

## **ECONOMICS, POLITICS AND AFRICA'S QUEST FOR DEVELOPMENT: EMPIRICAL EVIDENCE FROM THE LIBERALIZATION OF THE NIGERIAN FERTILIZER INDUSTRY**

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### **ABSTRACT**

At independence in the 1960s, great hopes were raised on the possibility of African countries becoming “developed” within the shortest possible time. However, almost 50 years later, it appears economic development has completely eluded African countries. This paper argues that Africa’s quest for development is thwarted principally by the negative influence of politics on economics. It attempt at providing empirical evidence of how politics influence economic outcomes in Africa, from the circumstances of the liberalization of the Nigerian fertilizer industry. The lack of sustained political will and commitment to push through the then Federal Military Government’s adoption of a complete fertilizer liberalization policy in 1997 by the politicians since 1999 leads to the emergence and sustenance of the present dual fertilizer distribution arrangement: one regulated and the other completely deregulated. This paper evaluates the consequence of this political action on the performance of the agricultural crop sector of the economy. Its central hypothesis is that the present dual fertilizer marketing arrangement has not led to any significant increase in fertilizer use and area put under cultivation with fertilizer requiring crops. Time-series data on fertilizer use and maize hectareage for the period 1990-2006 were collected; grouped into two: control period (1990-1996) and liberalization period (1997-2006); and analysed using the Student’s t test technique for comparison of means of independent samples. Results indicated (i) that more fertilizer was apparently used before the liberalization period, and (ii) that more land area was put under maize cultivation before the liberalization period. The paper concluded that the politicisation of the process of the liberalization of the Nigerian fertilizer industry is counter-productive as it does not translate to improvements in fertilizer use and agricultural crop hectareage.

**Keyword:** Economics, Politics, Development, Africa, Nigeria.

### **INTRODUCTION**

Few years after most African countries have attained independence in the 1960s; great hopes were raised on the possibility of these countries becoming “developed” within the shortest possible time. According to Amucheazi (1980), one of the driving forces which sustained the quest for independence was the belief that development would necessarily follow independence: as soon as citizens were allowed to manage their own affairs they would so conduct the affairs of their nations that the countries would quickly attain the level of development already attained by the western world. After more than a decade of independence, Heeger (1974) observed that it appears economic development has completely eluded African countries as “underdevelopment threatens to become a permanent condition rather than a transitory stage”.

Africa’s quest for development, especially economic development, is hampered by various constraints. It is the position of this paper that politics is, perhaps, the most basic of them as it, alone, have the means to plan and execute much of the

necessary work needed for economic development. In fact, the key assumption of the structural adjustment framework for economic policy reform in Africa was that state and state interventionism were the sources of economic distortions to African economies since independence (Colclough and Manor, 1991; Lensink, 1996; Olukoshi, 2004). The influence of politics on economic outcomes has been established in the literature (Schultz, 1976; North, 1981; Jones, 1981; Olson, 1982; North and Weingast, 1989; Alesina and Rodrik, 1994; Besley and Coate, 1998).

Nonconformity between the expected or planned performance of the economy and its actual performance as evidenced in the results of policy measures can be approached in terms of (a) incompatibility between economic and political objectives of policy, and (b) an inconsistent application of instrument. Lal (2006) observed that technically and economically sound, reform programmes all over the world often falter because governing politicians stall in implementing the measures fully, though they may have publicly agreed with their formulation. The politicians' possibility function is not determined solely by economics. One reason is that their preference function includes objectives which are not directly related to the economy. This implies a specific choice of economic policy objectives not necessarily in line with the set of policy objectives of the economist. According to Schmitt (1976), policy makers, unlike "economists", do not intend to achieve Pareto optimality – even if they have all the information and instruments at hand necessary to achieve it. Acemoglu (2005), observed that much of the literature on the influence of politics on economic outcomes were based on North (1981) central argument: the politically determined structure of property rights need not maximize the efficiency or the growth potential of the economy; instead, it strives to maximize the returns to the rulers or politically strong groups. Consequently, the actual policies will yield a lower level of collective well-being when compared with the planned policy.

African governments were generally characterized as lacking the requisite political will required to push through harsh but necessary austerity in a consistent manner. Instead, they adopted a stop-go approach that entailed pandering to public opinion or succumbing to interest group pressure that translated into frequent policy reversals and backsliding. Thus' procrastination of tough decisions that needed to be taken resulted in the complication of the task at hand and, as a consequence, many economies slides deeper into crisis (Hussain and Faruquee, 1994;; Thomas and Chhibber, 1989; World Bank, 1989, 1992, 1994).

## **STATEMENT OF THE PROBLEM**

The significance of agriculture to Africa's development cannot be over emphasized. It is a fact of life that most of Africa's populations are still living in rural areas where their livelihood depends on agriculture. Since the majority of people in Nigeria, and by extension Africa, are engaged in agriculture, evaluating the consequences of "what politicians do to agriculture" is crucial for the understanding of Africa's quest for development. The empirical evaluation the consequences of the political action that resulted in the emergence of the present dual fertilizer distribution arrangement, one regulated and the other completely liberalized, on the performance of the agricultural crop sector is the theme of this paper. (See the review of related literature below for the historical background to the fertilizer problem).

## **OBJECTIVES**

The main objective of this paper is to answer the question: after more than a decade of politicised liberalization, did the politicised liberalization of the Nigerian fertilizer industry translate to improvements in fertilizer use and agricultural crop hectareage?

Specific objectives of the paper are to ascertain:

- (i) Change in quantity of fertilizer used before and during fertilizer liberalization.
- (ii) Change in total area under maize cultivation before and during fertilizer liberalization.

The following hypotheses were formulated and tested in this study:

- (i) There is no significant change in quantity of fertilizer used before and during fertilizer liberalization.
- (ii) There is no significant change in total area under maize cultivation before and during fertilizer liberalization.

## **CONCEPTUAL FRAMEWORK**

As mentioned earlier, a substantial body of literature establishes the influence of politics on economic outcomes. Our primary interest is the effect of the present fertilizer policy on agricultural crop production. The conceptual framework for this study is based on the following argument: (i) that increase performance of the agricultural crop sector, that could be attributable to the present fertilizer policy, will result from increase in fertilizer use and hectareage expansion of fertilizer requiring crop, induced by the policy; (ii) that any change in fertilizer use and hectareage of fertilizer requiring crop will indicate a change in performance of the agricultural crop sector that is attributable to the policy in place.

## **REVIEW OF RELATED LITERATURE**

Fertilizer is well recognized as a major factor in increasing food production. It has become the 'backbone' of agricultural development programmes in many countries. According to FMA (1982), the World Bank Strategy Mission attributed 60% of incremental crop production output in Nigeria to the use of fertilizer, while 40% was expected from hectareage expansion. Fertilizer is considered a 'lead' practice, which predisposes the farmer to adopt other improved practices. Every improvement in varieties and agronomic practices that increases yields also increases fertilizer requirements. Increased amounts are needed to make possible potential yield increase due to improved practices and to replace additional nutrients removed from the soil (Arnon, 1987).

The government sees fertilizer as a vital commodity that should not be left to the care of the private sector which is regarded as exploitative and unreliable (World Bank, 1981). According to Ogunfowora (1996), the justification for government involvement is two fold, namely: (i) to ensure availability of fertilizer on time and at fair prices through out the country, (ii) to promote increased consumption through intensive extension activities by government agencies. A third justification was on the grounds that small-scale resource poor farmers cannot afford to pay high cost of fertilizer (Mwangi, 1997). A key component of government involvement is its subsidization of the fertilizer commodity. Consequently, different policies were put in place to promote efficient fertilizer production, distribution and use. As a result of these policies, there has been rapid growth in fertilizer consumption in Nigeria; rising from 186,000 MT in 1977 to over one million metric tonnes in 1994 (Ogunfowora, 1996).

As fertilizer consumption in Nigeria increases, the inadequacies of public sector controlled procurement and distribution arrangements began to manifest in leakages and transit losses, cross border trade in fertilizer, late and non-deliveries of fertilizer to designated depots, artificial scarcity, and unsustainable subsidy burden on the government (IFDC, IITA and WARDA, 2000; Isokrari, 1995; Ogunfowora, 1996; Peat-Marwick, 1993). The management of the subsidy programme made the 'middlemen' the main beneficiaries while farmers pay exorbitant prices for fertilizers when and if they get to buy (Ogunfowora and Odubola, 1994).

Accordingly, the fertilizer distribution policy witnessed a number of major changes since 1976 to address the various problems encountered during the implementation of these policies (see Ogunfowora, 1996 for a summary). However, every change in distribution policy gave rise to other unanticipated problems which tend to negate the anticipated benefits of the new policy.

The World Bank (1979, 1981) stressed liberalization as the panacea to the problems of the fertilizer industry. It pointed that by commercializing fertilizer procurement and distribution, the profit motive will quickly push fertilizer use to optimum levels and free government from the huge financial commitments on fertilizers; and argued that the subsidy policy and government involvement in importation, distribution and marketing do not encourage private sector participation in fertilizer sales promotion.

The persistence of the problems of fertilizer industry re-kindled policy makers' interest in the liberalization of the fertilizer sector, based on the report of the World Bank Fertilizer Loan II Mission, 1985 which concluded that: (a) the approach to fertilizer distribution and marketing needed to be broadened and revitalized to operate in a competitive environment; (b) commercialization of, and private sector participation in, fertilizer marketing was crucial to the maximization of efficiency and cost effectiveness; (c) fertilizer distribution operation should be based on transportation, storage and inventory management optimization model; (e) a viable credit programme was needed to eliminate financial constraints to the importation, marketing and purchase of fertilizer by farmers (Ogunfowora, 1985).

As a follow up to the aforementioned report's conclusions, five studies were commissioned by the World Bank, between 1985 and 1986, to develop the operational framework for increased private sector participation in the fertilizer industry. Implementation of the recommendations of these studies was stifled by the 1986 decision of the National Council of Agriculture (NCA) that procurement and distribution of fertilizer should continue to be the responsibility of the Federal Ministry of Agriculture through the Fertilizer Procurement and Distribution Division FPDD (Ogunfowora, 1996). The problems of the fertilizer industry persisted. A team of experts from IFDC-Africa and Nigeria was composed early in 1994 to conduct a study that would lead to the liberalization of the Nigerian fertilizer industry. A blue print was submitted in November 1994.

Liberalization generally refers to a relaxation of previous government restriction, usually in areas of social or economic policy. Economic liberalization is a broad term that usually refers to fewer governments' regulations and restrictions in the economy in exchange for greater participation of private entities. The argument for economic liberalization includes greater efficiency and effectiveness that would translate to a bigger pie for everybody (McKinnon, 1993).

The Federal Government of Nigeria (FGN) discontinued the fertilizer subsidy and adopted a complete liberalization of the fertilizer procurement and distribution process in Nigeria in 1997. Thus began, the era of fertilizer liberalization in Nigeria.

With the return to democratic rule in May 1999, as reported by Nagy and Edun (2002), the FGN reintroduced a fertilizer subsidy of 25% in May 1999; it then discontinued the subsidy in August 2000 and abolished the import fertilizer tariff. And again, it procured and subsidized a portion of Nigeria's fertilizer in 2001. The problem was further compounded by the procurement and subsidization of the fertilizer commodity by some states, such fertilizer are usually distributed through political channels and are easily diverted. To date, the Federal Government and the various states and local governments are directly involved in the fertilizer procurement and distribution process; a phenomenon that can only be explained by political sentiment rather than any serious reference to economics. This lack of political will and commitment on the side of the government to follow through the announced complete liberalization of the Nigerian fertilizer industry, consequently leads to the emergence and sustenance of the present dual fertilizer distribution arrangement: one regulated and the other completely deregulated.

## **METHODOLOGY**

Time series data on aggregate fertilizer use and total area under cultivation with maize crop in Nigeria for the period 1990-2006 were collected. The selection of maize as the fertilizer intensive crop used in this study is informed by reports that: (i) more fertilizer is used on cereal crops than any other, (ii) more than 70% of fertilizer devoted to cereals in Nigeria is used for maize crop production, (iii) Maize exhibited the best overall response to fertilizer among cereal crops and (iv) to most farmers, fertilizer is a determining factor of whether to produce maize at all (Enwezor et al, 1989; NAERLS, 2002; Kelly et al; 2005).

Time-series data on fertilizer use and maize hectareage for the period 1990-2006 were collected from secondary sources; grouped according to the two periods: pre-liberalization period (1990-1996) and liberalization period (1997-2006); and analysed using the Student's t test technique for comparison of means of independent samples, at the 5% level of significance. For a description of the Student's t test technique see Hogg and Craig (1995); Lehmann (1991); and Keller and Warrack (2003).

## **RESULTS AND DISCUSSIONS**

The time-series data on fertilizer use and maize hectareage in Nigeria for the period 1990-2006 collected from various secondary sources and used in this study are shown in Table 1. The data were analysed using SPSS for Windows version 16.0.

Table 1: Time Series Data on Maize Hectarage and Fertilizer Use in Nigeria (1990-2006)

Year	Maize Hectarage <sup>a</sup> (‘000 Ha)	Fertilizer Use <sup>c</sup> (MT)
1990	5105	380900
1991	5142	400340
1992	5223	429200
1993	5309	440000
1994	5426	461000
1995	5497	296000
1996	4273	183000
1997	4200	173500
1998	3884	137700
1999	3965	203500
2000	3999	173100
2001	4041	323874 <sup>d</sup>
2002	3282 <sup>b</sup>	325301 <sup>d</sup>
2003	3469 <sup>b</sup>	333156 <sup>d</sup>
2004	3479 <sup>b</sup>	346385 <sup>d</sup>
2005	3589 <sup>b</sup>	400734 <sup>d</sup>
2006	3905 <sup>b</sup>	431325 <sup>d</sup>

Sources: <sup>a</sup>Nagy and Edun (2002); <sup>b</sup>FAO (2009); <sup>c</sup>Nagy and Edun (2002); and <sup>d</sup>Nigeria Fertilizer Strategy Report (2006).

#### CHANGE IN QUANTITY OF FERTILIZER USED BEFORE AND DURING FERTILIZER LIBERALIZATION.

The Levene’s test for equality of variances was run to test the basic assumption of the t test technique, the homoscedasticity of the variances of the 2 groups. The calculated F value is 0.437 and the significant level (0.519) is higher than 0.05, which indicated that the assumption of homogeneity of variance has not been violated. From the results of the Student’s t test, the calculated t value of 1.698 is found to be not significant when viewed in relation to the computed p-value of 0.110, hence the null hypothesis is accepted and it is thus concluded that there is no significant difference in mean quantity of fertilizer use between the pre-liberalization period (1990-1996) and during liberalization (1997-2006). However, the mean difference of 85205.36MT indicates that the mean quantity of fertilizer use before the liberalization period is slightly, though not statistically significant, higher than the mean annual quantity of fertilizer used during the liberalization period. Thus, more fertilizer is apparently used before the politicised liberalization period.

## **CHANGE IN TOTAL AREA UNDER MAIZE CULTIVATION BEFORE AND DURING FERTILIZER LIBERALIZATION.**

The Levene's test for equality of variances was run to test the basic assumption of the t test, the homoscedasticity of the variances of the 2 groups. The calculated F value (0.001) is very low and the significant level (0.971) is higher than 0.05, which indicated that the assumption of homogeneity of variance has not been violated. Thus, the t value calculated based on the assumption of equality of variances was used. From the results of the Student's t test, the calculated t value of 7.905 is found to be highly significant when viewed in relation to the computed p-value of 0.000, hence the null hypothesis is rejected and it is thus concluded that there is a highly significant difference in mean total area under maize cultivation between the pre-liberalization period (1990-1996) and during liberalization (1997-2006). The mean difference of 1357.99 indicates that the total area under maize cultivation before the liberalization period is statistically and significantly higher than the mean total area under maize cultivation during the liberalization period with an annual mean of 1,357,985.71Ha. Thus, more land area was put under maize cultivation before the politicised liberalization period.

**Table 2: Results of Levene's test and t test.**

Variable	Assumptions	F-value	Sig.	t-value	Df	Sig.	Mean Difference
Fertilizer Consumption	Equal Variances assumed	0.437	0.519	1.698	15	0.110	85205.35714
	Equal Variances not assumed			1.716	13.529	0.109	85205.35714
Maize Hectarage	Equal Variances assumed	0.001	0.971	7.905	15	0.000	1357.98571
	Equal Variances not assumed			7.485	10.483	0.000	1357.98571

## **CONCLUSION AND RECOMMENDATIONS**

This paper is a modest attempt at evaluating the consequence of the political action that lead to the emergence and sustenance of the present dual fertilizer distribution arrangement: one regulated and the other completely liberalized, on the performance of the agricultural crop sector of the economy, with a view to providing evidence of the negative effects of political actions on economic outcomes in Africa's development.

The findings of this paper are: (i) while fertilizer liberalization was expected to lead to increase in fertilizer use, more fertilizer was apparently used before the politicised liberalization period, and (ii) while fertilizer liberalization was expected to lead to increase in land area put under cultivation with fertilizer requiring crops such as maize, more land area was put under maize cultivation before the politicised liberalization period.

The way and manner the liberalization measures were implemented, which resulted in the emergence and sustenance of the present dual distribution arrangement, did not lead to any significant improvement of the agricultural crop sector. It is the conclusion of this study that improved performance of the agricultural crop sector, resulting from increase in fertilizer use and hectarage expansion, has not been realized; in fact, fertilizer use and maize hectarage has been worse than before the politicised process of fertilizer liberalization in Nigeria.

Based on the findings of this study, the following lessons are noteworthy:

1. The evolutions of the forces that lead to the Federal Government's adoption of the complete liberalization of the Nigerian fertilizer industry in 1997 are noteworthy. Experts' prescription of liberalization as panacea to the persistent problems of the fertilizer sector was a force. However, there were other compelling forces of domestic origin: unsustainable subsidy burden on the government, leakages and transit losses, cross border trade in fertilizer, late and non-deliveries of fertilizer to designated depots, artificial scarcity etc. The rapid removal of subsidy coupled to the privatization and liberalization of the entire process of fertilizer import, production, procurement, distribution and pricing by the FGN in 1997 and 1998, bear testimony to the political will of a government committed to changing its mode of agricultural development.
2. Policy reform is a necessary ingredient for effective development. That the Government is still directly involved in the fertilizer procurement and distribution process is a phenomenon that can only be explained by political sentiment rather than any serious reference to economics. This lack of political will and commitment on the side of the government to follow through the announced complete liberalization of the Nigerian fertilizer industry, resulted in the emergence and sustenance of the present dual fertilizer distribution arrangement, an arrangement which the findings of this study has shown to be dysfunctional. Fertilizer was a technology generally unknown to farmers at the introductory stage, so policy that requires government involvement is necessary to create fertilizer awareness and encourage its adoption. However, the policy employed at the introductory stage must not be retained at all cost even when the importance of fertilizer have become well known to the farmers and the potential structures of a viable competitive market are available. In fact, the full liberalization of the Nigerian fertilizer market should have productively begun much earlier than 1997.
3. Independence, in the words of Batten (1960), does not make poor people rich, illiterate people literate, hungry people well fed, or sick people well. Nor does the mere fact of independence ensure good government. Real progress depends on the solving of a whole range of difficult problems, some economic, some social, and some political, of which gaining independence, however important it may be, is only one.

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