

## DETERMINANTS OF PROFITABILITY OF INSURANCE FIRMS IN GHANA

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### ABSTRACT

*The general objective of the study is to find out the determinants of the profitability of insurance firms in Ghana. Secondary data on financial reports were collected from sixteen insurance firms in Ghana for the period 2005 to 2010. The study was quantitative in nature. It adopted the longitudinal time dimension, specifically, the panel method and ordinary least square regression. The study discovered that, apart from tangibility which has a negative relationship, there is a positive relationship between leverage, liquidity and profitability of insurance firms in Ghana. It was also concluded that, the profitability model adopted has been explained in respect to all the independent variables and that the degree of error is less than 20%. Finally, it is suggested that the explanatory variables used in this study should be regressed on Return on Equity to find their extent of relationship on profitability.*

**Keywords:** Determinants, Profitability (Return on Assets), leverage, liquidity and Tangibility.

### 1.0 introduction

The financial system comprises of financial institutions, financial instruments and financial markets that provide an effective payment, credit system and risk transfer and thereby facilitate channelizing of funds from savers to the investors of the economy. According to Frederic S. Mishkin & Stanley G. Eakins (2009), financial markets and institutions not only affect your everyday life but also involve huge flows of funds – trillions of dollars-throughout our economy, which in turn affect business profits, the production of goods and services, and even the economic well-being of countries other than the United States. Indeed, a well-functioning financial markets and institutions are one of the most important key factors in producing high economic growth, and poorly performing financial markets and institutions are one of the reasons that many countries in the world remain desperately poor.

Every firm is most concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line. Profitability measures are important to company managers and owners alike. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors. There has been a growing number of studies recently that test for measures and determinants of firm profitability. Financial industry's profitability has attracted scholarly attention in recent studies due to its importance in performance measurement. However, in the context of the Insurance sector particularly in developing countries or emerging markets like Ghana it has received little attention.

According to a study conducted by Ahmed et al (2011) on the determinants of performance, it indicated that size, risk and leverage are important determinants of performance of life insurance companies of Pakistan. According to their study Return on Asset (ROA) has statistically insignificant relationship with growth, profitability, age and liquidity. According to Wright (1992), due to the unique accounting system used by life insurance companies, profitability of the industry has always been difficult to measure as compared with other financial institutions or corporations. For insurers, profitability is affected by a host of factors including actual mortality experience, investment earning, capital gains or losses, the scale of policyholder dividends, and federal and state taxes. Kasturi (2006) argued that the performance of insurance company in financial terms is normally expressed in net premium earned, profitability from underwriting activities, annual turnover, return on investment and return on

equity. These measures can be classified as profit performance measures and investment performance measures.

Kallhoefer and Salem (2008) examined the non performing loans and the profitability of the Egyptian banking sector, especially income related problems in public banks. The profit measures used to analyze this is a banks specific version of the DuPont ROE scheme as suggested by Schierebeck. Compared to other approaches, it provides a well-organized insight into the profitability structure of a bank, using the published data from the financial statement. Lim (2008), analyses the efficiency and profitability of Japanese banks from 2000 to 2006. The data, which are presented in terms of core profit, average Return on Assets (ROA), Return on Equity (ROE), and net interest margin, indicate the low level of profitability of Japanese banks.

Insurance firms in Ghana now fall into three categories: Life Insurance (includes life savings, accident indemnity, hospitalization Insurance and many others), Non-Life Insurance ( includes fire, consequential loss, household policy, burglary, public liability policy and many others) and Composite Insurance (a combination of Life and Non-Life insurance). Intermediaries in the insurance industry in Ghana are brokers, loss adjusters, actuarial firms and agents. The National Insurance Commission (NIC) is the sole institution that has been mandated to regulate and supervise insurance activities in the country under the Insurance Act 724, 2006. Globally, at the earlier stages of the insurance industry, insurance was to provide the mechanism for risk transfer but now the sector helps in channelling funds in an appropriate way to support the business activities in the economy. The same is in Ghana today. Insurance industry is now seemed to be making profit and attempts should be made in Ghana to find out their profitability determinants. However, the details on insurance systems vary from one country to another. Nonetheless, a common feature known as redistributive financing is evident among all insurance systems. This feature is based on the notion in which a large number of individuals are charged to be able to cover up the costs of their medical health services, in spite of the actuality that high payers are often low users of healthcare and the high users are likely to be those low payers (Glaser, 1991). This is the case of all insurance services provided by all insurance firms. The large numbers help insurance firms to redistribute losses to a large range of people when even the magnitude of the loss is huge. Based on empirical evidence, the view is that there is a high correlation between the economic growth rates and the savings ratio of developing countries. There is therefore the need for government and the National Insurance Commission (NIC) to be more innovative to ensure the financial viability of the industry while unleashing the Insurance Industry's tremendous potential through the liberalization of the investment premium, so that the bulk of the funds are invested in longer-term productive instruments while maintaining the financial soundness of the insurance companies.

Some developed countries have seen significant improvements in their economic fortunes and this can be partly attributable to the emergence of the insurance industry. In such countries major sources for mobilizing funds, has made huge investments that have facilitated the development of such nations. Insurance companies are the basic long-term financial institutions because they have access to a vast potential of long term funds. If properly managed, these funds could provide a formidable pool of long-term funds for industrial investment. Discrepancies in the payment of insurance claims arise due to the lack of understanding of insurance products by the insured. Bureaucracy is sometimes a problem in the industry because administrative approvals for instance, take longer than they should. This can be curbed through the collaborative effort of the companies and the insuring public to enhance transparency and efficiency. Often times, many of the insuring public failed to painstakingly read and understand the policies bought, hence when their expectations are not met, they lose confidence in the entire business of insurance and thinks insurance firms dupe them for profit. According to Nguyen (2006) profitability is one of the most important objectives of financial management because one goal of financial management is to maximize the owner's worth, and profitability is very important determinants of performance.

In Ghana work done on determinants of banks far outweighs insurance. In fact little effort has been made to find out the determinants of profitability of insurance firms in Ghana. In recent times the number of insurance firm's keep increasing and those already in existence keep expanding but not much has been done to determine what fuels the increasing number of insurance firms in Ghana. Again insurance firms are now seemed to be engaged in promotions to attract prospective clients and to tell the general public how reliable and dependable they are in settling claims. If not all most of them now pay claims on time. However little or no attention has been given to the profitability determinants of insurance firms in terms of research particular in developing countries like Ghana. Review of literature suggests that most of the study on firms profitability has been done in the banking sector globally than can be said about the insurance industry. It is clear from the above that, the determinants

of profitability has been significantly under researched in the insurance sector globally specifically in developing countries like Ghana. The focus of this research is to address this gap by determining some of the determinants of profitability of insurance firms in Ghana to help insurance firms increase profitability and investors to predict Ghana's insurance firms profitability. This study, therefore sought to find out the determinants of profitability of insurance firms in their quest to manage risk.

**2.0 Methodology**

**2.1 Research Design**

This study is quantitative and has adopted both descriptive and inferential statistics using exploratory study. The total population of this study is all insurance firms in Ghana. This was to afford the researchers the opportunity not only to know the number of insurance firms in Ghana and the types of product they offer but also what determines their profitability. However, Punch (1998) stated that, one cannot study everyone; everywhere, and everything, so sampling decisions are required not only about which people to interview or which events to observe, but also about settings and processes. The convenient sampling technique was used. The aim was to select insurance firms operating in Ghana which financial statements can be made available by the National Insurance Commission. A sample of 16 insurance firms was used. This was due to the easy accessibility of retrieving available financial statement. Again it was to ensure a proportional representation of the types of insurance firms in Ghana.

**2.2 Source of Data Collection and Data Management**

The study is explorative in nature and therefore the information presented is based on secondary data collected from the National Insurance Authority. The information on selected Insurance firms in Ghana was collected for the period 2005 to 2010. This study shows the extent of relationship that exists between the dependent variable (profitability) and the explanatory variables (leverage, tangibility, size, liquidity, risk, and growth). After the computation of values from the financial statements of the respective years, it pave way to have a good cross sectional and longitudinal data which aided the multiple regression. The Ordinary Least Square Regression was used to determine whether there is a relationship between the profitability in this study Return on Assets in Ghana insurance firms and leverage, tangibility and liquidity. Due to the time series nature, panel data methodology was used to enable the researchers have a good result.

**2.3 Model Specification, Estimation and Tests**

The following are the independent variables used: *Leverage, Tangibility, Liquidity, Growth, Size and Risk*.

**Table 1** Expected Relationship between Return on Asset of Insurance firms and Determinants

| Determinants | Expected Relationship |
|--------------|-----------------------|
| Leverage     | Positive              |
| Tangibility  | Positive/Negative     |
| Size         | Positive              |
| Liquidity    | Positive              |
| Risk         | Positive              |
| Growth       | Positive              |

According to William G. etal (2010) model building involves specifying relationships between two or more variable; perhaps extending to the development of descriptive or predictive equations. In order to achieve the objectives of this research study, the researchers developed a model using Return on Assets against a set of explanatory variables that the researchers believe can explain the profit levels of insurance firms in Ghana. The model is shown below;

$$ROA = \_0 + \_1 (LG) + \_2 (TA) + \_3 (SZ) + \_4 (LQ) + \_5 (RK) + \_6 (GR) + \_e$$

Where:

ROA=Return on Assets = (Net income before interest and tax divided by total assets)

LG = Leverage (Total debts divided by total assets), TA = Tangibility (Fixed assets divided by total assets), SZ = Size (Log of premiums earned), LQ = Liquidity (Current assets divided by current liabilities), GR = Growth (Percentage change in premiums earned) and e = the error term or residual.

### 3.0 Empirical Results and Discussions

This section gives detailed information on the findings of the study and detailed discussion on the dependent variable relationship to the independent variables.

#### 3.1 Discussion of Results

**Table 2 Descriptive Statistics**

|                 | Minimum  | Maximum  | Mean    | Std. Deviation | Variance |
|-----------------|----------|----------|---------|----------------|----------|
| Return on Asset | -9.96    | 30.70    | 8.3018  | 7.01411        | 49.198   |
| Leverage        | 4.37     | 97.64    | 58.3631 | 17.52117       | 306.991  |
| Tangibility     | 0.47     | 67.49    | 16.9638 | 15.72553       | 247.292  |
| Liquidity       | 0.45     | 5.11     | 1.5723  | 0.83954        | .705     |
| Size            | 32450.00 | 88439799 | 1619150 | 16941512.4     | 2.87     |
| Risk            | 0.01     | 1.63     | 0.2024  | 0.33385        | .111     |
| Growth          | -3.54    | 86.80    | 32.7693 | 22.32561       | 498.433  |

Profitability is defined as the level of returns from profit. In this study the level of profitability is defined in terms of Return on Assets (ROA) of insurance firms in Ghana. The Return on Assets is used as dependent variable against a set of independent variables. These independent variables are leverage, tangibility, liquidity, size, risk and growth. Return on Assets measures the returns in the total assets of a firm in this case of insurance firms in Ghana. It is expected that the higher the returns of a firms return on assets the better the effect will be on insurance firms' profitability. From the study conducted ROA has a minimum of -9.96% and maximum value of 30.70%. This implied that, insurance firms return on assets per the descriptive statistics decreases by 9.96% when its fails to generate positive results. When return on assets yields maximum returns, insurance firm's maximum returns from their assets is 30.70% meaning profitability of insurance firms in Ghana will be increased by 30.70%. Again from the descriptive statistics, the average return from assets of insurance firms in Ghana is 8.30% with a dispersion of 7.01%. This indicates that the variations of insurance firms in Ghana returns on assets will not be increased above 15.31%. However as showed in the descriptive statistics in table 4.1 some insurance firms may run at least a return of 1.29% and this will result in their profitability increasing at a decreasing rate.

##### 3.1.1 Leverage

Leverage is defined as total debts divided by total assets. The leverage in this study is defined as total debts divided by total assets. This study used leverage as one of the determinants variables of profitability of insurance firms in Ghana. From the descriptive statistics insurance firms in Ghana total debts as a proportion of their total assets ranges from minimum of 4.37% to 97.64%. This shows that insurance firm's total debts to their asset are at a minimum of 4.37% and at a maximum of 97.64%. This indicates that the variations of insurance firms in Ghana as debt to assets will not be increased above 93.27%. However as showed in the descriptive statistics some insurance firms may run at least a debt of 40.84% of their total assets. This indicates that insurance firms are lowly geared or leveraged and this will make insurance firms attract more clients and at the end increase their premiums and this will eventually translate to high profit level.

##### 3.1.2 Tangibility

Tangibility is defined in respect to the model as the ratio of fixed assets to total assets. From the descriptive statistics above insurance firms fixed assets at least constitute 0.47% and at most 67.49%. However the variability of insurance firms with respect to their fixed assets to total assets is 67.02%. The dispersion of fixed assets to total assets is 16.96%. By the descriptive statistics insurance firms fixed assets does not exceed 68% of their total assets. This means that insurance firms have assets that can be used for more than one accounting year to generate revenue. Insurance firms have fixed assets to generate profit over a long period.

##### 3.1.3 Liquidity

Liquidity has been defined in the model as the ratio of current assets to current liabilities. According to the descriptive statistics table insurance firm's current assets pay their current liabilities 0.45 times and at most 5.11 times. However the variability of insurance firms with respect to their current assets to current liabilities will not

be increased above 4.66 times. The dispersion of current assets to current liabilities is 1.57 times. Insurance firms are able to use their current assets to generate profit.

Table 3. Regression Table

| Model       | Unstandardized Coefficients |            | Standardized C Coefficients | T      | Sig. | Collinearity Statistics |       |
|-------------|-----------------------------|------------|-----------------------------|--------|------|-------------------------|-------|
|             | B                           | Std. Error | Beta                        |        |      | Tolerance               | VIF   |
| (Constant)  | 8.451                       | 3.538      |                             | 2.388  | .020 |                         |       |
| Leverage    | .010                        | .047       | .026                        | .218   | .828 | .922                    | 1.084 |
| Tangibility | -.168                       | .052       | -.377                       | -3.210 | .002 | .918                    | .090  |
| Liquidity   | .580                        | .990       | .069                        | .585   | .560 | .903                    | 1.108 |
| Size        | .029                        | .000       | .047                        | -.396  | .694 | .897                    | .115  |
| Risk        | .340                        | 2.690      | .064                        | .498   | .620 | .774                    | .293  |
| Growth      | .052                        | .038       | .165                        | 1.374  | .174 | .879                    | 1.137 |

Dependent Variable: Return on Asset

Table 4 Model Summary

| Model | R                  | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|--------------------|----------|-------------------|----------------------------|
| 1     | 0.902 <sup>a</sup> | 0.814    | 0.797             | 6.60958                    |

Predictors: (Constant), Growth, Liquidity, Leverage, Tangibility, Size, Risk

Table 5 Analysis Of Variance

| Model      | Sum of Squares | Df | Mean Square | F     | Sig.              |
|------------|----------------|----|-------------|-------|-------------------|
| Regression | 47.900         | 6  | 07.983      | 2.472 | .033 <sup>a</sup> |
| Residual   | 795.937        | 64 | 3.687       |       |                   |
| Total      | 3443.837       | 70 |             |       |                   |

a. Predictors: (Constant), Growth, Liquidity, Leverage, Tangibility, Size, Risk

b. Dependent Variable: Return on Asset

Table 4 tells us about the predictor variables and the method used. Here it can be seen that all the predictor variables explained Return on Assets very well because the R Square value indicates that the model accounts for 81% of variation in Return on Assets making the model a suitable. Again from table 2 above the descriptive statistics reveals all the Variance Inflation Factor (VIF) is less than 2 showing little or no multicollinearity and therefore the model used is not problematic.

### 3.2 Testing Hypothesis

The correlation table below reveals the extent of the relationship between the dependent variable Return on Assets and the independent variables.

Table 6 Correlations

|                 |                     | Return on Asset | Leverage | T tangibility | Li Liquidity | S Size | Risk    | Growth |
|-----------------|---------------------|-----------------|----------|---------------|--------------|--------|---------|--------|
| Return on Asset | Pearson Correlation |                 | 0.061    | 0.400*        | 0.119        | 0.003  | 0.097   | 0.205  |
|                 | Sig.(2-tailed)      |                 | 0.613    | .001          | .324         | .982   | 0.422   | 0.087  |
| Leverage        | Pearson Correlation | 0.061           |          | 0.081         | .048         | -0.077 | 0.270*  | 0.092  |
|                 | Sig.(2-tailed)      | 0.613           |          | .503          | 0.692        | 0.521  | 0.023   | 0.444  |
| Tangibility     | Pearson Correlation | .400*           | -0.081   |               | 0.160        | .000   | -0.250* | 0.152  |
|                 | Sig. (2-tailed)     | .001            | 0.503    |               | .182         | .997   | 0.036   | 0.207  |
| Liquidity       | Pearson Correlation | .119            | .048     | -0.160        |              | 0.091  | 0.265*  | 0.054  |
|                 | Sig. (2-tailed)     | 0.324           | .692     | 0.182         |              | 0.452  | 0.025   | 0.653  |
| Size            | Pearson Correlation | 0.003           | .077     | 0.000         | .091         |        | -0.134  | 0.222  |
|                 | Sig. (2-tailed)     | .982            | 0.521    | 0.997         | 0.452        |        | 0.265   | 0.062  |
| Risk            | Pearson Correlation | 0.097           | .270*    | 0.250*        | 0.265*       | 0.134  |         | 0.210  |
|                 | Sig. (2-tailed)     | 0.422           | .023     | 0.036         | 0.025        | 0.265  |         | 0.079  |
| Growth          | Pearson Correlation | 0.205           | .092     | 0.152         | 0.054        | 0.222  | 0.210   |        |
|                 | Sig. (2-tailed)     | .087            | 0.444    | .207          | .653         | 0.062  | 0.079   |        |

\*. Correlation is significant at the 0.05 level (2-tailed).

**3.2.1 Testing of Hypothesis on Profitability (ROA) and Leverage**

From the regression table the t-calculated significant value for leverage is 0.828 which is greater than 0.05 and with a correlation value of 0.061 ( $r=0.061$ ), we therefore reject the null hypothesis. This shows that there is a relationship between leverage and profitability. However, the extent of the relationship even though positive, it is still insignificant ( $r_{0.05} = 0.613$ ) and that all other things being equal a change in leverage will have a weak effect on profitability. Thus if an insurance company is highly geared or lowly geared there is the likelihood that its profitability will not be much affected by a unit change in leverage. The highly geared means that more than 50% of insurance firm resources are owned by outsiders while lowly geared indicates that the insurance firm resources owned by outsiders are less than 50%.

**3.2.2 Testing of Hypothesis on Profitability (ROA) and Tangibility**

From the regression table the t-calculated significant value for leverage is 0.002 which is less than 0.05, we therefore fail to reject the null hypothesis and conclude that there is no relationship between insurance firm's profitability and tangibility. Again, from the correlation table tangibility has an imperfect or negative significant relationship ( $r = -0.400$ ) with profitability. By implication while tangibility increases, profitability declines and that

other factors are likely to affect profitability. By this inverse significant relationship, a percentage change in tangibility will have significant effect on insurance firm's profitability. All other things being equal any change in fixed assets will affect total assets and this might decrease the level of profitability.

### **3.2.3 Testing of Hypothesis on Profitability (ROA) and Liquidity**

From the regression table the t-calculated significant value for liquidity is 0.585 which is greater than 0.05, we therefore reject the null hypothesis which says there is no relationship between profitability and liquidity. The extent of the relationship as shown in the correlation table indicates positive relationship (0.119) between liquidity and profitability but it is insignificant ( $r_{0.05} = 0.324$ ) and all other things held constant, if current assets pay insurance firm's current liabilities it will have direct impact on profitability but its effect on profitability will be insignificant.

## **4.0 Conclusions**

The study revealed an R square as show in table 4 of 81%. This shows that, the variability in the dependent variable ROA is explained by about 81% of the predictor variables. Furthermore, it was discovered from the multiple regression that, the Variance Inflation Factor (VIF) for all the explanatory variables was not up to two (2) as revealed by table 4 indicating that there is little or no multi-collinearity and that the model used for Return on Assets is not problematic. From the study it was discovered that there is a positive relationship between leverage and profitability. However, the extent of the relationship was insignificant as indicated by the significant value of 0.613 of leverage compared to the alpha value set of 0.05. All other things being equal a change in leverage will have a weak effect on profitability. Also from the study conducted it came out from the correlation table 4.3 tangibility was found to have an imperfect or negative significant relationship ( $r = -0.400$ ) with profitability. Again, from the study it was discovered that, there is positive relationship between profitability and liquidity but the relationship was insignificant. The profitability model adopted has been explained in respect to all the independent variables and that the degree of error is less than 20%. From the study leverage and liquidity had a positive relationship with profitability while as tangibility had a negative relationship with profitability. The researchers suggest that, apart from Return on Assets used in this study to proxy profitability, other researchers should exploit other profitability determinants on the Return on Assets. Again, it is suggested that the explanatory variables used in this study should be regressed on Return on Equity to find their extent of relationship on profitability.

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