study of Ekanayake and Wanamalie, (2017). The debt ratio has significant positive relationship with ROE and these results consistent with the study of (Hafeez et al. 2018 & M & M theory preposition-II, 1958). The equity debt has also insignificant to ROE as in a line with the study of (Ezenwakwelu & Chinweobi, 2018 & M & M theory, 1958). After global financial crisis, higher investment and financial risks has increased financial losses of investment sector in Pakistan. The profitability of investment firms has insignificant to interest rate, as supported by the study of (Ogunbiyi & Ihejirika, 2014). The firm size has insignificant relationship with ROE and results consistent with the study of (Paulinus & Jones, 2017).

**Table 7, Hypothesis Summary**

Variables/Proxy	Hypothesis-1 <sup>st</sup> Model	Hypothesis-2 <sup>nd</sup> Model
Investment Risks SDROA and SDROE	Accepted	Accepted
Financial Risks DR	Accepted	Accepted
Financial Risks DE	Rejected	Rejected
Interest rate IR	Accepted	Rejected
Size SZ	Rejected	Rejected

Hence from the summary table 7, it is clear that investment risk and financial risks measures has significant impact on financial indicators, while financial risk proxy a debt to equity has rejected in both the models and supported by theories and previous researchers.

## CONCLUSION AND RECOMMENDATIONS

The findings of this study suggesting that lower risks level leads to higher returns, and higher risks level leads to lower profitability of investment firms. Most of the investment firms have been in continues losses due to higher investment risks level after global financial crisis in Pakistan. So the investment firms should minimize their investment risks level through better and an innovative diversification system. These investment firms in developing economies should identify a firm and market based system of revenue diversification and financial reform changes supported by the financial growth.

The financial leverage risk DR ratios have significantly negatively related to ROA and positive to ROE. But DE ratio has insignificantly related to FI of investment firms. High DR ratio has leads to lower profitability, and higher shareholders returns. A high leverage ratio has leads to high financial risks and creates uncertainty in performance. Normally financial risks are unavoidable like interest, taxes, exchange and inflation fluctuation but can be minimize by using inexpensive financing mix. Hence investment firms' management should design, hedge and allocate optimal financing mix that affected positively a firm performance.

An interest rate has significantly negatively related to the profitability of firms while insignificantly found to shareholder returns of investment firms in Pakistan. Hence investment firms use more debts financing at lower interest rate and less at higher interest rate to raise their earnings and financial growth in financial market. The investment and securities firm size has insignificant related to the FI. So it is very important for both large and small investment firms in developing and developed economies to fully utilizing their resources for higher earnings in the industry without focusing on size.

Government should design an attractive, innovative and sustainable investment policy for the economic growth and development, where investment sector has fully contributed their resources for long run profitability, stability and financial growth in developing and developed economies. The future research study can be conducted to analyse different internal factors like corporate governance, investment policy and external factors like, macroeconomic indicators (GDP, inflation, exchange rates, FDI), social, political and environmental factors that affected the profitability of investment sector in Pakistan.

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#### Appendix- Selected Sample Firms

	SYMBOL	COMPANY
1	786	786 Investments Limited Investments
2	AHL	Arif Habib Limited.
3	AMBL	Apna Microfinance Bank Limited.
4	BIPLS	BIPL Securities Ltd.
5	CYAN	Cyan Limited.
6	ESBL	Escorts Investment Bank Ltd.
7	FCIBL	First Credit & Investment Bank Ltd.
8	FCSC	First Capital Sec.Corp. Ltd.
9	FDIBL	First Dawood Investment Bank Ltd.
10	FNEL	First National Equities Limited.
11	ICIBL	Invest Capital Investment Bank Ltd.
12	JSCL	Jahangir Siddiqui & Company Ltd.
13	JSGCL	JS Global Capital Limited.
14	JSIL	JS Investments Limited.
15	MCBAH	MCB-Arif Habib Savings & Invest Ltd
16	NEXT	Next Capital Limited.
17	PASL	Pervez Ahmed Securities Ltd.
18	SIBL	Security Investment Bank Ltd.
19	TRIBL	Trust Investment Bank Ltd.
20	TSBL	Trust Securities & Brokerage Ltd