

## Effects of Share Pricing on Firms' Performance in Ghana

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### Abstract

This study is designed to examine the effects of share pricing on firm's performance. Net profit earnings of the firm was used as the dependent variable for the study whilst the independent variables constituted some characteristic indicators that can affect the firm's performance such as earnings per share, return on equity, return on assets, return on investments and overheads. Five listed companies namely; the Ghana Commercial Bank, Enterprise Insurance, Mechanical Lloyd, Aluworks Ghana Limited and Standard Chartered Bank were used for the study. A random model was used to test for the effects of the various variables on firm's performance using a panel data. The results show that earning per share was significant and positive in explaining firm's performance whilst return on investment and overheads were significant but negative in explaining firm's performance. Return on assets and return on equity were however, insignificant in explaining firm's performance. it is therefore recommended that firms trade on the stock exchange to attract more shareholders through their share pricing as this will enable them to increase their capital gain as well as the public patronizing not only in their shares but also being part of them and hence patronizing their products since they will have a stake in it.

Keywords: Share pricing, Stock exchange, Capital market, Assets, Financial markets, Floatation

### 1.0 Introduction

A well functioning and efficient financial system is vital to the successful development of a strong and dynamic private sector in support of economic growth. The capital market, of which the stock exchange plays a key role, is an integral part of the financial system, providing efficient delivery mechanisms for savings mobilization, allocation and corporate governance. Also the stock exchanges facilitate government debt management, the conduct of monetary policy and provide a channel for privatization. Prior to 1999, most companies in Ghana did not have the opportunity to trade their shares on an organized exchange. Trading shares was mostly done over the counter market. This created lack of confidence in the capital market system.

In improving liquidity in the capital market, the Ghana stock exchange, one of the premier stock exchanges in Africa, was given recognition as a stock exchange by executive instrument in October 1990 under the Stock Exchange Act 1971 (Act 384).

The Ghana stock exchange was set up with the following objectives:

- To provide the facilities and framework to the public for the purchase and sales of bonds, shares and other securities
- To regulate the dealings of members with their clients and with other members
- To control the granting of quotations on the securities market in respect of bonds, shares and other securities of any firm, corporation, government, municipality, local authority or other corporate

Share price level has been considered very significant primarily as a proxy for market liquidity. Investment in securities is also important to the growth of corporate bodies and a country's economy in general. If the economic environment is ripe and corporate managers have the optimistic expectation about the future, they would normally want to expand. This expansion can take many forms such as an enlarged plant, an increased sales force and the acquisition of more modern and powerful equipment. The appropriate conditions therefore are likely to lead to corporate performance (Mensah 2001)

Financing this expansion often comes about by gaining access to the financial markets through the sale of shares and bonds. Most firms float shares on the stock exchange to:

- Gain easier access to long-term capital;
- Enhance the status of the firm in the community;
- Improve the financial position of the firm;
- Provide incentives for employees

This study empirically investigates how the stock market share pricing affects the performance of the firm. This is realized by studying post-listed era of listed companies. The results would therefore shed more light on how and through what channels the stock market affects firms. It also helps to contribute to the understanding of what circumstances, either positive or negative influence the performance of the firms.

The expectation of a firm choosing a share price by going public means to be listed on the stock exchange market. This listing helps to improve the financial, organizational and managerial position of the firm. Thus, it is expected that capital will be raised more between the firm and the financial market, generate more cash flow and the asset position of the firm will be improved. The ownership structure of the firm can be transferred more quickly and easily than firms that are not listed on the stock exchange.

Employees of these public companies may also be offered extra incentives by granting them share options and also provide customers and suppliers with added reassurance. A firm being listed on the exchange gives the firm a higher profile and also having shares being traded on the stock exchange gives the firm a greater opportunity of acquiring other businesses since shares could be offered as well as cash.

Apart from these advantages there are other significant downsides in becoming a publicly held firm. There could be loss of flexibility and control for management as shareholders interests, which may differ from management's objectives which must be considered when running the firm. Firms that go public also have to comply with a wide range of regulatory policies, requirements and standards of corporate governance. Employees may also become demotivated. Thus, if shares are offered to selected employees, those without the shares may resent those who have them. Also, in addition shareholding employees could feel that there is not enough work left if they are sitting on valuable shares.

Also the financial sectors of these firms are faced with various risks which intend impacts on the performance of these firms listed and the stock exchange as a whole.

Firms often adopt various internal managerial production policies aimed at maximizing profits. Firms, however are not sure which of these means largely determine their performance. It is for this reason that the researcher wants to find out whether share pricing, as a factor, determines firm's performance. This paper therefore, seeks to identify the factors that impact on the performance of the firms listed and to evaluate the performance of the companies listed on the stock exchange, thus post-listings periods

The study will help serve as a source of information to stakeholders about the benefits in being listed on the stock exchange. It will also help bring to light through what channels the stock exchange affects the performance of the firm.

### 2.1 Theoretical Framework

A stock exchange also known as the organized security exchange according to Pearson (1972) is a secondary market for corporate securities. The exchanges essentially provide central market places where individuals and firm members executive buying and selling orders for securities admitted for trading. The existence of good markets where investors can buy or sell outstanding securities has an important, though indirect, effect on the ability of corporations to raise new capital through the sale of securities. Much of the secondary trading in corporate securities takes place on organized security exchanges such as the Ghana Stock Exchange (GSE), Johannesburg Stock Exchange (JSE), and the New York Stock Exchange (NYSE) just to mention a few.

Philip (1988) indicates that a stock exchange is an exchange where companies issue equity to finance their new investment. It is a place where firms issue marketable securities as a means of acquiring other business and owners of other companies who wish to have the option of selling their shares at some future date. All these objectives can be achieved by obtaining a stock listing.

With reference to World Federation of Exchanges (Wikipedia), a stock exchange, share markets or bourse is a corporation or mutual organization which provides facilities for stock brokers and traders, to trade company stocks and other securities as well as other financial instruments and capital events including the payments of income and dividends. The securities traded on a stock exchange include shares issued by companies, unit trusts and other pooled investment products and bonds. To be able to trade a security on a certain stock exchange, it has to be listed there. Usually, there is a central location at least for record keeping, but trade is less linked to such a physical place, as modern markets are electronic networks, which give those advantages of speed and cost of transactions. Trade on an exchange is by members only. The initial offering of stocks and bonds to investors is by definition done in the primary market and subsequent trading is done in the secondary market. A stock exchange is often the most important component of a stock market. Supply and demand in stock markets is driven by various factors which as in all free markets affect the price of stocks.

According to Philips (2001) the stock exchange fulfills two functions. These are the provision of a capital market where investors can be brought together with organizations which require new finance and of a secondary market for existing financial assets which are already held by the investor. This study is concerned with the first function.

However, the primary market is inextricably linked to the existence of a secondary market, as investors are more prepared to acquire new securities if they know their investment will be readily marketable on the stock exchange. Thus, although a new issue market could exist in the absence of a stock market in reality new issues are usually subject to the regulations of the stock exchange as well as the relevant statutory rules.

The BPP Manual (1994) also indicates that the stock market performs two main roles. Firstly, the stock market brings companies and investors together, so that investors can put risk capital into companies. The companies can use the capital that they raise to invest in new capital projects.

Secondly, the stock market provides investors with a means of selling their investment, should they wish to do so, by offering a ready market, in the buying and selling of second hand shares and loan stock.

According to the BPP Manual (1994), floatation is the process of making shares available to the general public by obtaining a quotation on the stock exchange. Floatation is sometimes referred to as “going public” or obtaining a stock exchange listing. According to Philip (1998) companies go public or get listed for the following reasons:

Companies which are unable to generate sufficient capital for expansion from retained earnings or by subscription from their owners must look to outside institutions for new funds. External equity is normally obtainable from two sources, either the company may establish a link with a venture capital organization or it may create new shares which are sold to the public by means of obtaining a stock exchange listing.

A company which has been run as a family concern presents a number of financial problems to its owners which they can overcome by going public. Often the first motivation for obtaining listing is the desire to consume some of the capital tied up in the business by selling some of the shares held by the family.

To diversify the proprietors investment portfolio out of the family business into a wider spread of assets, the owners may wish to alter their level of gearing either because they will be able to borrow more against quoted securities than against unquoted securities or they may wish to reduce their personnel debt by selling some of their shares.

The third reason is that of the marketability of the shares. From the company’s point of view, it is the marketability of its shares that enables it to raise capital by means of a right issue. Marketability also assists companies that want to undertake acquisition of other business, as consideration can then be paid by means of the shares of the acquiring firm.

The fourth reason is enhancing the prestige of the company. The prestige of being a listed company is a supplementary though relatively trivial motive for going public. It is argued that listing adds respectability to the business and that mention in the financial press provides free advertising. Staff recruitment may be aided by this prestige and by the possibility of setting up share incentive scheme.

The empirical literature on when and why companies go public is small relative to the number of papers underpricing and under-performance of newly issued shares (e.g. Lowry and Schwert, 2003, or Ritter and Welch, 2002). However, several reasons have been proposed in the academic literature to explain why companies decide to go public and list on a stock exchange. Roell (1996) documents five reasons why companies decide to go public, among which three were reported by stock market entrants themselves. The first is access to new finance. The motives for new finance include prospects of growth by acquisition, funds for organic expansion, corporate marketing, diversity and development and refinancing of current borrowings. Once public, a company’s financing alternatives are increased. Thus, a publicly traded company can return to the stock market for additional capital via a bond or convertible bond issue or secondary equity offering.

A second reason for going public is enhanced company image and publicity (also by Stoughton Wong, and Zechner (2001). By going public, a company gains prestige, publicity and visibility which are effective in marketing a company and sending a long-term signal to suppliers, workforce and customers. Hence, a public listing reassures suppliers that they can safely grant trade credit to workers that they can expect a fairly stable job and to customers that the product will be supported after their purchase. The publicity that listing on a stock exchange brings can attract the attention of potential partners or merger candidates. Since the financial condition of a public company is subject to the scrutiny of the Securities and Exchange Commission (SEC) reporting requirements, existing or future business relationships are strengthened.

The third reason for listing is to motivate management and employees. This is a natural response to the company’s signal of growth; but more importantly, share participation schemes help to retain and motivate senior management and employees. Presumably this cannot be achieved with private equity, because employees do not wish to be at the mercy of the controlling group when they leave the company and want to cash out their stake. Alternatively, as suggested by Holmstrom and Tirole (1993), a well informed stock price is of value in itself as an input into managerial performance-linked compensation, thus reducing agency costs.

Fourth, issuing the firm’s shares on a stock exchange is a means for the initial owners to cash out. As suggested by Amihud and Mendelson (1988), going public makes the firm’s shares more liquid and so more valuable to its owners. The added liquidity of being a public company also gives owners a chance to diversify their own holdings by divesting some or all of their stock. Obviously, as noted in Roell (1996), this reason is not emphasized in IPO prospectuses.

The fifth possible reason for going public is when initial owners identify mispricing in the capital market. For example, in documenting the long run under-performance of IPOs, Ritter (1991) argues that the patterns of the data are consistent with an IPO market in which investors are periodically overoptimistic about earnings potential of young growth companies and firms take advantage of these “windows of opportunity.” Similarly, Lerner (2010) shows that venture capital-backed companies go public when equity valuations are high and employ private financings when valuations are lower. Coupled with the above reasons, Benveniste and Spindt (1989) and Maug (2000) among others, argue that going public allows entrepreneurs to use share prices to infer investor valuations of their firm. This information can be used in post-IPO investment decisions.

While the reasons discussed focus on the going public decision, there are several benefits to remaining a private firm. Firstly, is the inordinate time and costs involved with the going public decision and listing on a stock exchange. Ritter (1987), reports that an average costs amounts to about 14% of the funds raised. In his article for *The Portable MBA in Finance and Accounting*, Paul G. Joubert noted that a business owner should not be surprised if the cost of an IPO claims between 15 and 20 percent of the proceeds of the sale of stock. Some of the major costs include the lead underwriter’s commission, out-of-pocket expenses for legal services, accounting services, printing costs, and the personal marketing “road show” by managers, filing costs with the SEC, fees for public relations to bolster the company’s image, plus ongoing legal, accounting, filing, and mailing expenses. The advantage of staying private allows the company to avoid ongoing administrative costs associated with being public (e.g. filing requirements, audited financial statements, etc.).

Secondly, as suggested by Yosha (1995), among others, the increased disclosure of inside information required from public firms serves as an additional deterrent. Such disclosure might reduce the competitive advantages of the company and may result in the company’s loss of confidentiality, flexibility and control. Securities and Exchange Commissions’ (SEC) regulations require public companies to release all operating details to the public, including sensitive information about their markets, profit margins, and future plans. An untold number of problems and conflicts may arise when everyone from competitors to employees know all about the inner workings of the company.

Thirdly, listed companies also face added pressure to show strong short-term performance. Earnings are reported often, and shareholders and financial markets always want to see good results as share prices are also used to infer investor valuations of the firm. Unfortunately, long-term strategic investment decisions may tend to have a lower priority than making current numbers look good. Moreover, the value of the public company will fluctuate with the buying and selling of stock by investors. This can be dramatically influenced by the changes in market conditions and the ability of the company to maintain an effective public relations program to communicate its worth to investors.

Finally, going public naturally creates a separation between ownership and control. This separation may lead to agency problems (Jensen and Meekling (1976)). The authors of *Practitioners’ Perspectives on the IPO Process and the Perils of Floatation* report that entrepreneurs, management and executives agree that once quoted, most companies need shareholder approval to take certain corporate actions, such as increasing the number of shares outstanding, or creating a new class of stock. Even in decisions where their approval is not required by law, shareholders’ interests, opinions, and reactions must be taken into account.

## 2.2 Empirical Studies

The going public decision is one of the most important and complex questions in corporate finance. In recent years, the theoretical literature has investigated this topic from different perspectives, proposing a host of different models. Nevertheless, the empirical analysis of the going public decision and of its consequences at a firm-specific level is one of the least studied issues in corporate finance.

Jain and Kini (1994) were one of the first to study the operating performance of firms going public in the US during the period 1976 to 1988. They investigated the operating performance of US quoted companies in their first few years after going public. They reported that, relative to their pre-going public level, newly listed firms show a decline in post-issue operating performance as measured by the operating return on assets and operating cash flows

deflated by assets. An assertion was made to the fact that the declining operating performance of public firms could not be explained by the lack of sales growth opportunities or cutbacks in post-issue capital expenditure since these firms showed a high growth in sales and capital expenditures in the post-public period. Jain and Kini concluded that investors appear to value public firms based on their expectation that earnings growth will continue. For developed markets outside the US, Cai and Wei (1997) study the operating performance of Japanese IPOs during the first five years after going public and report significant under-performance. Recently however, studies on other markets such as Japan (Kutsuna et al, 2002), China (Chan et al, 2004), Australia (Balatbat et al, 2004), and Thailand (Kim et al, 2004) have also focused on the post – IPO operating performance.

Kutsuna et al (2002) in a study of JASDAQ companies report a sharp decrease in sales, ordinary profits and net profits growth after listing. Kim et al (2004) also report a decline in the operating performance of Thai IPOs but find that growing firms perform better after the IPO and that firms with high level of bank financing suffer a larger performance decline after the listing. Similarly, Chan et al (2004) also document a significant decline in the operating performance of Chinese IPOs. They also found that this inferior operating performance was not related to a decline in business activity. Rather, they argue that managers attempt to window dress their accounts prior to going public which leads to pre-IPO performance being over-stated and post-IPO performance being understated. Nevertheless, Ritter (1991) and Loughran and Ritter (1995), report that the US public companies do experience significantly negative returns in the first three to five years following an IPO.

From a slightly different perspective, Pagano et al (1998) analyze the determinants of the Italian IPOs by comparing the ex-post characteristics of IPOs with those of private firms. They show that the profitability deteriorates after the IPO and the decline increases in time from the first year after the IPO to the third.

In view of the fact that under-performance is an anomalous phenomenon, many authors search for explanations based on financial market imperfections. In the year 1997, Brav and Gompers and Barber and Lyon debated the approaches to the long-run performance measurement and examined the possible existence of a distinct performance anomaly. These authors as well as Brav, Geczy and Gompers (2000) argue that the choice of a performance measurement methodology directly determines both the size and the power of a statistical test and they criticized the results of many previous studies.

A more recent example of out-performance of a listed company is that of ICBC (Industrial and Commercial Bank of China). Wang Zhi describes on China Economic Net that through going public inside and outside China, the financial condition of ICBC has been improved further, its capital strength and capital adequacy have reinforced notably, the profitability has kept rising and presented a stronger sustainability. According to all data from the annual report of 2006 to the third quarter-report of 2007 issued recently, a rapid up soaring momentum of ICBC has been demonstrated. ICBC handed over a very pleasant “achievement list” for the year of public listing. For the past year of the listing, ICBC’s company governing ability has been enhanced obviously, and under the requirement of modern financial enterprise system, shareholder meeting, Board of Directors, Board of Supervisors and Senior Management have taken their due charges, conducted effective balance and operated in coordination.

### 2.3 Institutional Framework: The Ghana Stock Exchange

The Ghana Stock Exchange was established in 1989 as a private company limited by guarantee under Ghana’s Companies Code, 1963. The Exchange was given recognition as an authorized Stock Exchange under the Stock Exchange Act of 1971 (Act 348) in October 1990. The Exchange however, changed its status to a public company limited by guarantee in April 1994. Trading on the floor of the Exchange commenced in November 1990.

The GSE currently has around thirty-five (35) listed companies and two (2) corporate bonds. Trading is carried on the Floor of the Exchange under the Continuous Auction Trading System (CAT). Securities traded on the floor of the exchange include Ordinary Shares (Common Stock), Debt Securities (Corporate) and Government bonds. Non-resident Ghanaians and foreigners have been given permission through the Exchange Control to invest through the Exchange without any prior approval. However, one external resident portfolio investor (whether individual or institutional) can hold only up to 10% of any security approved for listing on the Exchange. Furthermore, the total

holdings of all external residents in one listed security shall not exceed 74%. There is free and full foreign exchange remittability for the original capital plus all capital gains, returns and related earnings.

There is a 10% withholding tax (which is also the final tax) on dividend income for all investors, both resident and non-resident. Capital gains on listed securities are, however, exempt from tax until the year 2015. There is also no stamp duty.

Since its inception, the GSEs performance has varied considerably. All listings are included in the main index, the GSE All-Share Index. In 1993, the GSE was the 6<sup>th</sup> best index performing emerging stock market, with a capital appreciation of 116%. In 1994 it was the best index performing stock market among all the emerging markets, gaining 124.3% in its index level. 1995's index growth was a disappointing 6.3%, partly because of high inflation and interest rate. Growth of the Index for 1997 was 42% and at the end of 1998 it was 868.35 (1998 Review: Ghana Stock Exchange).

The manufacturing and brewing sectors dominate the exchange. A distant third is the banking sector while other listed companies fall into the insurance, mining and oil sectors. Total market capitalization increased from €30.46 billion in November 1990 to €3,913.85 million as at October 31, 2001. Total volume of shares traded from November 1990 to October 31 2001 were 569 million valued at €558,845.75 million.

The Exchange seeks to intensify its efforts in increasing listings and promote fund mobilization and encourage privatization of State Owned Enterprises on the Exchange. Also, the exchange will encourage the listing of corporate and government debt instruments and the development of new products such as collective investment schemes. Capacity building will be enhanced by upgrading the knowledge of its staff and market operators both locally and externally to enhance professionalism in the industry. Nonetheless, there will be infrastructure put in place for the automation of trading, clearing, settlement and depository system to raise the efficiency of the securities market for all users ([www.gse.com](http://www.gse.com))

### 3.0 Methodology

This study aims at finding the relationship between the share pricing of the firm and the performance of the firm using their net profit earnings, earnings per share, the firms overhead of total assets, return on assets and investments within a period of 5 years from 1991- 1995.

In this study only secondary data was collected from the Ghana Stock Exchange on the five firms which were selected for the study. These firms are Ghana Commercial Bank, Enterprise Insurance Company (1953), Standard Chartered Bank (1896), Aluworks Ghana Limited and Mechanical Lloyd Ghana (1960).

To test for the empirical relevance of the hypotheses with regards to the effect of share pricing, linear equations relating to the performance measuring the various factors are shown as:

$$Pa, t = f (Ba, t ,Fst)$$

Pa,t = firms "a" performance at time t

Ba, t = firms "a" characteristics at time t

Fst, = the financial structure of the firm at time t

Therefore to test for the empirical relevance of the hypotheses with regards to the effects of the share pricing, the linear equation with relation to the effects will measure the various factors as shown below:

The characteristic indicators will include net profit earnings (NPRO), return on equity (ROEQ) earnings per share (SHARE), return on investment (ROI), return on assets (ROA) and overhead (OV). The data of these variables were collected from the annual company reports of the firms and the Ghana Stock Exchange fact book.

The model is therefore estimated as follows:

$$NPRO = \beta_0 + \beta_1 SHI_t + \beta_2 ROEQ_t + \beta_3 ROA_t + \beta_4 ROI_t + \beta_5 OV_t + \epsilon_{it}$$

Where SHI is the earnings per share, ROEQ is the return on equity, ROA is the return on assets, ROI is the return on investments and OV is the ratio of the overhead of the total assets.

### 3.1 Justification for the inclusion of variables and Hypothesis testing

Return on asset: this variable measures the rate of the return on the ownership interest of the common stock owners. It measures the firm's efficiency at generating profits from every unit of the shareholders' equity also known as net assets, thereby measures efficiency.

H1a: all other things being equal, firms with greater return on asset have higher performance, therefore a positive relationship.

Overhead: this variable provides information on the total cost a firm incurs with regards to employment, training, salaries and wages.

H2a: all other things being equal, the overheads of the firm will be negatively related to the performance of the firm since this variable includes costs incurred by the firm.

Net profit earnings: this variable includes the sales, ordinary profit and net profits of the firm. It measures how effective a company is at cost control and uses its assets to generate acceptable rate of return. It is a good way of comparing the performance of different firms.

H3a: all other things being equal, net profit earnings of the firm is positively related to the firms' performance.

Return on investment: this variable is used for evaluating the financial consequences of business investments and decisions. It compares the timing of investment gains and costs. Thus, determine the rate of return on invested capital. It is used to compare the investment in the company against other investment opportunities such as stocks, real estate and savings.

H4a: all other things being equal, we expect the return on investment to have a positive effect on the firm's performance.

Return on equity: this variable measures the rate of return on ownership interest (shareholders equity) of the common stock. It measures the firm's efficiency at generating profit from every shareholder.

H5a: all other things being equal, the return on equity will be positively related to the performance of the firm.

Earnings per share: this variable indicates how much earnings has been generated per share of stock during the reported period. As a firm's earnings increase, earnings per share looks better and the firm releasing more shares increases the number of shares outstanding.

H6a: all other things being equal, the earnings per share of the firm are positively related to the firm's performance.

### 3.2 Sampling, sampling technique and Sample size

The sample for the study consists of five firms that would be selected based on the availability of data that satisfies the requirements of the study. These firms are to be listed on the stock exchange for a period of at least five years. This study is concentrating on their pre-listing periods within the period years (1991 -1995). These firms before listed on the stock exchange existed as private companies and in their respective years became IPO firms listed on the Ghana Stock Exchange. The companies are: Ghana Commercial bank, Standard Chartered Bank, Aluworks Ghana Limited, Enterprise Insurance Company Limited and Mechanical Lloyd Company Limited.

### 3.3 Data collection and data analysis method



A panel data was drawn from the five selected firms over a period of five years from 1991 – 1995. The data used was obtained from the Ghana Stock Exchange Fact books and the annual reports of the company.

Two types of models are usually used for the analysis of panel data. That is the fixed and random effects models. Fixed effects models (FE) explore the relationship between the outcome and predictor variables within an entity and assume all other time invariant variables across entities that can influence the predictor variables to be constant.

Random effects models (RE) rather assume these time invariant variables such as culture, gender, and race to be random. Based on these premises, fixed effects models take the following form whereby the time invariant variables are captured by the intercept:  $Y_{it} = \alpha_i + \beta_1 X_{it} + U_{it}$  where  $\alpha_i = \alpha + \epsilon_{it}$ .

In random effects models, variations across entities are not only assumed to be random and uncorrelated with the independent variables but included in the model as well:

Running a Hausman specification test at 5 percent level enables the researcher to choose between fixed and random models.

The Hausman test enables tests the null hypothesis that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. If they are (insignificant P-value,  $\text{Prob} > \chi^2$  larger than .05) then it is safe to use random effects. If the P-value is significant ( $\text{Prob} > \chi^2$  lower than .05), the fixed effects model will be used (Torres-Reyna, 2007).

#### 4.0 Results and Discussions

A Hausman test at 5 percent level enables the researcher to choose between using a random and fixed effect model for an appropriate study. The Hausman test revealed a  $\text{Prob} > \chi^2$  of 0.6538, which is insignificant, it is therefore preferable to use the random effect in the estimations and discussion of the results.

#### HAUSMAN TEST FOR FIXED AND RANDOM EFFECT

	Fixed	random	Difference	S.E
Roeq	-3.559927	-6.329654	2.769727	3.39483
Share	-920.5015	-658.268	-262.2334	152.7462
Roi	-17.45268	-30.65951	13.20684	8.8188559
Roa	-76.89544	-240.3159	163.4205	101.6923
Pv	1.762088	2.325336	-.5632486	.3352978
Prob>chi2 = 0.6538				

#### RANDOM EFFECT ESTIMATION RESULTS

Npro	Coef	Std. Err.	z	P>  z	[95% conf. interval]	
Roeq	6.32965	6.518455	-0.97	0.332	-19.10559	6.446283
Share	658.268	198.5893	3.31	0.001	1047.496	269.0402
Roi	-30.65951	8.477336	-3.62	0.000	-47.27478	-14.04424

Roa	-204.3159	194.7994	-1.23	0.217	-622.1157	141.4839
Ov	-2.325336	-4754114	-4.89	0.000	-1.393547	-3.257125
-cons	8894.305	2721.873	3.27	0.001	3559.532	14229.08
R-sq: within = 0.5550                      R-sq: between = 0.9905                      R-sq: overall = 0.7230						
Prob>chi2 = 0.0000						

The random-effect model below is given in a more detailed form:

$$\Pi_{it} = \alpha + \beta X_{it} + U_i + \varepsilon_{it} \quad t = 1 \dots T \text{ where;}$$

$\Pi_{it}$  indicates the dependent variable (net profit earnings) where  $i$ = entity and  $t$ = time

$\alpha$  is the unknown intercept

$X_{it}$  represents one independent variable

$\beta$  is the coefficient for that independent variable

$U_i$  is the between-entity error term

$\varepsilon_{it}$  is the within-entity error term and it is not correlated with any of the independent variables.

Finally, the model to be estimated is of the following form:

$$Npro = \beta_0 + \beta_1 SHI_t + \beta_2 ROEQ_t + \beta_3 ROA + \beta_4 ROI_t + \beta_5 OV_t + \varepsilon_{it}$$

#### 4.1 Discussion of Results

The estimation of the random effect model gives significant details of the nature of the relationship that exists between the performance of the firm and the various explanatory variables. The following results were obtained from the regression estimated below:

$$Npro = 8894.3 + 658.3SHI + 6.3ROEQ - 204.3ROA - 30.7ROI - 2.3OV$$

$$\text{dep.} \quad 0.001 \quad (0.001) \quad (0.332) \quad (0.217) \quad (0.000) \quad (0.000)$$

The first variable in the model corresponds to SHI, which are the earnings per share of the firm. Corresponding to the above table, the column with the indication  $P > |Z|$  represents the two-tail p-values that are tested for the significance of the explanatory variables. In this case, if the explanatory variables have values which are lower than or equal to 0.05, then that specific variable is significant at a 95% confidence interval. On the above table, where the random –effects generalized least square estimation was undertaken, the corresponding p-value of SHI implies that earnings per share are significant to the dependent variable which is the net profit earnings. Thus the increase in the earnings of the firm's shares increases the profit margin of the firm leading to a high performance of the firm. An assertion made on ICBC, a listed company in China with its capital strength and capital adequacy have reinforced notably and the profitability has kept rising and presented a stronger sustainability. Wang Zhi describes on China Economic Net that through going public inside and outside China, the financial condition of ICBC has been improved which fulfills the assertion made on the study. The earnings per share are therefore significant at 5% (0.001), with a coefficient of 658.28 showing a positive relationship between earnings per share and the performance of the firm; therefore we accept the hypothesis H6a. The earnings per share therefore serve as a significant factor that enable firms improve on their performances and build their capital strength.

The variable ROI which represents return on investment with a p-value of 0.000 indicates that it is significant and correlates with the dependent variable according to our results. Also with a coefficient of -30.65951, indicates a negative relationship existing between the returns on investment and the firm's performance. The discussion made on this analysis on returns on investment fulfills the assertion that managers sometimes window dress their accounts prior to the pre-listing periods which results in post-IPO performance being understated. Loughran and Ritter (1995)

report that most US companies do experience negative returns on their investments in the first three to five years of being listed is not far from the results obtained. This concludes the assertion that returns on investment has some negative impact on the performance of the listed firms.

With the two variables, return on equity and return on assets are considered to be insignificant since their p-values 0.332 and 0.217 respectively, exceed the significant value of 0.05. Therefore these variables are not correlated with our dependent variable. This study however, fulfills the assertion made by Jain and Kin (1994) to study the operating performance of firms going public in the US during the period 1976 to 1988. They investigated the operating performance of US quoted companies in their first few years after going public. They reported that, relative to their pre-going public level, newly listed firms show a decline in post-issue operating performance as measured by the operating return on assets and operating cash flows deflated by assets. Thus the form of ownership of the common stocks of the firm can affect the level of performance of the firm.

The overheads of the firm, though significant with the dependent variable net profit with a value of 0.000, there exists a negative relationship between the variable and the performance of the firm with a coefficient of -2.325336. Overheads include cost incurred by the firm according to an assertion made by Ritter (1987) that an amount percentage of about 14% of funds that are raised takes cost. Also according to Paul G. Joubert noted that a business owner should not be surprised if the cost of an IPO claims between 15 and 20 percent of the proceeds of the sale of stock. These cost percentages affect the firm's performance since they can exceed the earnings made by the firm in the sale of stock.

#### 4.2 Summary and Conclusion

This research was made to examine the various factors that determine the effects of share pricing on the performance of the firm. Considering all the variables that were used for the study to test its effect on the performance of the firm, only the earnings per share of the firm proved to be significant among the other variables return on assets and equity, return on investment and overheads at 95% confidence interval.

Companies that are listed on the stock exchange consider it a source of additional capital for the growth of the company. The major impact of this study, therefore include the fact that listing on the stock exchange has a direct impact on the performance of the firm's that are listed on the Ghana Stock Exchange. The firms that are listed however show a remarkable increase in their financial status as listed firms. The companies that were studied showed improvements in their performance as a result of their earnings on their shares. A stock market improves the productivity and performance of the firm. It is therefore important for policy makers to support the growth of the stock exchange to reap desired results. Firms that are listed perform better on the stock exchange since companies are transparent in their operations.

#### 4.3 Recommendations

The findings of this study can serve as a source of vital information not only for firms that are listed on the stock exchange but also other private firms. There are certain factors that have been identified as not being significant for the purpose of this study such as the returns on equity and investment. . It is recommended that firms trade on the stock exchange to attract more shareholders through their share pricing as this will enable them to increase their capital gain as well as the public patronizing not only in their shares but also being part of them and hence patronizing their products since they will have a stake in it. There should be considerations of the practitioners of the stock exchange to invest resources in improving the development of the stock exchange. The various firms should also take into account the variables that were not significant to enable them concentrate on these areas of improving their performance.

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#### Appendix 1: Random Effect Estimation Results

Npro	coef	Std. Err.	z	P> z	[95% conf. interval]	
Roeq	-6.32965	6.518455	-0.97	0.332	-19.10559	6.446283
Share	658.268	198.5893	3.31	0.001	1047.496	269.0402
Roi	-30.65951	8.477336	-3.62	0.000	-47.27478	-14.04424
Roa	-204.3159	194.7994	-1.23	0.217	-622.1157	141.4839
Ov	-2.325336	-4754114	-4.89	0.000	-1.393547	-3.257125
-cons	8894.305	2721.873	3.27	0.001	3559.532	14229.08

R.sq: within = 0.5550	R.sq: between = 0.9905	R.sq: overall = 0.7230
Prob>chi2 = 0.000		

## Appendix 2: Fixed Effect Estimation Results

Npro	Coef	Std. Err.	t	P> t	[95% conf. interval]	
Roeq	-3.559927	7.349498	-0.48	0.635	-19.22501	12.10516
Share	-920.5015	250.5376	-3.67	0.002	-1454.51	-386.4931
Roi	-17.45268	11.78634	-1.48	0.159	-42.57466	7.669306
Roa	-76.89544	219.7456	-0.35	0.731	-545.2722	391.4813
Ov	1.762088	.5817565	3.03	0.008	.522103	3.002072
Cons	7960.869	2986.452	2.67	0.018	1595.399	14326.34

  

R-sq: within = 0.6234	R-sq: between = 0.1537	R-sq: overall = 0.2616
Prob>F = 0.0070		

## Appendix 3: Hausman Test for Fixed and Random Effect

	fixed	random	difference	S.E
Roeq	-3.559927	-6.329654	2.769727	3.39483
Share	-920.5015	-658.268	-262.2334	152.7462
Roi	-17.45268	-30.65951	13.20684	8.8188559
Roa	-76.89544	-240.3159	163.4205	101.6923
Pv	1.762088	2.325336	-.5632486	.3352978

  

Prob>chi2 = 0.6538				
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