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Factors Influencing Stock Returns in Listed Firms of Karachi Stock Exchange

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ABSTRACT

The main objective of this paper is to find the impact of inflation, interest rate, growth and profitability on stock returns. The data for profitability and growth have been collected from 5 years financial statements of 30 companies listed on KSE, covering 15 different sectors, whereas data for interest rate and inflation have been collected from State Bank of Pakistan and Consumer Price Index, for a period of 5 years i.e. 2008-2012. To test the hypotheses empirically, descriptive statistics and multiple linear regression techniques are used. Results show 54.8% correlation between predictor and predicted variables whereas 30% variation in predicted variable is explained by four significant predictor variables namely profitability, inflation, interest rate and growth. Moreover, Inflation has a statistically significant negative impact on stock returns whereas profitability, growth and interest rate have statistically significant positive impact on stock returns. The findings of this study are consistent with previous studies on the same topic, conducted in other markets. This study will be helpful for individual as well as institutional investors to estimate the expected returns of stocks based on the above mentioned variables before investing, thus enabling them to make better investment decisions.

***Keywords*:** Stock returns, Inflation rate, Interest rate, Profitability, Growth

INTRODUCTION

The ultimate desire of investors had always been to achieve higher stock returns. Every investor needs a good return on his investment but investors may not get high return every time as it is affected by many factors including profitability, growth, interest and inflation. As investment returns are very important for the investors so over the decades researchers have set and used a number of models and methods to assist the investors to estimate returns on their investment.

Capital Asset Pricing Model, abbreviated as CAPM developed by Sharp (1964) and Lintner (1965), isone of the first theoretical frameworks which describe the effect of uncontrollable market risk on return. CAPM uses only one risk factor to explain the common stock returns. This model estimates the expected rate of return in stocks by using a measure of systematic risk, known as uncontrollable risk (macro factor variable) or beta which is compared with other assets in the market. CAPM has some limiting assumptions. Core criticism on CAPM model was due to its focus on only one risk premium i.e. market risk premium. Consequently, multifactor models emerged after adding some extra variables in the model, like interest rate and inflation.

After CAMP, Arbitrage Pricing Theory denoted by APT was established by Ross (1976). It consists of additional variables and is generally known as multi-factor model. This theory could not clarify the variables, it could only drive the variables statistically, and therefore it was criticized a lot. Some macroeconomic factor models which are an extended form of APT were presented by Chan, Roll and Rose (1986). APT eliminates the restriction of CAPM and allows for more freedom for constructing a model to explain expected returns. APT thus provided a ground for additional studies, to recognize those factors which contribute to stock returns. Consequently, Chan, (1981), Antoniou, (1998) and Azeez & Yonezawa (2006) analyzed New York stock exchange, London stock market, and Japanese stock market, respectively.

This research work is aimed at investigating the factors influencing the stock returns in Pakistan. It will provide a conceptual framework for effective planning and decision making so as to achieve higher stock returns. The results of this study will help the investors, both individual as well as institutional, to keep in mind the key factors which affect stock returns while investing in different stocks. The findings of this study will help them to make better investment decisions. Moreover, it will add to the existing body of knowledge on stock returns around the world, in general, and in Pakistani stock exchange, in particular.

LITERATURE REVIEW

Tudor (2008) examines the relationship between ROA and stock return in Romanian Stock Exchange over the period 2002 – 2008, and documents that no relationship exists between ROA and stock return. Mais (2005) carried out his research on the companies listed in Jakarta Islamic Index for the effect of financial ratios on stock prices. He finds that all variables except Debt to Equity Ratio (DER) have significant positive impact on stock returns. Similarly, Kennedy (2003)

also investigates the effect of ROE, ROA, EPS, profit margin, DER, and assets turnover on stock returns in Indonesian Bursa Efek Jakarta (BEJ) Stock Exchange during the period from 2001 to 2002. The results show that EPS, DER and ROA have positive effect on stock return except ROE and debt to total assets.

Jaffe and Mandelker (1976) documented that negative relationship exists between stock returns and inflation. Kolluri and Wahab (2007) analyzed the relationship between stock returns and inflation expectations by taking the data from 1970 to 2004. They find inverse relationship between stock returns and inflation. Likewise, Kaul (1987) found inverse relationship between stock returns and inflation. Uddin (2009) investigated data of fifteen developed and developing countries to evaluate the relationship of stock return with interest rate using monthly stock exchange index returns and interest rate over a period from 1998 to 2003. The results show that interest rate has negative relationship with stock returns. Spyrou (2001) also evaluated the relationship between stock return and inflation in Greece market. Results show negative relationship between stock returns and inflation until 1995 after that the results become insignificant.

Leon (2008) evaluated the relationship of stock return with interest rate and shows significant negative relation of interest rate with market return. Pari and Chen (1982) investigated the factors, which affect stock returns by using the data of 2090 firms over the period 1975 to 1980. They have documented that interest rate risk, market index and price volatility of energy influence the stock returns.

Humpe & Macmillan (2007) determined that inflation has negative relationship with stock prices of Japan and United States. Nishat & Shaheen (2004) conducted study in Pakistan and Mukherjee & Tufte (1998) conducted study in India to examine relationship of inflation and stock prices. They show inflation is a crucial variable which influence stock prices. Moreover, Al-Sharkas (2004) found in his study a negative relationship between inflation and stock prices in Jordan.Researches reveal that future prices of stocks can be predicted by efficiency, company size and growth (Ohlson, 1980).

Researchers have determined many factors which affect the stock returns including Inflation, Growth, Interest, and ROA in different markets of the world. This paper is aimed at investigating the key factors which influence stock returns in Karachi Stock Exchange.

Theoretical Framework

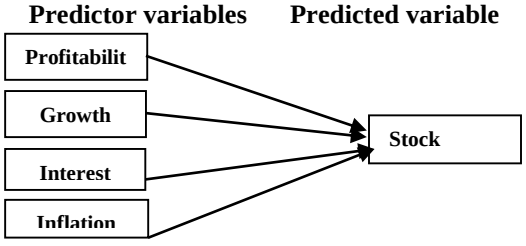

Figure 1: Conceptual Model

Based on the above literature, number of testable hypotheses can be formed. The current study is supposed to test the following main hypotheses:

H_1: *There is a significant relationship between inflation and stock return*

H_2: *There is a significant relationship between interest and stock return*

H_3: *There is a significant relationship between return on assets of a firm and its stock return*

H_4: *There is a significant relationship between growth of a firm and its stock return*

RESEARCH METHODOLOGY

This study is based on panel data constructed from financial statements of 30 companies actively trading in KSE .Data used in this research have been taken from 5 years, 2008-2012, annual reports of respective companies. Multiple linear regressions is used to examine the relationship of interest, inflation, profitability and growth with stock returns.

Model

$SR = \alpha + \beta_1 IN + \beta_2 IR + \beta_3 ROA + \beta_4 GRT + e_i$

Where, stock returns is denoted by SR, profitability by ROA, growth by GRT, interest rate by IR and inflation by IN. Expected signs of these predictor variables are shown in table 3.

Table 1 shows the descriptive statistics including mean, minimum, maximum and standard deviation.

Table 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	S. D
Stock returns	150	-.84	1.57	.0535	.43935
Return-on-asset	150	-.07	.41	.1113	.10588
Growth	150	-.91	12.40	.4021	1.48577
Interest	150	.12	.95	.2980	.32718
Inflation	150	.11	.20	.1360	.03334

Multi-collinearity and Autocorrelation

VIF and tolerance tests are used to check the Multi-collinearity and mutual independence of the predictor variables with each other. Nonexistence of Multi-collinearity in predictor variables is observed when tolerance is larger than 0.1 and VIF is less than 10. Table 2 shows that the value of tolerance of each variable is greater than 0.1 whereas VIF is less than 10. This means that there is no statistically significant multi-collinearity between any of the predictor variables. Similarly, the value of Durbin-Watson test is in the acceptable range of 1.50-2.50 therefore this no autocorrelation problem with the variables used in this study.

DISCUSSION

Table 2 shows the value of model summary, ANOVA and coefficients. The model summary shows the correlation and coefficient of determination of this model. This model has 54.8% correlation with stock return. Coefficient of determination shows 30% variations in stock returns by predictor variables. Adjusted R square shows variance in

returns which is 0.281. ANOVA explains model fitness where F value is 15.548 at significance level 0.01.

In this model, inflation has a beta coefficient of -0.284 with a t-value of -3.727 which is statistically significant a p-value of 0.01.The negative sign of beta shows an inverse relationship between inflation and stock returns. ROA has a beta coefficient of 0.296 with a t-value of 4.245 which is significant at a p-value of0.01. Growth has a beta coefficient of 0.271 with a t-value of 3.876 which is also significant at 0.01. The variable of interest shows a beta coefficient of 0.190 with a t-value of 2.471 which is statistically significant at a p-value of 0.05. The last three variables, ROA, interest and growth, show a statistically significant positive impact on stock returns whereas inflation has a significant negative impact on stock returns.

Table 2

Regression Results for the Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error	Durbin-Watson
1	.548[a]	.300	.281	.37258	2.490

a. Predictors: (Constant), Inflation, Growth, Return-on-asset, Interest

b. Dependent Variable: Stock return

ANOVA [b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.633	4	2.158	15.548	.000[a]
	Residual	20.128	145	.139		
	Total	28.762	149			

b. Dependent Variable: Stock return

Coefficients [a]

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.318	.160		1.990	.049		
	Return-on-asset	1.227	.289	.296	4.245	.000	.995	1.005
	Growth	.080	.021	.271	3.876	.000	.988	1.012
	Interest	.255	.103	.190	2.471	.015	.816	1.225
	Inflation	-3.74	1.006	-.284	-3.72	.000	.829	1.207

a. Dependent Variable: Stock return

CONCLUSIONS

The study examines the impact of firm related factors i.e. growth and ROA; and economy related factors i.e. inflation rate and interest rate on stock returns among the 30 listed companies of KSE covering 15 sectors over the period from January 01, 2008 to December 12, 2012. SPSS is used to analyze the data. Empirical results show the importance and significance of all factors which affect stock returns. All the four variables have significant impact on stock returns. Out of the four variables inflation has a significant negative whereas the other three has significant positive impact on stock returns. This study confirms the findings of previous studies showing positive impact of profitability, measured by ROA, on stock returns; Kennedy (2003), Mais (2005) and Tudor (2008). Similarly, our findings verify the findings of Ohlson (1980) which shows a positive impact of growth on stock returns. On the other hand, our results show a negative impact of inflation on stock returns as documented by Mukherjee and Tufte (1998), Kaul (1987), Spyrou (2001), Al-Sharkas (2004), Humpe and Macmillan (2007), and Kolluri and Wahab (2007). But unlike the findings of Leon (2008) and Uddin (2009) who found negative impact of interest on stock returns, our results show a positive impact of interest rate on stock returns.

Table 3

Variables and Expected Sign

Variables	Definition	Expected sign
Stock return	(Ending stock price–Initial stock price)+Dividend/ initial stock price	
Inflation	Rate as per Consumer Price Index	Negative
Interest	Rate as per State Bank of Pakistan	Positive/ Negative
Growth	Percentage change in sale	Positive
Profitability/ROA	Net income / Total assets	Positive

REFERENCES

Al-Sharkas, A. (2004). The dynamic relationship between macroeconomic factors and the Jordanian stock market. *International Journal of Applied Econometrics and Quantitative Studies*, *1*(1), 97-114.

Antoniou, A., Garrett, I., & Priestley, R. (1998). Macroeconomic variables as common pervasive risk factors and the empirical content of the arbitrage pricing theory. *Journal of Empirical Finance*, *5*(3), 221-240.

Azeez, A. A., &Yonezawa, Y. (2006).Macroeconomic factors and the empirical content of the Arbitrage Pricing Theory in the Japanese stock market. *Japan and the World Economy*, *18*(4), 568-591.

Chan, L. K., Hamao, Y., & Lakonishok, J. (1991). Fundamentals and stock returns in Japan. *The Journal of Finance*, *46*(5), 1739-1764.

Chen, N. F., Roll, R., & Ross, S. A. (1986).Economic forces and the stock market. *Journal of Business*, *10*, 383-403.

Humpe, A., & Macmillan, P. (2007). Can macroeconomic variables explain long term stock market movements? A comparison of the US and Japan. *Applied Financial Economics*, *19*(2), 111-119.

Jaffe, J. &Mandelker, G. (1976). The Fisher Effect for Risky Assets: An Empirical Investigation. *The Journal of Finance*, *31*, 447-548

Kaul, G. (1987). Stock returns and inflation: The role of the monetary sector. *Journal of Financial Economics*, *18*(2), 253-276.

Kennedy, P. S. J. (2003). Analisispengaruh ROA, ROE, EPS, profit margin, asset turnover, leverage, DER terhadap return saham: Studipadasaham-saham yang termasukdalam lq-45 di bursa efekjakarta. *Thesis in PascaSarjanaIlmuManajemen FEUI.*

Kolluri, B., &Wahab, M. (2008). Stock returns and expected inflation: evidence from an asymmetric test specification. *Review of Quantitative Finance and Accounting*, *30*(4), 371-395.

Léon, N. K. (2008). The Effects of Interest Rates Volatility on Stock Returns and Volatility: Evidence from Korea. *International Research Journal of Finance and Economics, 14*, 285-290.

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics*, *47*(1), 13-37.

Mais, R. G. (2005). Pengaruh Rasio-Rasio Keuangan Utama Perusahaan terhadap Harga Saham Perusahaan yang Terdaftar di Jakarta Islamic Index Tahun 2004. *Journal Ekonomi*, *14*(3), 27-47.

Naka, A., Mukherjee, T., &Tufte, D. (1998).Macroeconomic variables and the performance of the Indian Stock Market.*Department of Economics and Finance Working Papers, 1991-2006.* Paper 15.

Nishat, M. (1999). *The Impact of Institutional Development on Stock Prices in Pakistan* (Doctoral dissertation, Research Space @ Auckland).

Nishat, M., & Shaheen, R. (2004). Macroeconomic Factors and Pakistani Equity Market. *The Pakistan Development Review*, *43*(4), 619-637.

Nishat, M., &Shaheen, R. (2004). Macroeconomic factors and Pakistani equity market. *The Pakistan Development Review*, *43*(4), 619-637.

Ohlson, J. A. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, *18*(1), 109-131.

Pari, R. A., & Chen, S. N. (1982). An empirical test of the arbitrage pricing theory. *Financial Review*, *17*(2), 64-64.

Poterba, J. M., & summers, L. H. (1988). Mean reversion in stock prices: Evidence and implications. *Journal of Financial Economics*, *22*(1), 27-59.

Ross, S. A. (1976). The arbitrage theory of capital asset pricing. *Journal of Economic Theory*, *13*(3), 341-360.

Saunders, A., & Tress, R. B. (1981). Inflation and Stock Market Returns: Some Australian Evidence. *Economic Record*, *57*(1), 58-66.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, *19*(3), 425-442.

Spyrou, S. I. (2001). Stock returns and inflation: Evidence from an emerging market. *Applied Economics Letters*, *8*(7), 447-450.

Tudor, C. (2008). Modelareavolatilită ii seriilor de timpprinmodele GARCH simetrice. *Romanian Economic Journal, 11*(30), 185-210.

Uddin, M. G. S. & Alam, M. M. (2009). Relationship between interest rate and stock price: empirical evidence from developed and developing countries. *International Journal of Business and Management*, *4*(3), 43-51.