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# EFFECTS OF DEBT FINANCING ON FINANCIAL PERFORMANCE OF FIRMS QUOTED ON THE NIGERIA STOCK EXCHANGE (2008-2012)

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**Abstract**

*Effects of debt financing on financial performance of firms quoted on the Nigerian stock exchange (2008-2012) was carried out with the following objectives (i) to determine the impact of debt financing on Earnings Per Share (EPS) of Nigerian firms, (ii) to determine whether debt financing (TDR) has enhanced the value of Nigerian firms. The following research questions were asked (a) to what extent does debt financing impacts on the earning per share of Nigerian firms (b) to what extent can debt financing enhance the value of Nigeria firms. The following hypotheses were stated. (i) debt financing does not have a significant impact on earnings per share of Nigerian firms, (ii) debt financing does not enhance the value of Nigerian firms. Out of the population of two hundred and seventy six (276) quoted firms, thirty (30) were selected as the sample size through stratified random sampling method (excluding the financial service industry). Hypothesis one was tested using the Ordinary Least Square (OLS) simple linear regression model. Hypothesis II was tested using the Multiple Discriminant Analysis (MDA) model. Findings from the test of hypotheses suggest that total debt ratio does have a positive but a non significant impact on earning per share of Nigerian firms, that debt financing does enhance the value of Nigerian firms. The implications of the finding is that firms management should ensure that the financial decision are made in a way to fundamentally create and enhance the overall value of the firm. The conclusion is that debt financing is costly when a firm cannot cover its interest expenses on creditors and that earning decline can develop during economic financial trauma. Yet it is a better option for capitalizing a firm. The study recommends that the amount of debt finance in the financial mix of a firm should be at the optimal level so as to ensure adequate utilization of the firms assets for enhanced firm profitability.*

## Introduction

The importance of a companys choice of financing matters because, it bordered on the effect of the overall performance of the company. Initially in the field of finance, the perception is that elongating a companys gearing by recapitalizing a company through debt financing would also enhance value to a certain point and should such a point be exceeded it will result to high cost of capital then leading to reduction in market value. This was the view until when Modigliani and Miller countered it, as they say that the capitalization of a company remains constant and all other criteria met up with, the company's debt and equity added together by market value will not depend on its method of capital structure (Modigliani and Miller, 1963).

Notwithstanding, the rate at which a company operates its recapitalization especially through debt financing, impacts on its acceptable value remains a subject of long debate. Majorily, capitalization is justified when returns compensate for the capital invested.

**Statement of the Problem**

Debt is a risky financing choice which consequences on the corporate profitability and value can be considerable (e.g. the risk of bankruptcy and its consequence for the stakeholders).

**Objectives of the Study**

(1) To determine the impact of debt financing (TDF) on earning per share (SPS) of Nigerian firms.
(2) To determine whether debt financing (TDR) has enhanced the value of Nigerian firms.

**Research Questions**

(1) To what extent does debt financing impacts on the earning per share of Nigerian firms?
(2) To what extent can debt financing enhance the value of Nigerian firms?

**Hypotheses**

(1) Debt financing does not have a significant impact on earnings per share of Nigerian firms.
(2) Debt financing does not enhance the value of Nigerian firms.

**Scope and Delimitation of the Study**

This research work is delimited to actively quoted companies in Nigeria stock exchange excluding financial service sectors and this serves as the scope.

**Review of Related Literatures**

**Conceptual Review**

Corporate performance may include the ability of an organization to accomplish all the established objectives, and Fubara (2004) holds that performance refers to a number of different aspect, viz profit, growth, market share, price, quality, quantity, time, good pay; contributing to this Brealey, Myers and Marcus (2004) say that corporate finance is an area which focuses on how companies (firms) invest in real assets and how they raise the money to pay for these investments.

**Theoretical Framework**

This work is rooted in the pecking order theory of financing of a firm which was propounded by Steward, Myers and Nicholas in Magiluf (1984) (Simerly and Mingfang, 2000).

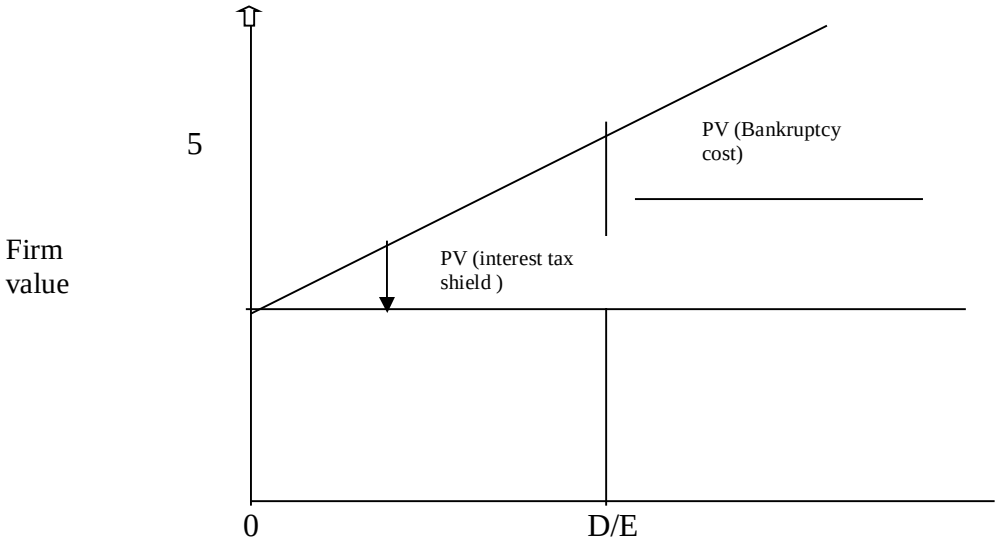


**Figure 1:** Trade-off Theory
**Source:** Simerly and Mingfang (2000:90).

As could be seen from the above, when the equity value is on the increase (i.e. leverage) a trade off between the interest tax shield and the bankruptcy cost occurs resulting to an optimal capital structure

$\frac{D}{E}$ ie $\frac{\text{Debt}}{\text{Equity}}$

Empirical relevance of the trade off theory has often been questioned. Fama and French (2002) criticize not only the trade off theory but the pecking order theory as well because taxes are often large but bankruptcy is rare. However, graham (2000) in his contribution to the trade off theory used it to examine the interest tax spread between corporate bonds and tax exempt municipal bonds to estimate the tax rate paid by marginal investors in corporate bond empirically, and found that the theory may explain difference in D/E ratio between industries but it does not explain difference within the same industry.

**Empirical Review**

Matarirano and Fatoki (2010) investigated the impact of debt on the profitability of small manufacturing firms in Zimbabwe, applying regression analysis to a set of data from small firms; the results indicated that the use of debt has a negative impact on the profitability of small manufacturing firms. The study thus recommended the creation of tax incentives and more equity finding for small manufacturing firms.

**Methodology**

Ex-past-facto method was used, as this involves gathering records of past events.

**Population of the Study**

Forty-five (45) sectors of publicly quoted companies made up of 276 companies formed the population of the study whereas thirty (30) firms that are not under financial services formed the sample size.

**Model Specification**

Hypothesis (i), as EPS = a+b TDR + $\mu$

Hypothesis (ii) as $Z = x_1 (NPM/TDR) + x_2 (TAT/TDR) + x_3 (EPS/TDR)$

EPS = earning per share

a = Regression equation intercept
b = Regression equation coefficient
Z = Score for multiple discriminant analysis value
Where $X_1$ = 0.012
$X_2$ = 0.014
$X_3$ = 0.033
The values of $X_1 = X_3$ were adopted.

From the weights assigned by Altman (1968) Multiple Discriminant Analysis (MDA) model with a guideline score of 2.675 to measure firms when debt financing is employed (Heine, 2000)

X = coefficient for value parameters
μ = error term

**Test of Hypothesis One**

Hypothesis one seeks to reveal the impact of TDR on the EPS of Nigerian firms. To test this hypothesis, Simple Regression analysis was applied to data from Appendix 1 and 2 and at 95% confidence interval.

**Statement of Hypothesis One**

Ho: Total debt ratio does not have a significant impact on earnings per share of Nigerian firms.
$H_1$: Total debt ratio has a significant impact on earnings per share of Nigerian firms.

***Decision Rule:*** Reject the null hypothesis if t-statistics > 2 and p-value < 0.05 otherwise, accept $H_0$.

The regression result for test of hypothesis one is as presented in Table I below.

**Table 1: Standard OLS for the Sample**

Dependent Variable: EPS
Method: Least Squares
Sample: 1 151
Included observations: 126

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| TDR | 0.198563 | 0.155095 | 1.280271 | 0.2028 |
| C | 1.172431 | 0.311671 | 3.761761 | 0.0003 |

| | | | |
|---|---|---|---|
| R-squared | 0.013046 | Mean dependent var | 0.823806 |
| Adjusted R-squared | 0.005087 | S.D. dependent var | 1.706254 |
| S.E. of regression | 1.701908 | Akaike info criterion | 3.917123 |
| Sum squared resid | 359.1650 | Schwarz criterion | 3.962144 |
| Log likelihood | -244.7788 | Hannan-Quinn criter. | 3.935414 |
| F-statistic | 1.639093 | Durbin-Watson stat | 1.288434 |
| Prob(F-statistic) | 0.202840 | | |

Source: Author's Computation using E views 7.2.
Where C = Constant of the Equation

**Decision**

The decision criteria is to reject the null hypothesis if t-statistics is > 2 and the p-value < 0.05 otherwise, accept the null. Table 11 shows t-statistics of 1.280 being < 2 and probability of 0.2028 > 0.05. Therefore, the researcher accepted the null hypothesis and conclude that total debt rate does not have a significant impact on earnings per share of Nigerian firms.

**Test of Hypothesis Two**

Hypothesis two seeks to establish if debt financing, as captured by TDR enhances the value of a sample of Nigerian firms applying the Multiple Discriminant Analysis. To test this hypothesis, the following Multiple Discriminant Analysis (MDA) equation specified as

$Z = X_1 (NPM/TDR) + X_2 (TAT/TDR) + X_3(EPS/TDR)$ ……..... (ii)

Heine (2000) and Onwumere et al (2011) noted that the weights attached to the value parameters as coefficients of the value parameters are:

$X_1 = 0.012$

$X_2 = 0.014$

$X_3 = 0.033$

**Statement of Hypothesis Two**

$H_o$: Debt financing does not enhance the value of Nigerian firms.

$H_1$: Debt financing enhances the value of Nigerian firms.

***Decision Criteria:***The values of $X_1 = X_3$ were adopted from Altman, 1968 Multi Discriminant Analysis model as applied by Onwumere, Ibe and Okpara (2011). According to Onwumere et al (2011) Altman established a guideline score of 2.675 to measure firms when debt financing is employed. He further classified debt financing for firm(s) as having enhanced value given a Z-score > 2. 675, or it has not enhanced value given a Z score < 2.675. Therefore, the researcher accepted the $H_o$ if Z score < 2.675 otherwise reject the $H_o$

Z = 0.012 (0.16821) + 0.014 (76.4143) + 0.033 (1.0504) ……..... (iii)

Z = 0.002018 + 10.7298 + 0.03466 ……..... (iv)

Z = 10.7668.

**Decision**

Given a Z-score = 10.7668 > 2.675 the researcher has to reject the null hypothesis and accept the alternate hypothesis and conclude that debt financing enhances the value of Nigerian firms.

**Discussion**

From the research work, share of Okomu PLC and Guinness recorded good earning while shares of Afromedia, Thomas Wyatt, His and first aluminum earned negative returns on their shares. Trancrop, pharma Deko, Eterna oil and triple Gee shares picked up from negative earnings in 2010 to record positive earnings in 2011 and 2012 from the decision the null hypothesis was rejected, and the researcher concludes that total debt rate have a positive effect on earnings per share of Nigerian firms. The financial structure decisions of the firms offers opportunities to create value for stakeholders, thus firms must select that form of debt with the lowest explicit cost and least damaging impact on the firm and its shareholders through a positive variability in earnings per share, therefore, the amount of debt finance must increase the reward of an investor for making the investment thus showing a positive effect. As could be observed from the findings, debt finance has a positive effect on earnings per share and this is in line with the findings of Patra (2005), which agree with the findings of this work essentially, the overall objective of this research was to determine the effect of firms as a result of the firms use of debt, Given a Z score 33.18 > 2.675, the researcher rejected the null hypothesis and accepted

the alternate that debt financing does enhance the value of Nigerian firms, this is consistent with the works of Simerly and Mingfang (2000) and Onwwumere, Ibe and Okpara (2011).

**Summary of Findings**

(1) The total debt ratio have little or no effect on earning per share of Nigerian firms.
(2) Debt financing enhances the value of Nigerian firms.
(3) It is rare for any firm to depend solely on equity finance.

**Conclusion**

The use of debt presents some problems to business managers because management must select that form of debt with the lowest explicit cost and least damaging impact on the firm and its shareholders through variability in earnings per share; management must also, assemble a financial structure which is composed of the least mix of both debt and equity capital.

**Recommendations**

- The amount of debt finance in the financial mix of the firm should be at the optimal level so as to ensure adequate utilization of the firms assets.
- Managers of organization should employ debt financing in a way that it enhances value for firm owners, i.e. leading to an increase in returns to equity holders.
- Since it is rare for any firm to depend solely on equity finance, thus management may seek other sources of funding which may not be in the interest of equity holders.

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## APPENDIX I

### Total Debt Ratio (TDR)

| Firms/Years | 2012 | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|---|
| Okomu | 0.2164 | 0.1886 | 0.336 | 0.582 | 0.48497 |
| Presco | 0.579 | 0.724 | 0.946 | 1.138 | NA |
| UAC | 0.4998 | 0.6643 | 0.909 | 0.31 | 0.23085 |
| TRANSCORP | 0.5605 | 0.6129 | 0.514 | 2.987 | 2.43473 |
| UACPDN | 1.2837 | 1.3035 | 1.33 | 1.087 | 1.06397 |
| JuliusBerger | 6.5063 | 10.323 | 5.086 | 0.14 | 1.69396 |
| Guinness | 0.3812 | 0.3962 | 0.355 | 0.338 | 0.42992 |
| DangoteFlour | 0.1373 | 0.1425 | 0.017 | 0.016 | 0.01428 |
| GSK | 0.5107 | 0.4993 | 0.45 | 0.455 | 0.43281 |
| PharmaDeko | 1.9497 | -4.946 | -4.683 | -2.408 | -6.40489 |
| HIS | 0.6759 | 0.5803 | 0.572 | 0.724 | 0.837 |
| CourtVille | 0.0402 | 0.0073 | 0.014 | 0 | 0.45331 |
| BagCo | 0.345 | 0.4297 | 1 | 1 | 10.0007 |
| BetaGlass | 0.2764 | 0.2988 | 0.306 | 0.301 | 0.30702 |
| TWN | 2.5509 | 2.0875 | 1.726 | 1.615 | 1.57583 |
| FirstAlum | 0.0755 | 0.0591 | 0.038 | 0.089 | 1.71078 |
| Eterna | 0.0817 | 0.4214 | 0.867 | 7.829 | 0.09489 |
| MRS | 0.2093 | 0.1571 | 0.474 | 0.666 | 0.33802 |
| AcadPress | 0.9473 | 1.302 | 1.068 | 0.265 | 0.37931 |
| RedStar | 0.1973 | 0.2274 | 0.309 | 0.133 | 0.13329 |
| Livestock | 0.0005 | 0.0012 | 0.002 | 0.002 | 0.00329 |
| Leventis | 1.9306 | 1.5357 | 1.02 | 0.736 | 0.50189 |
| Nig. Ropes | 1.1542 | 0.6813 | 1.069 | 1.112 | 0.96486 |
| May & Baker | 0.898 | 0.744 | 0.514 | 0.603 | 0.69738 |
| JAPAUL | 0.0991 | 2.1134 | 0.843 | 0.523 | 0.7326 |
| Costain | 0.467 | 0.6165 | 0.476 | 0.45 | 0.50598 |
| Triple Gee | -4.4954 | -1.199 | -2.46 | 16.04 | 15.3327 |
| AfroMedia | 8.6766 | 0.8068 | 0.764 | 0.47 | 0.2132 |
| BOC Gases | 6.0616 | 3.5143 | 3.222 | 1.847 | 1.36802 |
| Unilever | 0.6576 | 0.4084 | 0.375 | 0.459 | 0.71703 |

Source: Author's Compilation (2014) from Audited Financial Reports of various years.

## APPENDIX II

### Earning per Share (EPS) in Kobo

| **Years** | **2012** | **2011** | **2010** | **2009** | **2008** |
|---|---|---|---|---|---|
| Okomu | 1800 | 823 | 342 | 115 | 253 |
| Presco | 302 | 169 | 110 | 24 | 67 |
| UAC | 257 | 37 | 199 | 314 | 265 |
| TRANSCORP | 5 | 12 | -3 | -24 | -94 |
| UACPDN | 164 | 124 | 169 | 221 | 335 |
| JuliusBerger | 648 | 3.68 | 2.31 | 272 | 204 |
| Guinness | 1216 | 931 | 918 | 804 | 784 |
| DangoteFlour | 16 | 75 | 107 | 34 | 6 |
| GSK | 295 | 240 | 207 | 178 | 134 |
| PharmaDeko | 745 | 76 | -466 | -486 | -208 |
| HIS | -0.45 | 0.02 | 0.14 | 12.64 | 6.73 |
| CourtVille | 020 | 0.15 | 0.14 | 0.18 | 0.52 |
| BagCo | 16 | 6 | -2 | 5 | 422 |
| BetaGlass | 309 | 295 | 277 | 239 | 191 |
| TWN | -13 | -14 | -3 | 1 | 1 |
| FirstAlum | -1750 | -1.9 | 1.5 | -12.2 | -35.9 |
| Eterna | 93 | 55 | -132 | -5213 | -2084 |
| MRS | 408 | 772 | 414 | -89 | 771 |
| AcadPress | 16 | 26 | 37 | 15 | 27 |
| RedStar | 44 | 36 | 31 | 21 | 33 |
| Livestock | 82 | 79 | 58 | 42 | 10 |
| Leventis | 111 | 134 | 146 | 55 | 43 |
| Nig. Ropes | 110 | 80 | 90 | 50 | 50 |
| May & Baker | 600 | 300 | 300 | 470 | 500 |
| JAPAUL | 108 | 324 | 162 | 171 | 263 |
| Costain | 641 | 731 | 470 | 276 | 335 |
| Triple Gee | 221 | 68 | -931 | -176 | -293 |
| AfroMedia | -990 | -7 | 1091 | 844 | 10.87 |
| BOC Gases | 817 | 9.65 | 2072 | 23 | 0.08 |
| Unilever | 145 | 111 | 108 | 69 | 28 |

Author's Compilation (2014) From Audited Financial Reports of various years

## APPENDIX III

**Calculation of the Altman' Ratio i.e. {(NPM/TDR), (TAT/TDR), (EPS/TDR)}**

| Years | Firms | TDR | EPS | TAT | NPM | NPM/TDR | EPS/TDR | TAT/TDR |
|---|---|---|---|---|---|---|---|---|
| 2012 | Okomu | 0.216363 | 1800 | 0.326719 | 0.882535 | 4.078945 | 8319.334 | 1.510049 |
| 2011 | | 0.188556 | 823 | 1.058903 | 0.352824 | 1.871189 | 4364.749 | 5.615849 |
| 2010 | | 0.335831 | 342 | 0.776854 | 0.267658 | 0.797002 | 1018.37 | 2.313231 |
| 2009 | | 0.582097 | 115 | 0.688365 | 0.115904 | 0.199114 | 197.5615 | 1.18256 |
| 2008 | | 0.484974 | 253 | 0.744355 | 0.255051 | 0.525906 | 521.6772 | 1.534834 |
| 2012 | Presco | 0.57899 | 302 | 0.650038 | 0.268443 | 0.46364 | 521.5979 | 1.122711 |
| 2011 | | 0.724002 | 169 | 0.668 | 0.198265 | 0.273846 | 233.4248 | 0.922649 |
| 2010 | | 0.946148 | 110 | 0.519632 | 0.203308 | 0.21488 | 116.2609 | 0.549209 |
| 2009 | | 1.138322 | 24 | 0.486433 | 0.059789 | 0.052524 | 21.08366 | 0.427324 |
| 2008 | | #VALUE! | 67 | 0.585014 | 0.170025 | 0 | 0 | 0 |
| 2012 | UAC | 0.499784 | 257 | 0.880237 | 0.059039 | 0.118129 | 514.2222 | 1.761234 |
| 2011 | | 0.66426 | 37 | 0.740624 | 0.01608 | 0.024208 | 55.7011 | 1.114961 |
| 2010 | | 0.908749 | 199 | 0.70643 | 0.060997 | 0.067122 | 218.9824 | 0.777366 |
| 2009 | | 0.310108 | 314 | 1.000265 | 0.071001 | 0.228955 | 1012.552 | 3.225543 |
| 2008 | | 0.230848 | 265 | 0.934916 | 0.079046 | 0.342418 | 1147.943 | 4.049923 |
| 2011 | TRANSCORP | 0.560467 | 5 | 0.338839 | 0.089316 | 0.159359 | 8.921129 | 0.604566 |
| 2010 | | 0.612892 | 12 | 0.324155 | 0.230295 | 0.375751 | 19.57931 | 0.528894 |
| 2009 | | 0.514467 | -3 | 0.373932 | -0.0563 | -0.10944 | -5.83127 | 0.726834 |
| 2008 | | 2.986721 | -24 | 0.109393 | -0.59073 | -0.19779 | -8.03557 | 0.036627 |
| 2007 | | 2.434734 | -94 | 0.08165 | -1.01372 | -0.41636 | -38.6079 | 0.033535 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2012 | UACPDN | 1.283731 | 164 | 0.16872 | 0.181095 | 0.141069 | 127.7526 | 0.131429 |
| 2011 | | 1.303474 | 124 | 0.098278 | 0.246226 | 0.1889 | 95.1304 | 0.075397 |
| 2010 | | 1.329598 | 169 | 0.121185 | 0.278001 | 0.209087 | 127.1061 | 0.091144 |
| 2009 | | 1.086978 | 221 | 0.053489 | 0.716296 | 0.65898 | 203.3161 | 0.049209 |
| 2008 | | 1.063971 | 335 | 0.20822 | 0.276316 | 0.259703 | 314.8583 | 0.195701 |
| 2012 | Julius Berger | 6.506251 | 6.48 | 1.806868 | 0.039461 | 0.006065 | 0.995965 | 0.277713 |
| 2011 | | 10.32339 | 3.68 | 1.535204 | 0.026355 | 0.002553 | 0.356472 | 0.148711 |
| 2010 | | 5.085857 | 2.31 | 3.707701 | 0.016145 | 0.003174 | 0.454201 | 0.729022 |
| 2009 | | 0.140354 | 272 | 7.996833 | 0.021958 | 0.156446 | 1937.958 | 56.97619 |
| 2008 | | 1.693961 | 204 | 9.391876 | 0.021813 | 0.012877 | 120.4278 | 5.544328 |
| 2007 | | 1.677995 | 588 | 7.629595 | 0.022503 | 0.01341 | 350.4183 | 4.546853 |
| 2011 | Guiness | 0.381191 | 1216 | 2.222591 | 0.144974 | 0.380319 | 3190.004 | 5.830653 |
| 2010 | | 0.396191 | 931 | 2.29048 | 0.125599 | 0.317016 | 2349.877 | 5.781253 |
| 2009 | | 0.355343 | 918 | 2.086472 | 0.151895 | 0.427461 | 2583.42 | 5.871713 |
| 2008 | | 0.338433 | 804 | 1.402018 | 0.171467 | 0.506651 | 2375.655 | 4.142675 |
| 2007 | | 0.429923 | 784 | 1.376302 | 0.171701 | 0.399377 | 1823.582 | 3.201274 |
| 2011 | Dangote Flour | 0.137254 | 16 | 1.306481 | -0.00677 | -0.0493 | 116.572 | 9.518691 |
| 2010 | | 0.142486 | 75 | 1.410789 | -0.04047 | -0.28402 | 526.3674 | 9.901242 |
| 2009 | | 0.017369 | 107 | 1.537429 | 0.004853 | 0.279415 | 6160.274 | 88.5139 |
| 2008 | | 0.016252 | 34 | 1.279397 | -0.00179 | -0.11044 | 2092.048 | 78.72233 |
| 2007 | | 0.01428 | 6 | 1.408794 | -0.00273 | -0.19086 | 420.1815 | 98.65816 |
| 2012 | GSK | 0.510705 | 295 | 1.161312 | 0.111566 | 0.218454 | 577.6324 | 2.273938 |
| 2011 | | 0.499312 | 240 | 1.19986 | 0.10661 | 0.213525 | 480.6618 | 2.403043 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 7 | 6 | | | |
| 2010 | | 0.449526 | 207 | 1.183081 | 0.117259 | 0.260849 | 460.485 | 2.631841 |
| 2009 | | 0.454956 | 178 | 1.237953 | 0.113816 | 0.25017 | 391.2468 | 2.72104 |
| 2008 | | 0.432806 | 134 | 1.30525 | 0.101828 | 0.235273 | 309.6074 | 3.015785 |
| 2012 | PharmaDeko | 1.949668 | 745 | 0.383592 | 0.694118 | 0.356018 | 382.1164 | 0.196747 |
| 2011 | | -4.94613 | 76 | 0.49111 | 0.033409 | -0.00675 | -15.3655 | -0.09929 |
| 2010 | | -4.68253 | -466 | 0.201232 | -0.93859 | 0.200446 | 99.51883 | -0.04298 |
| 2009 | | -2.40795 | -486 | 0.551505 | -0.91944 | 0.381837 | 201.8313 | -0.22903 |
| 2008 | | -6.40489 | -208 | 1.106393 | -0.21911 | 0.03421 | 32.47517 | -0.17274 |
| 2011 | HIS | 0.675898 | -0.45 | 0.481733 | -0.18022 | -0.26664 | -0.66578 | 0.71273 |
| 2010 | | 0.580304 | 0.02 | 0.495682 | 0.006209 | 0.010699 | 0.034465 | 0.854177 |
| 2009 | | 0.572211 | 0.14 | 0.387323 | 0.063084 | 0.110246 | 0.244665 | 0.676889 |
| 2008 | | 0.723845 | 12.64 | 1.339148 | 0.104339 | 0.144146 | 17.46229 | 1.850047 |
| 2007 | | 0.836996 | 6.73 | 0.862435 | 0.088935 | 0.106255 | 8.040657 | 1.030393 |
| 2011 | CourtVille | 0.040151 | 0.2 | 0.39923 | 0.354879 | 8.838686 | 4.981234 | 9.943282 |
| 2010 | | 0.007274 | 0.15 | 0.281745 | 0.368181 | 50.61912 | 20.62266 | 38.73558 |
| 2009 | | 0.014475 | 0.14 | 0.266403 | 0.389699 | 26.92132 | 9.671525 | 18.40375 |
| 2008 | | 0 | 0.18 | 0.214272 | 0.621966 | 0 | 0 | 0 |
| 2007 | | 0.453307 | 0.52 | 0.194449 | 0.010275 | 0.022666 | 1.147126 | 0.428956 |
| 2011 | BagCo | 0.344964 | 16 | 1.504283 | 0.055166 | 0.159917 | 46.38161 | 4.360692 |
| 2010 | | 0.429705 | 6 | 4.595776 | 0.021888 | 0.050938 | 13.96307 | 10.69519 |
| 2009 | | 1 | -2 | 1.005789 | -0.00915 | -0.00915 | -2 | 1.005789 |
| 2008 | | 1 | 5 | 0.998736 | 0.025699 | 0.025699 | 5 | 0.998736 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2007 | | 10.00066 | 422 | 1.351985 | 0.095981 | 0.009597 | 42.19722 | 0.13519 |
| 2011 | BetaGlass | 0.276379 | 309 | 0.892413 | 0.121464 | 0.439483 | 1118.028 | 3.228942 |
| 2010 | | 0.29877 | 295 | 0.875945 | 0.131844 | 0.441289 | 987.3819 | 2.931837 |
| 2009 | | 0.306051 | 277 | 0.948623 | 0.131119 | 0.42842 | 905.0772 | 3.099557 |
| 2008 | | 0.300685 | 239 | 0.957234 | 0.131412 | 0.437043 | 794.8525 | 3.183513 |
| 2007 | | 0.307015 | 191 | 0.795883 | 0.123183 | 0.401228 | 622.1194 | 2.592326 |
| 2012 | TWN | 2.550881 | -13 | 0.375782 | -0.22701 | -0.08899 | -5.09628 | 0.147315 |
| 2011 | | 2.087506 | -14 | 0.283571 | -0.22152 | -0.10612 | -6.70657 | 0.135842 |
| 2010 | | 1.726364 | -3 | 0.285769 | -0.03823 | -0.02215 | -1.73776 | 0.165532 |
| 2009 | | 1.614901 | 1 | 0.404247 | 0.004837 | 0.002995 | 0.619233 | 0.250323 |
| 2008 | | 1.575831 | 1 | 0.296701 | 0.01243 | 0.007888 | 0.634586 | 0.188282 |
| 2011 | FirstAlum | 0.07546 | -17.5 | 1.338691 | -0.04314 | -0.57164 | -231.91 | 17.74036 |
| 2010 | | 0.05908 | -1.9 | 1.270737 | -0.00452 | -0.07659 | -32.1598 | 21.50873 |
| 2009 | | 0.037573 | 1.5 | 1.171541 | 0.004043 | 0.107615 | 39.92223 | 31.18035 |
| 2008 | | 0.088571 | -12.2 | 2.907509 | -0.02129 | -0.24032 | -137.743 | 32.82686 |
| 2007 | | 1.710783 | -35.9 | 3.292716 | -0.05886 | -0.03441 | -20.9845 | 1.924684 |
| 2011 | Eterna | 0.081722 | 93 | 6.506616 | 0.029491 | 0.360868 | 1137.998 | 79.61843 |
| 2010 | | 0.421408 | 55 | 2.15123 | 0.051118 | 0.121303 | 130.5148 | 5.104863 |
| 2009 | | 0.866811 | -132 | 1.266381 | -0.16207 | -0.18698 | -152.282 | 1.460965 |
| 2008 | | 7.829325 | -5213 | 1.749972 | -0.03382 | -0.00432 | -665.83 | 0.223515 |
| 2007 | | 0.094889 | -2084 | 3.782736 | -0.02761 | -0.29093 | -21962.4 | 39.86467 |
| 2011 | MRS | 0.209269 | 408 | 3.26441 | 0.014604 | 0.069784 | 1949.64 | 15.59907 |
| 2010 | | 0.15709 | 772 | 3.48805 | 0.02470 | 0.157253 | 4914.388 | 22.20423 |

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|---|---|---|---|---|---|---|---|---|
| | | | | 7 | 3 | | | |
| 2009 | | 0.473767 | 414 | 17.06741 | 0.014087 | 0.029733 | 873.8469 | 36.02488 |
| 2008 | | 0.666049 | -89 | 13.67156 | -0.00463 | -0.00695 | -133.624 | 20.52636 |
| 2007 | | 0.338022 | 771 | 13.41791 | 0.02697 | 0.07981 | 2280.915 | 39.69533 |
| 2012 | Acad. Press | 0.947293 | 16 | 1.710747 | 0.040293 | 0.042535 | 16.89024 | 1.805933 |
| 2011 | | 1.302006 | 26 | 1.569223 | 0.051733 | 0.039733 | 19.96918 | 1.205235 |
| 2010 | | 1.067536 | 37 | 1.645578 | 0.068395 | 0.064069 | 34.65926 | 1.541473 |
| 2009 | | 0.265336 | 15 | 2.773158 | 0.034496 | 0.130008 | 56.53216 | 10.45151 |
| 2008 | | 0.37931 | 27 | 2.508069 | 0.044913 | 0.118406 | 71.1818 | 6.612181 |
| 2012 | RedStar | 0.197301 | 44 | 2.180721 | 0.075412 | 0.382217 | 223.0095 | 11.05276 |
| 2011 | | 0.227415 | 36 | 1.914549 | 0.071617 | 0.31492 | 158.301 | 8.418752 |
| 2010 | | 0.308617 | 31 | 2.610298 | 0.043605 | 0.141291 | 100.4482 | 8.458053 |
| 2009 | | 0.13281 | 21 | 2.300696 | 0.041235 | 0.310485 | 158.1211 | 17.32327 |
| 2008 | | 0.133292 | 33 | 2.339243 | 0.063154 | 0.473802 | 247.5765 | 17.54975 |
| 2012 | Livestock | 0.000477 | 82 | 0.898723 | 0.181242 | 379.8689 | 171865.2 | 1883.648 |
| 2011 | | 0.001183 | 79 | 0.92912 | 0.161132 | 136.1842 | 66768.4 | 785.2637 |
| 2010 | | 0.001675 | 58 | 0.940476 | 0.133757 | 79.83432 | 34617.8 | 561.3314 |
| 2009 | | 0.002348 | 42 | 1.096573 | 0.104155 | 44.35617 | 17886.46 | 466.9955 |
| 2008 | | 0.00329 | 10 | #DIV/0! | 0.031783 | 9.659633 | 3039.213 | 0 |
| 2012 | Leventis | 1.930613 | 111 | 2.776749 | 0.03132 | 0.016223 | 57.4947 | 1.438274 |
| 2011 | | 1.535727 | 134 | 3.505065 | 0.037559 | 0.024457 | 87.25507 | 2.282348 |
| 2010 | | 1.019853 | 146 | 4.106466 | 0.040402 | 0.039616 | 143.1579 | 4.026527 |
| 2009 | | 0.735624 | 55 | 2.927355 | 0.025846 | 0.035135 | 74.76644 | 3.979417 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2008 | | 0.50189 | 43 | #DIV/0! | 0.027846 | 0.055483 | 85.67623 | 0 |
| 2012 | Nig. Ropes | 1.154182 | 110 | 0.699644 | 0.067142 | 0.058173 | 95.30557 | 0.606182 |
| 2011 | | 0.681284 | 80 | 0.543257 | 0.05996 | 0.08801 | 117.4253 | 0.797402 |
| 2010 | | 1.068726 | 90 | 0.719119 | 0.050485 | 0.047239 | 84.21245 | 0.672875 |
| 2009 | | 1.112051 | 50 | 0.819397 | 0.034095 | 0.03066 | 44.96195 | 0.736834 |
| 2008 | | 0.964863 | 50 | #DIV/0! | 0.040702 | 0.042184 | 51.82085 | 0 |
| 2012 | May & Baker | 0.898046 | 600 | 1.446369 | 0.076833 | 0.085555 | 668.1174 | 1.610574 |
| 2011 | | 0.743989 | 300 | 1.190891 | 0.053972 | 0.072544 | 403.2318 | 1.600683 |
| 2010 | | 0.513626 | 300 | 1.444532 | 0.093845 | 0.182712 | 584.083 | 2.812422 |
| 2009 | | 0.602951 | 470 | 1.616155 | 0.050957 | 0.084512 | 779.499 | 2.680406 |
| 2008 | | 0.697378 | 500 | #DIV/0! | 0.047946 | 0.068752 | 716.9714 | 0 |
| 2012 | JaPaul | 0.099145 | 108 | 0.839595 | 0.171599 | 1.73078 | 1089.309 | 8.468322 |
| 2011 | | 2.113396 | 324 | 1.227317 | 0.162386 | 0.076837 | 153.3078 | 0.580732 |
| 2010 | | 0.843203 | 162 | 1.35243 | 0.135558 | 0.160766 | 192.1246 | 1.60392 |
| 2009 | | 0.522512 | 171 | 0.633245 | 0.195048 | 0.373289 | 327.2654 | 1.211925 |
| 2008 | | 0.732595 | 263 | #DIV/0! | 0.177966 | 0.242925 | 358.9976 | 0 |
| 2012 | Triple Gee | 0.466972 | 641 | 1.203249 | 0.170871 | 0.365912 | 1372.673 | 2.576703 |
| 2011 | | 0.616498 | 731 | 1.061702 | 0.158185 | 0.256586 | 1185.729 | 1.722149 |
| 2010 | | 0.476267 | 470 | 1.01901 | 0.128392 | 0.26958 | 986.841 | 2.139576 |
| 2009 | | 0.450058 | 276 | 0.695941 | 0.094047 | 0.208966 | 613.254 | 1.546335 |
| 2008 | | 0.505981 | 335 | #DIV/0! | 0.117675 | 0.232569 | 662.0808 | 0 |
| 2012 | Costain | -4.49536 | 221 | 1.720311 | 0.092315 | -0.02054 | -49.1618 | -0.38269 |
| 2011 | | -1.19913 | 68 | 1.39894 | 0.03579 | -0.02985 | -56.7078 | -1.16663 |

| | | | | 1 | 2 | | | |
|---|---|---|---|---|---|---|---|---|
| 2010 | | -2.46022 | -931 | 0.420808 | -1.33899 | 0.544256 | 378.4209 | -0.17104 |
| 2009 | | 16.04267 | -176 | 1.231843 | -0.12694 | -0.00791 | -10.9707 | 0.076785 |
| 2008 | | 15.33267 | -293 | #DIV/0! | -0.37167 | -0.02424 | -19.1095 | 0 |
| 2012 | Afromedia | 8.676576 | -9.9 | 0.188555 | -2.6858 | -0.30955 | -1.141 | 0.021731 |
| 2011 | | 0.80684 | -7 | 0.355545 | -0.09294 | -0.11519 | -8.67583 | 0.440664 |
| 2010 | | 0.764053 | 10.91 | 0.521564 | 0.117896 | 0.154304 | 14.27912 | 0.682629 |
| 2009 | | 0.4698 | 8.44 | 0.42643 | 0.142188 | 0.302657 | 17.96509 | 0.907685 |
| 2008 | | 0.213195 | 10.87 | #DIV/0! | 0.224174 | 1.051498 | 50.98609 | 0 |
| 2012 | BOC Gases | 6.061569 | 8.17 | 0.744776 | 0.015701 | 0.00259 | 1.347836 | 0.122869 |
| 2011 | | 3.514302 | 9.65 | 0.615711 | 0.025132 | 0.007151 | 2.745922 | 0.175201 |
| 2010 | | 3.221964 | 20.72 | 1.616027 | 0.040421 | 0.012545 | 6.43086 | 0.501566 |
| 2009 | | 1.846837 | 23 | 0.64086 | 0.137737 | 0.07458 | 12.45373 | 0.347004 |
| 2008 | | 1.36802 | 0.08 | #DIV/0! | 0.083121 | 0.06076 | 0.058479 | 0 |
| 2011 | Unilever | 0.65757 | 145 | 4.66156 | 0.10034 | 0.152592 | 220.5087 | 7.089067 |
| 2010 | | 0.408429 | 111 | 4.692403 | 0.089314 | 0.218678 | 271.7729 | 11.4889 |
| 2009 | | 0.374794 | 108 | 4.911699 | 0.092035 | 0.245561 | 288.1582 | 13.10506 |
| 2008 | | 0.45922 | 69 | 4.325612 | 0.069468 | 0.151273 | 150.2547 | 9.419471 |
| 2007 | | 0.717029 | 28 | #DIV/0! | 0.0317 | 0.04421 | 39.05005 | 0 |
| **Total for 150 observations** | | | | | | ∑762.0256 | ∑346156.9 | ∑4758.31 |
| **Sample Average = (Total/150 observations)** | | | | | | 5.046527 | 2292.43 | 31.512 |
| **Industry Average = (Sample Average/N) where N = 30 Firms** | | | | | | 0.16821 | 76.4143 | 1.0504 |

Source: Author's Compilation from Audited Financial Report of various firms