

Inflation, Interest rate and firms' performance: the evidences from textile industry of Pakistan

Zuhaib Zulfiqar

Bachelor of Business Administration
Department of Business Management
Karakoram International University Gilgit-Baltistan
Email: Zuhaib.kiu@gmail.com

Nizam Ud Din

MS Scholar,
Department of Business Administration,
Allama Iqbal Open University, Pakistan &
Lecturer, Department of Business Management
Karakoram International University
Gilgit-Baltistan
Email: nizam@kiu.edu.pk

Abstract

This research is investigating the effects of macroeconomic variables on the performance of textile industry of Pakistan. The panel data of fifty different textile firms listed at Karachi stock exchange are selected as sample for this research. The panel data of textile firms has been gathered from annual reports. In order to test the hypothesis regression model is applied.

The research investigates the independent variables; whereas, inflation and interest rate has a significant and positive impact on Return on Asset (ROA). Furthermore, the inflation rate found positively insignificant with Return on Equity (ROE) but interest rate found highly significant and having a positive impact on ROE. The study emphasize that inflation rate should be kept in single digit for the further betterment of the overall economy.

Key terms: Inflation (INF), Interest rate (INT), Returns on assets (ROA), Return on equity (ROE), Performance (P)

Introduction

Textile industry is considered as a backbone of the economy because this industry contributes major financial activities in the country. Therefore, such effective industry emerged sound stabilized economies in the world. The textile industry is among one of leading industries of Pakistan and contributors in national economy. According to All Pakistan Textile Mills Association (2013) the textile sector contributes 52% total export of the country, 40% domestic employment and 8.5 % in GDP. In couple of decades the practices in

financial sector has been changed globally. These strategies drastically affects in the structure and performance of financial sector in worldwide (Ben Ameer & Mhiri, 2013). The outcome of these strategies appeared differently from sectors to sector and country to country.

Chaudry et al. (2013) studied inflation and sectorial growth. They studied time series data from 1972 to 2010 of three major sectors; these sectors are agriculture, manufacturing and services. They concluded that the inflation is negative relation for manufacturing sector but have positive relation with services and agriculture sectors.

Ahmed (2011) concluded that after ending the quota system internationally, textile industry of Pakistan lost in twofold reasons; these are domestic as well as international concerns. Previous studies conducted impact of macroeconomic variable on sectorial performance in Pakistan. Our research investigates the firm specific variables and macroeconomic variables. The objective of this study measures the impact of macroeconomic variables, interest and inflation, on the performance of textile industry in Pakistan. The hypotheses are:

H₁: Inflation rate have a significant positive impact on the Return on Assets of textile industry in Pakistan

H₂: Inflation rate have and significant positive impact on the Return on Equity of textile industry in Pakistan

H₃: Interest rate has a significant positive impact on the Return on Assets of textile industry in Pakistan

H₄: Interest rate has a significant positive impact on the Return on Equity of textile industry in Pakistan

Literature review

Muhammad and Afzal (2012) studied data consist of 11 years from 2000 to 2011 registered textile companies at KSE to examine the link between interest rate, electricity crises and its impact on the textile growth in Pakistan. They concluded that there is negative relationship between the of interest rate and electricity crises on the growth of textile industry of Pakistan. Riaz (2010) concluded that Inflation rate has significant positive relationship with debt used in textile sector of Pakistan. According to Loto (2012) the inflation and lending rate are positively insignificant with performance of manufacturing performance. Ilegbinosa, Uzomba, and Somiari (2012) studied the effect of economic variables on the performance of the Nigerian Economy. Their result shows the interest rate is negatively related with non-oil exports, agricultural sector, manufacturing sub-sector and GDP.

Research methodology

The penal data of fifty textile firms listed at Karachi stock exchange are selected as sample. We have selected only those companies whose financial data are available therefore, we used convenience sampling.

Table No. 1: Description of Variables

Type	Name	Proxy	Sign
Dependent variable	Return of Assets	Net Income/Total Assets	ROA
Dependent Variable	Return on Equity	Net Income/Shareholder's Equity	ROI
Independent Variables	Inflation	Nil	INF
Independent Variables	Interest	Nil	INT

To measure the impact we used following models:

$$ROE = \alpha + B1(INF) + B2(INT) + \epsilon_{it} \dots\dots\dots (1)$$

$$ROA = \alpha + B1(INF) + B2(INT) + \epsilon_{it} \dots\dots\dots (2)$$

Table No 2: Descriptive analysis

	Description	Observations	Mean	Std. dev
ROA	Return on assets	300	0.013581	0.082752
ROE	Return on equity	300	0.059724	0.379094
INF	Inflation rate	300	0.125419	0.042726
INT	Interest rate	300	-0.00804	0.029559

Table No. 2 shows the descriptive statistics of this study. There are 300 observations collected from period 2006 to 2011. The mean of ROA, ROE are 0.013581 and 0.059724 respectively. It reveals the ROA is 1.3 percent and ROE is 5.9 percent; hence, the ROE is higher than ROA but standard deviation of ROE is 0.3790 which is higher than ROA.

Mean of inflation rate and interest rate are 0.125419 and -0.00804 respectively and standard deviations of both variables are 0.042726 and 0.029559 respectively.

Table No 3: Correlation table

	ROA	ROE	INF	INT
ROA	1			
ROE	0.342385	1		
INF	-0.049981	-0.076690	1	
INT	0.137489	0.152691	-0.583068	1

Table 3 is the correlation table. This shows that there is a negative relationship between inflation and return on asset, and inflation and return on equity: Hence, the increase in inflation rate decreases the return on assets and return on equity. Moreover, there is positive relationship between the interest rate (IF) and return on asset, IF and return of equity. Furthermore, the interest rate and inflation rate are negatively correlated. The correlation table also indicates there is no multi-cu-linearity among independent variables.

Quantitative analysis

Table No. 4: Regression analysis (ROA and ROE)

Variable		Return on Assets (ROA)	Return on Equity (ROE)
		Computations	Computations
C	Coefficient	-0.046145	0.014447
	t-Statistic	-2.553799	0.172639
	Prob.	0.0113**	0.8631
INF	Coefficient	0.444585	0.620535
	t-Statistic	3.252942	1.192837
	Prob.	0.0113**	0.2341
INT	Coefficient	0.835625	2.520634
	t-Statistic	4.752552	3.773249
	Prob.	0.0000	0.0002*
F-statistics		45.59590	23.35825
Prob.		0.000000	0.000000
R-square		0.357346	0.221703
Durbin Watson Test		2.088103	
*significant at 1% level		**significant at 5% level	***Significant at 10% level

Return on Assets

Table No. 3 shows that the P value of inflation rate (IF) shows significant at 1% and the positive sign of coefficient indicate there is positive effect of INF on ROA. This result is also strengthened by the “t” value of independent variable that is 3.25 which is greater than 2. The Interest rate shows highly positively significant with return on assets. These result reveals with increasing both interest rate and inflation rate the return on asset of textile industry will be increased.

Return on equity

The table No. 3 represents the impact of macroeconomic variables INF and INT on return on equity. The positive sign of coefficients shows that there is a positive and insignificant effect of inflation and interest rate on Return on Equity of the firm. The result is matched with the previous results where Saeeda et al (2012) and Saeed (2014) realized that inflation and interest rates have an insignificant relation with profitability.

Hypothesis	Result
H₁ : Inflation rate have a significant positive impact on the Return on Assets of textile industry in Pakistan	Accepted
H₂ : Inflation rate have an significant positive impact on the Return on Equity of textile industry in Pakistan	Rejected
H₃ : Interest rate has a significant positive impact on the Return on Assets of textile industry in Pakistan	Accepted
H₄ : Interest rate has a significant positive impact on the Return on Equity of textile industry in Pakistan	Accepted

Conclusion

The purpose of this study is to measure the impact of macro-economic variable and performance of textile industry of Pakistan. The result indicates that inflation is strongly positive related with both return on asset and return on equity while the interest is highly native related with return on asset. Moreover, the interest is insignificant with return on equity.

While doing this research we have considered few macroeconomic variables to identify impact of these variables on the performance of textile industry. The future researches can be done by adding some more macroeconomic factor and international level factors

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