

EFFECTS OF TAX 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 tax incentives. It is not clear whether tax incentives are a gift or a motivator; sometimes stock market performance increases when tax incentives decrease and sometimes even decrease when more tax incentives are given. The study aims to determine the relationship between tax 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 tax incentives have an insignificant effect on NSE performance. It was therefore recommended inter alia that the governments should put in place predictable, clear tax laws and transparent tax administration that would provide conducive and favorable market opportunities to the investors rather than granting investment incentives. A study on the effects of tax 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- tax incentives, performance, stock market performance

I. INTRODUCTION

The rationale behind granting of tax incentives is to exploit investments opportunities, where tax system is seen as an obstacle. They are also used to improve social welfare of the community for example, granting incentives related to health, education or savings for future use. On the other hand they can also be used to discourage certain activities like overproduction of agricultural produce resulting to instability in prices (Klemm,

2009). The aim of granting incentives is to promote stock market performance.

A number of countries have created actual tax incentives in the taxation of the listed companies. Vietnam applied in 2004-2006 a 50% reduction on the normal Corporate Income Tax (CIT) rate (at that time 28%). The effective tax rate of a listed company was thus 14%. This scheme was introduced when the Stock Exchange was setup, but not continued. In case a listed company also had a reduced tax rate or tax holiday because of its investment project, the 50% reduction would only apply after the other tax holiday.

Thailand on the other hand applies lower CIT rates for companies that are listed on Thailand's SET (25%) or the MAI (20%). The normal Thai CIT rate is 30%, but lower rates exist for profits below a certain threshold. The reduced rate for the listed companies applies only for a period of 3 years, not beyond. In addition, Thailand provides in an investment tax credit up to 25% of the total qualifying cost of new projects of listed companies (machinery, vehicles, equipment and software). In Tanzania, withholding tax on interest earned on long term debt securities listed in the Dar-es-Salaam stock exchange during the 2002/2003 fiscal years was abolished.

In Kenya, Newly listed companies have been given an incentive to be taxed at a lower rate of 27% as compared to the standard rate of 30% for a period of three years following the date of listing. This was also dependent on such companies offering at least 20% of the share capital to the public (CMA, 2001). Companies that were to apply and get listed got a tax amnesty on their past omitted income, provided they made a full disclosure of their assets and liabilities and undertake to pay all their future due taxes (CMA, 2001).

Foreign investors in Kenya have been enabled to acquire shares freely in the stock market subject to a minimum reserved ratio of 25% for domestic investors in each listed company (CMA, 2002). Effective 1 January 2003, newly listed companies were given incentives to pay a lower corporation tax of 25% (i.e. 5 percentage points lower than the standard corporation tax of 30%) for a period of 5 years following their listing. The new legislation applies to companies that float at least 30% of their issued share capital to the public (CMA, 2002).

CMA exempted from income tax interest income accruing from all listed bonds with at least a maturity period of three years (CMA, 2006). The unclaimed dividends outstanding in listed companies for more than seven years were paid to Investor Compensation Fund (CMA, 2006). To promote listings at the NSE, CMA proposed to extend the deduction of expenditure of a

capital nature incurred by a company on legal costs, and other incidental expenses while being processed for listing without raising additional capital (CMA, 2006). As an incentive to encourage more investors at the Nairobi Stock Exchange, CMA proposed that newly listed companies pay corporation tax at a lower rate of 20%, for a period of 5 years, provided these companies offer at least 40% of their shares to the Kenyan public (CMA, 2006).

Ideally, the policy maker will want to verify if it is necessary to grant tax incentives to an investor, or if the investor would also carry out the investment without such tax incentives. From a perspective of fiscal revenue, granting tax incentives to listed companies that would also list without such tax incentives actually simply constitutes windfall profits for the shareholders. It is expected that investment perceptions dilute the relationship between investment incentives and performance since perceptions are thought to be important determinants of investors' behaviour than incentives.

To date, the Government of Kenya has implemented no less than 20 fiscal and tax incentive measures to address impediments to market growth. In addition, relevant institutional and market infrastructure reforms have been initiated to enable capital markets play a significant role in economic growth (CMA, 2002). Despite all this, KRA (2009) reported out through an estimate that about Kshs 220.8 billion was lost between the years 2003-2009 towards granting of investment incentives whose results remain grey

Despite the uncertainty of tax incentives' importance on performance of stock markets, studies on this field in Kenya have not been holistically conducted to separate doubts from the commonly known truths. It matters that whenever the government is giving tax incentives and those incentives are not improving performance, then the government is wasting public resources. The study sought to answer the question on whether tax incentives provided at NSE are a gift or a motivator.

II. LITERATURE REVIEW

Tax reductions and tax exemptions are the main tax incentives provided to investors' in order to motivate them to list at NSE. A company that lists its shares at the Nairobi Stock Exchange benefits from incentive tax rates as follows: where a company has 20% of its issued shares listed corporation tax is levied at 27% for the first 3 years; where a company has 30% of its issued shares listed corporation tax is levied at 25% for the first 5 years and where a company has 40% of its issued shares listed corporation tax is levied at 20% for the first 5 years (CMA, 2005).

Registered venture capital funds have been accorded major tax incentives including tax holidays of up to ten years on the funds income (CMA, 1997/98). There has been reduction of withholding tax applicable to dividend income arising from investment on listed securities for both local and foreign investors; the foreign rate has been fixed as 10% while the local rates have moved from 10% to 7.5% to 5% (CMA, 1997). Stamp duty and value added tax on the transfer of listed securities were exempted (CMA, 1995), Costs of IPOs were made tax deductible (CMA, 1995) and the 7.5 % Capital Gains Tax introduced in 1975 were suspended (CMA, 1985).

From a perspective of fiscal revenue, granting tax incentives to listed companies that would also list without such tax incentives actually simply constitutes windfall profits for the shareholders (KRA, 2009). Sometimes developing countries want to compensate with low tax rates for a country's lack of fundamental production factors such as skilled labor, infrastructure or commodities (KRA, 2009). However, studies show that in most cases that gap is too wide anyway (OECD, 2002).

Hassett and Hubbard (2002) provide a good review of the literature on the effectiveness of tax policy, in general, and tax incentives, in particular, in promoting investments. They find that tax policy affects investment with a 1.0 percent increase in the user cost of capital lowering investment by 0.5–1.0 percent (for an elasticity of -0.5 to -1.0). This analysis is based on microeconomic data from firms. Macroeconomic data, by contrast, provide little evidence that tax policy affects investment (Hassett and Hubbard, 2002). But this conclusion is likely due to measurement errors in macroeconomic data, inter-asset reallocation of capital, and simultaneity, which make it difficult to draw causal links or make correct attributions using macroeconomic data (Hassett and Hubbard, 2002). Taxes increase the user cost of capital, so any uniform reduction in that cost should encourage capital investment. But targeted incentives are unlikely to broadly reduce the cost of capital.

Most investment incentives focus on investments in equipment, creating inter-asset distortions between types of capital. These distortions could outweigh the benefits of such incentives, with the net result being that the incentives attract weaker investment (Hassett and Hubbard, 2002). These findings are similar to those of Noble and White (2012) who found out from Zimbabwe and Zambia stock exchange markets that incentives act as more of a gift than a motivator. Economic growth is higher in countries that invest more in equipment, mainly because workers learn better skills by operating different kinds of equipment. Thus equipment subsidies are good for growth because they generate positive externalities. Investment incentives do not work for many firms that face finance constraints and cannot grow to take advantage of tax incentives (Noble and White, 2012).

Though Hasset and Hubbard (2002) find that tax policy has little effect on investment when macroeconomic data are used, there is evidence that taxes affect the volume and location of FDI. Extensive research indicates that FDI is sensitive to taxation in host countries (Hines, 1997).

Grubert and Mutti (2000) used data from the Bureau of Economic Analysis (BEA) to study why investors decide to locate in certain countries. The researchers studied FDI in 47 countries including developing countries. They find that investments oriented toward domestic markets were less sensitive to changes in tax incentives, while export-oriented investments were more sensitive. Also using BEA data, Desai, Foley and Hines (2006) concluded that U.S.-based multinational corporations in countries with a 10 percent higher indirect tax rate had 7.1 percent less assets (physical investments). Moreover, in countries with a 10 percent higher corporate income tax rates, such corporations have 6.6 percent less assets. This study found significance in that more than half of the 55 countries with inbound investments were developing countries.

There is a significant vacuum in the literature on econometric studies regarding the efficacy of investment incentives in developing countries (Grubert and Murt, 2000). Although the literature concludes that tax rates matter a lot for FDI, this conclusion cannot be extended to non-OECD countries (Desai, Foley and Hines).

To address this shortcoming in the literature, the World Bank Group's Investment Climate Advisory Services undertook a series of econometric studies to determine how taxation affects FDI in developing countries. Investor surveys were also conducted to provide richer, disaggregated data. In addition, the International Monetary Fund (IMF) conducted a study on how corporate tax rates and tax incentives affected FDI in 40 Latin American, Caribbean, and African countries during 1985–2004 (OECD, 2002). The studies had findings similar to those of the OECD studies: FDI was affected by tax rates, with a 10 percentage point increase in the corporate income tax rate lowering FDI by 0.45 percentage point of GDP. The studies also found that extending tax holidays by 10 years increased FDI by 1 percentage point of GDP. Still, these numbers were small relative to those for OECD countries. Based on such experiences, the OECD concluded that a low tax burden cannot compensate for a generally weak or unattractive FDI environment (OECD, 2002). Rolfe and White (1991) found that tax holidays had a small effect on FDI, tax holidays and import duty exemptions were unlikely to attract FDI if non-tax factors were favorable. Morriset and Pirnia (2001) neither support this conclusion, stating, that incentives will generally neither make up for serious deficiencies in the investment environment nor generate the desired externalities. The Investment Climate Advisory pursued this line of research to show the econometric evidence behind it. The average response was much more pronounced in countries with good investment climates (Morriset and Pirnia, 2001). For example, having an METR of 20 percent instead of 40 percent raises FDI by 1 percent of GDP for countries ranked in the bottom half in terms of investment climate—while the same difference in METR had an effect eight times greater for countries in the top half. This finding implied that tax incentives were far less effective in weaker investment climates than in stronger ones. This observation was tested against the Global Competitiveness indicators, Index of Economic Freedom, and Heritage Foundation indicators of a good investment climate. Fiscal policy diverges across most of these indicators suggested that the investment climate is a critical precondition before fiscal policy can effectively encourage investment (Morriset and Pirnia, 2001).

Musyoka (2012) conducted a study to establish the relationship between tax incentives and foreign direct investments. The researcher used data for investments incentives, trade related incentives, import duty exemption and FDI inflows for a ten years period. Mean, mode and median were calculated to measure dispersion while correlation and regression analysis were calculated to establish the relationship between the dependent and independent variables. The results concluded that tax incentives lead to revenue losses by the government.

Contrary to popular belief, research shows that, in general, tax incentives were not often very effective in attracting foreign direct investment (FDI).

Githaiga (2013) studied the impact of tax incentives on FDI inflows of firms listed at the NSE. The study involved collection of a time series data on investments and tax incentives from a sample of 10 firms listed at the NSE between years 2008 – 2011. The data was mainly from secondary sources, most attention being focused on annual reports and audited financial statements of the sampled firms. Correlation analysis was carried out on. The results were then analyzed to arrive at a conclusion on whether tax incentives had any impact in attracting FDI inflows in firms operating at the NSE. The results of the study revealed a strong relationship between wear and tear allowances and FDI inflows. Industrial Building Deductions and Investments Deductions had no significant relationship with FDI inflows. Despite strong relationship between Wear and tear allowances and FDI, further analysis on percentage change in FDI inflows across the study period showed that the Impact of tax incentives on FDI inflows was insignificant (Githaiga, 2013). This is a clear indicator that tax Incentives existed in the stock market although their effect was insignificant to potential investors wanting to venture into the stock markets.

The literature on tax incentives and its relationship with stock market performance is not exhaustive. There remain more gaps on whether tax incentives are a gift or a motivator. It is not clear whether there is a predictable relationship between tax incentives and performance of the stock market and whether the relationship is either positive or negative. In the success of this research to clear the air about this researcher controversy, this research provides a key discovery to policy makers who are concentrating more on the treatment of symptoms and problems and not the causes of such problems, in this case, the imperishable performance of the stock market whenever tax incentives are introduced.

III. METHODOLOGY

This study adopted a descriptive research design. The target population for this study constituted all the 61 companies listed at NSE as attached. 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. 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.

$$y = f(\Phi 1) \tag{1}$$

Where:

- y= % Change in Stock Market Performance
- $\Phi 1$ = % Change in stock market tax 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

$$y = \beta 0 + \beta 1\Phi 1 + \epsilon \tag{2}$$

Where:

- y = Change in Stock Market Performance
- $\beta 0$ = Constant term
- β = Correlation coefficients
- $\Phi 1$ = Percentage change in stock market tax 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 $r = \pm 0.1$ to ± 0.29 , while the relationship is considered medium when $r = \pm 0.3$ to ± 0.49 , and when $r = \pm 0.5$ 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 total of 58% of the respondents argued that tax incentives did not motivate their firms to list at NSE. Tax reductions and exemptions were found to influence stock market performance. Many respondents disagreed with this illusion that their firms enjoyed tax incentives before listing at NSE. 54.2% of respondents argued that predictable, clear tax laws and transparent tax administration are also important than low tax rates when making listing in NSE.

The findings correlate to Gale (1996)'s study that found that, although Incentives are provided to motivate investors; for investors, access to domestic markets, a good investment climate, security and stability, skilled labor, and other factors matter mostly. Many respondents asserted that the tax incentives were a gift and not a motivator to invest in NSE. As much as they serve as a point of reference while making listing decisions at NSE, they remain a symbol of donations and grants coming to reward investors for listing at NSE.

Tax incentives were found to act as gifts to investors contrary to legislators' assumption that they are a motivator. Tax reductions and exemptions were found to influence stock market performance. Many respondents disagreed with this illusion that their firms enjoyed tax incentives before listing at NSE.

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.

Having established that tax incentives are a gift and not a motivator, the study recommends to relevant policy makes to withdraw their provision. This will help in saving the tax loses which have been incurred in provision of this incentives and whose impact is futile since it's a white elephant investment.

Research on tax 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 tax 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

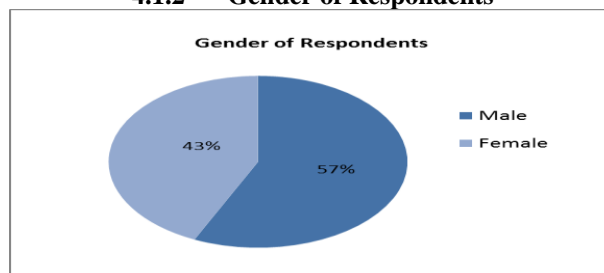


Figure 4.1: Gender of Respondents

4.1.3 Educational Levels of Respondents

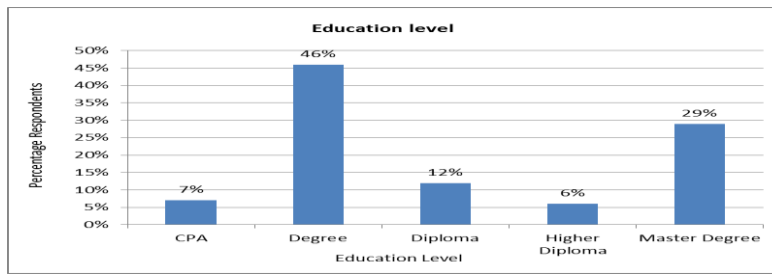


Figure 4.2: Education Levels of Respondents

4.1.4 Age of Respondents

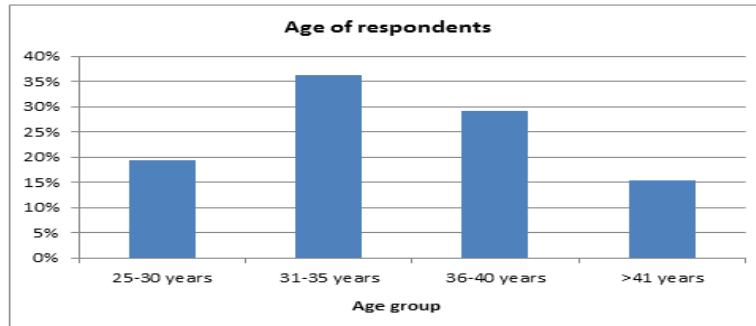


Figure 4.3: Age of Respondents

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

4.1.7 Tax Incentives and Performance

4.1.7.1 Tax Incentives

Table 4 4: Tax Incentives

Tax Incentives and Stock Market Performance	Ranking				
	Strongly Agree	Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree
Tax Incentives motivated our firm to list at NSE	8%	19%	15%	52%	6%
Tax incentives are an important variable while making listing decisions at NSE	21%	8%	56%	12%	3%
Tax reductions and exemptions influence stock market performance	100%	0%	0%	0%	0%
Our company enjoyed Tax incentives before listing at NSE	17%	23%	29%	31%	0%
Predictable, clear tax laws and transparent tax administration are important than low tax rates when listing in NSE	54.2%	45.8%	0%	0%	0%

4.1.7.2 Tax Incentives as a Gift or a Motivator

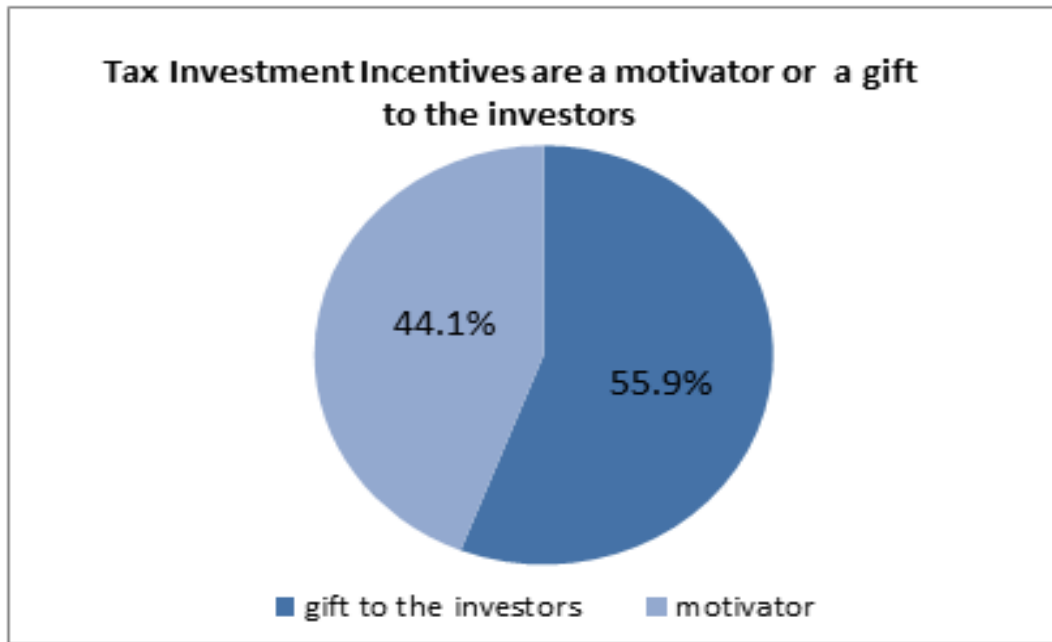


Figure 4.4: Tax Incentives as a Gift or Motivator

4.1.7.3 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%

4.1.7.4 Dividends, Retained Earnings, Equity, Income, Growth

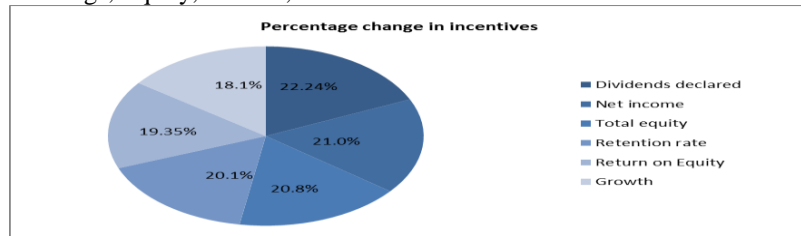


Figure 4.5: Dividends, Retained Earnings, Income, Equity, Growth

4.1.7.5 Market Capitalization, Turnover Ratios and Stock Index

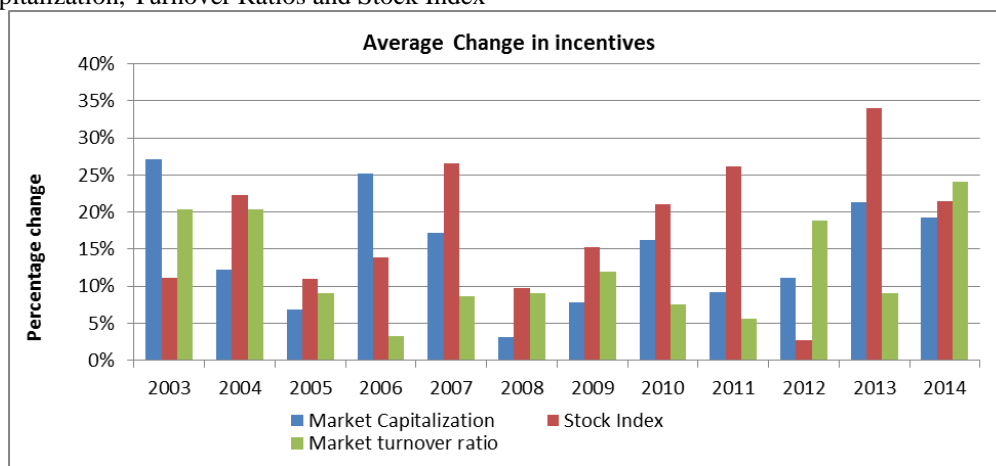


Figure 4.6: Average Change in Incentives

4.1.7.6 Descriptive Statistics of Stock Market Incentives

Table 4.5: Descriptive Statistics of Stock Market performance

Variable	N	Mean	Median	Minimum	Maximum	Standard Deviation
Tax incentives	127	0.177	0.140	0.000	0.930	0.153

4.2 Inferential Statistics

4.2.1 Diagnostic Tests

4.2.1.1 Normality Tests (Shapiro-Wilk Test)

Table 4.6: Shapiro-Wilk Test on Market Capitalization

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

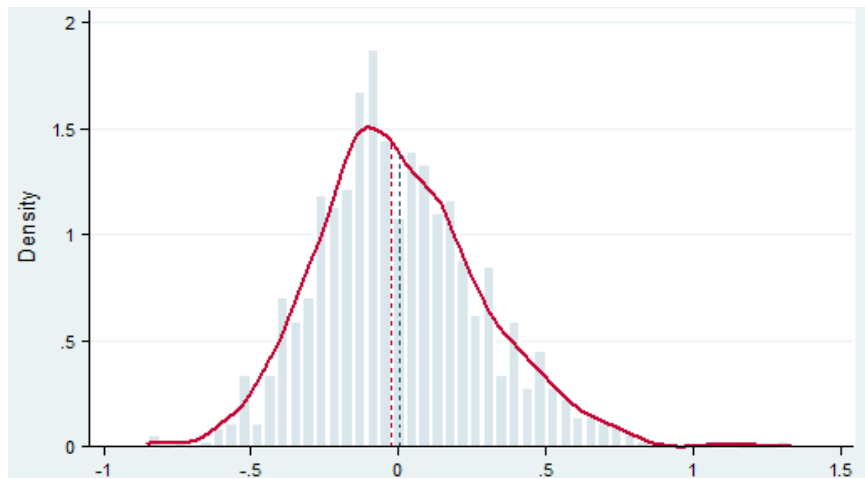


Figure 4.7: Stock market distributions

4.2.1.2 Reliability Tests

Table 4.8: Cronbach’s Alpha Reliability Findings

Variables	Cronbach’s
Tax Incentives	0.701

4.2.1.3 Hausman Test

Table 4.7: 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

4.2.1.4 Autocorrelation Tests

4.2.1.4.1 Autocorrelation Test on Stock Market Index

Table 4.8: Autocorrelation on Stock Market Index

Model	R	R Square	Adjusted Square	R 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

4.2.1.4.2 Autocorrelation Test on Market Capitalization

Table 4.9: Autocorrelation on Market Capitalization

Model	R	R Square	Adjusted Square	R 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

4.2.1.4.3 Autocorrelation test on Stock Market Turnover

Table 4. 10: 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

4.2.1.5 Multicollinearity Tests

4.2.1.5.1 Multicollinearity Test on Stock Market Index

Table 4.11: 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		
	Tax incentives	0.229	7.304	0.006	0.031	0.975	0.991	1.009

4.2.1.5.2 Multicollinearity Test on Market Capitalization

Table 4.12: 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		
	Tax incentives	0.149	0.178	0.537	0.836	0.414	0.131	

4.2.1.5.3 Multicollinearity Test on Stock Market Turnover Ratio

Table 4.13: 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		
	Tax incentives	0.586	1.643	1.653	0.543	0.123	0.543	2.432

4.2.2 Stock Market Turnover ratio

4.2.2.1 Multiple Regression Coefficients Model

Table 4.16: 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	
	Tax incentives	-2.832	1.645	-0.322	-1.722	0.241	

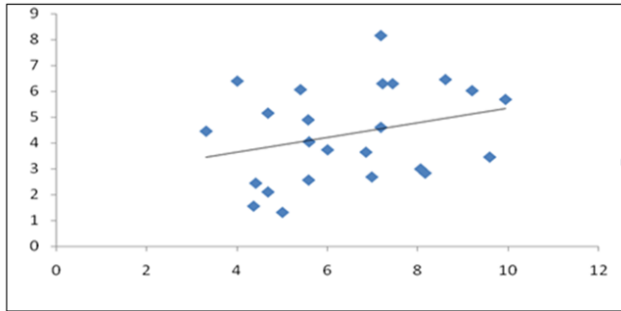


Figure 4.8: Regression for Market capitalization on incentives

Table 4.17: 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	126	0.001	0.6504	0.5967	0.5507	1.856
assumed							
Equal	variances not	162	0.001	0.6504	0.5967	0.5511	1.852
assumed							

4.2.2.2 T-test for Incentives' Equality of Means

Table 4.18 : 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	

4.2.2.3 T-Test on Market Capitalization

Table 4.19 : 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

4.2.2.4 Correlation Matrix for Stock market performance

Table 4.20: Correlation matrix for stock market performance

		Stock market Index				
		Stock market Index	Tax incentives	Liquidity incentives	Growth incentives	visibility incentives
Pearson Correlation	Tax incentives	1	-0.321	0.278	-0.02	
Sig. (1-tailed)	Tax incentives	.	0.019	0.037	0.108	0.108

N					
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4.2.2.5 Model Summary (ANOVA)

Table 4.21: ANOVA Summary

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

4.2.2.6 Distribution for Stock market performance and Incentives

Table 4.22 : Regression Summary for Stock market performance

Data		Statistic	Std.Error
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	

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

		Statistic	Std.Error
Kurtosis		-1.06	0.992

4.3.3 Market Capitalization
 4.3.5.1 Market Capitalization Model
 Table 4.23 : Market Capitalization Model Summary

a. Predictors:

(Constant), Tax incentives, 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	T	Sig.
		B	Std. Error	Beta		
		1	(Constant)	-1.215		
	Tax incentives	0.07	0.070	-.055	-1.00	.348

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			