Determinants of investor confidence for firms listed at the Nairobi stock exchange, Kenya.

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Abstract

This study investigates the determinants of investor confidence for firms listed at Nairobi Stock Exchange (NSE) for the period 2001 to 2008. Information on stock market volatility was collected based on news and events at NSE and macroeconomic factors. The news and events are found to affect the stock market as captured by the changes in the prices; as measure of investor sentiment that is capable of explaining a significant proportion of the changes in the stock market index. The results show that political/economic stability, economic growth, and stock market liquidity play a key role in stock market development. The study concludes that daily price movements in the NSE are significantly related to investor sentiment. Consequently, investors' psychology is a potential explanation for stock price movements. Economic growth as given by stock market capitalization and stock market liquidity as given by total shares traded and turnover are important determinants of stock market growth.

Keywords: investor confidence, macroeconomic factors, stock market volatility

JEL Classification: G14, G15, E60

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1. Introduction

Mobilization of resources for national development has long been the central focus of development economists. In promoting economic growth, a key factor is seen to be a healthy development of a nation's financial sector, which in turn improves the private sector's access to services such as bank credit, equity capital, payments and risk management services. To facilitate this demand in the financial system, investor confidence in the integrity of capital markets is critical for a well-functioning economy (World Bank, 2005). Investor confidence is a subject that matters greatly in stock market or Securities Exchange market. People, in general, will not invest in a market characterized by dishonest practices. They will not enter securities field unless the rules of the game are fair and above the board. They want to know what they are buying. They want a security whose price is fixed by un-tampered influence of the law of supply and demand. Above all, they want a fair play in the securities market. The public confidence in securities market depends on the ability to issue securities without withholding material facts from the public security holders (Hanrahan, 1947a).

Investor confidence is an attitude that nothing can go wrong with the investment such that an investor can sleep easy since there is nothing to worry about. This is a major investor attitude and opinion which is commonly remarked by observers of speculative markets as having changed in important ways through time and the changes as having important consequences for the markets. Most data on investor sentiment refer to simple expectations for price change or indicators of these expectations. This data is useful, even though it may not capture essential elements of investor thinking (Shiller, 2000). According to Hanrahan (1947b), it is difficult to understand how a broker or a dealer can advise his customer to buy the securities of an issuer which does not give recognition to its obligation to its security holders by keeping them fairly informed at reasonable intervals concerning the progress of the enterprise. A security issue which goes to the public to finance its enterprise has a moral obligation to keep the public informed of progress of its business.

In light of the increasing focus on the Nairobi Stock exchange as an important avenue for attracting foreign investments and to encourage local residents to invest in shares, Kenyan companies may engage in voluntary disclosures as a means to enhance the value of their stocks hence investor confidence (Barako, 2007). Ensuring investor confidence enhances investors' participation in the market activities and encourages saving and channeling of savings into productive real investment, therefore fostering capital accumulation and efficiency in investment and real sector development. It is however debatable whether protection of investors promotes market efficiency. To enhance the customers' confidence, a market needs to be fair in which customers have complete confidence, a market in which the public interest and the interest of investors rather than immediate profits is the primary aim of those concerned. In addition to affecting transactions at a fair price, it should be a fundamental precept of business practice that a customer is advised of his legal relationship (Hanrahan, 1947c).

2. Problem Statement

Stakeholder confidence in the economy and more specifically the capital markets is a critical driver of economic, financial fluctuations and of the business cycle. When confidence increases,

consumers and investors would want to buy consumer goods, durables and invest at prevailing prices. When confidence decreases, spending and risk-taking tend to fall (State Street Corporation, 2008). Investors at the Nairobi Stock Exchange (NSE) are worried as the market remains turbulent with stock prices dipping to new levels. This happens as discussions intensify over whether the bearish trend is due to the global recession, effects of 2008 post-election violence or lowering investors' confidence. The bear market was acute between January 2 and March 31 2009, when the NSE-20 share index dropped from 3,589.16 points to 2,805.03 points and with market capitalization falling from Sh863 billion to Sh689 billion (Okoth, 2009). Apart from the global recession, the NSE has also been hit by a number of regulatory and governance issues. It is during the first quarter of 2010 that a damaging audit report on the collapsed Nyaga stockbrokers Ltd became public, eroding investor confidence. The market regulator, Capital Markets Authority, also moved in on Discount Securities Ltd, putting the firm under statutory management, sending further panic into the market (Okoth, 2009).

3. Objectives of the study

i) To examine the impact of news and events of underlying stock market through stock market volatility on investor confidence.

ii) To establish the effect of macroeconomic factors of stock market development on investor confidence.

4. Reviewed Literature

The Kenyan stock market is characterized by lack of sustained buoyancy. This has contributed to the poor investor interest in the primary market. Analysis of important share indices in the current financial year revealed considerable volatility in trading, which was at maximum in June, 1998 as per the leading indices, namely, the SENSEX (5.2%) and S&PCNX Nifty (5.1%). The movements in share prices during April-December, 1998 reflected long bear phases and short bull phases. The BSE Senex crossed 4000 in April 1998 but declined later and closed at 3686 in May, 1998. It declined steadily thereafter and closed at 2934 in August, 1998. Though it rose above the 3000 mark and closed at 3102 in September, 1998 it declined thereafter and remained below the three thousand mark for nearly three months before crossing 3400 in January 1999. Similar movements in share prices were revealed by the NSE (S&PCNX) share index during this period *(http://www.nse.co.ke)*. The Kenyan government has moved to tame the sinking investor confidence in capital markets by unveiling a raft of measures such as compensation of savers who lost their money at the hands of wayward stockbrokers; appointment of new Capital Markets Authority (CMA) chairman; freezing of assets of owners of stockbrokerage firms that have collapsed with investor funds; and the government plan to strengthen the Investor Compensation Fund (ICF) along the lines of the Deposit Protection Fund Board of the commercial banks.

Current models of market psychology and stock market psychology usually focus on the coordination problem of trading. Duffer's model examines how the market psychology of investors is concerned not so much with current volatility but with anticipating future volatility. Thus, variations in market psychology over time can lead to changes in aggregate stock return volatility (Dante, 2004c). Dante (2004b) observes that investors' confidence is the expectation of future stock market stability
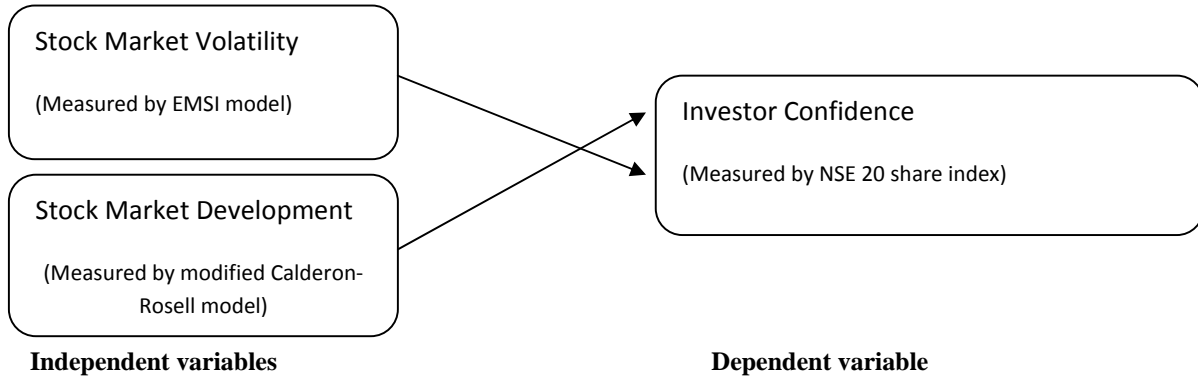
which is an important factor in determining stock market volatility. There are all kinds of wacky theories about what drives the stock market and when to be in or out such as the theory of the Summer Rally and the Tiger Woods Effect (Consoler, 2001). The theory of the Summer Rally says that between Memorial Day and Labor Day the market will put on one of its best rallies of the year. The contrarian believes that summer is so bad for stocks that investors should Sell in May and go away. Recent studies have shown that the Summer Rally is just a myth. Stocks do rally at some point over the summer, but they rally every other season, too (Consoler, 2001a). Statistically, stocks perform better in the cold months of November through April than in the warmer May through October period. A European finance professor and portfolio manager collaborated on research confirming this trend in 36 of the 37 countries they studied over the 1970 to 1998 period. The newest indicator is the Tiger Woods Effect, recently noted in the New York Post. On every Monday following a PGA Tour event Tiger Woods has played in since the Masters Tournament in April 2000, the Dow Jones average has gone up. Twenty Mondays and each an up day- with an average gain of 131 Dow points! The total Tiger Monday gain is 2,618 points over a period when the Dow has lost 50 points! So far this year the Dow has fallen on 10 of the 13 Mondays following events Tiger skipped. Tiger must be bullish for investors' confidence, at least on Mondays (Consoler, 2001b). Trying to time the market's moves with any consistency is impossible, even for market professionals. Here is a proof. From year-end 1995 to year-end 2000, the S & P 500 Index was up an average of 18.32 percent annually. If you were out of the market on just the ten best days in those five years, your return was only 9.24 percent per year, barely half as much. Missing the twenty best days reduced your return to only 2.98 percent (Consoler, 2001c).

According to Canadian Department of Finance publications (2003), reports of major corporate fraud and misconduct in the U.S. shook investor confidence and raised questions about the integrity of capital markets and their participants. The impact of these scandals was felt not only in the U.S., but also in Canada and throughout the rest of the world. Syed *et al* (2009) argues that investment decisions are based on information and the quicker and more reliable the information, the less likely it is that decisions will be made on emotion and herd instinct. This is in part due to the trust that investors on Wall Street have that the information underpinning their decisions is accurate and transparent, and that they get it at the same time as everyone else.

Pangano (1993) shows that regulatory and institutional factors may influence the functioning of stock markets. For example, mandatory disclosures of reliable information about firms may enhance investor participation and regulations that instill investor confidence in brokers should encourage investment and trading in stock market. Chen (2008) argues that cash-flow news contributes to stock return volatility more than expected return news does. Yartey (2008) identifies key indicators of stock market development to be the market capitalization ratio and stock market liquidity.

5. Research Model

| Independent variables | Dependent variable |

Stock Market Volatility (Measured by EMSI model)

Stock Market Development (Measured by modified Calderon-Rosell model)

Investor Confidence (Measured by NSE 20 share index)

6. Research Methodology

The study was a survey of all the listed companies trading at NSE. Non-probability sampling technique known as personal judgment or convenience was used in the study due to time and funds constraint (Mansfield, 1983). Primary data was collected using questionnaires and secondary data was collected using an observation guide for daily returns and daily indexes for each of the securities in the NSE (Bandopadhyaya, 2005). The researchers collected data on world indicators of stock market development for the year 2001 to 2008 (see figure 2 to 5 in the appendices). The highest number of listed companies was in 2001 but decreased from 2002. In addition, there was a general increase in total shares traded from year the 2001 to year 2008. On turnovers, there was a general increase from 2001 to 2007. The trends indicated in the figures in the appendices show that the year 2007 had the highest amount of market capitalization, total shares traded, turnover and the number of listed companies. Thus, the country experienced the highest level of economic growth implying a high level of investor confidence in the stock market as observed by yartey (2008).

6.1 Measuring Investor Sentiment in Equity Markets (EMSI)

The researcher modified the Equity Market Sentiment Index (EMSI) model from publicly available data to construct investor confidence at NSE using data from January 2, 2008 to December 31, 2008. The EMSI is as follows:

$$EMSI = \frac{\Sigma(R_{ir} - \overline{R_r})(R_{iv} - \overline{R_v})}{\left[\Sigma\left(R_{ir} - \overline{R_r}\right)^2 \Sigma\left(R_{iv} - \overline{R_v}\right)^2\right]^{\frac{1}{2}}} * 100$$

$$;-100 \leq EMSI \leq +100 \qquad (1)$$

,where R_{ir} is the rank of the daily return for 20 securities, R_{iv} is the rank of historical volatility for 20 securities, $\overline{R_r}$ is are the population mean return, $\overline{R_v}$ is the historical volatility rankings (Bandopadhyaya 2005).

6.2 Measuring Stock Market Development

The Cadeleron-Rossell model was used to measure stock market development by incorporating of listed companies, market capitalization, total shares traded, and turnover for the period 2001 to 2008 Yartey (2008).

6.3 Analytical Regression Model

The two models, that is, the EMSI model and the Calderon–Rossell model were regressed together in a multiple linear regression model as shown below. This was based on three assumptions: normality, homoscedasticity, and independence of errors. The regression equation was carried out as follows:

$$Q= \beta_0 + \beta_1 Y + \beta_2 V + \beta_3 T + \varepsilon \qquad (2)$$

,where Q, Y, V, and T are the NSE 20 share index, stock market capitalization, total shares traded and turnover respectively, β_i are the regression coefficients and ε are the error term.

7. Research Findings

The researchers critically examined the impact of stock market volatility on investor confidence. This was done by collecting information from respondents in a likert scale on the effect of news and corporate actions for firms listed at NSE. The responses on the contribution of new information about cash flow on the stock market volatility found that news about cash flow is very useful in determining stock return volatility. 59.4% of the respondents believe that the stock market affects investor confidence. The result above concurs with an earlier study done by Syed et al (2009) and Bandopadhyaya (2005). The study investigated whether corporate news on merger and acquisition had effects on stock market index; and whether the news on cash dividend payment of firms at NSE lead to change in the stock market index. The study found out that 56.3% of the respondents agreed that corporate news on merger and acquisition affected stock market index and supports the findings of Chen, (2008). It also found out that 53.1% of the respondents agreed that news on cash dividend payment of firms in the NSE lead to a change in the stock market index and concurs with early research done by Bandopadhyaya (2005).

The study further sought the respondents' opinion on whether news on share split of firms at NSE leads to stock market volatility. 84% of the respondents agreed that news on share split of firm leads to stock market volatility which in turn affects investor confidence. 75% of the respondents agreed that capital increase through right issues affects the stock market index through volatility. On the other hand, the researcher collected secondary data pertaining capital market price indexes. The NSE indexes were obtained using modified EMSI model. The news and events appear at the end of every trading day in the NSE in a summary form known as corporate actions. The results of the EMSI were then summarized in a table 1 in appendices for risk appetite and number of weeks. The EMSI values were placed into five risk categories: risk-neutral (-10 to +10), moderately risk averse (-10 and -30), highly risk-averse (less than -30), moderately risk-seeking (+10 and +30), and highly risk-seeking (above +30). During the sample period there were thirty weeks on which the market was highly risk-seeking and two weeks on which the market was moderately risk-seeking. The market was risk-neutral for five weeks, and exhibited moderately and highly risk-averse behavior for five and ten weeks respectively. The EMSI figures were plotted on a graph with a range of +100 (high) to -100 (low) for the sample period as shown in figure 1 in the appendices.

The researchers sought to establish the effect of stock market development on investor confidence. This was done by collecting information on determinants of stock market development which are recognized world-wide as indicators of stock market development. 62.5 of the respondents believe that Kenyan political/economic stability was fairly stable. This shows that the Kenyan stock market is able to develop by attracting investors into investing in stocks market. Similar results were obtained by Yartey (2008).

On the likelihood of many new investors in common stock to invest in the next six months and on whether economic growth leads to market growth; the study found out that the number of investors in common stock was likely to remain unchanged implying low investor confidence in the stock market indicated as by 43.8% of the respondents. The majority of the respondents, 71.9%, strongly agreed that economic growth leads to stock market growth. The results is in line with the findings of Shiller (2000), who found direct relationship between stock market development and investor confidence and that of Yartey (2008) ,who established that economic growth leads to stock market development.

The study sought information on whether total shares traded in the stock market indicated an increase/decrease in investor confidence. A significant number of respondents, 53.1%, strongly agreed. The total shares traded were directly related to the level of stock market development, economic growth of the country and investor confidence in the capital/stock market. Regarding the effect of economic recession on stock market development, 96.9% of the respondents agreed that stock market is affected negatively by the economic recession. Recession hinders economic growth and stock market development. The results explained what

has been happening for the last one year globally because of the credit crunch experienced in USA. The study also established whether an increase in the number of firms listed at NSE is a reflection of stock market growth. Majority of the respondents (63.7%) strongly agreed with the statement suggesting that stock market liquidity determines stock market development and investor confidence in stock market.

The two models, the EMSI model and the Calderon–Rossell model were regressed together in a multiple linear regression model as shown below. The summary of regression analysis results is in table 2 in the appendices. This was based on three assumptions: normality, homoscedasticity, and independence of errors. Equation (2) was transformed to be equation (3) for easier interpretation as follows;

$$Y = b_0 + b_1 X_1 - b_2 X_2 + b_3 X_3 + \epsilon. \qquad (3)$$

, where $b_0 = 1010.260$, $b_1 = 6.899$, $b_2 = -0.001$, $b_3 = 1.509E-05$. The r^2 is 0.986. This means that 98.6% of the variation in 20 share index or stock market index can be explained by the independent variables (stock market capitalization, total shares traded and turnover). The study further tested whether there is a significant relationship between the dependent variable and the set of independent variables. $H_0 : b_1 = b_2 = b_3 = 0$ and H_1: At least one $b_j \neq 0$ .The level of significance of 0.05 was chosen and the critical value on F distribution table was determined to be 6.59. Because $F = 93.616 > F_U = 6.59$, H_0 was rejected and concluded that at least one of independent variables is different from 0. The R is 0.993 which shows that there is existence of significant association between variables in the model.

8. Evaluation of results

The analysis of results shows that the news was very useful in contributing to stock market volatility; corporate news on merger and acquisition had effects on stock market index; the news on share split of firms at NSE leads to stock market volatility. Moreover, the findings show that capital increases through right issues affects the stock market index through volatility. The study revealed that the movements in the EMSI capture both positive and negative news as reported on firms and the economy. The sentiment measure is capable of explaining a significant proportion of the changes in the stock market index. Therefore, EMSI was able to explain changes in the NSE returns and investors' confidence in the stock market through volatility; hence stock market volatility can measure investor sentiment in equity market.

On the other hand, it was revealed from the study that Kenyan political/economic stability was fair, there was no likelihood of new investor to invest in common stock in the next 6 months, economic growth leads to market growth, total shares traded in the stock market indicate an increase/decrease in investor confidence, stock market is affected negatively by the economic recession, an increase in the number of firms listed at NSE is a reflection of stock market growth, and there was a general increase in value traded as percent of GDP from year 2001 to year 2007. From the study, it was revealed that there was a general increase in turnover from the year 2001 to year 2007 and a general increase in market capitalization from year 2001 to year 2008. Majority of the respondents agreed that the stock market liquidity measured by equity turnover in the NSE as an indicator of stock market development and investors' confidence in the capital market. Hence, stock market volatility can measure investor sentiment in the equity market. The indicators of stock market development in appendix show that there was general increase the total shares traded, turnover, and market capitalization at the last day of trading from 2001 to 2007 and a slight fall in 2008. This showed that the stock market had been developing since 2001 to 2007 (Economic Survey 2009). Moreover, the study found from regression analysis, that is, the slope of the stock market capitalization $b_1(6.899)$ to increase the estimated the amount of 20 share indexes by the same amount. Also at 5% significance level, the study found that stock market capitalization is highly related to daily stock market index (20 share index) in the NSE total shares traded and turnover.

9. Conclusion

The researchers found that the EMSI captures capital market related news and events. The news about firms' cash flow, corporate mergers and acquisition, dividend payment, share splits and capital increase through right issues affects stock market index through stock volatility. The daily price movements in the NSE are significantly related to investor sentiment. Investor psychology is a potential explanation for stock price movements. It was further concluded that Kenyan political/economic stability is fairly stable. However, there was no likelihood for many new investors to invest in the common stocks in the next 6 months. Economic growth generally leads to stock market growth and the total shares traded indicate an increase or decrease in investor confidence. Economic recession affects stock market negatively; an increase in the firms listed at NSE is a reflection of stock market growth. The stock market liquidity as measured by equity turnover in the NSE is an indicator of stock market development and investor confidence in the capital market. In general, economic growth as given by stock market capitalization and stock market liquidity as

given by total shares traded and turnovers were important determinants of stock market growth.

10. References

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11. Appendix

Table 1: Risk Categorization of Daily EMSI Figures

Risk Categorization of Daily EMSI Figures		
Range of EMSI	Category	Number of Weeks
-30 and below	Highly Risk Averse	10
-10 to -30	Moderately Risk Averse	5
-10 to + 10	Risk Neutral	5
+10 to +30	Moderately Risk Seeking	2
+30 and above	Highly Risk Seeking	30

Source: Research Data (2009)

Table 2: Regression Output Summary

2.1 Regression Statistics

Multiple R	0.993
R Square	0.986
Adjusted R Square	0.975
Standard Error	331.80794
Observations	8
Multiple R	0.993

<div align="center">**2.2 ANOVA**</div>

	df	Sum of square	Mean Square	F	Significance F
Regression	3	30920481.539	10306827.180	93.616	0.000
Residual	4	440386.049	110096.512		
Total	7	31360867.588			

	Coefficients	Standard Error	t Stat	Lower 95%	Upper 95%
Intercept	1010.260	267.474	3.777	267.632	1752.887
X_1	6.899	1.946	3.544	1.495	12.303
X_2	-0.001	0.000	-3.526	-0.002	0.000
X_3	1.509E-05	0.000	7.235	0.000	0.000

Source: Research Data (2009)

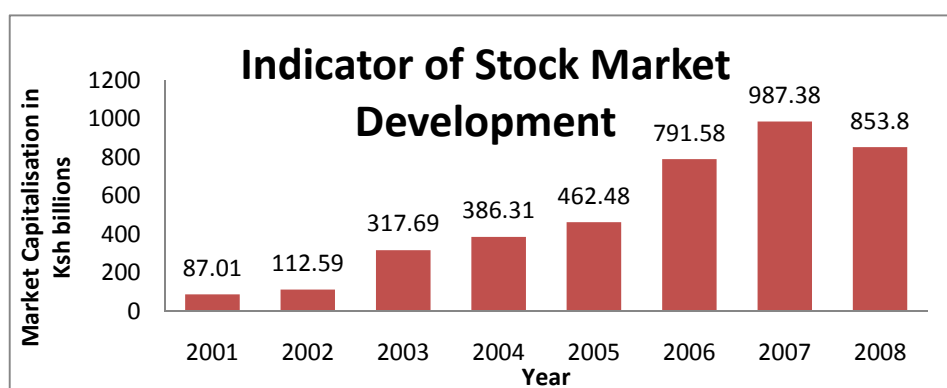<div align="center">**Figure 1: The News and EMSI Graph**</div>
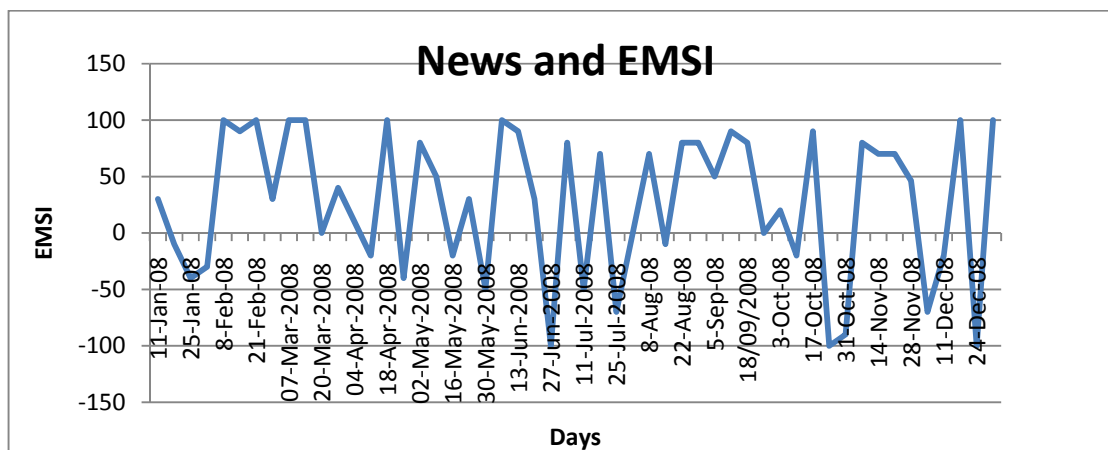
Source: Research Data (2009)

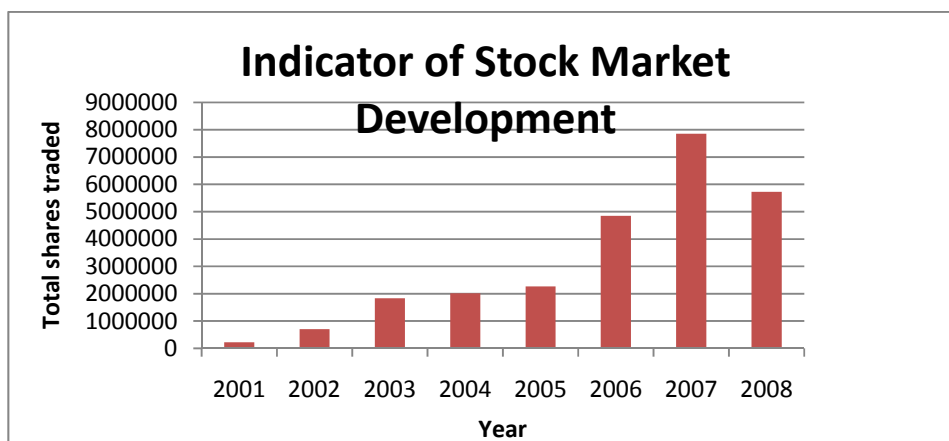**Figure 2: The Numbers of Listed Companies**
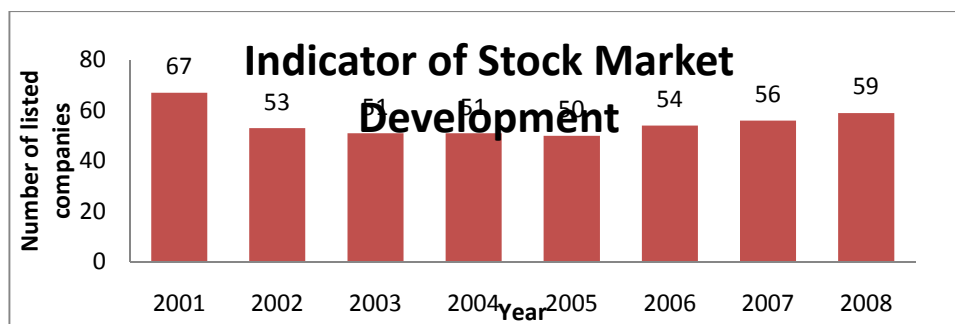
Source: NSE (December 31, 2008)

Figure 3: Market Capitalization

Source: NSE (December 31, 2008)

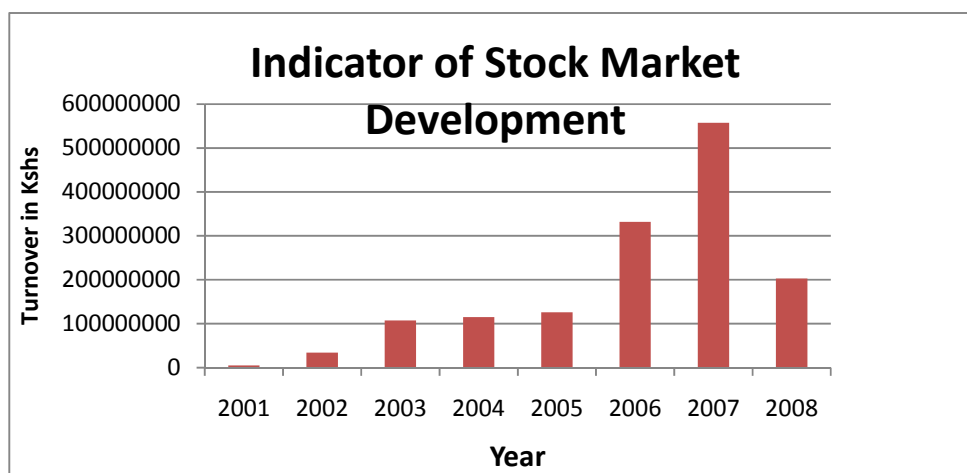**Figure 4: Total Shares Traded**

Source: NSE (December 31, 2008)

Figure 5: Turnovers

Source: NSE (December 31, 2008)