Effects of Liquidity Incentives on Performance of Listed Firms in Kenya

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Abstract- Stock market performance at the Nairobi securities exchange has not improved despite liquidity incentives. It is not clear whether liquidity incentives are a gift or a motivator; sometimes stock market performance increases when liquidity incentives decrease and sometimes even decrease when more liquidity incentives are prevailed. The study aims to determine the relationship between liquidity incentives and stock market performance. This study adopted a descriptive research design with a study population of 61 listed firms in NSE. A sample of 150 respondents was picked through stratified random sampling technique from 30 firms listed at NSE. The study used both primary and secondary data sources in gathering data for analysis. Data collection involved self-administration of questionnaires. The study used the Cronbach (Alpha – α) model to test the reliability of the data. Data was analyzed by use of Stata (version 13). Correlation analysis, multiple linear regression analysis, skewness and kurtosis tests were all conducted on the data collected. T-Test and ANOVA tests were computed to test hypothesis that tax incentives have little impact on NSE investments, performance and results to revenue losses by the government. The findings from this study reveal that liquidity incentives and investors' perceptions affects stock market performance and thus liquidity incentives are a motivator for investors to invest at NSE. A study on the effects of liquidity incentives on performance of stock markets using time series models such the autoregressive conditional heteroscedasticity (ARCH) models, with its extension to generalized autoregressive conditional heteroscedasticity (GARCH) respectively which accommodate the dynamics of conditional heteroscedasticity should be conducted to determine if the results will be identical.

Index Terms- liquidity incentives, performance, stock market performance

I. INTRODUCTION

Investment incentives are defined as measurable economic advantages that governments provide to specific enterprises or groups of enterprises, with the goal of steering investment into favored sectors or regions or of influencing the character of such investments (Ahn& Cheng, 1999).

The NSE continues to innovate, transform and adapt to fulfil the needs of its stakeholders and to live up to their own mission of providing a world class securities trading facility. The long-term objective of NSE is to position Kenya as the financial services hub of the East African Region. The 2012 performance of the NSE was commendable. The NSE 20 Share Index ended 2012 at 4,133.02 points and has been on an upward trend since crossing the 4,000 mark on October 15 2012. For 2012, the NSE 20 Share Index was up 28.64%, Market capitalization rose 46.5% to Kshs.1.27 trillion ($14.53 billion) (Asea, 2013).

The move by the government of Kenya through the Capital Markets Authority to promote stock market investments has provided a platform through which investors benefit from liquidity. There has been however a lot of controversy on whether the liquidity incentives given at NSE really promote investments or they are a white elephant errant

Githaiga (2013) observed that NSE's Performance increased even when incentives were reduced and sometimes decreased even when incentives were increased. The researcher concluded that there is no direct notable relationship between stock market incentives and Performance. There is dichotomous among researchers regarding the questions of whether stock market incentives are a gift or a motivator.

While some researchers argue that incentives result to an increase in stock market performance (IOSCO, 2012), others tend to argue that incentives are a gift and do not impact on stock market performance (Aregbeyen and Mbadiugha, 2011). Vanderbruggen (2002)'s study findings revealed that although incentives will always be taken into account by investors, these are rarely among the most important factors when an investment decision is made (Vanderbruggen, 2002).

Gale (1996) finds that in a survey of investors and government departments entrusted with encouraging investment, governments believed that incentives strongly influenced investment decisions. But for investors, access to domestic markets, a good investment climate, security and stability, skilled labor, and other factors ranked much higher than incentives.

Despite the importance of liquidity incentives on performance of stock markets, there has been no scientific study that has been conducted in Kenya to determine the effects of such liquidity incentives on performance. It matters that whenever the government is giving providence for liquidity incentives at the stock markets and those incentives are not improving performance, then the government is on the white elephant errands. The study sought to answer the question on whether liquidity incentives provided at NSE are a gift or a motivator.

II. LITERATURE REVIEW

Liquidity is the ability to transact quickly and without substantially moving prices (Glen, 1994). Liquidity Incentives at

NSE entail equity financing opportunities and diversification opportunities for investors. Mutua (2011) asserts that, companies listed at Nairobi Securities Exchange can access long-term capital from a wide range of local and international investors. The NSE is one of the world's best-performing exchanges, with a 35% growth rate in 2012 and a 47% growth rate in 2013. Issuers were assured of a listing and trading environment that holds all market participants to the strictest standards of corporate governance (Mutua, 2011).

Empirically, the initial level of stock market liquidity is a robust predictor of economic growth and capital accumulation (Levine and Zervos, 1998). An extensive microstructure literature on the role of liquidity in price formation process of individual securities is present (Amihud and Medlson, 1986). Liquidity co-moves with each security traded in the same market (Hasbrouk and Seppi, 2001).

Some of the studies carried out by Enko Capital analysing all the IPOs that have taken place in Africa over the last five years show that the median price annual ratio is 12.6 almost 13 times earnings (Huberman and Halka, 2000). On the average, in Africa, one can get 12 to 13 times for every dollar made in terms of lead profit. In Africa only 5% of IPOs which are controlled by private equity, unlike in Europe or the US where it is about 25% (Huberman and Halka, 2000).

The size of the spread and price of the stock are determined by supply and demand (Volkman, 2005). The more individual investors or companies that want to buy the more bids there will be. More sellers results in more offers or asks. On the New York Stock Exchange (NYSE), a buyer and seller may be matched by use of a computer. However, in some instances, a specialist who handles the stock in question will match buyers and sellers on the exchange floor (Volvman, 2005). The researcher adds that in the absence of buyers and sellers, this person will also post bids or offers for the stock to maintain an orderly market.

On the NASDAQ, a market maker will use a computer system to post bids and offers; it essentially plays the same role as a specialist. However, in this kind of arrangement, there is no physical floor. All orders are marked electronically. It is important to note that when a firm posts a top bid or ask and is hit by an order, it must abide by its posting (Madhavan, 1992).
One thing to note as an investor when placing an order is the liquidity of the stock. During normal market hours, on the major exchanges, placing a limit order will get you the price you are looking for. This is particularly true for companies that are non-liquid, or during after-hours trading when fewer traders are active; at these times, it is better to place a limit order because the lower liquidity may lead to a price you would not be willing to pay. Greater liquidity/transferability of securities reduces risk of holding the asset (Slovic, 2000).

Stock market liquidity is a slippery and elusive concept partly because it encompasses a number of transactional properties of the market (Kyle, 1985). Madhavan (1992) relates liquidity with information asymmetry and argues that the quality of information possessed by market makers and the traders significantly influence market depth and the size of the bid-ask spread. Thus, high information asymmetries widen the spread lowering the market depth and market liquidity.

Recent performance and its expected variations influence liquidity by affecting the inventory risk of liquidity providers in financial markets and their funding abilities (Chordia, Roll, and Subrahmanyam, 2003). Chordia, Roll and Subrahmanyan (2003) add that, co-variation in price and in volatility should also induce a co-variation in the provision of liquidity.

Without liquidity, disparities in price to book value exist, investors cannot get enough stocks to meet their portfolio requirements, and foreign trade is deterred (Donna et al., 2013). Chris (2011) highlighted that liquidity enables financial institutions such as banks to offer a depth of products.

Harvey (1991) carried out a study to determine liquidity of listed shares, using panel data and with a census of CSX shares. The study found out that by their nature, listed shares are a very liquid products. They can be bought and sold quickly on an exchange platform rather than having to go through the grueling process of having to look for a transferee, and also through the use of a broker at a relatively low cost to other products. Trading on an exchange also allows you to sell part of your share parcels rather than having to redeem the whole lot (Harvey, 1991).

Leuz and Verrecchia (2000) investigated the capital market outcomes of increased corporate disclosure activities. The researchers tested whether stock liquidity affects acquirer returns through the hypothesized effects on institutional monitoring. The researchers retrieved from Securities Data Company (SDC) data on all completed and withdrawn takeover deals between U.S. based firms that involve a public acquirer. Their sample period was from January 1998 to December 2008. The researchers' main sample comprised of 4,191 acquisitions from which they analyzed announcement returns. The researchers found that the firms with lower stock liquidity had higher acquirer gains for takeovers of unlisted targets, but not for takeovers of listed targets. The relation between liquidity and bidder gains was stronger when the threat of disciplinary trading by institutions is weaker and acquirers had potentially higher agency costs. Their results support the hypothesis that stock liquidity weakens the incentives of institutions to monitor management decisions.

Ahn and Chueng (1999) conclude that low liquidity is depicted from the significant high negative relationship between the spread and market depth. Pagano and Röell (1996) observe that greater transparency in the trading process enhances market liquidity by reducing the opportunities for taking advantage of less informed or non-professional participants. Cornell and Sirri (1992) found that market liquidity increased with information asymmetry, as insiders were able to obtain superior execution for their trades relative to the contemporaneous liquidity traders. In conclusion, it is important to note that the presence of uninformed traders in the market does not necessarily reduce market liquidity.

The above studies have clearly explained that listing at NSE provides liquidity incentives to investors. The studies have also explained that liquidity is important in determination of stock prices. However, there exists unanswered questions to date whether liquidity as incentives promote stock market performance. This question is answered by the researcher in subsequent sections of this paper.

III. METHODOLOGY

This study adopted a descriptive research design. The target population for this study constituted all the 61 companies listed at NSE. The sampling frame was drawn from the NSE Website.
The study adopted stratified random sampling technique. The researcher divided the population into different strata (which should be homogenous i.e. each element in every strata is homogenous) and then applied systematic random sampling technique in which every 4th element was picked to be part of the sample from the list. The procedure involved in systematic random sampling is very easy and the results are representative of the population unless certain characteristics of the population are repeated for every nth individual, which is unlikely (Moore et al., 2012). The sample size was as shown in the table 1 below:

Table 1: Stratified Sample Size

STRATUM	A	B	C	D	E	F	G	H	I	TOTAL
Population Size	8	9	2	4	10	6	4	14	4	61
Systematic size, every 2nd element	4	4	1	2	5	3	2	7	2	30
Respondents (10 managers per firm)	20	20	5	10	25	15	10	35	10	150

The stratum A-I represents the 9 industries listed at NSE namely: Agricultural, Commercial and Services, Telecommunication and Technology, Automobiles and Accessories, Banking, Insurance, Investment, Manufacturing and Allied, Energy and Petroleum. 150 respondents were answerable to the questionnaires, these constituted 5 managers from each of the listed firms selected for the sample. The reason as to why managers were picked for this study is because they are the ones who were in a position to give the required critical information on the data relating to incentives and perceptions for the periods covering year 2003-2014. A sample of 30 companies which is 49.18% of the total population was used. This is far much greater than the 30% recommended (Mugenda&Mugenda, 2003).

Primary data was collected through the use of questionnaires. The study preferred questionnaires because they are easy and cheaper to administer to respondents and are moreover convenient for collecting information within a short span of time. The questionnaire was divided into the main areas of investigation except the first part which captured the demographic characteristics of the respondents. Other sections were organized according to the major study objectives.

Secondary data was collected from company websites, audited annual financial statements and company releases. According to Mugenda and Mugenda (2003), breaching confidentiality, is a matter of concern to all respondents. In view of this, the study withheld the names of the respondents and their respective view with utmost confidentiality.

The study conducted a pilot test which helped to confirm if it was ready for full-scale implementation. The rule of the thumb is that 1% of the sample should constitute the pilot test. This comprised two respondents from the researchers' sample size. The pilot test served as a trial run for this study and helped to determine if any adjustments to implementation plan, any adaptations to the study are necessary and revealed unforeseen challenges that could arise during implementation and ensure that the study was well prepared to handle the issues that came up during the full-scale implementation. The aim of pilot test is to determine the validity and reliability of the instruments; this was achieved as below explained

To test for validity, the study adopted Creswel (2003)'s criteria to ascertain validity of the study instruments the study. Strategies for validating the accuracy of research findings offered by Creswell (2003) included obtaining data from three different sources of information or triangulation, member checking, which involves having the research participants review final reports to determine accuracy, and documentation using rich, thick descriptions.

This study adopted the Cronbach (Alpha – α) model to test the reliability of the data. Brown (2002) indicates that Cronbach's alpha reliability coefficient normally ranges between 0 (if no variance is consistent) and 1 (if all variance is consistent). The closer the coefficient is to 1.0 the greater the internal consistency of the items in the scale. An alpha (α) score of 0.70 or higher is considered satisfactory (Gliem and Gliem, 2003). The findings of the internal reliability of the questionnaire showed an average of 0.7303 Cronbach's alpha value as in Table 4.13. This gave room for the researcher to pursue the research in full swing having proven that the instruments were reliable and valid, required no amendments to provide expected results.
The dependent variable for this model was expressed as a percentage change in the stock market performance to a function of percentage changes in tax incentives.

$$y = f(\Phi 1) \quad (1)$$

Where:
y= % Change in Stock Market Performance
Φ1= % Change in stock market liquidity incentives

After tabulating and analyzing data collected, analytical model was estimated. Percentage changes in dependent variable were multiplied by respective correlation coefficients and then summed up together with the error term and the constant term to arrive at percentage change in stock market investments. The analytical model used in the study is explained below.
General Analytical Model

$$y = \beta 0 + \beta 1\Phi 1 + \varepsilon \quad (2)$$

Where:
y = Change in Stock Market Performance

β0 = Constant term
β = Correlation coefficients
Φ1 = Percentage change in stock market liquidity incentives
ε = Error term

Correlation analysis is used to determine the level of association of two variables (Levin and Rubin, 1998). This analysis is the initial step in statistical modeling to determine the relationship between the dependent and independent variables. Prior to carrying out a multiple regression analysis, a correlation matrix was developed to analyze the relationships between the independent variables as this assisted in developing a prediction multiple model. Correlation analysis helped to detect any chance of multicollinearity. A correlation of ±1.0 means there is a perfect positive or negative relationship (Hair et al., 2010). The values are interpreted between 0 (no relationship) and 1.0 (perfect relationship). The relationship is considered small when r = ±0.1 to ±0.29, while the relationship is considered medium when r = ±0.3 to ±0.49, and when r= ±0.5 and above, the relationship is considered strong.

Hausman test is a test conducted in panel data i.e. a combination of time series and cross sectional data to see if you should run a fixed effects model or a random effects model. Hausman test was conducted in this study to see whether to estimate a fixed effects model or a random effects model since data collected was panel data i.e. both cross section and time series data. The hypothesis to be tested was that the preferred model is fixed effects vs. the alternative the random effects. This was done using e-views. If the probability of the chi-square test is less than 0.05, then f this is < 0.05 (i.e. significant) use fixed effects otherwise random effect.

Multiple regression analysis is a statistical method utilized to determine the relationship between one dependent variable and one or more independent variables (Hair et al., 2010). This study employed multiple linear regression analysis using Return on Assets (ROA) and Return on Equity (ROE) as proxy for the firm's financial performance as dependent variables and the independent variable i.e. tax incentives

Normality of the variables was examined using the skewness and kurtosis. According to Kline (2011), the univariate normality of variables can be assumed if the skewness statistic is within the interval (-3.0, 3.0) and the kurtosis statistic lying in the interval (-10.0, 10.0). The results of this test were presented in form of tables.

The issue of multicollinearity may arise if two or more variables are highly correlated. It may affect the estimation of the regression parameters (Hair et al., 2010). Multicollinearity can be detected either by examining the correlation matrix or by the variance inflated factor (VIF). The most common multicollinearity detection test is the Variance Inflation Factor (VIF) for each independent variable. If the VIF is more than 10 for any independent variable, it indicates that this variable is highly explained by other variables and might be considered for exclusion from the model. For this study, VIF for each independent variable was done and all those variables whose VIF was found to be above the cut off value of 10 were excluded (Hair et al., 2010).

Homoscedasticity and normality of residuals were checked using the Q-Q-Plot. The results of this test were presented in form of tables and graphs.

The data was tabulated and classified accordingly in line with the objectives of the study (Kombo & Tromp, 2006). The coded, tabulated and classified data was subjected to both quantitative and qualitative analysis. Quantitative data analysis was helpful in data evaluation because it provides quantifiable and easy to understand the result. Quantitative data can be analyzed in a variety of different ways, which can help the researcher to meet his set objectives with much ease (Kombo & Tromp, 2006). Quantitative data was presented in through statistical techniques such as pie charts, tables and bar charts.

IV. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

A majority of the respondents agreed that liquidity incentives mostly motivates firms to list at NSE with about 67.8% strongly agreeing and 22% agreeing. These findings concur with those conducted by Cooray (2003) in Sri Lanka stock markets which also found out that liquidity affects investment decisions. Liquidity incentives were termed as more important when making listing decisions at NSE with a support respondent of 75% strongly agreeing.

It was not clear from among the respondents on whether stock market liquidity enhances incentives for acquiring information (60.4% neither agreeing nor disagreeing). 100% respondents revealed that the companies listed at NSE would easily access equity funds than those not listed. 87% of respondents' further indicated that, companies will most likely want to be listed at NSE because of liquidity incentives.

However, liquidity incentives were highly ranked as a motivator and not a gift since every investor is attracted to highly liquid investments which they can switch from time to time unlike investments which have tedious exit barriers. The findings are similar to those of Musyoka (2012) who concluded that incentives are a motivator and not a gift.

The existence of predictable, clear tax laws and trans-parent tax administration were some of the most important factors identified and that investors take into consideration while listing in NSE. Also, a good investment climate, security and stability are important for investors to list. Therefore, tax incentives do not improve stock market performance at NSE.

Liquidity incentives came very strongly as a motivator and not a gift. Many respondents believed that every investor was considerate of his or her ability to switch on or off the market according to the prevailing circumstances and opportunities. Investors prefer the stock market mainly because of its ability to provide highly liquid investments and which can be converted to cash upon demand.

However, it was not clear from among the respondents on whether stock market liquidity enhances incentives for acquiring information. Respondents opined the companies listed at NSE would easily access equity funds than those not listed. Respondents further argued that companies could most likely want to be listed at NSE because of liquidity incentives. Thus liquidity incentives are significant in improving the performance of NSE.

Liquidity incentives were identified as important factors contributing significantly to stock market performance. The policy makers should capitalize on the provision of these liquidity incentives since they contributes significantly towards improved stock market performance. Growth incentives also having been identified as a gift and not a motivator, this study recommends that policy makers should cease to invest in them since this investment will be a practical avenue of white elephant errant whose returns are near to impossibility.

Research on liquidity incentives and stock market performance in developing countries is at its infant stages. In this regard, the researcher recommends an identical study on the effects of liquidity incentives on performance of stock markets using time series models such the autoregressive conditional heteroscedasticity (ARCH) models, with its extension to generalized autoregressive conditional heteroscedasticity (GARCH) models as introduced by Engle (1982) and Bollerslev (1986) respectively which accommodate the dynamics of conditional heteroscedasticity (the changing variance nature of the data) to determine if the results will be identical.

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APPENDIX I: SUPPORTING TABLES AND FIGURES FOR FIGURES

4.1.1 Response Rate

Table 4.1: Response Rate

Population	Frequency	Percentage
150	127	84.66%

4.1.2 Gender of Respondents

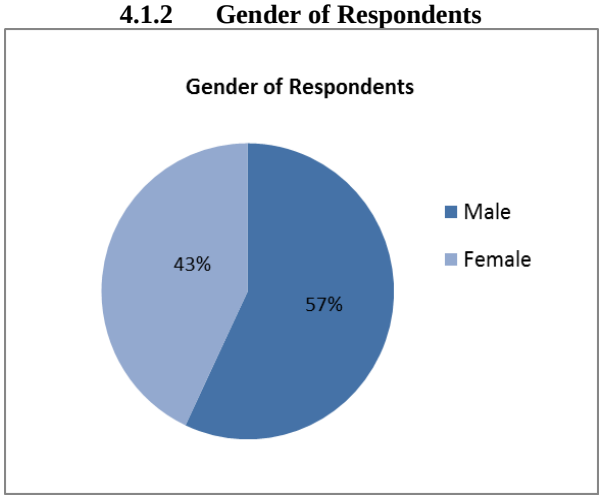

Figure 4.1: Gender of Respondents

4.1.3 Educational Levels of Respondents

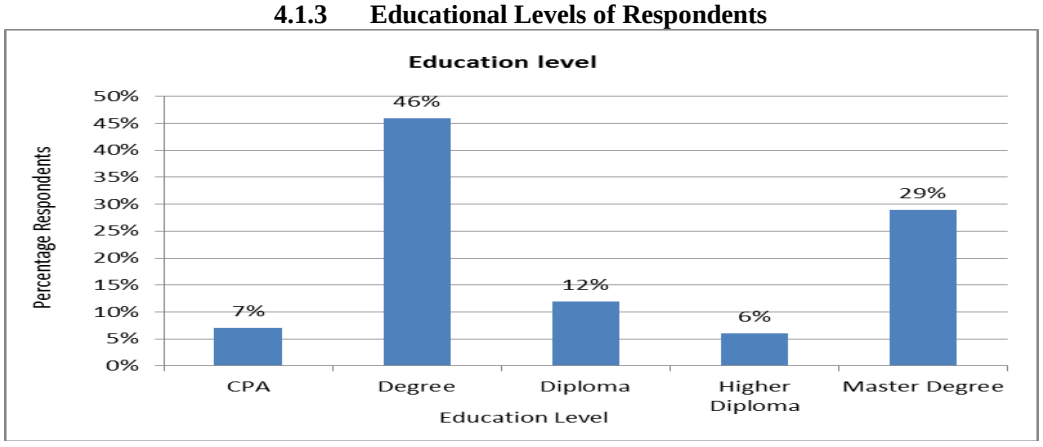

Figure 4.2: Education Levels of Respondents

4.1.4 Age of Respondents

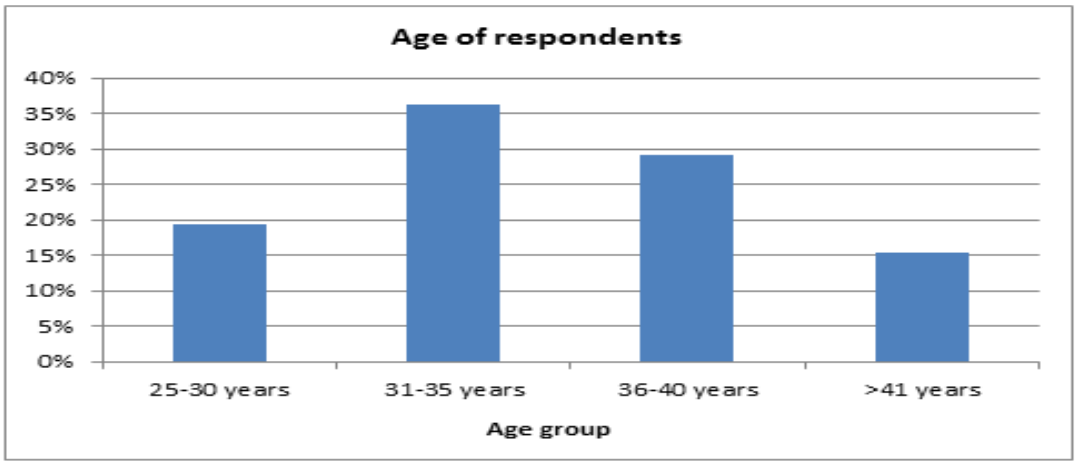

Figure 4.3: Age of Respondents

4.1.5 Duration of Stay in Current Department

Table 4 2: Duration in Current Department

Department	Duration					Total
	1 year	2 year	3 year	4 year	>=5 years	
Administration	13	8	13	2	5	42
Finance	9	2	12	2	4	29
IT	3	1	1	1	2	9
Sales & Marketing	6	11	17	4	8	47
Total	31	22	43	10	18	127

4.1.6 Duration of Service in Current Position

Table 4 3: Duration of Service in Current Position

Gender	Duration					Total
	1 year	2 year	3 year	4 year	>=5 years	
Female	12	10	13	18	7	51
Male	14	18	14	14	16	76
Total	26	26	27	32	23	127

4.1.6.1 Liquidity Incentives and Performance

Table 4 4: Liquidity Incentive and Stock Market Performance

Liquidity Incentives and Stock Market Performance	Ranking				
	Strongly Agree	Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree
Liquidity Incentives motivated our firm to list at NSE	67.8%	22.0%	10.2%	12.0%	0%
Liquidity Incentives are a gift and not a motivator	23%	19%	51%	1%	6%
Liquidity incentives are important when making listing decisions at NSE	75.5%	7.8%	2.3%	12.4%	2%
Stock market liquidity will not enhance incentives for acquiring information	26.9%	3.0%	4.5%	5.2%	60.4%
Companies listed at NSE would easily access equity financing than their unlisted counterparts	100%	0%	0%	0%	0%
Many companies might want to list a NSE because of the highly liquid market position which enables diversification	87%	2.0%	1%	11%	0%

4.1.6.2 Percentage Change in Incentives

Table 4 5: Percentage Change in Incentives

Year	Percentage change in incentives made during the years 2003-2014.		
	Net capital investment amount	Total assets	Total stock Equity

2003	8%	12%	13%
2004	14%	10%	17%
2005	21%	-8%	2%
2006	10%	25%	7.7%
2007	6.50%	4.7%	1.4%
2008	-11.3%	15%	18.7%
2009	10%	17%	12%
2010	12%	8%	-8%
2011	1.35%	8%	9.3%
2012	5.40%	12%	6.1%
2013	8.26%	2%	14%
2014	-4.90%	3.7%	7.9%
Average	6.72%	9.10%	8.42%

4.1.6.3 Dividends, Retained Earnings, Equity, Income, Growth

4.1.6.4

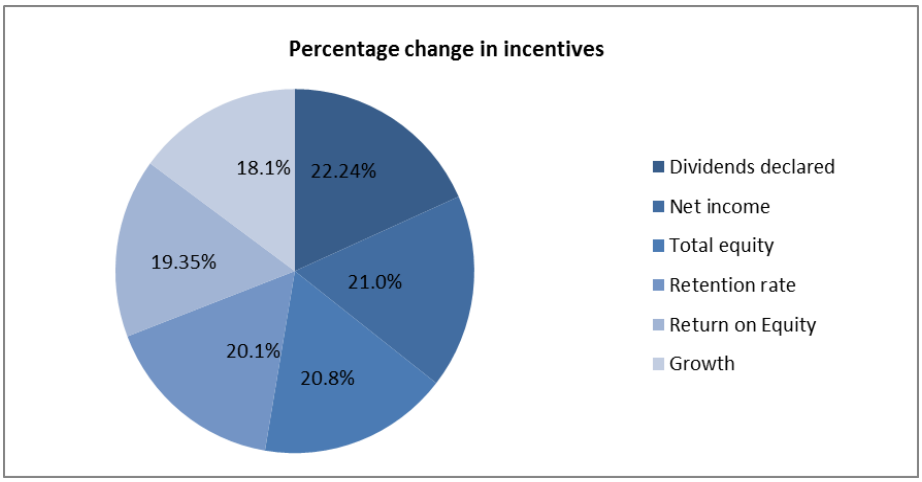

Figure 4.4: Dividends, Retained Earnings, Income, Equity, Growth

4.1.6.5 Market Capitalization, Turnover Ratios and Stock Index

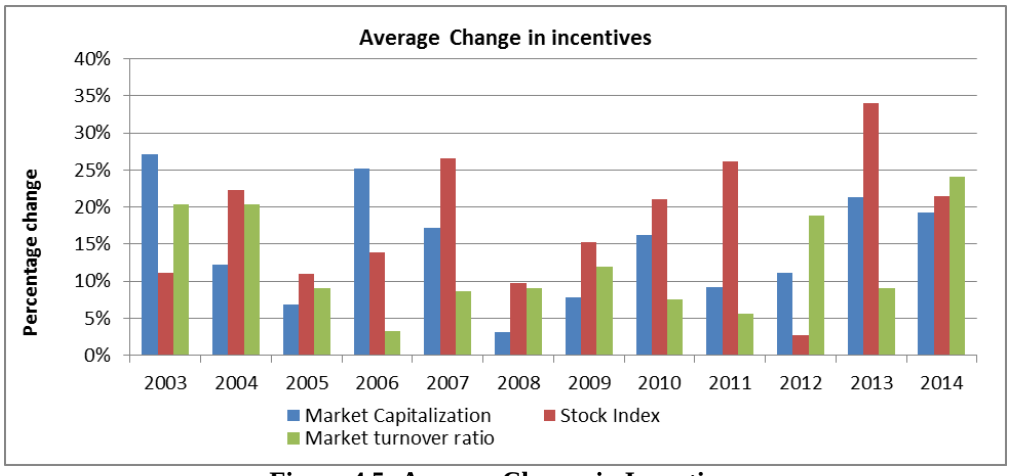

Figure 4.5: Average Change in Incentives

4.1.6.6 Descriptive Statistics of Stock Market Incentives

Table 4.4: Descriptive Statistics of Stock Market performance

Variable	N	Mean	Median	Minimum	Maximum	Standard Deviation
Liquidity incentives	127	0.295	0.270	0.030	1.290	0.190

4.3 Inferential Statistics

4.3.1 Diagnostic Tests

4.3.1.1 Normality Tests (Shapiro-Wilk Test)

Table 4.7: Shapiro-Wilk Test on Market Capitalization

	Kolmongrov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Data	0.137	126	0.200a	0.946	20	0.316

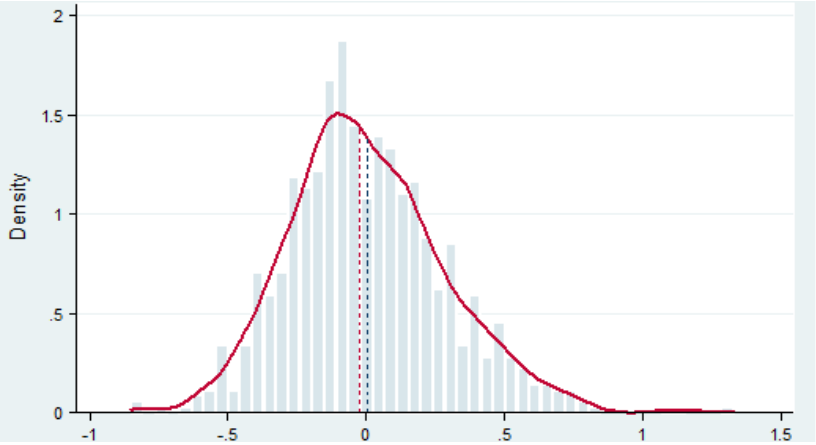

Figure 4.6: Stock market distributions

4.3.1.2 Reliability Tests

Table 4.8: Cronbach's Alpha Reliability Findings

Variables	Cronbach's
Liquidity Incentives	0.769

4.3.1.3 Hausman Test

Table 4.9: Test for correlated cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.2267	3	0.26543

4.3.1.4 Autocorrelation Tests

4.3.1.4.1 Autocorrelation Test on Stock Market Index

Table 4.5: Autocorrelation on Stock Market Index

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.233[a]	.054	.064	3871.9148970	2.081

a. Predictors: (Constant), Unstandardized Residual, Unstandardized Residual, Unstandardized Residual;
b. Dependent Variable: stock market performance

4.3.1.4.2 Autocorrelation Test on Market Capitalization

Table 4.6: Autocorrelation on Market Capitalization

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.067[a]	.065	.092	1.9956685	2.221

a. Predictors: (Constant), Unstandardized Residual, Unstandardized Residual, Unstandardized Residual

b. Dependent Variable: Market capitalization

4.3.1.4.3 Autocorrelation test on Stock Market Turnover

Table 4.7: Autocorrelation on Stock Market Turnover

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.049[a]	.055	.073	0.6238741	1.946

a. Predictors: (Constant), Unstandardized Residual, Unstandardized Residual, Unstandardized Residual
b. Dependent Variable: Market capitalization

4.3.1.5 Multicollinearity Tests

4.3.1.5.1 Multicollinearity Test on Stock Market Index

Table 4.8: Multicollinearity on Stock Market Index

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	934.67	732.495		1.276	0.214		
	Liquidity incentives	3.01	9.198	0.066	0.327	0.746	0.976	1.025

4.3.1.5.2 Multicollinearity Test on Market Capitalization

Table 4.9: Multicollinearity on Market Capitalization

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.293	1.944		1.694	0.108		
	Visibility incentives	0.007	0.03	1.076	0.808	0.567	0.231	1.051
	Liquidity incentives	-0.015	0.238	-0.038	-0.064	0.95	0.912	1.235
	Tax incentives	0.149	0.178	0.537	0.836	0.414	0.131	1.399
	growth incentives	0.149	-0.25	-0.205	0.1.03	0.414	0.701	1.831

4.3.1.5.3 Multicollinearity Test on Stock Market Turnover Ratio

Table 4.10: Multicollinearity on Market Turnover

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.163	2.675		1.762	0.423		
	Liquidity incentives	0.789	0.863	0.432	0.006	0.012	0.234	6.321

4.3.2 Stock Market Turnover ratio

4.3.2.1 T-Test on stock market performance and Incentives

The results in the table above indicates that the correlation between stock market turnover ratio and liquidity incentives is a positive moderate correlation (R=0.758). On determining the significance of the incentives, on the stock market turnover, R2 (0.575) indicated that 57.5% of the incentives are accounted for in the stock market turnover.

4.3.2.2 Multiple Regression Coefficients Model

Table 4.15 : Regression coefficients for Stock Market performance

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.

		B	Std. Error	Beta		
1	(Constant)	1.123	1.871		0.600	0.062
	Liquidity incentives	0.629	0.171	0.198	3.673	0.014

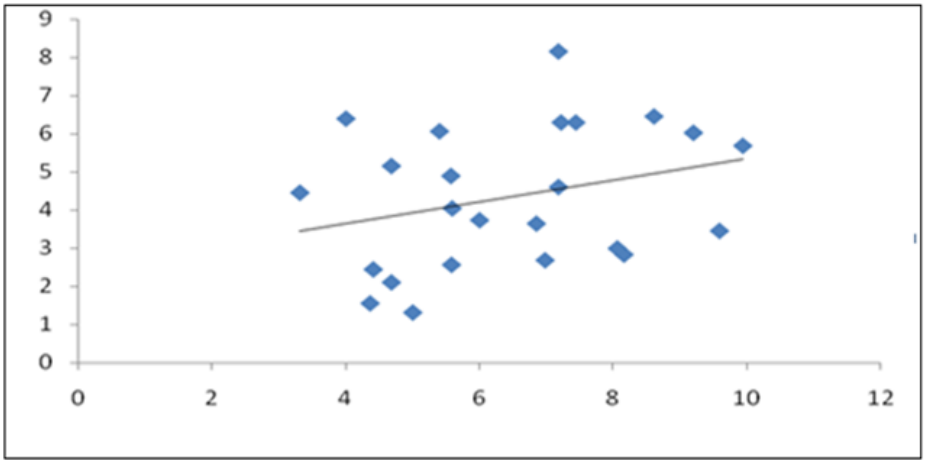

Figure 4.7: Regression for Market capitalization on incentives

Table 4.16: T-test Stock Market performance and incentives

	T-test for equality of means					
	DF	P-value (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Equal variances assumed	126	0.001	0.6504	0.5967	0.5507	1.856
Equal variances not assumed	162	0.001	0.6504	0.5967	0.5511	1.852

4.3.2.3 T-test for Incentives' Equality of Means

Table 4.17 : Incentives on Stock Market Index

	t-test for Equality of Means						
	T	DF	P-value	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	3.558	126	0	0.337	0.6044	1.8796	2.653
Equal variances not assumed	3.558	126	0	0.337	0.6044	1.881	2.655

4.3.2.4 T-Test on Market Capitalization

Table 4.18 : T-test on Market Capitalization

	t-test for Equality of Means						
	T	Df	P-value	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	3.757	126	0	2.013	0.5359	0.9345	3.092

Equal variances not assumed	3.757	126	0	2.013	0.5359	0.9345	3.092

4.3.2.5 Correlation Matrix for Stock market performance

Table 4.11: Correlation matrix for stock market performance

		Stock market Index				
Pearson Correlation		Stock market Index	Tax incentives	Liquidity incentives	Growth incentives	visibility incentives
	Liquidity incentives	-0.321	1	0.342	0.151	
	Liquidity incentives	0.019	0.013	0.013	0.429	.

4.3.2.6 Model Summary (ANOVA)

Table 4.12: ANOVA Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.525a	0.276	0.219	2.03647

4.3.2.7 Distribution for Stock market performance and Incentives

Table 4.19: Regression Summary for Stock market performance

			Statistic	Std.Error
Data	Mean		18.4719	0.77126
	95% Confidence Interval	Lower Bound	16.8577	
		Upper Bound	20.0862	
	5% Trimmed Mean		18.4986	
	Median		18.3962	
	Variance		11.897	
	Std. Deviation		3.44918	
	Minimum		12.68	
	Maximum		23.8	
	Range		11.14	
	Interquartile Range		6.8	
	Skewness		0.07	0.512
	Kurtosis		-1.06	0.992

4.3.3 Market Capitalization

4.3.5.1 Market Capitalization Model

Table 4.13 : Market Capitalization Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758[a]	.575	.562	.39768

a. Predictors: (Constant), Liquidity incentives
b. Dependent Variable: Market capitalization

4.3.5.2 Regression Analysis for Market capitalization

Table 4.14 : Regression coefficients for Market Capitalization and Incentives

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-1.215	.454		-1.932	.025
	Tax incentives	0.07	0.070	-.055	-1.00	.348
	Liquidity incentives	1.33	0.611	.623	2.177	.050
	growth incentives	-0.024	.020	.456	-1.201	.000
	visibility incentives	0.33	0.211	.549	1.564	.200

4.3.5.3 Market Capitalization ANOVA

Table 4.15 : Market Capitalization ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.888	4	7.222	46.67	.000[a]
	Residual	19.276	122	.158		
	Total	48.164	126			