### THE IMPACT OF THE GHANA STOCK EXCHANGE ON THE PERFORMANCE OF AN INSURANCE COMPANY IN GHANA

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#### ABSTRACT

This study was investigated based on a well-known insurance company in Ghana listed on the Ghana Stock Exchange. The general objective of this research is to determine the extent to which the Ghana Stock Exchange has influenced the performance of an Insurance Company . Statistical and mathematical tools were employed to bring out an extensive analysis of the data. . This was done with the aid of regression analysis. In the general analysis the conclusion drawn is that the Ghana Stock Exchange has had a positive impact on the performance of the insurance Company , it was established that a positive relationship existed between the profit after tax of the insurance company and the stock price at the market, hence a positive impact. Among other recommendations, the study recommended that the Insurance Company should come together with the other well established insurance companies to hold discussion with government to enhance the collective base of insurance companies.

### **Background of the Study**

Insurance can be defined as the equitable transfer of risk of a potential loss, from one entity to another, in exchange for a premium and duty of care. In law and economics it is a form of risk management primarily used to hedge against the risk of catastrophic financial loss. (Wikpedia, the free encyclopedia). In some sense, we can say that insurance appears simultaneously with appearance of human society, that is, it is the human society which has indirectly necessitated the existence of insurance. There are two types of economies in human societies: money (with markets, financial instruments and so on). The second type is more ancient form than the first. In such a type of economy or community the purpose of insurance is used to serve a more ancient usage.

In those times if ones house is fired down, the members of the respective communities contribute to build a new one. Thus, every individual is compelled to help his neighbor, so that similar help may be reciprocated to them in time of need. This type of insurance is still prevalent in some countries where modern money economies with its financial instruments are not so widespread (for example countries on the territory of the former Soviet Union).

Insurance can also be looked at in modern sense (insurance in modern money economy, insurance as a part of financial sphere). Early methods of transferring or distributing risk were practiced by Chinese and Babylonian traders as long ago as the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BCE (Before Christ Existed) Chinese merchants traveling Treacherous River Rapids would redistribute their wares across many vessels to limit the loss due to any single vessel capsizing. The Babylonians developed a system which was recorded in the famous code of Hammurabi, 1750 BC and practiced by early Mediterranean sailing merchants. If a merchant received a loan to fund his shipment, he would pay the lender an additional sum in exchange for the lenders guarantee to cancel the loan should the shipment be stolen.

Separate insurance contracts (i.e insurance policies not bundled with loans or other kinds of contracts) were invented in Genoa in the  $14^{th}$  century, as were insurance pools backed by pledges of landed estates. These new insurance contracts allowed insurance to be separated from investment, a separation of roles that first proved useful in marine insurance. Insurance became far more sophisticated in post – Renaissance Europe, and specialized varieties developed.

Towards the end of the seventeenth century, the growing importance of London as a center for trade led to raising demand for marine insurance. In the late 1680's, Mr. Edward Lloyd opened a coffee house which became a popular haunt of ship owners, merchants and ship captains, thereby a reliable source of the latest shipping news. It became a meeting place for parties wishing to insure cargoes and ships, and those willing to underwrite such ventures. Today Lloyd's of London remains the leading market for marine and other specialist types of insurance but it works rather differently than the more familiar kinds of insurance.

Insurance as we know it today can be traced to the Great Fire of London, which in 1666 devoured 13,200 houses. In the aftermath of this disaster a person by the name Nicholas Borbon opened an office to insure buildings. In 1680 he established England's first Fire Insurance Company. "The Fire Office", to insure bricks and frame homes.

The idea of establishing a Stock Exchange in Ghana lay on the drawing board for almost two decades prior to its implementation. In February 1988, the issue of establishing a stock exchange moved a higher gear when a 10 member National Committee, under the Chairman of Dr. G. K. Agama, then Governor of the Bank of Ghana, was set up by the Government.

The work of the committee was to consolidate all previous work connected to the Stock Exchange project and to fashion out modalities towards the actual establishment of the Exchange. As a result of the work of the committee, the Stock Exchange was established in July 1989 as a private company limited by guarantee the Companies Code,1963.It was given recognition as an authorized Stock Exchange under the Stock Exchange Act of 1971 (Act 384) in October 1990. The Council of the Exchange was inaugurated on November 12, 1990 and trading commenced on the floor the same day. The Exchange, changed its status to a public company limited by guarantee in April 1994.

Similarly, in the United States, the first insurance company provided fire insurance and was formed in Charles Town (modern - day Charleston), South Carolina, in 1732. A person by the name Benjamin Franklin helped to popularize and make standard the practice of insurance, particularly against fire in the form of perpetual insurance. In 1752, he founded the Insurance of Houses Philadelphia contribution for the from loss bv fire. (http://www.contributionship.com ). Franklins Company was the first to make contributions toward fire prevention. Not only did his company warn against fire hazards, it refused to insure certain building where the risk of fire was too great, such as all wooden houses.

Generally, in a country like the United States, regulation of the insurance industry is highly balkanized, with primary responsibility assumed by individual state insurance departments. Whereas insurance markets have become centralized nationally and internationally, state insurance commissioners operate individually, though at time concert through a national insurance commissioner's organization. In recent years, some have called for a Federal regulatory system for insurance similar to that of the banking industry.

### Statement of the problem

The insurance is one of the well established in the insurance industry in Ghana, having been in. The insurance company is one of the leading insurer in fire, marine, motor and general accident. The insurance company has been involved in insurance since the beginning of some of the greatest landmarks of Ghana's history. Their greatest assets are the good will they enjoy as a result of the excellent services they have rendered to corporate Ghana over the years, their unmatched experience on the Ghanaian market, financial strength and excellent international relationship. The problem that is being studied is the insurance company has a better growth potential compared to other insurance companies which are not listed on the Ghana Stock Exchange.

## **Objectives of the study**

The general objective of this research is to determine the extent to which the Ghana Stock Exchange has influenced the performance of an insurance over a stipulated number of years. The following specific objectives would also be address:

- To investigate whether the Ghana Stock Exchange has had a positive impact on the company
- To investigate the challenges and benefits faced by the company over the years.
- To investigate whether the growth of the company is linked to economic situation of Ghana
- To investigate the opportunities for growth.
- To investigate the growth of equity of shareholders

# Hypothesis

A1. The Ghana Stock Exchange has had a positive impact on the performance of the insurance company.

A2. The Ghana Stock Exchange has had a negative impact on the performance of an insurance company

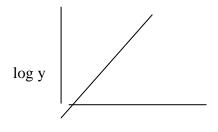
# Methodology

Statistical and mathematical tools were employed to bring out an extensive analysis of the data. An investigation was done to investigate whether the share price at market has had a strong impact on the profit of the company over a period of time This was done with the aid of regression analysis, for example, if y is the dependent variable and x, the independent variable, we can plot y (vertical axis) against x (horizontal axis) to investigate whether there is a linear relationship between x and y

In regression analysis we have the exponential function and the power function. Depending on the nature of the data we can investigate whether the data constitutes an exponential function or a power functions. If the data is of the form of an exponential function it will take the form

y =  $ae^{bx}$ (take logs of both fides) log y= log ( $ae^{bx}$ ) log y= log  $a + \log e^{bx}$   $log y = log a + b x log_e e$ But log\_e = 1 Hence log y = log a + bx

If log y is plotted against x the slope of the function b, can be estimated.



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The data obtained in this research was of a form of a power function.

 $y = ax^{C}$ log y= log ax<sup>c</sup> log y = log a + log x<sup>c</sup> log y = log a + c logx

log y was plotted against log x to established the type of relationship which is likely to exist between logy and log x, log a is the intercept, the slope c may also be found from the graph Data was collected from the key sections of the company by means of interview and access to already existing data at the business development section. From the finance section the following information was obtained: The share price of the company at market price, profit after tax of the company , earning per share (EPS), dividend per share (DPS), price earning ratio and return on equity (%) (ROE). All the values were obtained over a ten years p

### **Research Findings**

The research findings from the finance section proved more useful for the study in this section.

The values are represented in table one. Table two also provides the performance of the company for a period of 16 days.

I able I										
Years	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Share Price at market price	954	2,010	1,880	2,700	3,050	4,600	10,500	8,000	6,856	8,818
Profit After tax(millions)	1,432	1,864	2,297	2,848	4,094	5,896	7,632	8,375	18,454	18,206
Earning per share (EPS)	28	6353	459	570	817	1,176	1,522	328	717	695
Dividend per share (DPS)	100	120	145	180	220	270	320	70	300	250
Return on equity	13	13	16	18	19	19	16	8	21	18

Table 1

(ROE) %										
Price-	3.33	5.69	4.09	4.73	3.73	3.91	6.89	24.39	9.56	13
Earning										
Ratio										

#### Table 2

DATE	PRICE (¢)	CHANGE (¢)
10 - 05 - 07	9,412.00	1.00
11 - 05 - 07	9,420.00	8.00
14 - 05 - 07	9,421.00	1.00
15 - 05 - 07	9,421.00	0
16 - 05 - 07	9,421.00	0
17 - 05 - 07	9,423.00	2.00
18 - 05 - 07	9,423.00	
19 - 05 - 07	9,425.00	0
21 - 05 - 07	9,501.00	2.00
22 - 05 - 07	9,300.00	1.00
23 - 05 - 07	9,500.00	74.00
24 - 05 - 07	9,501.00	0
28 - 05 - 07	9,501.00	1.00
29 - 05 - 07	9,503.00	2
30 - 05 - 07	9,503.00	0
31 - 05 - 07	9,503	0

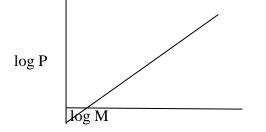
To make this research meaningful, a study can be conducted to ascertain whether the stock exchange really has an influence on the performance of the insurance company. Most often than not it is profit in a particular business venture which will determine whether the company is moving forward or not since the prices of the shares at the market prices all tend to have an influence on the company, a relationship may be investigated to determine whether there is a correlation between the share price at the market (¢) price and the profit after tax (¢).

## Table 3

YEAR	SHARE PRICE AT MARKET PRICE (¢) (M)	PROFIT AFTER TAX (¢) (P)	log M	log P
1997	954	1,432	2.98	3.156
1998	2,010	1,864	3.30	3.270
1999	1,880	2,297	3.27	3.361
2000	2,700	2,848	3.43	3.454
2001	3,050	4,094	3.48	3.612
2002	4,600	5,896	3.66	3.770
2003	10,500	7,632	4.02	3.883
2004	8,000	8,375	3.90	3.923
2005	6,856	18,454	3.84	4.266
2006	8,818	18,206	3.95	4.260

The values for the share price at the market and the profit after tax are obtained from table 1. Let the share price at the market be denoted as M and the profit after tax be denoted as P.

Since the data values for both the share prices and the profits after tax are large values they can be converted into logs to make their manipulations much more simple. This will reduce their sizes. Any data value can be obtained by finding their anti logs. If log P is plotted against logM. There is a positive relationship between the share price of the company at the market price and profit after tax. Hence profit has been giving a positive contribution to the company as a result of the share price at the market. If we plot log P on the vertical axis against log M on the horizontal axis the general deduction is that, as the market share price increases, the general profit after tax also increases.



The general equation takes the form of a power function.

 $P = a M^{C}$  (3.2)

Take logs on the L.HS (Left Hand Side) and R.HS (Right Hand Side)

log P = log (a M<sup>C</sup>)log P = log a + log M<sup>C</sup> log P = log a + c log M (3.3)

Where c represents the gradient and loga represents the intercept. Since log P is on the vertical axis, it is analogous to the conventional y - axis and may be denoted as y. also log M is on the horizontal axis and it is also analogous to the conventional x-axis and may be denoted as x.

Further analysis employs the use of Statistical package for Social Science Students (SPSS). The values in the table displayed below are as a result of the use of this package.

#### Regression Variables Entered/Removed (b)

Mode	Variables	Variables				
1	Entered	Removed	Method			
1	logM(a)		Enter			

a All requested variables entered.

b Dependent Variable: logP

# **Model Summary**

				Std. Error
Mode			Adjusted	of the
1	R	R Square	R Square	Estimate
1	.910(a)	.827	.806	.172980

a Predictors: (Constant), logM

# ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regressi on	1.147	1	1.147	38.316	.000(a)
	Residual	.239	8	.030		
	Total	1.386	9			

a Predictors: (Constant), logM

b Dependent Variable: logP

# **Coefficients (a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confide for	
		В	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constan t)	007	.601		011	.991	-1.392	1.378
	logM	1.033	.167	.910	6.190	.000	.648	1.418

a Dependent Variable: logP

# Correlations

		logP	logM
logP	Pearson Correlation	1	.910(**)
	Sig. (2- tailed)		.000
	Ν	10	10
logM	Pearson Correlation	.910(**)	1
	Sig. (2- tailed)	.000	
	Ν	10	10

\*\* Correlation is significant at the 0.01 level (2-tailed).

According to the table log a is -0.007 and the coefficient of log M is 1.033.

The general equation can be represented as  $\log P = -0.007 + 1.033 \log M$  which is analogous to

 $\log P = \log a + c \log M$ 

This implies C = 1.033, the antilog of -0.007 gives 0.9840.

The equation of straight line in this case is (3.4) y = Bo + B1x, that is y=0.007 + 1.03 x (3.5)  $B_1 = 1.033$ .

Referring to the above, Pearson Product Moment Correlation Coefficient in the table gives 0.910, thus, there is a strong positive correlation between log P and log M.

The correlation is also significant at 0.01 (1%) level (2 tailed). Hence, there is an overwhelming evidence to infer that the two variables are log linearly related positively. It can therefore be said that the stock exchange has a strong influence on the performance of EIC. The coefficient of determination  $R^2$  is .827 or 82.7%. The regression analysis based on  $R^2$  indicates that 82.7% of the variation of the profit after tax of the market could be ascribed to the variation in the share price at the market.

Before analyzing the implications of the findings some very important terminologies must be explained.

# **IMPLICATION OF FINDINGS**

The variable  $B_1$  which is equal to 1.033 is the market beta coefficient, which measures how sensitive the profit after tax of the company in relation to the overall share market price. In this case  $B_1>1$  implying that the profit after tax is more sensitive to changes to the overall share price of the market. Hence a 1% increase in the share price will cause the profit after tax to grow by 1.033%.

Similarly a 1% decrease in the share market price will produce 1.033% decrease in the profit after tax. Generally, if the market beta coefficient  $(B_1)$  is greater than one it tends to be more volatile than the market price and less than one implies less volatile than the market price. Since the market beta coefficient is greater than one the asset may be said to be an aggressive asset such assets tend to have more (systematic) risk than the overall market.

The coefficient of determination measure the proportion of the total risk that is market related. According from the information obtained as result of the use of SPSS, 82.7% of companys' profit after tax is explained by the variation in the share market price, this represents the systematic risk. The remaining 17.3% is the proportion of risk that is associated with events specific to EIC rather than the market this is the unsystematic risk.

In the case of the insurance company, the systematic risks may be government changes in interest rate policy, increase in the corporate tax, massive deficit financing and increase in the rate of inflation. These risks arise on account of the economy wide uncertainties and certainties of individual securities to move together with changes in the market. This part of risk can not be removed through diversification.

The remaining 17.3% is the proportion of the risk that is associated with the events specific to the company, these arecompanys' sales force, effectiveness of the managers of the company ,the various departments, nature of the products offered. This part of the risk can be diversified by creating a portfolio of stocks.

### Share price of the Insurance Company for a period of sixteen days

Referring to table 2, the share prices of the company were monitored for a period of sixteen days during the year 2007 and the average share price computed. The total amount of all the share price as recorded by GSE for the period of sixteen days is ¢151,300. The average share price is computed as  $\underline{}$ ¢151.303 = ¢9,456.44.

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It may also be observed from the table that on the whole the share prices did not change much. The most pronounced change was  $\phi$ 74.

### **Financial ratios**

### Return on equity (ROE)

Common or ordinary share holders of the company are entitled to residual profits. The rate of dividends to shared holders or retained in the business. Never the less, the net profit after taxes represent their return. A return on the share holder's equity within the company represents the profitability of the owners investment. The return on share holder's equity is net profit after taxes divided by share holders equity.

 $ROE = \frac{\text{profit after taxes}}{\text{Net Worth}} = \frac{PAT}{\text{NW}} (3.9)$ 

Return on Equity (ROE) indicates how well the company has used the resources of owners. It is one of the most important ratios in financial ratio analysis. In the case of the insurance company the earning of a satisfactory return is the most desirable objective of the company. This ratio is of great concern to prospective share holders and management, which tries to maximize the owners welfare. With reference to table one, the ROE of the company has been quite impressive most of the values range between 15% and 19%. The highest value was in 2005 at 21% and the lowest value was 13% in 1997.

### Earning per share (EPS)

(4.0)

EPS = <u>Profit after tax</u> Number of common shares outstanding

The earning per share (EPS) according to table one was on a steady rise from &pma286 in 1997 to &pma21,522 in 2003 fell drastically to &pma288 in 2004 picked up again to &pma2717 in 2005 and fell slight to &pma2666 in 2006. Thus, the earning per share has not been systematic.

# **Divided Per Share (DPS)**

The net profit after tax belongs to share holders. But the income which they really receive is the amount of earnings distributed as cash dividends. In the company dividend paid out to share holders consistently increased from 2002 to 2005, reaching its peak at ¢77,26,561,800 and falling to ¢ 65,45,281,000 in 2006. calculations on the dividend per share may be found in appendix V.

### **Price Earning Ratio (PER)**

The price earning ratio can be said to be the reciprocal of the earning yield.

Price Earning Ratio	=	Marke	et Value Per Share
			Earning Per Share
		=	<u>MV</u> (4.1)
			EPS

It can also be computed as the ratio of the current stock to the current years annual EPS, that is

(4.2) 
$$P/E = \frac{P_0}{EPSo}$$

The insurance company for a decade has been behaving in an undulating manner when it comes to the price earning ratio of the company (refer to table one), for the year 1997 it was 3.33, it then rose to 5.61 in 1998, came down to 4.09 in 1999 rose to 4.73 in 2000, fell to 3.73 in 2001 and rose again to 3.91 in 2002 and continued to rise to 24.39 in 2004, fell again to 9.56 in 2005 and rose to 13 in 2006.

# Pay out ratio

The pay out ratio will help us to estimate the growth in equity.

Pay out ratio = <u>Dividend Per Share</u> = DPS (4.3)Earning Per Share EPS

Earning not distributed to share holders are retained in the company. This represents the retention ratio. The retention ratio is 1 - payout ratio. (4.4)

(retention ratio) x (return on equity) = growth in owners equity. (4.5)(Refer to appendix 6 for detailed calculations)

According to table one the earning per share and the dividend per share have been growing for example, according to table one and for the bear 1997 the earning and dividend per share are ¢286 and ¢100 with a retention ratio of 66%. In 1998 the earning and dividend per share are ¢353 and ¢120 with a retention ratio of 66.01% (appendix V I). An increase in the earning per share and dividend per share in 1999 to ¢459 and ¢145 caused the retention ratio to move further up the ladder to 68.41%. For the year 2006 the earning and dividend per share are that ¢570 and ¢180 (table one) with retention ratio being 64.03% (appendix VI).

# **CONCLUSION**

Throughout this study the objective has been to establish the impact of the Ghana Stock Exchange on the performance of the insurance company. Various mathematical statically and financial approaches have been used to draw the right conclusion.

In this research we began by looking at the history of insurance company, type of insurance, contributions of insurance and how the stock exchange actually works. In the general analysis the conclusion drawn is that the Ghana Stock Exchange has had a positive impact on the performance of the insurance company , after employing regression analysis it was established that a positive relationship existed between the profit after tax of the company and the stock price at the market, hence a positive impact. Thus the Stock Exchange has influenced the company positively. The various financial analysis and the statistical approach employed put emphasis on the already established truth..

Economic indicators have also contributed to the progress of the company. Economic indicator for the year continued to move in the right direction with inflation and interest rates dropping. The Ghanaian economy continued to make firm inroads on the international front in 2006. For the first time since 1992, the Ghanaian economy grace by 6.2%, propelled by growth in services and industrial sectors. The Central Bank adopted three major policies as a means of improving the banking and finance landscape in the country, the reduction of prime rate from 15.5% to 12.5% the abolishment of the secondary reserve requirements for commercial banks and the redenomination of the Ghanaian cedi in 2007.

The Central Bank in the course of the year implemented an inflation – targeting frame work for inflation management, resulting in a fall in inflation in spite of high crude oil price in the world market. The annual average level of inflation declined steadily from 15.1% December 2005 to 10.9% in December 2006.

In the course of the year there was a steady decline and realignment of interest rates in line with generally declining inflation expectations. The benchmark 91-days Treasury Bill rate declined from 2005' year end level of 11.45% to 9.64%. The stability of the local currency on the currency markets was put to the test against the pound sterling and the euro. Against the pound sterling and the euro on the inter bank market the cedi depreciated by 13% and 11% respectively a far cry from its performance in 2005, contrastingly, the cedi's resilience against the dollar in 2006 was admirable. The cedi depreciated against the dollar by 1.3% on the inter bank market and this could be explained by the increased inflow of non reciprocated transfers. The favorable economic indicators no doubt has an implication on the favorable performance of the company.

## RECOMMENDATION

As the first insurance company in Ghana and the only insurance Company listed on the Ghana Stock Exchange EIC has performed credibly well in the insurance industry. Nevertheless, there is more room for expansion and improvement in scale of operations and performance.

Enterprise Insurance Company (EIC) over the years has been involved in staff development this concept can be upgraded by setting up policies to develop staff which are comparable not only to the local insurance market but matching the outside world in terms of insurance delivery or service. That is, staff development should be channeled toward meeting the outside insurance sector, hiring of staffed should be geared towards applicants who are mathematically oriented this will enable them to sit for the SOA (Society of Actuaries) professional examination or CAS (Casualty Actuarial Society) professional exams.

Enterprise Insurance Company (EIC) should come together with the other well established insurance companies for example Vanguard Assurance Company to hold discussion with government to enhance the collective base of insurance companies. That is a law has to be enforced making it compulsory for almost all legal properties for example house to be ensured. In addition the financial sector, that is the banks and the insurance sector should hold talks with the government to promote the mortgage system across the country. This, however, should be done in a realistic way, that is mortgage house should cost an equivalent rent to the actual cost of the house that an individual would have spend if he/she were to get a loan from the bank. Such houses should have an insurance cover. This in the long ran will promote the insurance industry.

Local branches of EIC is quite small, hence the company should endeavor to increase the branches across Ghana. After this has been done it should be the ambition of EIC the pioneer of the insurance companies within Ghana to expand into more African countries for example Nigeria. However before this is done they should study their potential within that country.

Enterprise Insurance Company may also develop a policy in which a platform can be created to help the underprivileged which in the long-run can also promote the growth of the company. The company may call this policy, Episcopal policy. This is because with this policy the pool of resources is from the members of any Christian organization .Members of church may invest in this policy and earn interest on the amount invested depending on the number of years invested. EIC will take their money and invest it into a profitable venture. Interest accrued from this invested amount is added to the amount originally invested by the investor while the company still makes their profit.

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