Paradigms: A Research Journal of Commerce, Economics and Social Sciences
ISSN 1996-2800, 2010, Vol. 4, No. 1, pp. 98-114.
DOI: 10.24312/paradigms040106

DETERMINANTS OF EQUITY PRICES IN THE STOCK MARKET

MUHAMMAD USMAN JAVAID*
Faculty of Commerce, University of Central Punjab

ABSTRACT

This study examines the effect of market variables on the movement stock prices in Pakistan. Asset pricing is considered as efficient if the asset prices reflect all available market information. This study examined the extent to which some "information factors" or market indices affect the stock price. A simple regression model has been used to develop a relation between the variables (stock prices, earnings per share, gross domestic product, dividend, inflation and KIBOR) after testing for multi-collinearity among the independent variables. All the variables have shown positive correlation with stock prices with some exceptions of GDP and inflation. This study has enriched the existing literature while it would help policy makers who are interested in deploying instruments of monetary policy and other economic indices for the growth of the capital market.

Keywords: Determinants; Equity Prices; Stock Market; Asset Pricing; Information Factors; EPS, GDP, Dividend; Inflation; KIBOR; Pakistan.

INTRODUCTION

Stock exchanges are considered to be the most important component of the financial system of a country. Stock exchanges not only provide a plate form to the companies a mean to raise capital but act as a channel to circulate saving of the general public. Stock exchanges also provide a place who wants to invest their savings. In the stock markets the prices of the shares are determined by the forces of demand and supply. Prices are determined at the point of equilibrium. It is the case with the normal commodities but in case of the stocks many other forces work along with the forces of demand and supply. These forces may be economic, social and political (Sunde & Sanderson, 2009). The major focus of the researcher was on the significance of macroeconomic factors in explaining the volatility of stock prices.

* Muhammad Usman Javaid is a student of M.Phil. at Faculty of Commerce, University of Central Punjab.

These factors affect the demand side and causes shifts in the price of the stocks. Some investor consider fundamentals of a company as the determinant of the stock price, like book value of the share, earning per share, dividend payout, size of company and strength of the company. These things create a good perception about the performance and profitability of a company. Fundamentals ultimately affect the demand in a positive way and consequently stock prices rise. Same is the case with political conditions, if the political conditions of a country are stable, then this would lead to a positive perception about the future prospects of the stock's price of company. The macroeconomic factors include both politics and general economic conditions Somoye, Akintoye and Oseni (2009) that political and general economic factors may stock prices e.g. interest rates, FDI inflows in the economy, GDP, marginal propensity to save, tax rates, inflation rates etc. Moreover, information has a major role on the stock prices i.e. positive information about a proposed merger might increase the stock prices of the company while the negative news about any lawsuit may harm the market values of the company.

In reality the market price is a function of the complex combination of many factors. Some factors may dominate in some situation but in long run demand and supply forces ultimately define the rules of the game. In this paper researcher has tried to use fundamental of the companies that are earnings per share and dividend per share and some macro-economic factors as interest rate, inflation rate and GDP to access the impact on market price of shares. The data of companies that are in KSE-30 has been used for the purpose to explain volatility in the stock prices during the period from 2004 to 2008.

LITERATURE REVIEW

So many studies have tried to explain the effects of macro and micro factors in determination of the stock prices in stock exchanges of different countries. Some of the studies researcher has summarize below as to recapitulate the earlier done in the area.

Belaluddin (2009) used the data of the banking, leasing and insurance companies to find the impact of stock price determinants in Bangladesh. The archival data was collected from the annual reports of the 62 companies from a population of 86 financial companies

listed on Dhaka Stock Exchange during the time period from Dec 2007 to Nov 2008. The effect of net asset per value per share, dividend percentage and earnings per share i.e. independent variables were determined on dependent variable i.e. market price of stock by using two regression models i.e. linear function model and logarithmic function model. The results showed a linear relationship between market price and net asset value per share, dividend percentage, earning per share while the net asset value per share explains much of the variation in stock price.

Sunde and Sanderson (2009) provide a review on the determinants of share price with regard to the Zimbabwe Stock exchange. The interview and archival method of data collection were used in this study and the companies listed on Zimbabwe Stock Exchange were studied. This study argued that the market price of the stocks is affected by economic, political and social factors. Some micro factors which are discussed in this article are corporate earnings, management strength, lawsuits, and information about possible merger and takeover. Other factors discussed include market liquidity and stability, availability of substitutes for investment, government policy, macroeconomic fundamentals like interest and inflation rates, investor sentiment, technical influence and analyst reports. This article was exploratory in nature and its major purpose was to identify and discuss the factors that might have an influence on the stock market price of Zimbabwe.

Dritsaki and Dritsaki tested the relationship between macroeconomic factors and stock price movements in German stock exchange. The macroeconomic factors like interest rate, inflation rate, and industrial production were used to determine their effect on the prices of Athens Stock Exchange. The time spam covered by the study was the period from Sep 1988 till Jun 2003. Dickey-Fuller and the Augmented Dicker- Fuller tests were used to find out any long run equilibrium and the findings suggested that these variables were integrated and evolved over time. Thus a significant relationship was developed between stock price volatility and macroeconomic factors volatility.

Adam and Tweneboah (2008) conducted a similar study in Ghana using FDI, T-bill rate, CPI, and exchange rate as independent variable and Databank Stock Index as dependent variable. The data used for the study was taken from Databank Stock Exchange, IMF's

international financial statistics database, and UNCTAD for the period of 1991 to 2006. The inferences drawn have shown that there exists a long run relationship between the dependent and independent variables. Moreover inflation was founded positively related with the stock index. Interest and inflation rate explain a very small proportion of the stock volatility than do the inflation and FDI inflows.

Another study conducted in Malaysia also provided the evidence regarding the effects of microeconomic factors on the stock market volatility. The study conducted by AbdulRehman, Zahirah, Siddique and Tafri (2009) considered the variables of money supply, interest rate, exchange rate, reserves and industrial production index as independent factors and uses VAR frame work to access the effects of these variables on stock market volatility for both long term and short term dynamics. The results indicated that there exist a stronger co-integration between the stock market index, reserves, and industrial production index, money supply, interest rates, and exchange rates. The association was positive with reserves and industrial production and negative for interest rate, money supply and real exchange rate.

Somoye, Akintoye and Oseni (2009) argued that the information factor or market indices have an effect on the market price of stocks. For this purpose they used earning per share, dividend per share, GDP, lending interest rate, oil price, inflation and foreign exchange rate as independent variables and stock price as dependent variables. Company specific data was collected from twelve companies listed on Nigerian Stock Exchange. The multicoliearity test has shown a strong relationship between oil prices and GDP, between inflation rates and interest rates, foreign exchange rates and GDP and inflation rates and earnings per share simultaneously. The regression analysis has shown that these variables explain almost hundred percent of the variation in the stock price while the relationship of earning per share, dividend per share and GDP with stock price was found positive while this relationship was negative in case of interest rate.

Balke and Wohar (2005) looked at the matter in a different perspective and favored the theory of stock prices. The authors argued that stock prices are determined by the future real dividend growth. They used the quarterly data for a period during 1953:2 to 2001:4. They tried to decompose the stock price movement due to the future expectations from real

dividend growth, real interest rate, and excess returns using the estimated VECM model and equation. The time series analysis was implied on the data collected and the inferences drawn indicated that there was a significant negative correlation between dividend growth and real interest rates with stock price movement.

RESEARCH METHODOLOGY

Data Sampling

To analyze the determinants of equity prices the author selected all thirty companies which have been listed on Karachi stock exchange 30- Index. These thirty companies represent all major sectors of the economy. Five variables KIBOR, dividend, earning per share, gross domestic product, and inflation which are independent variables and dependent variable is market price of shares of companies of KSE 30 Index.

Research Objective

Objective of this research study is to analyze the relationship between market prices of equity shares and some certain macro-economic variables.

Hypothesis

Following are the hypotheses of the study:

H_{o1}: The earning per share has no effect on the market price significantly

H_{o2}: The gross domestic product has no effect on the market price significantly

H_{o3}: The inflation rate has no effect on the market price significantly

H_{o4}: The KIBOR has no effect on the market price significantly

H_{05}: The dividend rate has no effect on the market price significantly

H_1: These variables has significant effect on market price of stocks

RESULTS AND DATA ANALYSIS

The stock price is a function of the impact of earning per share, dividend per share, gross domestic, and inflation rate. The researcher restricted the influencing factors to five as representatives of the firm's fundamental factors and external (country) factors.

SP = *f* (EPS, DPS, GDP, INFL, KIB)

Where, SP is the stock price; EPS is the earnings per share; DPS is the dividend per share; GDP is the gross domestic product, INFL is inflation and KIB is KIBOR rate.

MP is the dependent variable and it is used to regress the other independent variables (EPS, DPS, GDP, INFL, and KIB) in the stock market. The outcome of the regression would be the variation in the dependent variable because of the independent variables.

TABLE 1

Model Summary

R	R Square	Adjusted R Square	R Square Change	F Change	df1	Sig. F Change
0.793	0.629	0.612	0.629	37.567	5	0.000

Table 1 shows that R=0.793 which means that is there is overall positive correlation between dependent variable and independent variable. On contrary researchers showed that value of R- Square increases due to increase in numbers of variables. To solve this problem value of adjusted R- square is calculated which is .612 and this value depicts that 61.2% variation in share price is explained by its linear relationship with independent variables. The value of F is 37.567 which show that model is good fit. The value of 0.000 also indicates that our variables are significant.

TABLE 2

Coefficients

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	187.829	101.129		1.857	0.066			
Dividend	0.678	0.115	0.425	5.906	0.000	0.698	0.489	0.342
EPS	2.641	0.421	0.454	6.270	0.000	0.698	0.511	0.363
GDP	-10.546	8.266	-0.119	-1.276	0.205	-0.115	-0.120	-0.074
Inflation	-15.143	9.387	-0.206	-1.613	0.110	0.042	-0.151	-0.093
KIBORE	6.214	7.797	0.107	0.797	0.427	0.096	0.075	0.046
a.Dependent Variable MP								

To explain the effects of multi-co linearity normally associated with multi-variables in regression analysis, multi-co linearity test has also been conducted to explain the extent of correlation between the independent variables.

$$Y= \beta_0+ \beta_1X_1+ \beta_2X_2 +\beta_3 X_3 +\beta_4 X_4+\beta_5X_5+€$$

$$Y=187.829+.678D+2.641E-10.546G-15.143I+6.214K$$

D=Dividend, E= Earnings per share, G= GDP, I= Inflation, K=KIBOR

Table 2 defines that dividend and EPS has a positive and significant relation with market price. GDP and Inflation has a negative relation with the market price but these variables are not significant in this study. KIBORE has also a positive but non-significant relation with the market price.

CONCLUSIONS

The forces of demand and supply have direct effect on the stock price while the other indeterminate number of firm, industry and country factors also influences the demand and supply factors. The study has contributed to existing literatures in confirming or raising new

issues with respect to other factors influencing stock prices. Interested researchers may identify and examine the non-economic factor that account for the high constant (β) which may not be unconnected with the current meltdown in the KSE-30 stock market.

The three factors which are dividend, EPS, and KIBOR have a positive affect over the stock price, whereas GDP and inflation have a negative affect over the stock prices. Among the factors which are positively related can be ranked according to standardized betas which are EPS, dividend and KIBOR respectively. After these results it is concluded that two variables have a significant impact on stock prices which are Dividend and EPS. Other three variables have no significant impact on the market price.

REFERENCES

Adam, A. M. (2008). Macroeconomic factors and stock market movemsent.

Alagided, P. (2009). Modeling stock return in africa's emerging equity markets. *International Review of Financial* .

Balke, N. S. (2005). What Drives stock price? *III*.

Barclay, L. (1998). Announcement effect of new equity issuess and the use of intraday price data. *Journal of Financial Economic* .

Belaluddin, M. (2009). Determinants of market price of stock. *Journal of Modern Accoutingand Auditing, V* (7).

Chen N.-F., R. R. (1986). Economic forces and the stock market. *Journal of Business, 59* (3), 383- 395.

Clerc, L. a. (2001). The role of financial factors in the transmission. *Bank for InternationalSettlements* (19).

Cochrane. (1992). Explaining the variances of price-dividend-ratio. *Review of Financial Status,* (15), 243-286.

Easley, D. S. (2002). Information risk determinants of assets return. *Journal of Financial* , 57.

Hartono, J. (2004). Recency effect of accounting information. *International Journal of Business, 6* (1).

Ibrahim, M. (2003). Macroeconomic forces and capital market integration. *Journal of ThePacific Economy, 1* (8).

Joos, P. A. (2007). Earnings and equity valuation in the biotech.

Melina, C. D. (2007). Macroeconomic determinants of stockprice movements.*Financial Journals, 3* (5).

Pakistan, G. O. (2008-2009). *Economic Survay of Pakistan.*

Rahman, A., Sidek, N. Z., & Tafri, F. H. (2009). Macroeconomic determinants ofmalaysian stock market. *African Journal of Business Management, III* (3), 095-106.

Sanderson, T. S. (2009). A review of determinants of share prices. *journal of social sciences*.

Somoye, R. O., Akintoye, I. R., & Oseni, J. E. (2009). Determinants of equity price in the stock market. *International Research Journal of Finance and Economics,* (30).

ANNEXURE

ANNEXURE 1

Year 2004-05	Dependent	Independent				
Company Name	MP	Dividend	EPS	GDP	Inflation	KIBOR
NBP	141.93	45	21.51	5.8	9.3	9.58
OGDC	134.45	75	7.67	5.8	9.3	9.58
AHSL	330	150	129.17	5.8	9.3	9.58
ANL	38.03	15	3.53	5.8	9.3	9.58
JSCL	151.3	25	33.74	5.8	9.3	9.58
POL	331.28	125	28.63	5.8	9.3	9.58
PTC	62.25	50	5.17	5.8	9.3	9.58
HUBC	29.08	39	4.65	5.8	9.3	9.58
DGKC	80.4	15	9.12	5.8	9.3	9.58
BAFC	54.38	45.3	5.67	5.8	9.3	9.58
NML	94.8	25	10.36	5.8	9.3	9.58
PPL	222.58	55	12.57	5.8	9.3	9.58
BOP	94.63	52	10.01	5.8	9.3	9.58
MCB	113	62.5	20.92	5.8	9.3	9.58
ENGRO	143.25	110	15.16	5.8	9.3	9.58
PAKRI	67.85	40	13.21	5.8	9.3	9.58
FFB	32.08	25	2.62	5.8	9.3	9.58
LUCK	58.15	0	3.14	5.8	9.3	9.58
AICL	86.1	0	3.96	5.8	9.3	9.58

Year 2004-05	Dependent	Independent				
Company Name	MP	Dividend	EPS	GDP	Inflation	KIBOR
PSO	400.75	260	33.17	5.8	9.3	9.58
FFC	149	160	9.92	5.8	9.3	9.58
UBL	85.63	50	11.48	5.8	9.3	9.58
BAHL	55.98	55	6.68	5.8	9.3	9.58
ATRL	180.5	50	34.94	5.8	9.3	9.58
ICI	109.05	50	16.43	5.8	9.3	9.58
SHELL	553.41	375	69.9	5.8	9.3	9.58
HBL				5.8	9.3	9.58
MARI	165.65	30.47	9.84	5.8	9.3	9.58
APL	224	83.33	11.51	5.8	9.3	9.58
KAPCO	43.75	80	9.14	5.8	9.3	9.58

ANNEXURE 2

Year 2005-06	Dependent	Independent				
Company Name	MP	Dividend	EPS	GDP	Inflation	KIBOR
NBP	249.09	55	24.01	6.8	7.9	11
OGDC	141.38	90	10.69	6.8	7.9	11
AHSL	422.55	166.66	153.98	6.8	7.9	11
ANL	45.75	11	3.66	6.8	7.9	11
JSCL	198.25	25	30.59	6.8	7.9	11
POL	505	200	31.08	6.8	7.9	11
PTC	70.8	74	7.46	6.8	7.9	11
HUBC	24.95	31	2.39	6.8	7.9	11
DGKC	107.95	25	13.12	6.8	7.9	11
BAFC	60.98	33	3.53	6.8	7.9	11
NML	111.93	25	11.24	6.8	7.9	11
PPL	235.9	90	19.54	6.8	7.9	11
BOP	96.28	32.5	13.11	6.8	7.9	11
MCB	217.38	90	22.23	6.8	7.9	11
ENGRO	199.7	90	15.14	6.8	7.9	11
PAKRI	122.75	40	14.93	6.8	7.9	11
FFB	34.18	25	2.62	6.8	7.9	11
LUCK	94.58	10	7.35	6.8	7.9	11
AICL	104.63	40	14.08	6.8	7.9	11
PSO	364.5	340	43.87	6.8	7.9	11

Year 2005-06	Dependent	Independent				
Company Name	MP	Dividend	EPS	GDP	Inflation	KIBOR
FFC	125.2	100	9.39	6.8	7.9	11
UBL	146.79	55	14.62	6.8	7.9	11
BAHL	69.98	55	6.7	6.8	7.9	11
ATRL	153.03	25	6.68	6.8	7.9	11
ICI	142	55	10.49	6.8	7.9	11
SHELL	482.16	325	70.92	6.8	7.9	11
HBL				6.8	7.9	11
MARI	152.18	30.98	5.15	6.8	7.9	11
APL	349.6	120	34.82	6.8	7.9	11
KAPCO	45.95	81	6.04	6.8	7.9	11

ANNEXURE 3

Year 2004-05	Dependent	Independent				
Company Name	MP	Dividend	EPS	GDP	Inflation	KIBOR
NBP	259.9	35	23.34	4.1	7.8	10.43
OGDC	119.33	90	10.61	4.1	7.8	10.43
AHSL	215.58	397.22	12.27	4.1	7.8	10.43
ANL	37.95	12.5	3.26	4.1	7.8	10.43
JSCL	638.5	125	63.79	4.1	7.8	10.43
POL	328.2	150	32.03	4.1	7.8	10.43
PTC	134.7	94	9.44	4.1	7.8	10.43
HUBC	33.05	28.5	2.29	4.1	7.8	10.43
DGKC	91.28	15	6.4	4.1	7.8	10.43
BAFC	53.73	38	4.82	4.1	7.8	10.43
NML	111.5	25	10.48	4.1	7.8	10.43
PPL	268.38	120	24.45	4.1	7.8	10.43
BOP	107.3	35	10.51	4.1	7.8	10.43
MCB	339.33	125	24.3	4.1	7.8	10.43
ENGRO	237.23	70	16.31	4.1	7.8	10.43
PAKRI	281.48	455.55	69.02	4.1	7.8	10.43
FFB	38.4	25	2.72	4.1	7.8	10.43
LUCK	100.7	12.5	9.67	4.1	7.8	10.43
AICL	144.2	40.5	15.42	4.1	7.8	10.43
PSO	366	210	27.34	4.1	7.8	10.43

FFC	117.45	110	10.86	4.1	7.8	10.43
UBL	190.28	55	10.38	4.1	7.8	10.43
BAHL	69.5	45	6.01	4.1	7.8	10.43
ATRL	179.73	65	13.17	4.1	7.8	10.43
ICI	177.13	60	12.86	4.1	7.8	10.43
SHELL	410.22	160	12.9	4.1	7.8	10.43
HBL	271.43	50	11.65	4.1	7.8	10.43
MARI	220.75	32.18	18.61	4.1	7.8	10.43
APL	492.63	160	43.22	4.1	7.8	10.43
KAPCO	51.63	60	5.67	4.1	7.8	10.43

ANNEXURE 4

Year 2004-05	Dependent	Independent				
Company Name	MP	Dividend	EPS	GDP	Inflation	KIBOR
NBP	162.54	35	17.23	2.4	12.8	16.11
OGDC	95.85	95	11.54	2.4	12.8	16.11
AHSL	121.73	40	27.66	2.4	12.8	16.11
ANL	57.24	20	2.87	2.4	12.8	16.11
JSCL	711.14	159.74	77.48	2.4	12.8	16.11
POL	268.75	180	43.71	2.4	12.8	16.11
PTC	133.65	80.5	9.91	2.4	12.8	16.11
HUBC	23.99	21.5	2.25	2.4	12.8	16.11
DGKC	71.48	0	21	2.4	12.8	16.11
BAFC	41.42	12.5	1.63	2.4	12.8	16.11
NML	78.75	25	38.42	2.4	12.8	16.11
PPL	191.14	165	26.12	2.4	12.8	16.11
BOP	60.38	0	-19.02	2.4	12.8	16.11
MCB	310.31	125	24.47	2.4	12.8	16.11
ENGRO	236.28	60	19.93	2.4	12.8	16.11
PAKRI	399.32	25	2.95	2.4	12.8	16.11
FFB	29.95	28.5	3.1	2.4	12.8	16.11
LUCK	90.96	0	8.28	2.4	12.8	16.11
AICL	290.1	30	41.09	2.4	12.8	16.11
PSO	344.74	235	81.94	2.4	12.8	16.11

FFC	102.08	162.5	13.22	2.4	12.8	16.11
UBL				2.4	12.8	16.11
BAHL	53.96	40	5.07	2.4	12.8	16.11
ATRL	187.9	100	86.49	2.4	12.8	16.11
ICI	141.08	65	14.91	2.4	12.8	16.11
SHELL	796.96	525	93.76	2.4	12.8	16.11
HBL	199.91	75	13.18	2.4	12.8	16.11
MARI	253.48	32.38	69.67	2.4	12.8	16.11
APL	389.63	220	55.03	2.4	12.8	16.11
KAPCO	40.8	54.5	9.05	2.4	12.8	16.11