*Full Length Research Paper*

# The influence of corporate social responsibility on profit after tax of some selected deposit money banks in Nigeria

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## ABSTRACT

The study examined the influence of corporate social responsibility on profit after tax of some selected deposit money banks in Nigeria. Based on the objective of assessing the influence of CSR on PAT, the study used secondary source of data from annual reports of some selected banks, and through fact books of Nigerian Stock Exchange (NSE) for the period of the study (i. e 2006-2010) by means of content analysis. The study used regression and correlational analysis in interpreting the result of the formulated hypothesis. Based on the outcome of the result it shows that there is weak positive relationship between CSR and PAT, but it is significant at 5%. This gave us the basis of rejecting the null hypothesis in spite of its weak relationship, but it is positive and significant at 5%. Therefore, the study recommended to the banking sector to take CSR commitment as an important driver of boosting profitability of an organisation, because the more you commit yourself to corporate social responsibility the more investors and consumers are patronizing your shares and products respectively, the more the yielding return, vice versa.

**Keywords:** Corporate Social Responsibility (CSR), Stakeholders Theory, Profit After Tax (PAT), Simple Random Sampling without Replacement.

## INTRODUCTION

Corporate social responsibility has been a subject of debate or controversial argument between the protagonist and antagonist for many centuries, but yet, there is no consensus among the worldwide international recognized intellectuals as regards to the unanimous contextual connotation or denotation of the term CSR. Moreover, there is still an outstanding debate concerning the actual and agreed measure of CSR and even the position of CSR in particular, because some are of the opinion of considering CSR as a philanthropic activity such as Freeman and Liedtka (1991). They are of the opinion that CSR is irrelevant, while Friedman (1962) sees the relevancy but contradicted is not a wise idea for business. The main rationale behind establishing banking

sector in Nigeria is for profit oriented and service delivery to potential and outstanding shareholders, but for every profit oriented company to maximized its profit it must take one significant and an exceptional activity into cognizant (i. e CSR), because it has been proved by many studies from advanced countries that CSR is one of the committed activity that usually boost the level of profitability of corporations.

It is on the basis of the above problem that this study seeks to assess the influence of CSR on profit after tax (PAT) of some selected deposit money banks in Nigeria. At the end of the study it should be able to help us to achieve the stated objective and it should help us to answer the following research question: Does corporate

social responsibility (CSR) influenced profit after tax (PAT) of deposit money banks in Nigeria? The study should help us to form the basis of rejecting or failing to reject the null hypothesis as stated below.

$H_0$: Corporate social responsibility has no significant impact on profit after tax of deposit money banks in Nigeria. The study is significant and magnificent and of paramount importance to the entire stakeholders, because it will help the management to make a final decision based on the outcome whether to give more commitment to CSR or otherwise. It helps the shareholders/ investors to be patronizing the shares of socially responsible firms to overcome the problem of risk profile of investing in irresponsible corporations. In addition to that, the study is paramount, crucial and vital to consumers, because it is an enlightened guide to consumers to be patronizing the products of socially responsible corporations. The study  covered the period of five years (2006-2010), this timeframe is considered because longer period of study can provide more reliable information about the commitment with CSR and it also allows an evolutional analysis of the adoption of CSR (Afonso, Fernandes and Monte, 2012). Moreover, longer period of study will allow you to easily trace the fluctuation of the influence of one or more variable on another.

## Literature Review

In literature or theory there is no worldwide acceptable definition of the term CSR but different scholars defined it based on their perceptions and understanding. University of Miami (2007), considered the concept of CSR as a means of analyzing the inter-dependence relationships that exist between businesses and economic systems, and the communities within which they are based. According to Vitezić (2011), social responsibility concept implies balance between economic, ecological and social goals, which means distribution of assets on several actors. Ruggie (2002) looks at CSR as a strategy for demonstrating good faith, social legitimacy, and a commitment that goes beyond the financial bottom line. Carroll and Bocholt, (2003) view CSR as economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time.

The European Commission (2001) defined CSR as a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment, or a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis.But, in accordance with Holme and Watts (2002) opined CSR as capacity building for sustainable livelihoods. In respect of cultural differences and look for business opportunities in building the skills of their employees, government and the community at large.

In view of Baker (2004) argues that CSR is about how companies manage the business processes to produce an overall positive impact on society. Some of the empirical studies on CSR are table 1; other international studies on CSR are:

Servaes and Tamayo (2012), investigate on the impact of corporate social responsibility on firm value based on the role of customer awareness. They found that corporate social responsibility (CSR) and firm value are positively related for firms with high customer awareness, as proxies by advertising expenditures. For firms with low customer awareness, the relation is either negative or insignificant. In addition, they find that the effect of awareness on the value-CSR relation is reversed for firms with a poor prior reputation as corporate citizens. This evidence is consistent with the view that CSR activities can add value to the firm but only under certain conditions.

El Ghoul, Guedhami, Kwok and Mishra (2012), they examine the effect of corporate social responsibility (CSR) on the cost of equity capital for a large sample of U.S. firms. Using several approaches to estimate firms' ex ante cost of equity, they find that firms with better CSR scores exhibit cheaper equity financing. In particular, their findings suggested that investment in improving responsible employee relations, environmental policies, and product strategies contributes substantially to reducing firms' cost of equity. Their results also show that participation in two "sin" industries, namely, tobacco and nuclear power, increases firms' cost of equity, which supported the arguments in the literature that firms with socially responsible practices that has higher valuation and lower risk.

According to Yang, Lin and Chang (2010), previous empirical studies have indicated an unclear relationship between CSR and financial performance, and literature has pointed out that innovation has a great impact upon CSP and corporate financial performance (CFP). Therefore, size and R and D (research and development) are adopted in this study as control variables to investigate the relationship between CSP (Independent Variable), CFP (Dependent Variable) and CSP (Dependent Variable), CFP (Independent Variable) respectively. In this study, companies listed in the TSEC Taiwan 50 Index and TSEC Taiwan Mid-Cap 100 Index was included as samples to analyze the linkage between CSP and CFP, and regression analysis is used in this study. The results pointed out that the previous CSP has positive impact on the return on assets for the next period; however, the previous CFP has nothing to do with the latter CSP. In considering R and D and size, the previous CSP has a positive correlation with the latter return on assets. In addition, CSP has a negative correlation with return on equity in the financial industry, and CSP has nothing to do with CFP in the electronic industry. Many theories have been brought to bear on the concept of CSR, depending on one's perspective such as

**Table 1.** Synopses of some of the Nigeria studies on corporate social responsibility (CSR)

| AUTHOR NAME (S) AND YEAR | SCOPE OF STUDY | INDEPENDENT VARIABLE(S) | DEPENDENT VARIABLE | OUTCOMES OR RESULTS | COUNTRY | NATURE OF DATA |
|---|---|---|---|---|---|---|
| Uadiale and Fagbemi (2011) | 2007 | Community Performance, Environmental Management System | Return on Assets (ROA) and Return on Equity (ROE) | Positive and significant relationship | Nigeria | Cross Sectional Data |
| Gunu 2008 | 2002-2006 | CSR Disclosed in Shareholders Report | Profit after Tax (PAT), Divident, Total Assets (TA), and Gross eranings | Positive and Significant relationship | Nigeria | Time Series Data |
| Bolanle, Olanrewaju and Muyideen 2012 | 2001-2010 | CSR Disclosed in Shareholders Report | Profit after Tax (PAT) | Positive Relationship | Nigeria | Time Series |
| Bello 2012 | 2002-2006 | Donations (DN), Environmental Pollution and Prevention (EPP), Health and Safety of Employee and Employment of Disable Person (HS) | ROA | Negative and No significant Relationship | Nigeria | Time Series of individual observations of companies |

**Source:** Various Previous Studies

**Table 2.** Sample size of selected banks in Nigeria

| BANKS | FULL NAME OF THE BANKS |
|---|---|
| STERLING BANK | Sterling Bank of Nigeria Plc. |
| ACCESS BANK | Access Bank of Nigeria Plc. |
| ZENITH BANK | Zenith Bank of Nigeria Plc. |
| UNION BANK | Union Bank of Nigeria Plc. |
| GT BANK | Guarantee Trust Bank of Nigeria Plc. |
| UBA BANK | United Bank of Africa (Nigeria) Plc. |
| FIRST BANK | First Bank of Nigeria Plc. |
| DIOMOND BANK | Diamond Bank of Nigeria Plc. |
| WEMA BANK | WEMA Bank of Nigeria Plc. |

**Source:** Various Fact Books from 2006-2010

agency theory, legitimacy theory, stakeholders theory, sustainability theory, accountability theory, political economy theory, e t c but for the purpose of this study, the theoretical framework underpinning this study is stakeholders' theory because it is a theory of organizational management and business ethics that

**Table 3.** Definition of variables

| Variables | Full meaning | Represent |
|---|---|---|
| LogPAT | Natural Logarithm of Profit After Tax | Dependent Variable |
| LogCSR | Natural Logarithm of Corporate Social Responsibility Expenditure | Independent Variable |
| $\beta_0 / \alpha_0$ | intercept/constant | |
| $\beta_1$ | parameter/Coefficient to be estimated or the coefficients of slope | |
| $e_{i,t}$ | Error term | |

**Source:** From Previous Studies

addresses morals and values in managing an organization. It also constitute all the primary and secondary stakeholders (i. e both the entire beneficiaries e.g. shareholders, suppliers, consumers, community e t c).

## RESEARCH METHODOLOGY

The research design is based on content analysis (Secondary Source), total amount of profit after tax and CSR expenditure disclosed in the annual reports of quoted deposit money banks in Nigeria from 2006-2011. Quantifiable data was been used to described the outcome of the study with the help of ordinary least square approach (Regression analysis with the help of SPSS version 16). The population of this study constitute all the quoted deposit money banks in Nigeria, but for the purpose of this study, the sample was arrived at based on the statistical formula of Yamane (1967) adjusted sample size formula below:

$n = n_0 \div 1 + (n_0 - 1) \div N$ -------------------------------- (1)

$n_0 = N \div 1 + N (e)^2$ ------------------------------------(2)

Where:

n= Adjusted Sample Size

$n_0$= Sample size prior to Adjustment

$e^2$ = Level of precision

N= Population Size

A 90% Confidence level of precision is used and e= 0.1

On substituting the values of N=24 and e=0.1 in equation one then we arrived at

$n_0 = 24 \div 1 + 24 (0.1)^2 = 19$ on substituting the $n_0$=19 in the first equation we have

$n = n_0 \div 1 + (n_0 - 1) \div N$ -------------------------------- (1)

n= 19 ÷ 1 + (19 − 1) ÷ 24 = 10.8571, in this case we have decided to take the nearest odd number. As such our sample size is 9. The selected sample size was been done based on simple random sampling without replacement. The table 2 above shows the random sample banks selected:

The simple regression model is emanated from the following original equation as used by Gunu (2008), Bolanle (2012).

$Y_{i,t} = \alpha_0 + \beta_1 X_{1i,t} + \ + e_{ni,t}$ --- (1)

$\qquad \text{Log PAT}_{i,t} = \alpha_0 + \beta_1 \text{LogCSR}_{i,t} + e_{i,t}$ --- ( 2)

The above table 3 represents the variables of the study

## Data presentation and analysis

This section deals with the presentation and analysis of data collected, as earlier stated, the study used regression model in order to provide a concrete basis for testing the hypothesis of quoted deposit money banks in Nigeria. Simple regression model have been employed to predict the relationship between the PAT and CSR as presented in table 4 below. The below table 5 represents the result of the correlation between the CSR and PAT. Based on the outcome, it shows that there is a weak positive relationship between the CSR and PAT and it is significant at 5%. This means that for every increase in CSR expenditure it will lead to 0.306 increase in PAT.

From the below table 6, we can deduce that the model is fitted because the F- change shows 4.451 which signifies the model fitness. According to Andy (2000), "a good model should have a large F-ratio (greater than one at least)" as cited by Uadiale and Fagbemi (2011). Durbin- Watson shows 1.682 which signifies absence of serial correlation or autocorrelation. Moreover, the standard error of estimate is less than the mean of y (i. e the standard error of estimate 2.20914 is < the mean of the dependent variable 6.2832) which also indicates the reliability of the model.

Researches on the relationship between firms' profitability and corporate social responsibility have also provided conflicting results. For instance, Freedman and Jaggi (1982) and Ingram and Frazier (1983) found negative relationship between firms profitability and corporate social disclosure. On the other hand Belkaoui (1976), Preston (1978), Gunu (2008), and Bolanle *et al*

**Table 4.** The empirical data used for the selected sample size

| BANKS | YEARS | PAT | CSR | LogPAT | LogCSR |
|---|---|---|---|---|---|
| STERLING BANK | 2006 | 961645.00 | 3889.00 | 5.983015 | 3.589838 |
| ACCESS BANK | 2006 | 737149.00 | 7050.00 | 5.867555 | 3.848189 |
| ZENITH BANK | 2006 | 11619000.00 | 428423.18 | 7.065169 | 5.631873 |
| UNION BANK | 2006 | 10036000.00 | 30720.29 | 7.001561 | 4.487425 |
| GT BANK | 2006 | 7905506.00 | 17634.24 | 6.89793 | 4.246357 |
| UBA BANK | 2006 | 11468000.00 | 65026.00 | 7.059488 | 4.813087 |
| FIRST BANK | 2006 | 16053000.00 | 119887.00 | 7.205556 | 5.078772 |
| DIOMOND BANK | 2006 | 3849544.00 | 75400.00 | 6.585409 | 4.877371 |
| WEMA BANK | 2006 | -6601961.00 | 20190.00 | 0.000000 | 4.305136 |
| STERLING BANK | 2007 | 620658.00 | 8575.00 | 5.792852 | 3.933234 |
| ACCESS BANK | 2007 | 6083439.00 | 45362.00 | 6.784149 | 4.656692 |
| ZENITH BANK | 2007 | 17509145.00 | 571909.45 | 7.243265 | 5.757327 |
| UNION BANK | 2007 | 12126000.00 | 35231.00 | 7.083718 | 4.546925 |
| GT BANK | 2007 | 13013146.00 | 123158.47 | 7.114382 | 5.090464 |
| UBA BANK | 2007 | 19831000.00 | 318500.00 | 7.297345 | 5.503109 |
| FIRST BANK | 2007 | 18355000.00 | 304808.00 | 7.263754 | 5.484026 |
| DIOMOND BANK | 2007 | 6930754.00 | 155600.00 | 6.84078 | 5.19201 |
| WEMA BANK | 2007 | 2554098.00 | 1668.00 | 6.407238 | 3.222196 |
| STERLING BANK | 2008 | 6523153.00 | 83572.00 | 6.814458 | 4.922061 |
| ACCESS BANK | 2008 | 16056464.00 | 160856.00 | 7.20565 | 5.206437 |
| ZENITH BANK | 2008 | 46524991.00 | 1661963.18 | 7.667686 | 6.220621 |
| UNION BANK | 2008 | 24737000.00 | 51846.84 | 7.393347 | 4.714722 |
| GT BANK | 2008 | 21489885.00 | 136244.92 | 7.332234 | 5.13432 |
| UBA BANK | 2008 | 40002000.00 | 307000.00 | 7.602082 | 5.487138 |
| FIRST BANK | 2008 | 30473000.00 | 438729.00 | 7.483915 | 5.642196 |
| DIOMOND BANK | 2008 | 11822011.00 | 121000.00 | 7.072691 | 5.082785 |
| WEMA BANK | 2008 | -46304000.00 | 68609.53 | 0.000000 | 4.836384 |
| STERLING BANK | 2009 | -6660406.00 | 25355.00 | 0.000000 | 4.404064 |
| ACCESS BANK | 2009 | 22885794.00 | 255210.00 | 7.359566 | 5.406898 |
| ZENITH BANK | 2009 | 18365000.00 | 1960000.00 | 7.263991 | 6.292256 |
| UNION BANK | 2009 | -71052000.00 | 157933.06 | 0.000000 | 5.198473 |
| GT BANK | 2009 | 23848061.00 | 246150.89 | 7.377453 | 5.391201 |
| UBA BANK | 2009 | 40825000.00 | 5848000.00 | 7.610926 | 6.767007 |
| FIRST BANK | 2009 | 35074000.00 | 1229513.99 | 7.544985 | 6.089733 |
| DIOMOND BANK | 2009 | 6931127.00 | 325000.00 | 6.840804 | 5.511883 |
| WEMA BANK | 2009 | -11668408.00 | 14439.99 | 0.000000 | 4.159567 |
| STERLING BANK | 2010 | 4178493.00 | 16318.00 | 6.62102 | 4.212667 |
| ACCESS BANK | 2010 | 12931441.00 | 103831.00 | 7.111647 | 5.016327 |
| ZENITH BANK | 2010 | 33335000.00 | 503000.00 | 7.5229 | 5.701568 |
| UNION BANK | 2010 | 118016000.00 | 57857.58 | 8.071941 | 4.76236 |
| GT BANK | 2010 | 36511628.00 | 328031.29 | 7.562431 | 5.515915 |
| UBA BANK | 2010 | 2167000.00 | 599000.00 | 6.335859 | 5.777427 |
| FIRST BANK | 2010 | 26936000.00 | 887743.64 | 7.430333 | 5.948288 |
| DIOMOND BANK | 2010 | 6522455.00 | 249173.00 | 6.814411 | 5.396501 |
| WEMA BANK | 2010 | 16238533.00 | 774.00 | 7.210547 | 2.888741 |

**Source:** Various Fact Books from 2006-2010

**Table 5.** Pearson correlation and the significant level

|  |  | LogPAT | LogCSR |
|---|---|---|---|
| Pearson Correlation | LogPAT | 1.000 | .306 |
|  | LogCSR | .306 | 1.000 |
| Sig. (1-tailed) | LogPAT | . | .020 |
|  | LogCSR | .020 | . |
| N | LogPAT | 45 | 45 |
|  | LogCSR | 45 | 45 |

Correlations

**Table 6.** Model summary of the output

Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .306[a] | .094 | .073 | 2.20914 | .094 | 4.451 | 1 | 43 | .041 | 1.682 |

a. Predictors: (Constant),LogCSR

b. Dependent Variable: LogPAT

(2012) found a positive relationship between profitability and corporate social disclosure.

## CONCLUSIONS AND RECOMMENDATIONS

On the basis of the above analysis of tested hypothesis on the influence of corporate social responsibility on profit after tax of some selected quoted deposit money banks in Nigeria, it gives us a contextual evidence to reject the null hypothesis as it appears is significant at 5 percent (5%). Therefore, based on the findings of the study it concludes by saying there is significant influence of corporate social responsibility on profit after tax of banks in Nigeria. The study recommend to the banking sector to take CSR commitment as an important driver of boosting profitability of an organisations, because the more you commit yourself to corporate social responsibility the more the yielding return vice versa and all stakeholders should make sure each one of them is playing a vital role towards making CSR commitment being in real implementation.

## REFERENCES

Afonso SC, Fernandes PO, Monte AP (2012). CSR of top Portuguese Companies: Relation between Social Performance and Economic Performance World Academy of Science, Engineering and Technology 66 2012.

Andy F (2000). Discovering Statistics: using SPSS for Windows, London: Sage Publication.

Baker M (2004). First published Corporate social responsibility - What does it mean?

Belkaoui A (1976). The impact of the disclosure of the environmental effects of organizational behavior on the market. Financial Management, 5, 26–31.

Bello MM (2012). Corporate Social Responsibility Disclosure and Financial Performance of Quoted Firms in Downstream Sector of the Nigerian Petroleum Industry. J. of Researches on Contemporary Accounting Issues Edited by Kabiru Isa Dandago and Junaidu Muhammad Kurawa ISBN: 978-987-922-678-1

Bolanle AB, Olanrewaju AS and Muyideen AA (2012). "corporate social responsibility and profitability of Nigeria Banks- causal Relationship" Research J. of Finance and Accounting ISSN 2222-1697 (paper) Vol. 3, No 1 www.iiste.org.

Carroll A and Bocholt A (2003). Business and Society: Ethics and Stakeholder Management, 5th edition. Cincinnati, Ohio South Western College Publishing Australia.

El Ghoul S, Guedhami O, Kwok C. C. Y and Mishra D (2012). Does Corporate Social Responsibility Affect the Cost of Capital? J. of Economics and Sustainable Development www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.3, No.4, 2012

European Commission (2001). Green Paper "Promoting a European Framework for Corporate Social Responsibility, Brussels, Pp. 32

Freedman M and Jaggi B (1982). Pollution disclosures, pollution performance and economic performance; Omega: The International J. of Management Science, 10, 167–176.

Freeman RE and Liedtka J (1991). "Corporate social responsibility: A critical approach- Corporate social responsibility no longer a useful concept". Business Horizons, July-August, 1991.

Friedman M (1962). Capitalism and freedom, Chicago: University of Chicago Press.

Gunu U (2008). "The influence of corporate social responsibility on the performance of Banks" A case study of Zenith Bank Plc. J. of Faculty of management sciences Usman Danfodiyo University sokoto ISSN 2141-1670 vol. 2 November, 2008.

Holme L and Watt R (2002). "Corporate Social Responsibility: Making Good Business Sense". World Business Council for Sustainable Development pp. 1-31.

Ingram RW and Frazier KB (1983). 'Narrative Disclosures in Annual Reports', J. of Business Research, Vol. 11, pp. 49–60.

Preston LE (1978). Analyzing corporate social performance: Methods and results. J. of Contemporary Business, 7, 135-150.

Ruggie WG (2002). "The theory and Practice of Learning Networks: Corporate Social Responsibility and Global Compact" J. of Corporate Citizenship Greenleaf    Publishing pp. 27-36.

Servaes A and Tamayo A (2012). The Impact of  Corporate   Social Responsibility on Firm    Value: The Role of Customer Awareness London Business School and London School of Economics July 2012.

Uadiale OM and Fagbemi TO (2011). "Corporate Social Responsibility and Financial Performance in Developing Economies: The Nigerian Experience". The 2011 New Orleans international Academic Conference.

University of Miami (2007). "A Guide to Corporate Social Responsibility (CSR)" Retrieved on 13/05/2013 from http://www6.miami.edu/ethics/pdf-files/csr-guide.pdf

Vitezić N (2011). Correlation between social responsibility and efficient performance in Croatian enterprises Zb. rad. Ekon. fak. Rij. • 2011 • vol. 29 • sv. 2 • 423-442 423.

Yamane T (1967). "Statistics, an Introductory Analysis, 2nd Education, New York: Harper and Row.

Yang F, Lin C and Chang Y (2010). The linkage between corporate social performance and corporate financial performance African Journal of Business Management Vol. 4(4), Pp 406-413, April 2010 Available online at http://www.academicjournals.org/AJBM ISSN 1993-8233 © 2010 Academic Journals.

**APPENDIX 1**

**Regression**

**Notes**

| Output Created | | 14-Jul-2013 04:07:21 |
|---|---|---|
| Comments | | |
| Input | Data | C:\Users\mm bello\Desktop\9BANKS DATA.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 45 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION<br> /DESCRIPTIVES MEAN STDDEV CORR SIG N<br> /MISSING LISTWISE<br> /STATISTICS COEFF OUTS R ANOVA CHANGE<br> /CRITERIA=PIN(.05) POUT(.10)<br> /NOORIGIN<br> /DEPENDENT LogPAT<br> /METHOD=ENTER LogCSR<br> /RESIDUALS DURBIN HIST(ZRESID) NORM(ZRESID)<br> /CASEWISE PLOT(ZRESID) OUTLIERS(3). |
| Resources | Processor Time | 00:00:02.371 |
| | Elapsed Time | 00:00:02.272 |
| | Memory Required | 1492 bytes |
| | Additional Memory Required for Residual Plots | 656 bytes |

DataSet3] C:\Users\mm bello\Desktop\9BANKS DATA.save

**Descriptive Statistics**

| | Mean | Std. Deviation | N |
|---|---|---|---|
| LogPAT | 6.2832 | 2.29412 | 45 |
| LogCSR | 5.0211 | .80238 | 45 |

**Correlations**

|  |  | LogPAT | LogCSR |
|---|---|---|---|
| Pearson Correlation | LogPAT | 1.000 | .306 |
|  | LogCSR | .306 | 1.000 |
| Sig. (1-tailed) | LogPAT | . | .020 |
|  | LogCSR | .020 | . |
| N | LogPAT | 45 | 45 |
|  | LogCSR | 45 | 45 |

**Variables Entered/Removed[b]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | LogCSR[a] | . | Enter |

a. All requested variables entered.

b. Dependent Variable: LogPAT

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  | R Square Change | F Change | df1 | df2 | Sig. F Change |  |
| 1 | .306[a] | .094 | .073 | 2.20914 | .094 | 4.451 | 1 | 43 | .041 | 1.682 |

a. Predictors: (Constant),LogCSR

b. Dependent Variable: LogPAT

**ANOVA[b]**

| Model |  | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 21.720 | 1 | 21.720 | 4.451 | .041[a] |
|  | Residual | 209.852 | 43 | 4.880 |  |  |
|  | Total | 231.572 | 44 |  |  |  |

a. Predictors: (Constant), LogCSR

b. Dependent Variable: LogPAT

**Coefficients**[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.886 | 2.110 | | .894 | .376 |
| | LogCSR | .876 | .415 | .306 | 2.110 | .041 |

a. Dependent Variable: LogPAT

**Residuals Statistics**[a]

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Predicted Value | 4.4160 | 7.8120 | 6.2832 | .70260 | 45 |
| Residual | -6.43848 | 2.79457 | .00000 | 2.18389 | 45 |
| Std. Predicted Value | -2.658 | 2.176 | .000 | 1.000 | 45 |
| Std. Residual | -2.914 | 1.265 | .000 | .989 | 45 |

a. Dependent Variable: LogPAT

## Histogram

### Dependent Variable: LogPAT



Mean = -4.48E-16
Std. Dev. = 0.989
N = 45
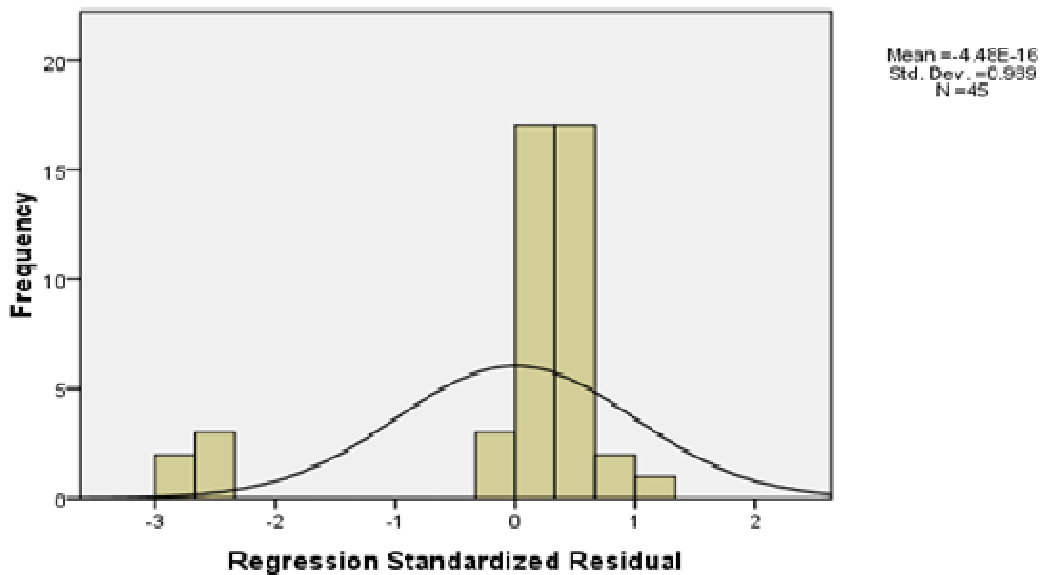
## Normal P-P Plot of Regression Standardized Residual

### Dependent Variable: LogPAT