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On the Performance of Foreign, Domestic Private and State Firms: Does Ownership Matter?

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Abstract:
The controversy over which firm performs better has continued to grow and research showing divergent result equally grows. This paper looked at the 3 controversial debates often cited in the theory of the business firm. They are the effect of ownership on firm performance, the agency theory hypothesis of management efficiency and the resources endowment postulation of the effect of superior technology on the performance advantage of foreign firms. With survey data and a cross sectional study in Nigeria, there were 3 important revelations made. The first is that ownership structure has no effect on firm performance; secondly, the management of the state firms is less efficient than the private owned ones; and lastly, technology used by the foreign firms is not a source of superiority over the domestic firms in developing countries like Nigeria. Hence, the agency theory is validated but the resource endowment theory was not. The paper concludes that even though ownership does not matter in the efficiency of firms, management really matters.

Keywords: *Firm, ownership, performance, matter*

1. Introduction

In a wave of public sector reform to tackle economic crisis, majority of the developing countries embarked on massive privatization exercise in mid 1980s to reduce pressure on public sector finance. Amid controversy, many developing countries intensified effort to transfer state owned firms to the private sector for either management or outright ownership. In Africa in particular and Nigeria inclusive, more than half of the state owned firms have been sold to the private sector since the privatization exercise began in mid 1980s (Agabi et al, 2014). Several reasons have been given for the transfer of the firms to the private sector. Among the reasons are the poor service deliveries as shown by their poor performance, inefficient use of resources and continued reliance on government for most of their expenditure needs.

Whether the reasons given for the privatization are good enough to justify the sale of the firms have been subject of debate. Supporters of the transfer of the firms to the private sector argue that privately managed firms actually perform better than the state owned ones (Shirley, 1992). Shirley (1992) holds the view that state firms are inefficient because they are shielded from competition and when privatized, exposure to market competition will bring efficiency in management. According to her, competition leads to an efficient use of resources because the owner has an interest to protect and an unperforming manager can be changed at will. Sjoholm (2006) shared Shirley's view that protection of ownership interest guarantees good supervision of management, and the threat of sack is a language to management to sit up.

Many of the opinions in developing countries are in support of the argument that state firms are riddled in inefficiency (Emeh, 2012; Abdullahi et al, 2012). According to Emeh (2012), inefficiency in state firms is pronounced from their inability to provide the services they are setup for, and as a result, the only available option has been to make them efficient through privatization. This assertion is consistent with the argument by Abdullahi et al. (2012) who supported the sale of the state owned firms in Nigeria to the private sector because they have continued to take away enormous resources of government without something to show in return. For Bartel and Harrison (2005), the essence of privatization of state firms is to enhance their efficiency. Tipping et al (2004) equally agreed that there is efficiency gap between the private and state owned firms, and hold the view that the gap can be more explained by managerial skill more than other forces like competition.

From the other side of the debate is an argument that state firms are as efficient as the firms owned and managed by the private sector (Basu, 2008). Based on a study in France, China, Japan, Germany, Indonesia, Sri Lanka, Latin America and Africa, Basu (2008) asserts that many state firms have performed creditably well at home as well as in the international scene. He gave many examples of state firms like EdF in France, Baosteel in China, ENI Italy, and Volkswagen in Germany, Pertamina in Indonesia, Indian Oil, and a host of others as some of the state owned firms whose outstanding performance has withstand the test of time. According to Basu

(2008), if government wants the state owned firms to deliver services as required, government must build strong management team within the civil service which must be free from interference.

In his own contribution, Ahmed (2012) states that there is difficulty in measuring efficiency in the operations of state firms because they do not produce goods that are sold in the market. According to him, the market value of such services like education and health are difficult to assess and makes it difficult to measure productivity of public expenditure. He maintained that the use of effectiveness concept proposed by Mandl et al. (2008) poses problem in developing countries because effectiveness of state firms in developing countries has a link with political choice. The same difficulty of measuring efficient performance in state owned firms was also noted by Erkoc (2013). The argument of Erkoc (2013) is that public sector firms produce goods whose prices are not determined by the market mechanism. The key point of the argument is that it is only when firms produce at the dictate of the forces of demand and supply that efficient resources allocation can be given serious consideration.

Empirically, there are divergent results on the performance difference between state and privately owned firms. Studies by Brouthers et al. (2007), Cornett et al. (2009) and Brown and Earle (2000) found evidence to support the argument that private owned firms perform better than state owned ones. In a cross-sectional study of banks under different ownership structure in Romania, Brouthers et al. (2007) discovered that banks with government majority holdings or involvement have lower financial performance than the ones under private ownership. Their result suggests that the greater the government stake in a bank, the less its financial performance compared to the ones under private ownership**.** This finding is consistent with the earlier study by Cornett et al. (2009) and Brown and Earle (2000) in 16 Far East countries and Russia. Cornet et al. (2009) discovered in a study in 16 Far East countries that those firms with greater government share interest perform less than the ones in private ownership. In the same vein, panel study in Russia by Brown and Earle (2000) suggests as well that private owned firms are more efficient than the state firms.

Based on the divergent results, there are three objectives pursued in this study. (1) It evaluated the effect of ownership structure on firm performance; (2) it tested the agency theory postulation that management is more efficient in private firms; (3) it evaluated the resource endowment hypothesis that the use of better technology gives foreign firms advantage over domestic firms. The analysis is timely considering that Nigeria is in post privatization assessment, with serious commitment to public-private sector partnership to reverse the increasing industrial sector poor performance recorded over the last two decades.

2. Theoretical Framework and Related Literature

The postulation of the agency theory that ownership of the business firm has effect on the performance of the firm raised research interest in the past decade. Agency theory hints that ownership structure matters in the performance of a business firm. In what it calls self interest, the school argues that private owned firms are more efficient than the state owned ones because in the private firm, there is an owner called the principal whose interest is at stake. Because the interest of the principal is at stake, he sets the objectives of the firm which management strives to achieve. Not only that the principal sets the objectives, he is always at hand to monitor the activities of management on daily or regular basis. Even if he is not always there, the record of the firm gives the principal feedback information on the efficiency of the management. Thus, the level of profit, turnover and sales revenue in the firm's records can be used by the owner anytime to make good assessment of the efficiency of management.

According to the agency theory, there is no principal owner who has personal stake in the business of the state firm. Because there is no principal owner, there is no one whose interest is at stake who can devote his time to monitor what is going on in the business. In the absence of such monitoring, everyone's business becomes nobody's business. Apart from the self interest which is absent in state firms, state firms most often pursue multiple objectives which are far from profit making. There is strong support in the argument of the agency theory that state firms pursue multiple objectives which affect their good performance (Khan, 2008; Adeyemo and Salami, 2008; Adeyemo, 2005). Khan (2008) maintains that state firms fail because they pursue the objectives of providing employment and social services at a time, two things which are conflicting and at the same go beyond profit making. While provision of social services is central, political office holders use public firms to promote their political gains for future election. This argument is consistent with assertion of Adeyemo and Salami (2008) and Adeyemo (2005) that state owned firms pursue objectives which are meant to reflect the political setting under which they are established.

Available literature have shown that there are strong evidence on both sides of the argument on the supremacy of the private firms over the state ones as well as the supremacy of the foreign firms over the domestic ones. They include evidence in America by Le and Choi (2009) which suggests that non-profit oriented hospitals are more efficient than the private ones which are setup under pure profit objective. Moreover, Ahmed (2012) found good performance in majority of public sector spending in Pakistan, suggesting that under normal circumstances, state firms can deliver efficiently. He however laments that there are inefficiency in some state owned firms.

Moreover, resource endowment theory argues that resource endowments gives the foreign owned firms performance advantage over the firms owned by the domestic agents, whether private or public. Its argument is that foreign owned firms come with superior technology, capital and managerial capability which may not be easy to come by, by the domestic firms in developing countries. Because of the use of superior inputs, they produce both better quality and cheaper goods in more efficient manner than the firms owned by the domestic agents. There are some empirical supports to this argument (Douma, George and Kabir, 2003 and Kimura and Kiyota, 2004). Study in Japan by Kimura and Kiyota (2004) confirms that foreign owned firms come with superior technology, managerial know how and corporate governance in their operation which give them added advantage over the local firms in business operation. However, there are empirical findings which did not support this argument.

Study in India by Pai and Hiremath (2013) suggests that there is no difference in performance between foreign owned firms and their domestic counterparts. The same finding was earlier made in a study in Portugal by Barbosa and Louri (2005) where it was discovered

that supremacy in input use did not give foreign owned firms advantage to perform better than the domestic owned ones. That means that in some countries, superior technology is never a factor to give foreign owned firms supremacy over their domestic competitor, and if there is any such supremacy at all, it must be as a result of other factors.
Yet, on the causes of the difference in the performance between the domestic and foreign owned firms, the argument of the Protectionist school is that foreign firms always perform better because they are more exposed to business competition than the domestic firms. The argument is that competition brings the best in management because they are always conscious of their rivals and try to avoid being over-run by them. In other words, competition leads to what Dasgupta and Li (2014) called 'weeding out' inefficient managers. That is to say, protection of domestic firms by the government leads to inefficient use of resource (Pedraja-Chaparro et al, 2005). Study in America by Dasgupta and Li (2014) shows that competition brings positive improvement in the efficiency of firms, which is in line with the study done in Russia by Brown and Earle (2000) which indicates that competition increases total factor productivity in firms.
In view of the divergent empirical findings, it is difficult to state categorically clear that ownership of firms matters in the performance of firms. Results have varied from one country to another, not minding the level of development of the economy. In Nigeria researchers have paid more attention to the performance of firms after privatization (Abdullahi et al, 2012; Alabi et al, 2010). Result of their study shows that some of the privatized firms improved in performance, while many instead of improving showed decline in some performance indicators. The issues of superiority between the state and private firms and foreign and domestic firms have not been investigated. The contributions of this research are many folds; namely, an investigation of the assumed higher efficiency of private firms over the state owned ones, investigation of the effect of management skills on the performance of different categories of firms, and an examination of the effect of resource use on the performance of foreign and domestic firms.

3. Data and Methodology

The Nigerian Industrial Sector Performance Survey carried out in 2008 by National Bureau of Statistics (NBS, 2008) covered all the six geopolitical zones of Nigeria. It was a comprehensive survey of all the industrial activities in the country and all the firms that were active by the time of the survey. The survey covered retail business, micro enterprise and manufacturing activities. In the manufacturing sector, 1458 firms owned by the state, private Nigerians and foreigners were surveyed. The survey provided information on ownership structure, capital base, employment, sales, infrastructure, management quality and many more. This study used the data on the 1458 manufacturing firms to achieve the three objectives stated earlier.

3.1. The Model

There are 3 specific objectives the work was set to achieve and it is important to build our model according to each objective. The first is to examine performance difference among the 3 categories of firms in our study. Thus;
$R_i = f(Z_i, X_i)$……………………………………………………………………………… 1
where;
R_i= growth in sales revenue of firm i as a measure of performance,
Z_i= ownership structure specific to firm i
X_i = vector of M inputs by firm i which affect performance
i= individual firm, i= 1,2,…n (n= 1458)
Under the hypothetical assumption of performance differential among firms in public and private ownership, equation 1 is decomposed further;
$R_i = \alpha_0 + \alpha_1 Dp_i + \alpha_2 F_i + \alpha_3 S_i + \alpha_4 K_i + \alpha_5 M_i + \alpha_6 L_i + \mu_i$ ………………………………2
Where
Dp= privately owned domestic firm; S is the state owned firms; K= capital that signifies technology or machinery and equipment; M= Management experience (years of experience of top manager); L= labour; α_0= intercept; $\alpha_{1, \dots} \alpha_5$ = coefficients; μ_i = error in the model, and other variables remain as defined before.
The second objective is to test the agency theory hypothesis which maintains that management of the private sector firms is more efficient than the state owned ones. In order to investigate this, management interaction model was developed, hence,
$R_i = \beta_0 + \beta_1 DPM_i + \beta_2 FM_i + \beta_3 SM_i + \beta_4 DPL_i + \beta_5 FL_i + \beta_6 SL_i + \mu_i$ ………………………………. 3
From equation 3, *DPM, FM* and *SM* are the management associated with private domestic, foreign and state firms respectively, and *DPL, FL* and *SL* are the quality of labour (education level) employed by the private domestic firms, foreign and state firms respectively.
Finally, for the resource endowment hypothesis,
$Ri = \lambda_0 + \lambda_1 DPK_i + \lambda_2 FK_i + \lambda_3 SK_i + \lambda_4 DPL_i + \lambda 5FLi + \lambda_6 SL_i + \mu_i$ ……………………………………………… 4
DPK, FK and SK are the capital associated with private domestic firms, foreign and state firms respectively

4. Result

4.1. Ownership Structure and Firm Performance

Variable	coeff	Std error	t	p>/t/
DP	0.0099895	0.0053954	1.85	0.064*
F	0.0193824	0.0063561	3.05	0.002**
S	0.0225604	0.0093636	2.41	0.016**
K	0.5824632	0.0133327	43.69	0.000***
M	-0.000213	0.0018116	-0.01	0.991
L	0.0028981	0.0003438	8.43	0.000***
Const	6.742596	0.5804579	11.62	0.000***

Table 1: Dependent Variable (revenue growth)

R^2= 0.63
Source: analysis from regression result
*= significant at 10%
**= significant at 5%
***= significant at 1%

The first step taken was to find out whether ownership structure affects the performance of firms in Nigeria as postulated. Table 1 is the result showing the performance of the 3 categories of firms studied. Firm ownership was analysed alongside other factors that affect firm performance. From the result, all the 3 types of ownership (state, private domestic and foreign) had positive coefficients. It implies that ownership of firms has no negative effect on the performance of the firm. However, management experience had negative coefficient, and implies that the longer the years the top manager stays in office, the less he/she contributes to the good performance of the firm.

An important startling revelation made in the research is the effect of firm ownership on the performance of the firm. The notion that state owned firms are less efficient than the private ones is not validated here. From the result in table 1, the 3 types of ownership contribute positively to the revenue growth of the firms as shown in their coefficients. When state share in a firm increases by one unit, the revenue growth of the firm will increase by 0.02 point. Similarly, when foreign share in a firm increases by 1 unit, the revenue performance of the firm will increase by 0.02 point. In the same vein, when the share acquired in a firm by a private domestic agent increases by one unit, the revenue of the firm will increase by 0.01 point. The test of significance shows that foreign and state ownership are significant at 5% level while the private domestic ownership is significant at 10%. Here, the good performance of the state owned firms may be attributed to the fact that the state firms that are included in the survey are those which had good track record to survive the privatization exercise, and the result turned out as expected. The result falls in line with recent cross-country study of developed and emerging economies by Lazzarini and Musacchio (2015) which shows that private owned firms do not show superior performance over state ones.

4.2. Agency Theory Hypothesis

Variable	Coeff	Std error	t	p>/t/
DPM	0.0000252	0.0000274	0.92	0.357
FM	0.0009421	0.000472	2.00	0.046**
SM	-0.018541	0.030123	-0.62	0.538
DPL	0.0000634	0.000000506	12.53	0.000***
FL	0.0004816	0.0000948	5.08	0.000***
SL	0.0031774	0.004233	0.75	0.453
Const	16.05802	0.0479476	334.91	0.000***

Table 2: Dependent Variable (revenue growth)

R^2 = 0.15
Source: analysis from regression result
**= significant at 5%
***= significant at 1%

Agency theory pointed out that the privately managed firms perform better than the state ones because the private firms have an indentified individual who has ownership claim of the business. Because there is someone who lays claim to the business, he is always at hand to monitor the activities of the manager. The school argues that monitoring and incentives inherent in privately owned firms have positive effect on management efficiency. The theory attributes the management problem of state firms to lack of individual

ownership, and since no one has personal interest at stake to protect, there is no personal motivation which will warrant monitoring and closer supervision of the management. To evaluate this hypothesis, management interaction model was developed in equation 3. The result of the analysis is presented in table 2 above. From the result presented in table 2, the coefficient of the management of private domestic firms and foreign ones is positive. It implies that the type of management employed by the private domestic and foreign firms contribute positively to the revenue growth of the firm.
However, management of state firms has negative coefficient, indicating that the contribution to the revenue growth of the firm is negative. From the coefficients of the 3 types of management, as the year of experience of the top manager of the foreign firm increases by one unit, the revenue of the firm will increases by 0.0009 points. In the private domestic firm, as the year of experience of the top manager increases by a unit, the revenue of the firm will increase by 0.00003 points. Unfortunately, if the year of experience of the top manager of the state firm increases by a unit, the revenue of the firm will fall by 0.02 points. The result suggests that the management of the private firms is more efficient than those of state ones. The result is consistent with the agency theory's postulation, that is, the management of Private firm is more efficient than that of the state ones. Moreover, the test of significance result reveals that only the management of the foreign firm is significant at 5 percent level of significance.

5. Resource Endowment Hypothesis

Variable	Coeff	Std error	t	p>/t/
DPK	0.0051765	0.0001348	38.4	0.000***
FK	0.0053121	0.0003319	16.00	0.000***
SK	0.0682144	0.0413487	1.65	0.099
DPL	0.0000319	0.000000366	8.73	0.000***
FL	0.0002422	0.0000763	3.17	0.002**
SL	-0.017285	0.0114944	-1.50	0.133
Const	8.68346	0.1942492	44.70	0.000***

Table 3: Dependent Variable (revenue growth)

R^2= 0.58
Source: analysis from regression result
*= significant at 10%
**= significant at 5%
***= significant at 1%

The resource endowment school argues that the use of superior technology gives foreign firms the advantage to perform better than the domestic firms. The postulation was tested in this study using the technology employed by the 3 categories of firms to measure the quality of machine and equipment used in the business operation of the firms. The result of the analysis is presented in table 3 above. From the result, the coefficient of the technology (DPK, FK, SK) employed by the 3 categories of firms is positive. The implication is that technology employed by the state, private domestic and foreign firms contribute positively to the revenue of their individual firms. For instance, when technology input in state firms increases by a unit, the revenue of the firms increase by 0.068 points. Similarly, a unit increase in technology employed by foreign and private domestic firms will lead to 0.005 points increase in the revenue of both the foreign and private domestic. It suggests that the technology used by the foreign firms is not superior to the one used by the domestic firms. Therefore, the resource endowment hypothesis is not valid in Nigeria going by this analysis.
The above research result is consistent with the finding in Portugal by Barbosa and Louri (2005) which shows that supremacy of input use did not give foreign owned firms the advantage to outperform local firms. Hence, even if such superiority has existed in the past, globalization has made it possible for technology to be accessible to all and sundry, whether foreign or domestic firm and irrespective of distance or country.

6. Conclusion

This study was an effort to investigate one of the controversial issues in the theory of the business firms which has continued to generate debate. There were three important areas the study made useful contribution in the ongoing debate. The first is the argument suggesting that privatization of state firms is because privately owned firms are more efficient than the state owned ones. The study has revealed that state firms are as efficient as privately owned firms. The second controversial issue addressed is the contention by the agency theory that the management team of the private firm is more efficient than the state ones. The finding in this study suggests that the theory is valid in Nigeria.
Finally, it has been argued that foreign firms use superior technology which gives them advantage over the domestic owned firms. Again, this study lends support to the earlier study by Barbosa and Louri (2005) in Portugal suggesting that there is no such technology advantage enjoyed by foreign firms to outperform the domestic firms. On the other hand, management is shown to be the major problem of the state owned firms and source of their inefficiency. While ownership does not matter, management really matters in the performance of the firm.

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