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Performance Management and Market Capitalisation of Listed Oil and Gas Companies in Nigeria

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Abstract:
Market capitalization has become a universally accepted indicator of business valuation. The capitalization of a company is the product of the price of a share for the number of shares issued and listed. The global market crash of 2008 led to the Nigerian stock market losing nearly N9 trillion causing many shareholders to lose interest in the capital market. The inconsistency of reduced dividend payments, dwindling retained earnings and re-investment of profits by the management of these companies are creating worries and concerns for financial analysts and shareholders at large which have adversely affected market capitalization. Therefore, the study examined the effect of performance management on the market capitalization of listed oil and gas companies in Nigeria. The study adopted an ex-post facto research design and the population consisted of 11 listed oil and gas companies. The sampling techniques were purposive and convenient. Data used were secondary data from financial statements of the 6 selected listed oil and gas companies. The validity and reliability were premised on a statutory audit of the financial statements. Data were analyzed using descriptive and inferential statistics and Performance Management (PM) measure significantly affects with Market Capitalization of oil and gas companies listed in Nigeria F-Stat/Wald Stat (Prob)= $F_{(5, 114)}$ = 123.11 (0.0000), AdjR^2= 0.8369, P< 0.05). The study recommends that managers should not be interested in estimating previous costs behaviour patterns only in projects appraisal, they should be investigating cost dependence and their behaviour on different factors to reduce their overhead cost. Knowledge of cost behaviour and dependence may lead to lower overheads (production and administrative) that ultimately result in a better valuation of market capitalization.

Keywords: *Performance management, market capitalization, finance cost, research and development and production overhead*

1. Introduction

Management decisions are not limited to project's viability but also on the changes it is expected to bring in the value of a company. The efficient performance of a company as reflected by its continued earnings results in better valuation of market capitalization. Market capitalization has become a universally accepted indicator of business valuation. It represents the aggregate value of a company or stock and market capitalization by taking into account the current market price (Jaya & Sundar 2012). Traditionally, economic growth rate depends upon growth of industrial, agricultural and service sector but stock market has also become one of the major contributors for capital formation and has straight impact on the economy across the world. Capital formation is an integral part of economic growth and development and it plays an important role in the economic theory of production and distribution. Recently the Nigerian stock market is witnessing heightened activities and is increasingly gaining importance. Market capitalization makes a remarkable contribution to company's management, index calculation, classification of companies, a desideratum for the investment strategies for investor and measuring and overall growth of the stock market. The success or failure of imperative decisions like mergers, acquisitions and takeovers has great impact on the value of a company. Similarly, acceptance of new projects also has a bearing on its value. Thus, as the performance of a business is expressed by the overall profits and losses over a specified period during that time (Oyakhire, 2021).

Given the current state of the business environment, constraints on the strategic directions of investment activities in the oil and gas companies, the performance of quoted oil and gas companies has not been impressive in recent

times. As many industries depend on the oil sector for fuel, generate energy, etc, many investors and public at large have lost confidence given the pervasiveness of the oil on the entire economy (Asaolu & Ilo, 2012). The current global environment underscores the need for oil and gas companies to become more resilient and able to quickly adapt to changes in domestic and global markets, which will allow them to achieve higher returns on asset turnover. One of the key factors in achieving this goal is to increasing the potential of the oil and gas industry to attract strategic investment and introduce better technologies to increase return on asset, but some management teams of these oil and gas companies invest in new product lines and technologies, but the results often do not guarantee high returns on asset turnover. Market capitalization is an important market indicator of the value of shares and the value of companies in general (Tochukwu, 2016). Market capitalization by taking into account the current market price, which reflects the current value and the total number of shares which reflects the size, gives a clear picture of the market value of a company. The success or failure of imperative decisions like mergers, acquisitions and takeovers has a great impact on the value of a company. Similarly, acceptance of new projects also has a bearing on their value. Thus, management takes any decision not only on the project's viability but also on the changes it is expected to bring in the value of a company. The efficient performance of a company as reflected by its continued earnings results in a better valuation of market capitalization (Predrag & Kucinar, 2019).

Performance is a contextual concept associated with the phenomenon being studied. But in the context of organizational financial performance, performance is a measure of the change in the financial state of an organization or the financial outcomes that result from management decisions and the execution of those decisions by members of the organization (Banerji, 2018). Since the perception of these outcomes is contextual, the measures used to represent performance are selected based upon the circumstances of the organization being observed or achieved, either good or bad (Banerji, 2018). The failure of business leaders to prioritize shareholder wealth maximisation has resulted in poverty, weak infrastructure, insecurity, poor governance, weak public sector, and corruption, which allows tax evasion, corporate exploitation, abuse of employment rights, environmental degradation and other corporate externalities. The inconsistency of reduced dividend payments, dwindling retained earnings and re-investment of profits by the Management of these companies are creating worries and concerns for financial analysts and shareholders at large (Taimur, Harsh, & Rekta, 2015; Ordu, Enekwe & Anyanwaokoro, 2018). The importance of market capitalization in terms of efficient performance of a company reflecting by its continued earnings results in a better valuation cannot be over flogged (Predrag & Kucinar, 2019). This aspect of corporate finance has attracted the attention of researchers leading to different school of thoughts as regards distribution of profits to firms' shareholders as well as retaining earning to be reinvested in the business. Management need to use the right strategy to do their job optimally. Overall, there have been difficulties translating growth strategy into tactical and operational level activities, this have resulted in an ineffectiveness of strategies that contribute to poor corporate return on assets. It is based on the above assertions that the researcher decided to investigate the effect of performance management on market capitalization of oil and gas companies in Nigeria.

2. Literature Review

The concept of performance, as defined in the dictionaries of French, English and Romanian, is more of the idea of the outcome, achieved goal, quality, and less the economic aspects of efficiency and effectiveness (Owino, 2019; Gitonga & Nzulwa, 2019). This definition shows that the term performance was originally taken from the mechanics and sports fields, to subsequently be used to characterize the very good results also achieved in other fields. Furthermore, performance is obtained only by a limited number of entities, those who get the best results. Yet, performance cannot be associated with any result achieved, but only with a special one. What does "special" mean? In the first place, net superior to what was obtained in an earlier period, in the second place, superior to results obtained by "others" and, in a third-place, different by the objectives set, in a favourable acceptance. Currently, there are a variety of definitions attributed to the concept of performance due to its subjective nature.

Performance is closely related to the achievement of the criteria listed above, which can be regarded as performance objectives. According to Rothwell (2014), a precise definition of performance is dependent on the seven criteria of performance, therefore cannot be clearly defined. Folan (2017) also highlights three priorities or objectives of governance of performance: Firstly, performance should be analysed by each entity within the limits of the environment in which they decide to operate. For example, a company's performance needs to be analysed in the markets in which it operates and not those that are not relevant to its operations. Secondly, performance is always linked to one or several objectives set by the entity whose performance is analysed. Therefore, a company measures its performance against objectives and targets established and accepted internally rather than on those used by external bodies. Thirdly, performance is reduced to the relevant and recognizable features. According to Gamble (2019), performance is influenced by the environment, the objectives to be achieved and the relevant and recognizable features.

Gamble (2019) uses several definitions for the concept of performance as it should be analysed and quantified from several points of view. Nwokoye & Aigheyisi (2015) believes that performance should consider quantifying the efficiency and effectiveness of actions. This quantification can be expressed both qualitatively and quantitatively. According to the definition of Neely and other authors, performance is closely related to efficiency and effectiveness. On the contrary, Kerssens-van (2014) argues that the performance is "something that a person leaves behind and which exists outside the said purpose". According to Belog (2018), performance is defined at the level of each individual within the organization or the organization level. It is perceived as an understanding of the achieved results. The author emphasizes the particular nature of the definition and the impossibility of outlining a general definition. Therefore, we can speak of the accuracy of the definition at a particular level and the ambiguity of it at a general level. Unlike, Belog (2018), he points out,

"performance should be defined as the sum of the effects of work because they provide the strongest relationship with the organization's strategic objectives, the customer satisfaction and the economic contributions."

2.1. Market Capitalization

Market capitalization is an important concept because it allows investors to understand the size of a company and how much its worth on the market is. Since companies of different market-cap sizes vary in terms of their growth potential, income payments, and risk, spreading your investments among them is one way to balance your portfolio between appreciation and income, between conservative and aggressive (Odogunde, 2016). Market capitalization has become a universally accepted indicator of business valuation. It represents the aggregate value of a company or stock (Jalila & Komathy, 2019). The capitalization of a company is the product of the price of a share for the number of shares issued and listed. The sum of the capitalizations of companies listed on a market is equal to the value of the total capitalization of that financial market. Most studies suggest that the macroeconomic environment has an important effect on the stock market capitalization rate (Kurihara, 2016; Odogunde, 2016). Thus, the price of shares on the market reflects both endogenous factors (depending on the development of the single issuing company) and exogenous factors or 'scenario factors' relating to the general performance of the economy. It is generally difficult to identify the factors that most affect the stock price index. In recent decades, especially the interaction of the stock market with macroeconomic variables has been the subject of interesting studies (Rad, 2011).

2.2. Theoretical Consideration

This theoretical review provided the basic theoretical assumptions for this study. It focused on the relevant theory that can be applied to the variables and concepts in order to come up with a logical linkage.

2.3. Agency Theory

Agency theory was propounded by Jensen and Meckling in 1976. They suggested a theory of how the governance of a company is based on the conflicts of interest between the company's owners (shareholders), its managers and major providers of debt finance. Each of these groups has different interests and objectives. The shareholders want to increase their income and wealth. Their interest is in the returns that the company will provide in the form of dividends, and also in the value of their shares. The value of their shares depends on the long-term financial prospects for the company. Shareholders are, therefore, concerned about dividends, but they are even more concerned about long-term profitability and financial prospects because these affect the value of their shares. The managers are employed to run the company on behalf of the shareholders. However, if the managers do not own shares in the company, they have no direct interest in future returns for shareholders, or the value of the shares. Managers have an employment contract and earn a salary. Unless they own shares, or unless their remuneration is linked to profits or share values, their main interests are likely to be the size of their remuneration package and their status as company managers. The major providers of debt have an interest in sound financial management by the company's managers so that the company will be able to pay its debts in full and on time. Jensen and Meckling (1976) defined the agency relationship as a form of contract between a company's owners and its managers, where the owners (as principal) appoint an agent (the managers) to manage the company on their behalf.

2.4. Statement of Hypothesis

The following hypothesis was tested in this study:

- $H_0 1$: Performance management will not significantly affect market capitalization of listed oil and gas companies in Nigeria.

The a-priori expectation of the study was that $H_0 1 = \beta > 0$.

2.5. Empirical Review

Pareek (2017) explored the effect of financial leverage on shareholders' return and market capitalization of automotive cluster companies of Pithampur, India. The seven major automotive public companies were undertaken for representation of the cluster. Simple linear regression analysis was carried out to judge the impact of financial leverage on shareholders' return and market capitalization individually to find out the state of influence of the leverage. The study discussed the probable causes of the findings opening new avenues of research. They suggested that bankers and debt providers should help the industry out by charging a lower cost of debt.

The study of Jaya and Sundar (2012) adopted a time series approach in the analysis and the quarterly data have been used for the period of 2003 - 2011. The sample Information Technology firms were chosen from BSE500 Index. The results of the multiple regression analysis of the market capitalization indicate that 91 per cent of the variation in the market capitalization for the study period has been explained by the variables included in the equation viz., Equity and Liquidity. The variable 'equity' has more influence on the increase in market capitalization than the variable liquidity. The results of the granger causality test establish that there is only a unidirectional relationship between equity and market capitalization while there is a bi-directional relationship between liquidity and market capitalization.

3. Methodology

The *ex-post facto* research design was used in this study to examine the effect of the independent variable on the dependent variable of the study. The population of interest for this study comprised the total number of listed oil & gas companies on the Nigeria Stock Exchange as of 31st December, 2020. The total population of the study was eleven (11) oil

and gas companies listed on the NSE. The period of the study was for 19 years from 2002 to 2020. The sample size was six (6) oil and gas companies (Ardova Oil & Gas, Eterna Oil & Gas, Conoil, MRS Oil & Gas, Oando Oil & Gas and Total Oil & Gas) achieved through the use of the purposive sampling technique. The purposive sampling technique was appropriate while seeking information and the researcher wants to have critical insight regarding the research questions (Loh, 2015).

Data used were secondary data from financial statements of the listed oil and gas companies. This study aimed at evaluating the effect of Performance Management on the market capitalization of listed Nigerian oil and gas companies. Data for this study included panel data extracted from the companies' financial statements for the analysis and explanation of the variables of the study.

Data obtained from the companies' audited financial statements were analyzed through both descriptive and inferential statistics. The descriptive analysis was used to organise and characterize the data (mean, standard deviation minimum, maximum, etc) while inferential analysis was used to validate the study's hypothesis. In analysing data and testing the research hypotheses, Multiple regression analysis was used by employing E-View statistical software. The Hausman test was carried out to test the fixed and random effect model of the hypothesis.

3.1. Research Model

The models below were used to establish the effect of performance management on market capitalisation of listed oil and gas companies in Nigeria. The essence was to establish whether there was a linear relationship among the variables of the study for the samples selected as well as the sample period of study.Thus, the models were developed as follows:

$MC = \alpha_{it} + \beta_1 RG_{it} + \beta_2 SC_{it} + \beta_3 RD_{it} + \beta_4 FC_{it} + \beta_5 PO_{it} + \varepsilon_{it}$

Where;

RG = Revenue Growth
SC = Staff Cost
RD= Research & Development
FC = Finance Cost
PO=Production Overhead
MC= Market Capitalisation
α = the constant of the variables
$\beta_1 - \beta_5$ = Coefficients of the parameter estimates
ε = the error term of the linear model

4. Data Presentation and Analysis

4.1. Descriptive Statistics for Selected Listed Oil and Gas Firms of the Nigerian Stock Exchange

The study consisted of six listed firms on the Nigerian Stock Exchange for the period 2002 – 2020. The descriptive statistics presented in Table 1 were the mean, maximum, minimum and standard deviations and the numbers of observations.

Model				
Pooled OLS Regression				
Variable	Coeff	Std. Err	T-Stat	Prob
Constant	1.0034	2.7691	0.36	0.718
RG	-0.00012	0.0046	1.49	0.146
LnSC	0.2337	0.1639	1.43	0.157
LnRD	0.4451	0.1089	4.08	0.001
LnFC	0.0066	0.0779	0.09	0.932
LnPO	0.1501	0.1339	1.12	0.265
Adj R^2	0.8369			
F-Stat/Wald Stat (Prob)	$F_{(5, 114)} = 123.11$ (0.0000)			
Hausman Test	$chi^2_{(4)} = 122.98$ (0.000)			
Testparm Test/LM Test	$F_{(8, 562)} = 1.40$ (0.1468)			
Heteroskedasticity Test	$chi^2_{(1)} = 0.69$ (0.4073)			
Autocorrelation Test	$F_{(1, 71)} = 7.742$ (0.0388)			

Table 1: Regression and Post-Estimation Results for Hypothesis
Source: Researcher's Computation, (2022)
Independent Variable: MC
Note: All the Analysis Was Tested at a 5% Significance Level

$MC_{it} = \alpha_{it} + \beta_1 RG_{it} + \beta_2 SC_{it} + \beta_3 RD_{it} + \beta_4 FC_{it} + \beta_5 PO_{it} + \varepsilon_{it}$

$MC_{it} = 1.0034 - 0.0012 RG_{it} + 0.2337 SC_{it} + 0.4451 RD_{it} + 0.0066 FC_{it} + 0.1501 PO_{it} + \varepsilon_{it}$

4.2. Interpretation

4.2.1. Post-Estimation Results

The result of the Hausman test with the *p-value* of 0.0000, being less than the 5 per cent level of significance chosen for the study reveals that fixed effect is the appropriate estimator according to its null hypothesis which states that there is a presence of unsystematic difference in the model coefficients; thus, the study does reject the null hypothesis. However, the result of the confirmation test (Testparm) carried out, having a *p-value* of 0.1468 did not support the outcome of the Hausman test and proved that Pooled OLS is the best estimating technique for Model. The result of the heteroskedasticity test (p = 0.4073) and autocorrelation test (p = 0.0388) revealed that the model did not suffer heteroskedasticity and autocorrelation issues and thus the ordinary Pooled OLS was used in estimating the model 5.

The regression analysis results presented in Model one as presented in Table 1 showed that:

There exists a negative relationship between Revenue Growth (RG) when associated with Market Capitalization. This is depicted by the negative sign of the coefficients (β_1 = -0.00012). Table 4.3.5 also showed that other independent variables Staff Cost (SC), Research and Development (RD), Finance Cost (FC) and Production Overhead (PO) have positive relationships with Market Capitalization as depicted by the positive signs of their coefficients (β_2 = 0.2337), (β_3 = 0.4451), (β_4 = 0.0066) and (β_5 = 0.1501) respectively.

From the probabilities of the T-test results at the 5% chosen level of significance for this study, Table 1 depicted that only Research and Development (RD) has significant individual relationships with Market Capitalization as reflected in the probability values (p = *0.001)*. This implies that, from the model, only Research and Development (RD) is a significant factor influencing changes in with Market Capitalization of oil and gas companies listed in Nigeria.

Likewise, Revenue Growth (RG), Staff Cost (SC), Finance cost (FC), and Production Overhead (PO) in the model are not significant factors influencing Market Capitalization of the selected listed oil and gas companies in Nigeria, as seen in their probabilities of T-statistics (p = *0.146),* (p = *0.157),* (p = *0.932),* and (p = *0.265)* respectively.

Concerning the magnitudes of the estimated parameters, a 1 per cent increase in Staff Cost (SC), Research & Development (RD), Finance cost (FC) and Production Overhead will lead to a .23, 0.45, 0.01 and 0.15 increase in Market Capitalisation of the selected listed oil and gas companies in Nigeria. Likewise, a 1 unit increase in Revenue Growth (RG) will have no impact on the Market Capitalisation of the selected listed oil and gas companies in Nigeria.

The Adjusted R^2 measures the proportion of the changes in the Market Capitalization as a result of changes in Revenue Growth (RG), Staff Cost (SC), Research and Development (RD), Finance cost (FC), and Production Overhead (PO) depicts that about 84 per cent changes in the with Market Capitalization of the selected listed oil and gas companies in Nigeria was attributable to the interactions of the Performance Management (PM) proxies in the model, while the remaining 16per cent were from other factors not captured in the model.

4.2.2. Decision

Based on the probability of F-statistics of 0.0000 at the degree of freedom 5:114 being less than the 5% chosen significant level of the study, this study thus decide that the null hypothesis for model five which states that 'Performance Management (PM) does not significantly affect with Market Capitalization of oil and gas companies listed in Nigeria' be rejected while accepting the alternate hypothesis and concluded that 'Performance Management (PM) significantly affects with Market Capitalization of oil and gas companies listed in Nigeria.'

5. Findings, Conclusions and Recommendations

5.1. Findings

The result of the Hausman test with the *p-value* of 0.0000, being less than the 5 per cent level of significance chosen for the study reveals that fixed effect is the appropriate estimator according to its null hypothesis which states that there is a presence of unsystematic difference in the model coefficients; thus, the study does reject the null hypothesis. However, the result of the confirmation test (Testparm) carried out, having a *p-value* of 0.1468 did not support the outcome of the Hausman test and proved that Pooled OLS is the best estimating technique for Model 5. The result of the heteroskedasticity test (p = 0.4073) and autocorrelation test (p = 0.0388) revealed that the model did not suffer heteroskedasticity and autocorrelation issues and thus the ordinary Pooled OLS was used in estimating the model 5. The Adjusted R^2 measures the proportion of the changes in the Market Capitalization as a result of changes in Revenue Growth (RG), Staff Cost (SC), Research and Development (RD), Finance cost (FC), and Production Overhead (PO) depict that about 84 per cent changes in the Market Capitalization of the selected listed oil and gas companies in Nigeria was attributable to the interactions of the Performance Management (PM) proxies in the model, while the remaining 16 per cent were from other factors not captured in the model. Based on the probability of F-statistics of 0.0000 is less than the 5% chosen significant level of the study, this study, thus, decides that the null hypothesis for model One which states that 'Performance Management (PM) does not significantly affect with Market Capitalization of oil and gas companies listed in Nigeria' be rejected while accepting the alternate hypothesis and concludes that 'Performance Management (PM) significantly affects with Market Capitalization of oil and gas companies listed in Nigeria.'

5.2. Conclusion

The study further concluded that Performance Management (PM) significantly affects with Market Capitalization of oil and gas companies listed in Nigeria. And the specific objective five, which was to evaluate the effect of performance Management on the market capitalization of oil and gas companies listed in Nigeria, was achieved.

In a nutshell, considering the statistical significance of performance management variables on the market capitalization of selected listed oil and gas companies, this study concluded that there is a statistical relationship between performance management and market capitalization as seen in the study by Mugenda (2018); Crabtree & De Busk (2012); and Suresh (2015).

5.3. Recommendation

Many organizations in Nigeria need to improve their processes to increase their market value. This need does not go unnoticed, but due to many innate and extraneous factors, they tend to resist change. Based on the findings, a number of recommendations offered to address issues of performance management on the market capitalization of listed oil and gas companies in Nigeria. Business leaders of these oil and gas companies should strategically enhance their market share through expansion of their business to new territories and markets to gain larger market. Oil and gas Business executives should also study and identify the strategies to predict future fundamentals both internally and externally that will impact their bottom line (profit) and market value that ultimately result in a better valuation of market capitalization.

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Appendix

	---- Coefficients ----			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
rg	.0003021	.0006785	-.0003764	.
lnsc	.4546276	.8377346	-.383107	.0719957
lnrd	.4473303	.2370493	.210281	.0869457
lnfc	-.1636693	.1287466	-.292416	.0433529
lnpo	.0987419	-.1567227	.2554646	.

Table 2: Hausman Fixed Random

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 (5) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B)
= 122.98
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)
. test parmi. year

(1) 2002.year = 0
(2) 2003.year = 0
(3) 2004.year = 0
(4) 2005.year = 0
(5) 2006.year = 0
(6) 2007.year = 0
(7) 2008.year = 0
(8) 2009.year = 0
(9) 2010.year = 0
(10) 2011.year = 0
(11) 2012.year = 0
(12) 2013.year = 0
(13) 2014.year = 0
(14) 2015.year = 0
(15) 2016.year = 0
(16) 2017.year = 0
(17) 2018.year = 0
(18) 2019.year = 0

(19) 2020.year = 0
F (19, 90) = 1.40
Prob > F = 0.1468
. estathet test
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of lnmc
chi2 (1) = 0.69
Prob > chi2 = 0.4073
. xtserial lnmc rg lnsc lnrd lnfc lnpo
Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F (1, 5) = 7.742
Prob > F = 0.0388
. prais lnmc rg lnsc lnrd lnfc lnpo
Number of gaps in sample: 5 (gap count includes panel changes)
(Note: computations for rho restarted at each gap)
Iteration 0: rho = 0.0000
Iteration 1: rho = 0.6750
Iteration 2: rho = 0.7772
Iteration 3: rho = 0.7964
Iteration 4: rho = 0.8000
Iteration 5: rho = 0.8007
Iteration 6: rho = 0.8009
Iteration 7: rho = 0.8009
Iteration 8: rho = 0.8009
Iteration 9: rho = 0.8009

Source	SS	df	MS		
Model	198.035029	5	39.6070058	Number of obs	= 120
Residual	36.6756949	114	.321716622	F(5, 114)	= 123.11
				Prob > F	= 0.0000
Total	234.710724	119	1.97235903	R-squared	= 0.8437
				Adj R-squared	= 0.8369
				Root MSE	= .5672

lnmc	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
rg	-.0001056	.0006413	-0.16	0.870	-.0013759	.0011648
lnsc	.2337269	.1639712	1.43	0.157	-.0910989	.5585526
lnrd	.4451135	.1089689	4.08	0.000	.229247	.66098
lnfc	.0066863	.0779879	0.09	0.932	-.1478072	.1611798
lnpo	.1501987	.1339565	1.12	0.265	-.1151681	.4155656
_cons	1.003432	2.76908	0.36	0.718	-4.482094	6.488957
rho	.8009027					

Table 3: Prais-Winsten AR (1) Regression -- Iterated Estimates

Durbin-Watson statistic (original) 0.616910
Durbin-Watson statistic (transformed) 1.898868