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Fundamental Factors and Small Equity Investor Behavior in Pakistan

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ABSTRACT

This study examines the influence of fundamental factors on small equity investor behavior in the context of Pakistan. The fundamental factors considered in this study are social, political, environmental, regulatory, technological, economic and legal, known as SPERTEL factors. Primary data is collected from individual equity investors from all three stock exchanges of Pakistan. Confirmatory factor analysis (CFA) is used to test the validity of the survey instrument, and structural equation modeling (SEM) technique is used to test the hypotheses. The study documents that overall, small equity investor's decision making is not influenced by fundamental factors. The study found significant influence of social and political factors on small equity investors' behavior. However, economic, regulatory, technological, environmental and legal factors have no influence on individual equity investor's decision making behavior in Pakistan.

Introduction

Stock markets play an important role in bridging the gap between savers and the borrowers. They provide equity financing to corporations which is source of long term and cheaper capital. Stock markets also reflect the economic conditions of the country. Efficient market hypothesis assumes that stock market reflects all the prevailing information. The financial and non financial information are taken into consideration by investors in their investment decision making. The level of investor participation depends upon the functioning of stock exchange. There are two main types of investors in the stock exchange; institutional investors and individual investors. Researches suggested that institutional investors are more systematic and well educated; therefore they base their investment decisions on professional basis and earn more returns. Whereas individual investors are usually less educated and not systematic in their investment decisions making. Therefore, if stock markets are manipulated by market players, it will harass the individual investor and such markets will be considered as a gambling place. In order to attract more investment from ordinary citizens, the stock markets must protect individual equity investors and discourage market making practices. To attract more investors, understanding the trading patterns of individual investors is of vital importance. Behavioral finance is the field that investigates the investor behavior in detail. The theories of behavioral finance have challenged long held beliefs of traditional finance. Particularly famous efficient market hypothesis, which assume that stock markets are always 'informationally efficient' and investors cannot earn abnormal returns. Behavioral finance argues stock markets are not always efficient and investors are not always rational. The arguments of behavioral finance are more considerable in the context of developing countries like Pakistan where stock markets are very volatile and there is lack of participation by ordinary citizens owing to stock market's image of manipulation. Therefore, it is important to investigate how individual equity investors' considers fundamental factors in their decision making process. The participation of individual equity investor is very important for stock markets. The greater the number of individual equity investors in stock market the lesser will the chances of market making by manipulators. This study analyzes the influence of fundamental factor on retail equity investor behavior in Pakistan.

Investors always try to maximize his/her profits and minimize associated risks. Risk management is to identify factors which may alter the return, assessing those factors, evaluating those factors and developing strategies to control those risky factors which may affect investor's return. Risk may arise from different factors like social, political, environmental, regulatory, technological, economic and legal (SPERTEL) factors. All these factors create systematic risk to investors. So these factors have intense impact on the pattern of investor decision making. These factors are called fundamental factors. Stock price correlates with these factors therefore, investors have to give special care to these factors while making their investment decisions. This study will examine the impact of fundamental factors particularly fundamental news on investor decision making in Pakistani context. This is an important study because Pakistani markets are more volatile owing to current rapid political, economic and legal developments in the country. The following research questions are central to this study:

- Do individual equity investors make rational decision in stock markets of Pakistan?
- Do fundamental factors affect individual equity investor decision making?
- Which fundamental factors influence most and least to the equity investor decision making?

Theoretical Review & Hypotheses Development

Research on investor behavior is corner stone in behavioral finance. Different researchers have identified the basis of investors' decision making for instance Bruner (1998), Freeman (2000) and Pereiro (2002) discovered that investor uses some specific metrics and analytical tools to anticipate the market performance. These types of analytical tools cannot give near to

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accurate guess and unless they are associated with key fundamental and external factors. Wang (2009) conducted a survey analysis and found that investment decision making is influenced by objective knowledge, subjective knowledge and risk taking attitude. Among all, gender is the major driver that determines levels of three variables i.e. objective knowledge, subjective knowledge and risk taking. Kim and Nofsinger (2007) studied behavior of Japanese individual investors in bullish and bearish market. Their objective was to identify whether individuals investor show different attitude towards stock risk, book-to-market valuation, and past returns, under different market conditions. Kim and Nofsinger (2007) noted that market condition is the major driver of individual investor decision making and concluded that individual investors prefer stocks with higher book-to-market ratios and lower performance in the bull market and riskier stocks, without regard to book-to-market ratio, in the bear market. Paun et al. (2007) also explains the decision making conditions of individual equity investors. Sevdalis and Harvey (2007) hold that investment contexts govern over investment decision making, investment decision making is related to the non-financial objectives that investors usually look for obtaining by making successful financial investments. If investor has future personal responsibilities, then he is less likely to make a decision to invest in riskier investment options. Ammann and Verhofen (2007) found that prior performance affects the decision of investor, and successful fund managers are more likely to take more risk in their investment decision and vice versa. Siebenmorgen et al. (2004) stated that it is the investment horizon which governs upon the decision whether the risk should be taken or not in investment and there is significant deference between short term and long term risk perception. They found significant differences in the short and long term total portfolio risk that investors are willing to adopt. Lai et al. (2001) concluded that Malaysian investors are rational because they use all the prevailing fundamental information in their decision making, and political events don't excessively influence investors in Malaysia.

Fundamental analysis is the most widely used tool by the Malaysian investors while they are making their investment decision. Winsen (1976) investigated the relationship between information and investor behavior, relationship of publicly available information and stock-market activity was fully concerned with the behavior of stock prices. Stock price behavior dominates the effect of publicly available information on the investor. The above mentioned theoretical discussion proves the relationship between fundamental factors and investor behavior.

Social Factors and Investor Behavior

The influence of social factors on equity investors' decision making is quite obvious. Social factors includes civil unrest, institutional instability, chances of expropriation and prevailing corruption in a country, these factors are likely to affect on the economy negatively. Individual investors are very sensitive to these factors. The developments in social factors are widely covered and reported by the media in the country. Investor desire peace and stability in the country to earn maximum return from their investments. This is clearly visible if we compare two economies differentiated on the basis of social stability. We would see that more investment in the equity markets of socially stable countries. Different researchers have thrown light on determining the social factor influence on investment for instance Sugiharto et al. (2007) hold that social factor is very dominating in influencing the performance of the businesses and among all social factors, civil unrest is the most influential in determining the prices of shares. Copeland (2000) and Cruses (2002) examined the impact of different social variables on the equity value. The variables that were used in their study are civil unrest, institutional instability, expropriation, corruption and currency inconvertibility. They used these factors to estimate the cash flow of the company. The following proposition can be developed on the basis of given theoretical discussion.

Proposition 1: Individual equity investor's decision making is influenced by social factors.

Political Factors and Investor Behavior

Different studies have provided numerous view points towards affect of political factor on investment horizons. Stock market operates on market principles, however if there is political interference, insufficient minority shareholder rights, insufficient banking sector and bad governance, then market performance cannot stay uninfluenced, therefore, investors hesitate to invest in such markets. Feng (2001) studied consequences of characteristics of political institutions on private investment and used three determinants in his study: political freedom, political instability, and policy uncertainty, and concluded that investment affected by political freedom because political freedom develops human capital. Feng (2001) measured political instability by the variability of political freedom, and found inverse relationship on private investment. Likewise, Durhan (1999) worked to investigate the influence of democracy or dictatorship regime on promotion of economic growth and investment. He used the panel data from 105 countries from 1960 to 1989 and found that constitutional framework does not show correlation with growth and investment, so regime and growth cannot jointly be determined. From the above theoretical arguments the below given propositions can be drawn.

Proposition 2: Individual equity investor's decision making is influenced by political factors.

Environmental Factors and Investor Behavior

Individual investors are concerned with environment in which company is operating. Concept of ethical investment has been evolved. Now researchers are going towards the concept of ethical stock exchange. Now investors are not only concerned with profitability, but also have close eye on the harms of environment which is given by firms operating in that environment. Mansley (2000) stated investor considers environmental issues and ethical consequences in making the investment decision. Nagy (1994) investigated the effect of seven factors on investor decision making. Those factors were classified as: neutral information, accounting information, self-image/firm-image coincidence, classic wealth maximization, social relevance, advocate recommendation, and personal financial needs. Nagy (1994) hold that investor consider classical wealth maximization mostly in making investment decision. Newly evolved issues like environmental track record, local or international operations, and the firm's ethical posture are concerned briefly. How much importance is given by the investor in investment decision making, varies from investor to investor. Ali et al. (2011) also examined the role of corporate social responsibility on individual equity investor behavior in the context of Pakistan. Therefore, the study develops the following proposition.

Proposition 3: Individual equity investor's decision making is influenced by economic factors.

Technological Factors and Investor Behavior

There was an old saying "machine works while man thinks. Due to technological advancements, now this saying has been

modified, "machine thinks while man creates". Same applies to technological advancement in the field of investment. Like other stakeholders investor is also more dependent on technology. Sugiharto et al. (2007) stated that an equity share value of a company is also influenced by the type of technology used in emerging equity markets. Value of equity share is also influenced by technological factors. Companies are forced to improve their IT sector, production and other business related technology. Valentine (1988) investigated the effects of technological advancements on investment and observed that while computers have been already applying in investment transactions and procedures the need of the hour is to use expert system which may help more in investment operations and decision making. Success of this expert system is based upon its knowledge the set of rules the system applies to the database of facts. This expert system can be developed on rules given by investment experts. This proposed expert system works in the same direction as investor thinks. This development can only be done by knowledge engineers. Business intellectuals firmly believe that organizations with technological strengths and more innovative products perform better and outweigh their competitors. We therefore, develop the following proposition.

Proposition 4: Individual equity investor's decision making is influenced by regulatory factors.

Economic Factors and Investor Behavior

Stock markets are considered as reflector of the economy. Developing economies are therefore more attractive for investors. Investors are more willing to invest the stock markets of economically developing countries to get more return than that they can get in economically developed countries. On the other hand, there are also some economic factors which affect the investment adversely for instance, uncontrollable inflation, inconvertibility of currency, fuel hike and currency exchange control, then investor are least motivated to invest. Ali et al (2010) studied the effect of macroeconomic factors on stock efficiency of stock market of Pakistan for duration of June 1990 to December 2008. They found no casual relationship between macroeconomic indicators and stock market prices in Pakistan. Flannery and Protopapadakis (2202) studied the effect of macroeconomic factors on aggregate stock returns and found that Inflation affects the market portfolio returns. Mennis (1966) Claimed that a successful investment decision cannot be made without due consideration of economic analysis. He calls investment as the purchase of future economic performance. Investor should know about the analysis and projection of monetary and fiscal trends, current or projected future economic situations, the international economic growth, and a variety of other economic information that can support the decision. Therefore, we can present the following proposition.

Proposition 5: Individual equity investor's decision making is influenced by technological factors.

Regulatory Factors and Investor Behavior

Regulatory factors are also playing important role in shaping the equity investor behavior. Economies with poor regulatory framework tend to perform poor and draw less attraction of investors. Moreover complex regulatory environment also discourages investors. If there is more taxation, and then there is a risk to get less return due to tax effect. If there is fear of nationalization in the economy, then investors hesitate to invest because there is risk of losing investment. Suhigarto et al. (2007) investigated whether there is any influence of external factor on the value of equity shares and identified different external factors. Regulatory factor is considered more dominating among all factors in their study. Suhigarto et al. (2007) considered taxation, quotas and tariff are the most important regulatory factors because they present the potential burden on the investors along with unemployment, license monopolies and nationalization. This study hence, proposes the following hypothesis.

Proposition 6: Individual equity investor's decision making is influenced by environmental factors.

Legal Factors and Investor Behavior

Legal factors also play significant role on economic development of the country. While studying legal factors in determining its effect on decision making of investor, corporate governance is found to be most important. Freeman (2000) stated that poor implementation of good corporate governance in the management of the companies cause decline in the performance of capital market. Johnson (2000) and Tabalujan (2002) argued that poor corporate governance causes decline in the performance of corporations and capital markets It is noteworthy that companies which have strategic focus, quality information, and good track records on general management, respect for minority shareholder rights, disclosure and implementation of good corporate governance, and having support of adequate banking sectors and less of political interference are mostly favored by individual investors (Sugiharto et al. 2007).

Proposition 7: Individual equity investor's decision making is influenced by legal factors.

The conceptual framework presented in Figure I is developed on the basis of above theoretical discussions. The framework depicts the relationship between independent variables i.e. SPERTEL factors and dependent, investor decision making. These SPERTEL factors are social, political, environmental, regulatory, technological, economic and legal factors. The direct relationship between SPERTEL factors and investor decision making is perceived in this model.

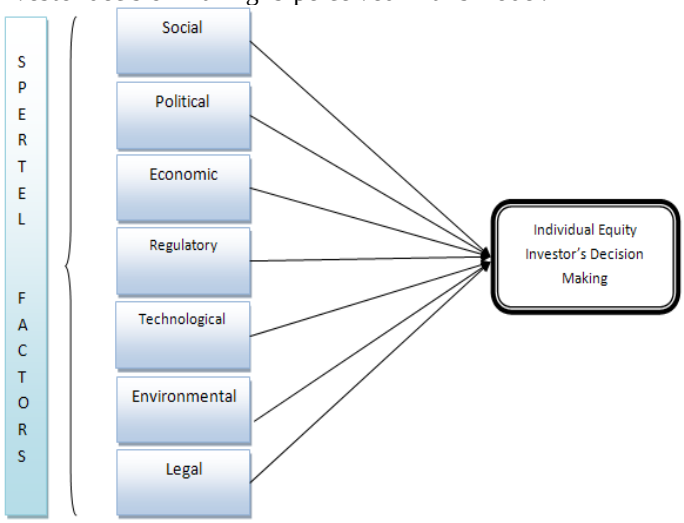

Figure 1: Conceptual Framework

Research Methods

Sample and Sampling

This key study gauges the sentiments of the individual equity investor's about the fundamental news prevailing in the country. For this purpose the local individual and small investor's are in the focus for survey from all three stock exchanges i.e. Karachi Stock Exchange, Lahore Stock Exchange and Islamabad Stock Exchange. The respondents were approached through personal visits in the brokers' offices in the stock exchanges and outside as well. The survey was conducted through structured questionnaires.

Table 1. Correlation Analysis

Sr. No.	Factors	Mean	S.D	1	2	3	4	5	6	7	8
1	Social			1	.179	.402	.639**	.004	.237	.345	.191
2	Political				1	.564**	.464*	.511*	.488*	.615**	.794**
3	Economical					1	.520*	.247	.670**	.53*	.238
4	Regulatory						1	.400	.705**	.627**	.455*
5	Technical							1	.553**	.376	.481*
6	Environmental								1	.761**	.341
7	Legal									1	.634**
8	Decision Making										1

*** Significant at 0.01 level, ** Significant at 0.05 level, * Significant at 0.1 level

Table 2: Factor Loading and Reliability Testing

Construct	Factor Loading	Cronbach Alpha
Social Factors		
1. Civil Unrest	1.102	0.91
2. Institutional Instability	0.72	
3. Expropriation (action of the govt. to take possession of private property without owner consent)	~~0.34~~	
4. Corruption Influence	0.79	
Political Factors		
5. Bad Governance	0.86	0.90
6. Insufficient minority Shareholder Rights	0.68	
7. Inadequate Banking Sectors	0.71	
8. Political Interference	0.78	
Economical Factors		
9. Currency exchange control	0.74	0.84
10. Fuel hike	0.73	
11. Inflation rate	0.79	
12. Inconvertibility of Currency	0.77	
13. Business cycle	0.79	
Regulatory Factors		
14. Taxation, quotas and tariff	0.82	0.71
15. Employment	0.89	
16. Licenses/monopolies	0.93	
17. Nationalization	0.83	
Technological Factors		
18. Information technology	0.86	0.77
19. Disaster Recovery Centre	~~0.21~~	
Environmental Factors		
20. Environmental/safety legislation	0.87	0.93
21. Higher cost/shortages of raw material	0.92	
22. Cost and disruptions (That results from the need of clean up pollution)	0.91	
Legal Factors		
23. Poor implementation of Good Corporate Governance	0.67	.088
24. Documentation risk	0.88	
25. Jurisdiction risk (When laws unexpectedly change)	0.80	
26. Security risk (Legally Secured Investment)	0.98	
27. Litigation Risk	0.75	
28. Discovery Risk	0.62	
Individual Equity Investor Decision Making		
29. Usually I get my expected returns on my decision.	0.82	0.90
30. My investment holding period is spread over long time span.	0.87	
31. In most of cases, my investment decisions meet my objectives.	0.73	
32. I have high risk tolerance towards my investment decisions.	0.94	
33. My reactions towards losses are normal.	0.97	

Note: GFI = 0.92; AGFI = 0.89; CFI = 0.97; NFI = 0.88; NNFI = 0.91; RMSEA = 0.02; RMR = 0.048.

Table 3: Regression Results

Paths	Estimates	S.E.	Critical Ratio	P-value	Test Result
Social > IDM	.781	.125	7.089	0.002	Supported
Political > IDM	.432	.095	4.327	0.030	Supported
Econ. > IDM	.527	.087	5.191	0.362	Not Supported
Reg. > IDM	.619	.783	5.660	0.175	Not Supported
Tech. > IDM	.416	.127	2.024	.0430	Not Supported
Env. > IDM	.421	.091	5.883	.040	Not Supported
Legal > IDM	.394	.076	3.920	0.27	Not Supported

Note: GFI = 0.97; AGFI = 0.92; CFI = 0.87; NFI = 0.95; NNFI = 0.79; RMSEA = 0.05; RMR = 0.042.

The definitions of key terms also have been there in the questionnaire in order to make respondents at ease. Total 500 questionnaires have been distributed and 367 are received back with a response rate of 73 % which is quite acceptable. The respondents have varied backgrounds, with investment in different companies of various sectors in the stock exchange.

Measurement and Instrumentation

There are seven independent variables in this study; these variables are social, political, economic, regulatory, technological, environmental and legal factors. While the dependent variable is individual investor's decision making. Individual equity investor decision making have been measured an instrument adopted from Muhammad and Ismail (2007). The instrument contained 5 items and measured on 5 point Likert scale (1= strongly disagree, 5= strongly agree). The instrument to measure fundamental SPERTEL factors is adopted from Sugiharto et al. (2007). The instrument contains 8 items incorporating social, political, economic, regulatory, technological, environmental, legal factors and pattern of decision making.

Procedure

The data collected through structured questionnaire was entered into SPSS sheet for analysis purposes. The study utilized correlation analysis to relationship among the variables, confirmatory factor analysis to check validity of instrument and the data and reliability analysis. Structural equation model (SEM) is also adopted to test hypotheses. SEM is used very commonly used in social sciences where the study conceptualizes some theoretical model, develops and tests hypotheses in scientific mode. SPSS and AMOS software are used for analysis purposes.

Results and Discussions

This study aims at determining the influence of fundamental factors in individual equity investor's decision making.

Correlation Analysis

Reliability and Validity Test

The reliability and validity analysis are performed in the guidelines provided by Anderson and Gerbing (1988). Cronbach alpha is computed through SPSS. The standard criteria for validity of data is that the values of Cronbach alpha should be higher than 0.70. The overall values for all constructs are higher than standard criteria; therefore the data is reliable for statistical analysis purposes. The confirmatory factor analysis (CFA) is also performed to examine the validity of the data. The confirmatory factor analysis has been done using AMOS software. Bagozzi and Yi (1988) hold that the value of factor loading should also be greater than 0.60. The values of all constructs given in Table 2 are also loaded this standard except one item number 3 from social factor and 19 from technological factor, however overall the constructs are measured validly. The model fit analysis is also performed for CFA. As per standard criteria the values of GFI, AGFI, CFI, NFI and NNFI should be higher than or near to 0.90 and value of RMSEA should also be closer to 0.5. The model fit figures given in Table 2 (GFI = 0.92; AGFI = 0.89; CFI = 0.97; NFI = 0.88; NNFI = 0.91; RMSEA = 0.02; RMR = 0.048) are also satisfactory for confirmatory factor analysis.

Hypotheses Test

The hypotheses are tested on the basis of analysis of structural equation model. The regression results of the study are given in Table 3 below. The criteria to accept any hypotheses is that the value of P should be lesser than 0.05. Total seven hypotheses were developed on the basis of theoretical discussion. The value of SE represents the amount of change that an independent variable can cause on dependent variable. The P value of our first path is 0.002 which is below than .05, we therefore accept our H1. It shows social factors significantly influence the decision making process of individual equity investor. These social factors includes, civil unrest, institutional instability and wide spread corruption. Bennet and Selvam (2011) also reported significant influence of social factors among married investors in India. Our second hypothesis was relating to influence of political factor on equity investor behavior. The P value is 0.030 which is also less than 0.05, were therefore accept our H2 as well. Bennet and Selvam (2011) also noted significant influence of political factor on equity investors that belongs lesser income group. H3, H4, H5, H6 and H7 all rejected because the P value for all these hypotheses do not support the criteria and are above than 0.05. It depicts that economic, regulatory, environmental and legal factors do not have significant influence on individual equity investors' behavior. These findings are quite interesting, the theories of tradition finance believe that investor are always rational and base their decisions on economic and technical factors. Whereas, the theories of behavioral finance postulates that investors are not always rational and subject to many biases. This study also confirms the theories of behavioral finance by noting that individual equity investors in Pakistan do not incorporate economic, regulatory, technological, environmental and legal factors in their decision making. This has also been confirmed by Ali et al. (2010) that stock markets of Pakistan are not backed by the economic factors and are subject to manipulation. Bennet and Selvam (2011) also found insignificant influence of economic, regulatory, technological, environmental and legal factors on investor behavior in India. The model fit figures also meets most of required standards, therefore the technical testing of hypotheses is satisfactory.

Conclusion and Recommendations

This study gauges the influence of fundamental news on individual equity investor's decision making in Pakistan. The retail individual equity investors were surveyed through a structured questionnaire from all three stock exchanges of Pakistan. This is an important study, because there is paucity of research on investor behavior in Pakistan. The study tests the

long held theories of traditional finance, which believes that investors always make rational decisions. The study found significant influence of social and political factors on individual equity investor behavior, where as no influence of economic, technological, regulatory, environmental and legal factors have been noted on individual equity investor's behavior. This depicts that individual equity inventors do not considers economic factors in their investment decision making, which should not be the case in the context of efficient market hypothesis. Retail investors in Pakistan are driven by the intuitive decision making forces rather than rational factors. They base their decision on the recommendations of others including friends and brokers and do not under take rigorous technical and fundamental analysis. Retail equity investors pay more attentions to others which is called herding behavior. The study recommends that stock exchange regulators should develop policies to discourage market making practices and train/guide individual investors to use technical and fundamental analysis to base their investment decision making. This will encourage indigenous and genuine investors to save money and invest in the stock exchange. If stock markets are driven by technical and fundamental factors they will truly represent the economy and attract more investments for the economic development of the country. The study provides important policy implications and guidelines for the investors, stock exchange regulators and future researchers on this topic.

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