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CAPITAL STRUCTURE AND PROFITABILITY OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

The study investigated the impact of capital structure (proxy by debt to total asset ratio and debt to equity ratio) on profitability (proxy by return on asset) of listed DMBs in Nigeria for the period 2005-2014. The population of the study comprises seventeen (17) DMBs listed on the Nigerian Stock Exchange (NSE) December, 2014. Out of which ten (10) banks constitute the sample of the study. The study adopted both correlation and ex-post facto research design. The data for the study was purely from secondary source obtained from the annual reports of the sampled banks. Data was analysed using several options of panel regression model estimable by random effect. But the most robust of all is OLS regression as suggested by 'Breusch and Pagan Lagrangian

Multiplier Test for Random Effect'. The results revealed that debt to total asset ratio has a significant positive impact on profitability of listed DMBs in Nigeria; while the impact of Debt-to-Equity ratio on profitability is found to be negative and statistically significant. Based on these findings the study recommends that banks' finance managers should identify the optimal capital structure that will help to attain the best financial performance in their various business dealings.

Keywords: Capital structure, Debt to total asset, debt to equity ratio and profitability

1.1 Introduction

Capital structure simply means the way a firm finance itself through debts, equity or hybrid securities. It is the combination of debt and equity that is needed for a firm to finance its assets. According to Beasley, Myers and Marcus (2001) capital simply refers to the firm's sources of long term financing which is the manager's duty to pay for investments in real assets. Specifically, the study focuses on the ability of a firm to finance its asset through debt or equity. Emphasis has been made on capital structure mix of a firm, as it often determines the return on asset (ROA). Capital structure decision is very important since the performance of a firm is directly affected by such decision. Return on assets is a key profitability ratio which measures the amount of profit made by a firm per naira of its assets. Returns on asset examine how efficiently management uses firm's assets to generate profit.

The key issue of this study is that firms can finance from a mix of financing sources, which can be either internal or external financing sources. And this has direct effect on the firm's ability to generate profit as being described in the literature. Traditional trade-off theory of capital structure refers to the idea that a firm selects how much debt finance and how much equity finance to use by balancing the costs and benefits. Pecking order theory starts with asymmetric information as managers know more about their firm's prospects, risks and value than outside investors. Asymmetric information affects the choice between internal and external financing and between the issue of debt or equity. Firms prefer internal financing which is the pecking order theory.

The goal of the capital structure decision is to determine the financial leverage that maximizes the value of the firm or minimizes the weighted average cost of capital. In the Modigliani and Miller theory developed without taxes, capital structure is irrelevant and has no effect on firm's value. Modigliani and Miller (1958) explained that the value of a firm is viewed as a function of financial

leverage while dividend and retained earnings are not deductible for tax purposes; interest on debt is a tax deductible expense.

Another vital imperfection affecting capital structure decision is the presence of bankruptcy cost. When a firm is unable to meet its obligation it results in financial distress that can lead to bankruptcy because a major contributor to financial distress is debt. Jensen & Meckling, (1976) put forward the concept of agency cost which recognises that the interest of managers and shareholders may conflict and managers may make major financial policy decision such as the choice of capital structure. Myers (1977) mentioned another type of agency cost of debt which arises from underinvestment problem.

This study attempts to analyse the impact of capital structure on profitability of listed DMBs in Nigeria. Therefore, the main objective of the study is to examine the effect of capital structure on profitability of listed DMBs in Nigeria; while the specific objectives are to:

- i. To examine the impact of debt to total asset ratio on profitability of listed DMBs in Nigeria.
- ii. To analyse the effect of debt to equity ratio on profitability of listed DMBs in Nigeria.

For the purpose of this study and in line with the stated objectives, the following hypotheses are formulated in null form:

H₀₁: debt to total asset ratio has no significant impact on profitability of listed DMBs in Nigeria

H₀₂: debt to equity ratio does not have significant effect on profitability of listed DMBs in Nigeria.

The finding of this research is expected to be helpful to potential investors for predicting firm performance and consequently affect their decision on whether to invest in high, moderate or low levered banks. It will also serve as an additional literature and basis of validating theory. The implication of the finding will be great contribution to regulatory authority (CBN).

The remaining part of the paper are organised as follows: Section 2 discusses the literature review and theoretical framework; Section 3 describes the methodology of the study as well as model of the study; Section 4 result interpretation and discussion of findings; and the last section (5) is conclusion and recommendation.

2.1 Literature Review and Theoretical Framework

Capital structure simply means the way a firm finance itself through debts, equity or hybrid securities. It is the combination of debt and equity that is needed for a firm to finance its assets. According to Brealey, Myers and Marcus (2001) capital simply refers to the firm's sources of long term financing which is the manager's duty to pay for investments in real assets. According to Pandey (2009) the directors or managers of a firm should work hard to achieve a capital structure that would be beneficial to equity shareholders and others like customers, employees, creditors and the society at large.

According to the business dictionary profitability which is measured by performance is the ability of a firm to create or produce net income on a regular basis. Ratio is used as a benchmark for assessing the profitability of a firm. Ratios help to summarise financial data and also to make qualitative judgement about a firm's performance. Return on assets is a key profitability ratio which measures the amount of profit made by a firm per dollar of its assets. It reveals the firms capacity to generate profits before leverage. Returns on asset examines the how efficiently management uses firms assets to generate profit. In the same vein, return on equity measures how profitable a firm is for the owner of the investment, and how profitably a firm employ its equity.

Capital structure is measured by ratios like debt to equity ratio, debt to total asset ratio, equity ratio of total asset. The return on asset (ROA) is practically used to measure performance (Ahmadina, Afrasiabishani & Hesami, 2012). This paper focused on ROA as a measure of bank's profitability while long term debt to total asset and long term debt to equity as the two proxy of capital structure.

Empirical studies have been conducted on the relationship between capital structure and profitability on firms. Many of these studies have identified some characteristics that affect the capital structure of firms. According to Chiang, Chan and Hui (2002) examined the inter-relationship between profitability, cost of capital and capital structure among property developers and contractors in Hong Kong. The result of this paper shows that capital gearing is positively related with asset but negatively with profit margins while Peterson and Rajan (1994) observed a significantly positive relationship between profitability and debt ratios in a study designed to investigate the relationship.

Muritala (2012) studied the optimum level of financial structure through which a firm can increase its profitability in Nigeria using annual data of ten firms spanning a five-year period. The result of this paper indicates that asset turnover,

size, firm's age and firm's asset tangibility are positively related to firm's profitability (ROA) while a negative and significant relationship was observed between asset tangibility and ROA as a measure of firm's performance. Ugwunta, Ani, Ugwuanyi and Ugwu (2012) In a study on the structure of the Nigerian banking sector and its impact on banks performance applied explanatory variables such as total deposit, concentration ratio in terms of deposit, the ratio of demand deposits to total deposit to the banking sector, the ratio of foreign assets to total asset and the number of banks while firm's performance was formally measured as return on asset (ROA) which serves as a dependent variable.

Tinusa and Babalola (2012) used panel data methodology to analyse the impact of corporate governance on financing structure decision of Nigerian firms. The study found that corporate governance has vital implications on the financing decisions of the firm. Ebaid (2009) based on a sample of non-financial Egyptian listed firms from reveals that capital structure decision has a weak to no impact on firm's performance. Saeedi and Mahmoodi (2011) indicated a negative relation between capital structure and ROA and no significant relationship between ROE and capital structure.

Akinlo (2011) analysed the determinants of financial structure of 66 firms listed in the Nigerian stock exchange during the period of 1997 to 2007 using panel data. The result shows that there is a negative relationship between leverage, growth and legibility, but negatively related to liquidity as well as size.

Kajola (2008) analysed four corporate governance mechanisms (board size, board composition, chief executive status and audit committee). The study observed that the relationship between board composition and the two firm's performance measures which are return on equity and profit margin are not statistically significant. The implication of this is that for the sampled firms there is no significant relationship between the firm's financial performance and the outside director sitting on the board.

Chechet (2014) examined the relationship between capital structure and profitability of Nigerian quoted firms, the study observed a negative relationship exists between profitability and equity. However a positive relationship exists between profitability and debt ratio.

Dare and Sola (2010) examine the relationship between capital structure and corporate performance in Nigeria petroleum industry using fixed-effect estimation, random effect estimation and maximum likelihood estimation". It was observed

that there was a positive relationship between earnings per share and leverage ratio on one hand and positive relationship between dividend per share and leverage ratio on the other hand.

Furthermore, Abor (2005) has analysed a significant positive relationship between the ratio of short term debt to total asset and profitability but a negative relationship between ratio of long term debt to total asset and profitability.

Dimitris, M. & Maria, P. (2008) examined the association between capital structure, ownership structure, and firm's performance across different industries using a sample of French manufacturing firms. They found that a negative relationship between past performance and leverage, and there would be a positive relation between performance and leverage.

Modigliani and Miller theorem in 1958 states that irrelevance theorem is true if the perfect market assumption underlying their analysis is true. The capital structure theory is characterised by various imperfections such as the existence of tax, bankruptcy costs and agency costs, these imperfections led to the development of further studies in this area. The propositions on capital structure made by Modigliani and Miller are among the most important contributions in the theory of capital structure. The theorem states that, the way a firm is financed is irrelevant to its value; a firm's value is affected by the capital structure it employs.

Trade off theory of capital structure is to explain the fact that firms usually are financed with a mixture of both debt and equity. The theory is used to refer to the idea that how much debt and how much equity to use by balancing the costs and benefits of debt. It explains that there is an advantage to financing with debt, the tax benefits of debt, the cost of financing with debt, and the cost of financial distress. The marginal benefit of further increases in debt declines as debt increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing.

According to Farlex (2012) a theory stating that, all other things being equal, companies seeking to finance a new project or product have a hierarchy of preferred financing options that progresses from the most preferred to the least preferred ". The pecking order view of capital structure states that internally generated funds are the most preferred, followed by new debt, and debt-equity hybrids. New equity is the least preferred source. The hierarchy is structured this way because of the transaction costs involved in each of the sources of financing. This means that internal funding has a lower transaction cost than debt issuance.

This paper contributes to the research agenda that justifies the pecking order theory of capital structure.

3.1 Methodology and Model Specification

The study adopts both correlational and ex-post facto research design. It is correlational because the study seeks to explore the relationship between capital structure and profitability by following quantitative approach, while it is ex-post facto because the study relies heavily on historical data. The population comprises all the seventeen (17) DMBs listed on the Nigeria Stock Exchange as at 31st December, 2014. Out of which nine ten (10) banks constitute the sample of the study. We made all effort to see that we drew adequate sample size, considering the size of the population (17) as well as the degree of precision required. The sample size covered 59% of the population. The data for the study was purely from secondary sources obtained from the annual report of the sampled banks. The period of the study covers 10 years (2005-2014). Multiple regression technique was adopted using panel data methodology. As such, the study employed the use of Ordinary Least Square (OLS) regression, Fixed Effect (FE) regression and Random Effect (RE) regression, and analysed the result using Stata 11.2 computer statistical software. Hence, the empirical results of the study are generated from the following regression model:

$$ROA_{it} = \beta_0 + \beta_1 DAR_{it} + \beta_2 DER_{it} + \beta_3 FS_{it} + \varepsilon_{it}$$

Where:

ROA_{it}: represent Return on Asset of the bank i in time t.

DAR_{it}: represent Debt to Total Asset Ratio of the firm i in time t.

DER_{it}: represent debt-to-equity ratio of the firm i in time t.

FS_{it}: represent Firm Size of the firm i in time t.

β₀: represent individual effect taken to be constant over time and specific to the individual cross- sectional unit

β₁-β₃: represent the coefficient of the explanatory variables.

ε_{it}: represent error term of random disturbance.

Table 3.1: Variable Measurements

Variables	Measurements
ROA	Profit After Tax (PAT) divide by Total Asset
DAR	Long Term Debt divide by Total Asset
DER	Long Term Debt divide by Total Equity
FS	Natural Logarithms of Total Asset

Source: The Authors, 2015

4.1 Results and Discussion of Findings

This segment presents the analysis of the data and tests of hypotheses formulated in section one of the work. First, descriptive statistics table is presented and analysed, followed by the correlation matrix table, validity and reliability test and the summary of regression result.

Table 4.1: Summary of Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	100	0.0179305	0.0131137	-0.03203	0.05262
DAR	100	0.1052781	0.1388228	0.000251	0.817
DER	100	0.2363968	0.2416993	0.0002	1.116
FS	100	16.17826	3.13673	12.06503	21.36741

Source: The Author, 2015

From table 4.1 above, the ROA (profitability) has a mean of 0.0179 (1.79%). The range of the ROA is from the minimum of -0.032 (-3.2%) to a maximum 0.0526 (5.26%). This shows that on average, the sampled banks during the period 2005-2014 were able to generate ROA of 1.79%. The minimum value is an indication that some banks reported loss to the extent of 3.2% during the period, while the maximum profit during the period stood at 5.26%. The standard deviation of 0.013 signifies that there is not much disparity from the mean value and that the data deviate from the mean value from both side by 1.3%.

Furthermore, the statistics show that capital structure (measured by the DAR) has a mean of 0.10528 (10.528%) with a standard deviation of 0.1388, and the minimum and maximum of 0.000251 and 0.817 respectively. This shows that the values are not centered around the mean value i.e. there is much dispersion away from the mean because the standard deviation is greater than the mean. The mean value indicates that the proportion of debt in the total assets of the sampled banks was at 10.528%. The minimum value shows that some banks did have less than 1% (0.0251%) as DAR while some banks had up to 81.7% as DAR. The standard deviation indicates that DAR varied greatly across the banks.

Debt-to-equity ratio (DER) has a mean value of 0.2364, while the range is from the minimum ratio 0.0002 up to a maximum of 1.116. This shows that on average the firms have debt ratio of 24%, implying that firms prepared much of equity financing to debt financing. As the minimum values signifies that some firms did not have up to 1% debt (0.02%) in relation to equity, some firms' debt financing

surpass equity financing by 11.6%. The deviation of 0.2417 is an indication that there is much dispersion around the average financing 24%.

It is observed that among the independent variables, DER has the highest standard deviation and therefore it shows that the DER has the least contribution to the endogenous variable. While on the other hand, DAR has lowest standard deviation and it therefore shows its highest contribution to the stimulant of the study.

Table 4.2: Correlation Matrix

Variable	ROA	DAR	DER	FS
ROA	1.0000			
DAR	0.4257**	1.0000		
DER	-0.2408*	0.0223	1.0000	
FS	-0.1291	0.1996*	-0.2311*	1.0000

Source: The Author, 2015

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

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

The correlation matrix is used to determine the degree of association between independent variables and dependent variable. It is also used to identify whether there is a relationship among the independent variables themselves, to be able to detect if multicollinearity problem exists.

From the table above, we can see that the correlation coefficient between DAR and ROA is 0.4257 significant at 1% level. This suggests that there exist a significant and strong positive association between DAR and ROA. This implies that the relationship between the two moves in the same direction; when DAR increased it is expected that ROA will also increase. Moreover, the correlation coefficient between debt-to-equity ratio (DER) and ROA is -0.2408; suggesting a significant negative association between the two at 5% level. The relationship between the control variable (FS) is found to be negative, but statistically insignificant

The correlation matrix shows some level of multicollinearity; as FS correlated with DAR and DER. In order to ascertain whether this presence of multicollinearity will pose a problem to the statistical inferences, the study further conducted multicollinearity test, using Variance Inflation Factor (VIF) and its

reciprocal (1/VIF). The test reveals that the presence of multicollinearity will not invalidate our result. This is because VIF are consistently smaller than 10 while its reciprocals are consistently less than 1. The mean VIF for all the independent variables is 1.07.

Table 4.3: Summary of Robustness Tests

	Statistics	P-Values
Hausman-Chi2	2.39	0.4964
LMTRE-Chi2	0.40	0.2642
Hetttest-Chi2	0.12	0.7338
Mean VIF	1.07	

Source: The Authors, 2015

Note: LMTRE is ‘Breusch and Pagan Lagrangian Multiplier Test for Random Effect’

Data for the study is panel in nature and panel data may lead to error that are clustered and possibly correlated overtime. This is because each bank may have its own entity specific characteristic that can influence its profitability (i.e. unobserved heterogeneity). And this may bias the outcome variable or even the explanatory variables. As such there is need to control for that. For that purpose, fixed effect (FE) regression and random effect (RE) regression were ran. The Hausman Test suggest that RE regression is more appropriate for the data. This can be confirmed from the Chi2 value of 2.39 with a probability value of 0.4964. This suggests that entity specific attributes have no significant effect on the outcome variable.

Since the hausman test suggests the RE regression result, then there is need to further conduct another test to see whether there is a statistical variance among the unit in the panel. To test for that, ‘Breusch and Pagan Lagrangian Multiplier Test for Random Effect’ was adopted. Finally, the test result reveals that there is no statistical significant variance among the unit in the panel data. This can be observed from the chi2 value of 0.40 and a P-value of 0.2642. Thus, this suggests that OLS technique is more appropriate for the data of this study. Hence, the inference will be made based on the results produced by the OLS regression.

Furthermore, to satisfy the basic assumption of classical linear regression of OLS, the study test to see whether there exist heteroskedasticity in the data; the study

used ‘Breusch-Pagan and Cook-Weisberg test for heteroskedasticity.’ The null hypothesis assumes that the variance of the residuals is constant. The test suggests absence of heteroskedasticity, as the chi2 value is 0.12 and the p-value is 0.7338. This attest that the model is good. In addition to that, multicollinearity test was also conducted using VIF and its reciprocal (1/VIF) i.e. tolerance value. No multicollinearity threat was found; as the VIF are consistently smaller than 10 while the tolerance values are consistently smaller than 1. The mean VIF is 1.07. All this proved that multicollinearity will not pose a problem to our inference and suggest the appropriateness of the model in fitting the independent variables of the study.

Table 4.4: Summary of Regression Result (OLS)

Variable	Coefficient	t-values	P-values
Constant	0.0179796	2.70	0.008
DAR	0.041058	4.79	0.000
DER	-0.0137968	-2.78	0.007
FS	0.0000686	-0.18	0.861
R²	0.2441		
Adj R2	0.2205		
F-Stat.	10.34		
F-Sig			0.000

Effects of DAR on profitability of listed DMBs in Nigeria

The impact of debt-to total assets ratio (DAR) on profitability of listed DMBs is found to be positively strong; and statistically significant at 1% level. This can be confirmed from the t-value of 4.79 and a p-value of 0.000. This implies that capital structure measured in term DAR has a significant positive impact on the profitability of listed DMBs in Nigeria. The implication of this finding is that an increase in the proportion of debt in the total assets will lead to increase in profitability of listed DMBs in Nigeria. The beta coefficient of 0.041 implies that for every increase of DAR by 1%, profitability of listed DMBs in Nigeria will approximately increase by 4%. Therefore, the finding provides evidence to reject the null hypothesis which states that DAR has no significant effect on the profitability of listed DMBs in Nigeria. The finding is in tandem with those of Ebaid (2009), Saeedi and Mahmoodi (2011), Chechet (2014).

Effects of DER on profitability of listed DMBs in Nigeria

From the table, the t-value for capital structure measured in term of debt to equity ratio (DER) is -2.78 and a beta coefficient of -0.0138 with a p-value of 0.007. This implies that DER has a significant negative impact on profitability of listed DMBs in Nigeria at 1% significant level. This also implies that the higher the debt to equity ratio the lower the performance of the banks in term of return on assets

(ROA). The beta coefficient indicates that 1% increase of DER can result to fall in profitability of listed DMBs in Nigeria by 1.38%. This provides evidence to reject the null hypothesis earlier formulated, which states that DER does not have significant impact on profitability of listed DMBs in Nigeria. The finding is in line with those of Ebaid (2009), Saeedi and Mahmoodi (2011), Chechet (2014).

Firm size, measured in term of total asset was introduced in the model to control for bank performance (profitability-ROA). The result shows that size has no significant effect on the profitability of listed DMBs in Nigeria. This can be confirmed from the t-value of -0.18 with a corresponding p-value of 0.861.

Cumulative result shows that the coefficient of determination (R^2) has a value of 0.2441. This indicates that the independent variables (DAR, DER, and FS) were able to explain the variation in the profitability of listed DMBs to the extent of 24% only, while the remaining 76% are explained by other factors not captured in the model. The adjusted R^2 (which adjusted for the number of variables in the model that have strong correlation) has a value 0.2205 (22%). This implies that DAR, DER, and FS cumulatively play a significant role in explaining profitability of listed DMBs in Nigeria. The regression result reveals fitness of the model for having F-statistics of 10.34 and a p-value of 0.0000. The implication of this result is that the overall impact of the explanatory variables on the dependent variable is significant at 1% level, with 99% level of confidence. Lastly, the study concludes that the capital structure plays a significant role in explaining the profitability of listed DMBs in Nigeria during the period under review

5. Conclusions and Recommendations

The study examines the effect of capital structure on profitability of listed DMBs in Nigeria. The results revealed that debt to total asset ratio has a significant positive impact on profitability of listed DMBs in Nigeria; while the impact of Debt-to-Equity ratio on profitability is found to be negative and statistically significant. It is recommended that banks' finance managers should identify the optimal capital structure that will help to attain the best financial performance in their various business dealings.

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. xtset id year, yearly
      panel variable: id (strongly balanced)
      time variable: year, 2005 to 2014
      delta: 1 year
```

```
. xtreg roa dar der fs, fe
```

```
Fixed-effects (within) regression
Group variable: id
Number of obs   =    100
Number of groups =     10
R-sq:  within = 0.0730
      between = 0.4734
      overall  = 0.1879
obs per group: min =     10
               avg  =    10.0
               max  =     10
corr(u_i, Xb) = 0.2204
F(3,87)        =     2.28
Prob > F       =    0.0845
```

roa	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dar	-.0272593	.0122633	2.22	0.029	-.0028847	.0516338
der	-.0109506	.0060056	-1.82	0.072	-.0228874	-.0009861
fs	-.0007594	.0012763	-0.60	0.553	-.0032962	.0017773
_cons	.0299359	.0204513	1.46	0.147	-.0107133	.0705852
sigma_u	.00575106					
sigma_e	.01124091					
rho	.20745232	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(9, 87) = 1.65 Prob > F = 0.1140
```

```
. est store fe
```

```
. xtreg roa dar der fs, re
```

```
Random-effects GLS regression
Group variable: id
Number of obs   =    100
Number of groups =     10
R-sq:  within = 0.0691
      between = 0.7086
      overall  = 0.2439
obs per group: min =     10
               avg  =    10.0
               max  =     10
corr(u_i, X) = 0 (assumed)
Wald chi2(3)    =    19.80
Prob > chi2     =    0.0002
```

roa	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
dar	.0367046	.0096065	3.82	0.000	.0178763	.055533
der	-.0132201	.00524	-2.52	0.012	-.0234903	-.0029498
fs	-.0000868	.000498	-0.17	0.862	-.0010629	.0008894
_cons	.0185951	.008359	2.22	0.026	.0022117	.0349785
sigma_u	.00342046					
sigma_e	.01124091					
rho	.0847442	(fraction of variance due to u_i)				

```
. est store re
```

```
. hausman fe re
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
dar	-.0272593	.0367046	-.0094454	.0076225
der	-.0109506	-.0132201	.0022694	.0029342
fs	-.0007594	-.0000868	-.0006727	.0011751

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

```
Test: Ho: difference in coefficients not systematic
```

```
chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = 2.39
Prob>chi2 = 0.4964
```

. xttestu

Breusch and Pagan Lagrangian multiplier test for random effects

$$\text{roa}[id,t] = \text{xb} + u[id] + e[id,t]$$

Estimated results:

	Var	sd = sqrt(Var)
roa	.000172	.0131137
e	.0001264	.0112409
u	.0000117	.0034205

Test: Var(u) = 0

chi2(0) = 0.40
Prob > chi2 = 0.2642

. reg roa dar der fs

Source	SS	df	MS	Number of obs =
Model	.004156527	3	.001385509	100
Residual	.01286839	96	.000134046	F(3, 96) = 10.34
Total	.017024917	99	.000171969	Prob > F = 0.0000

R-squared = 0.2441
Adj R-squared = 0.2205
Root MSE = .01158

roa	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
dar	.041058	.0085763	4.79	0.000	.0240341 .0580818
der	-.0137968	.0049611	-2.78	0.007	-.0236444 -.0039491
fs	-.0000686	.00039	-0.18	0.861	-.0008428 .0007056
_cons	.0179796	.00666	2.70	0.008	.0047597 .0311996

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

H0: Constant variance
Variables: fitted values of roa

chi2(1) = 0.12
Prob > chi2 = 0.7338

. vif

Variable	VIF	1/VIF
fs	1.11	0.904623
der	1.06	0.941708
dar	1.05	0.955196
Mean VIF	1.07	

. su roa dar der fs

Variable	Obs	Mean	Std. Dev.	Min	Max
roa	100	.0179305	.0131137	-.03203	.05262
dar	100	.1052781	.1388228	.000251	.817
der	100	.2363968	.2416993	.0002	1.116
fs	100	16.17826	3.13673	12.06503	21.36741

. correlate roa dar der fs
(obs=100)

	roa	dar	der	fs
roa	1.0000			
dar	0.4257	1.0000		
der	-0.2408	0.0223	1.0000	
fs	0.1291	0.1996	-0.2311	1.0000