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IMPACT OF LIQUIDITY MANAGEMENT ON THE PERFORMANCE OF AGRIBUSINESS SECTOR IN NIGERIA (1978-2013)

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ABSTRACT: *The performance of the agro-industrial sector in terms of output and exports is of great importance in Nigeria, and the influence of liquidity management is of essence in assessing its growth and development. Therefor this research work is on determining the impact of liquidity management on the performance of agribusiness sector Nigeria (1978-2013). The data used was sourced from the central bank of Nigeria (CBN) statistical bulletin, and were analysed using multiple regression analysis statistical technique. The findings of the study revealed thatliquidity management had a strong bearing on the performance level in the agro-industrial sector in Nigeria.Liquidity management, value of ACGSF loans to agribusiness subsector, government capital expenditure on agriculture, value food import, and rainfall significantly determined agribusiness output in Nigeria within the period under review and based on the specified model. Liquidity management, aggregate producer's price, agribusiness output and aggregate world price of commodity index significantly determined quantity of agribusiness export in Nigeria within the period of study and based on the specified model.It is recommended that the government should display a high sense of commitmentin its liquidity management to bring about a realistic performance in the agribusiness sector.Farm support policies such as subsidization of agribusiness inputs to produce the desired multiplier effects on agribusiness and food production and the provision of yield increasing technologies are expedient in ensuring that the agricultural sector received the desired boosts and acceleration that it required to meet the food demand of the populace and are hence advocated. Output price incentive scheme is recommended but should not be designed as a welfare scheme rather emphasis of the scheme should be the attainment of the objectives of increasing agribusiness output and export in Nigeria within the possible short period of time.*

KEYWORDS*:* Liquidity Management, Performance, Agribusiness Sector, Nigeria

INTRODUCTION

The performance of the Nigeria agribusiness sector has attracted considerable attention since independence because of its potentials for rapid economic growth. The sector has the capacity to reduce poverty, disease and ignorance through wealth creation and employment generation.

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Despite these potentials and enormous contribution of agriculture to the Nigerian economy over the years, the sector has slipped into a systemic decline, particularly in the past ten decades since the petroleum industry replaced the sector as the main earner of government revenue and foreign exchange earnings. (FGN 2004). This systemic decline in the performance of this sector is as a result of some constraints. Among this constraints is inadequate working capital management, Marchet *et al* (2001) in his review of constraints of agribusiness argues that the problem of finance ranks first, thereby compounding other problems. Hence there is a need to ensure adequate and efficient management of the working capital.

Working capital management refers to the administration of all the components of working capital such as cash, marketable securities, debtors and stock receivable etc (Pandey 2007). Interestingly working capital components of a firm financial management deals with the liquidity aspect of a firm and hence fundamental for the effective and efficient operation as well as sustainability of its going concern status (Enyi 2006). It is worth mentioning from the outset that working capital and liquidity are used in this study to mean the same, and the synonym is based on the observation that working capital ratios are the most common measures of liquidity (Lamberg and Valming 2009). Liquidity is a vital factor in agribusiness operation, for the very survival of any agribusiness firm, the firm should have requisite degree of working capital. It should neither be excessive nor inadequate. In Nigeria the major source of liquidity (working capital) for the agribusiness firms is finance from the government in form of loan credit. Credit has for long been identified as a major input in the development of the agricultural sector. In fact, the lack of adequate, accessible and affordable credit is among major factors responsible for the systemic decline in the contribution of agriculture to Nigeria economy (Rhaji 2000). There for every segment of agricultural production requires the availability of adequate capital, since capital determines access to all other resources on which farmers depend (Ayoola and Oboh 2000). According to Oboh (2008), the usefulness of any agricultural credit program does not only depend on its availability, accessibility and affordability, but also on its proper and efficient allocation and utilization (i.e proper management) for intended uses by beneficiaries. Awoke (2004) also reported that high rate default arising from poor management procedures, loan diversion and unwillingness to repay loans has been threatening the sustainability of most public agricultural credit schemes in Nigeria. Hence this study tends to address the problem of liquidity and its management in agribusiness sector Nigeria. The broad objective is to determine the impact of liquidity management on the performance of agribusiness sector Nigeria within the period (1978-2013). The specific objectives of the study are to: determine the effect of liquidity management on the agribusiness output within the reference period; determine the effect of liquidity management on the agribusiness export within the reference period. The hypothesis test in this study is that liquidity management does not have any significant impact on the performance of agribusiness sectors in Nigeria.

LITERATURE REVIEW

Agribusiness is a concept that became popular in the early sixties. It arose along with recognition of the agro-processing sector as new emerging sector. It refers to all the activities involved in every sector that derives its existence from agriculture. Davis and Goldberg (1987) in his definition perceived agribusiness to mean the sum total of all operations involved in the production of enterprises on the farm manufacturing and distribution of farm supplies and the equalization as

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well as dispersion services (such as storage, processing, standardization, grading, picking, transportation and distribution) of farm products. Liquidity management is necessary in the growth of the agribusiness sector in Nigeria because effective management of the liquid resources will increase the output and profitability of the agribusiness firms, this is based on the statement "firm in order to survive must remain liquid, as failure to meet its obligation in due time results in bad credit rating by short term creditors, reduction in the value of goodwill in the market and may ultimately lead to liquidation (Bhavet 2011). According to Aburime (2008) profit means the difference in the revenue generated from the sales of output and the full opportunity cost of factors used in the production of the output. It is therefore important to note that quantity and efficiency of output determines the profit of the farm firm. Most empirical studies have established liquidity and profitability as the most important goals of working capital management and have been found to be universally associated with each other (Raheman and Nasir 2007, Shin and Soenen 1998, Pandey 2005, Van horn and Wachawics 2005).

Ekpebu (2006) revealed that the performance of the agricultural sector has been unsatisfying over the years due to insufficient funding of credit facilities, high cost of farm input and low technology base. Okoria (1986) identified some factors that have effect on loan repayment which includes the nature and time of disbursement, profitability of loan-receiving enterprise and the number of supervision visits by credit officers after disbursement. All the factors identified by Okoria when critically examined are associated to the ineffective management of the loans allocated to the sector both from the side of the regulatory authorities and the farmers as well. Trzeciak-Daveal (2003) opined that agriculture like other sectors of the economy needs credit for increased output and development. Therefore the government needs to inject more funds in the agribusiness sector for increase in output and significant contribution to the economic growth. Capital surpluses should be transferred from other sectors of the economy to agriculture and this is best facilitated by credit institutions (Ajobo, 1996). According to him such involvement would lead to increased agricultural output as well as rural development.Agriculture was the dominant sector contributing a significant proportion of the gross domestic product (GDP) in the 1960s (Ukeje, 2003). Cash crops such as cocoa, cotton, palm oil, palm kernel, groundnut, rubber, timber were the major export crops in the country. Following the oil discovery in the 1970s the sector became neglected. There was no more adequate funding by the government and regulatory authorities; as a result, there was no adequate working capital for the sector. Consequently agricultural GDP fell from 63% in the 1970s to 20.6% in the 1980 and decline to 23.3% in 2003 (Uger 2013). This steady decline and instability of the sector (Dutch disease) led to insufficient capital of the farmers. This is because the farm producing sector of the agribusiness depends more on funding from government and loan from some financial institutions. The performance of the farm producing sector of the agribusiness determines the performance of the output and the input sector, because the sector is the producer of raw material used by the output (Product) sector. The sector on the other hand use products from the input sector for its own production (Ebong 2007).
Liquidity management undoubtedly has effect on the output level of export commodities, inefficiency in its management may lead to dismal export performance thereby rendering Nigeria a net importer of agricultural products.

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METHODOLOGY

This study was carried out in Nigeria. Nigeria is situated along the coast of west Africa between latitudes 4^o and 14^o north of the equator and between 3^o and 15^o east of Greenwich. Nigeria is the most populous African country south of the Sahara (FOS 1992). Nigeria is bound on the west by Benin republic, on the north by Niger republic, on the east by Cameroun republic and on the south by the gulf of guinea. Nigeria occupies a land area of 923,768,622km^2 (98.3 million hectares). Nigeria is a geo-political and sovereign entity that is composed of 36 states and the Federal Capital Territory (FCT-Abuja). Although less than 25% of Nigerians are urban dwellers, at least 24 cities have populations of more than 100,000. In 2007, the total population of the country was approximately 143 million (NPC 2007). Secondary data sourced from the central bank of Nigeria (CBN) annual statistical bulletin report for the agribusiness sector necessary for the purpose of this study was collected. Other sources included published journals, articles, newspapers publication and internet materials. The data collected were analyzed according to the stated objectives of the study using multiple regression technique

In actualizing objectives; the model which explained the effect of liquidity management on agribusiness output was specified, and in its implicit form, was given as;

$AQ_t = f(VLGFA_t, GEA_t, FIMP_{t-1}, RF_t, RER_t, POPt, LM_t, Tt)$…….. 1
Where;
AQ_t= Aggregate agribusiness output (Gram equivalent) on period t.
$VLGFA_t$= Value of aggregate guaranteed agricultural loan (₦'million) in period t.
GEA_t= Government capital expenditure on agribusiness (₦'million) in period t.
$FIMP_{t-1}$= Value of aggregate food imports (₦'million) in period t-1.
RF_t= average annual rainfall (mm) in period t
RER_t= Real exchange rate (₦/$) in period t.
POP_t= Nigeria population (millions) in period t
LM_t= liquidity management (₦'million) in period t.
T_t= Trend variable (years).
On apriori ground, it was expected that coefficient estimates for $VLGFA_t, GEA_t, RF_t, POP_t, T_t, LM_t > 0$; and $FIMP_{t-1}$ and $RER_t < 0$ $LM_t$was the focus variable.
The model which explained the effect of liquidity management on agribusiness export was specified, and in its implicit form, was given as;
$AE_t = f(DPP_t, EXCH_t, LM_t, WP_t, AQ_t, T_t, ECM_t)$…… 2
Where;
AE_t= Aggregate agribusiness export (₦'Million) in period t.
DPP_t= Aggregate producers price (₦) in period t.
$EXCH_t$= exchange rate (₦/$) in period t.
LM_t= Liquidity management (₦) in period t.
WP_t= Aggregate world price of commodities index.
AQ_t= Aggregate agribusiness output (Grain equivalent) in period t
T_t= Trend variable (Years).
ECM_t= Error correction factor (%).

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RESULTS AND DISCUSSIONS

Effect of Liquidity Management on Agribusiness Output Performance

The estimated multiple regression results of the effect of liquidity management on agribusiness output performance in Nigeria is presented in table 4.5

Table 4.1: Regression result of effect of liquidity management on agribusiness output performance in Nigeria (1978 – 2013).

Variable	Linear	Exponential	Semi-log^{+}	Double-log
$ACGSF_t$	0.002(2.046)**	7.48E-05(0.130)	2863.485(3.917)***	0.094(3.813)***
$FIMP_{t-1}$	8.992(2.535)**	2.01E-02(0.090)	-2682.835(-2.267)**	-0.027(-0.334)
GEA_t	200.935(1.018)	-0.001(-1.923)*	2659.195(2.475)**	-0.135(-2.217)**
POP_t	-785.478(-1.826)*	-0.005(-0.180)	11174.420(0.804)	0.138(0.046)
RF_t	0.184(1.032)	2.46E-05(2.613)**	3388.470(2.876)***	1.166(3.318)***
RER_t	397.993(0.406)	-2.071(-1.830)*	-2809.598(-1.024)	-0.280(-2.348)**
LM_t	2299.001(2.041)**	-0.023(-0.211)	-352.994(-3.280)***	-0.093(-0.810)
Trend	-90.327(-0.986)	0.003(0.029)	767.612(1.212)	0.024(0.422)
Constant	-612.524(-2.521)**	0.084(1.916)*	3840.490(2.759)**	0.061(2.278)**
R^2	0.675	0.637	0.896	0.742
Adj R^2	0.642	0.608	0.879	0.728
F-Statistic	11.152***	10.397**	12.798***	11.297***
DW-test	1.858	2.572	2.104	2.355

***, ** and * represents 1% , 5% and 10% significance levels respectively. Figures in parenthesis are t-values. Sources: Computed by the author from CBN (2013) annual report and statement accounts for the year ended 31st December, 2013 and CBN (2013) statistical bulletin.

The semi-log model was chosen as the lead equation based on the number and signs of the significant variables and the level of the coefficient of multiple determinations over the other functional models. The overall goodness of fit of the equation, as indicated by the coefficients of multiple determinations ($R^2 = 0.896$), showed that the independent variables included in the model explained about 89.6 percent of the variations in agribusiness output (dependent variable) in the period under review. The F- statistics was significant and confirms the significance of the entire model. The Durbin-Watson statistic test for the existence of serial autocorrelation showed that there was no positive first-order serial autocorrelation at 1%, that is, DW (2.104) > Du (1.85).

Evidence from the result in table 4.5 indicates that liquidity management, value of ACGSF loans to agribusiness subsector, government capital expenditure on agriculture, value food import, and rainfall were significant determinants of agribusiness output in the period under review.

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Value of liquidity management (which is the focus variable) was negatively related to agribusiness output, an indication that agribusiness output decreased as value of liquidity management increased. This relationship is contrary to theoretical expectation. Increase in value liquidity management enables storing enough funds and raising funds quickly from the market to satisfy depositors, loan customers and other parties with a view to maintain public confidence. The inconsistency of the relationship between liquidity management and agribusiness output could be adjudicated to mean that formal financial institutions in Nigeria are not managing liquidity for investment in agribusiness well and as such the output from the sector was affected. Thus loans are not quickly made available for investment in agribusiness production. The repercussionary effect of this development is low profitability and output level of the agribusiness sector. Diversion of funds meant for agribusiness investment due to poor liquidity management also cost the sector a great deal in its output level, a justification for the decrease in agribusiness output in the face of increased liquidity management.

Value of loans to agribusiness subsector was positively related to agribusiness output, an indication that agribusiness output increased as value of ACGSF loan to agribusiness subsector increased. Government capital expenditure on agribusiness was positively related to agribusiness output an indication that agribusiness output increased as government capital expenditure on agribusiness increased. An increase in government capital expenditure on agribusiness will culminate into an increase in the agribusiness subsector's share of total government capital expenditure on agriculture. This will create an enabling environment for agribusiness production to strive through a reduced cost of production.

Average annual rainfall was positively related to agribusiness output. This indicated that agribusiness output increased as average annual rainfall, increased. An increase in rainfall enables crops to grow and produce fruits, thereby providing food for livestock and agribusiness development. Increase in crop, livestock and agribusiness output will significantly increase aggregate agribusiness output.

The value of food imports in the previous year was negatively related to agribusiness output. A reduction in food imports will lead to an increase in the agribusiness output. This result is consistent with the findings of OnyebinamaChidebelu and Nwagbo (2005) who found value of food imports to be negatively related to aggregate domestic output of agriculture, and posited that the value of food imports decreased as the value of the output of aggregate agriculture increased and vice versa.

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Effect of Liquidity Management on Agribusiness Export in Nigeria

The estimated multiple regression results of the effect of liquidity management on agribusiness export performance in Nigeria is presented in table 4.2

Variable	Linear	Exponential^{++}	Semi-log	Double-log
LMt	-1.079(-5.696)***	8.30E-05(5.903)***	-298860.1(-5.042)***	-25.925(-4.591)***
DPP	-0.010(-0.351)	1.04E-07(3.049)**	-873.404(-0.585)	-0.093(-0.652)
EXCHt	-432.215(-0.513)	-0.039(-0.626)	-1341.585(-0.507)	-0.042(-0.167)
WPt	1076.048(5.741)***	0.083(5.967)***	303376.9(5.103)***	26.335(4.649)***
AQt	442.924(3.911)***	0.079(2.615)**	2802.009(2.375)**	0.552(4.908)***
Trend	-0.079(-0.454)	8.01E-06(1.511)	38.236(0.095)	0.031(0.815)
Constant	-46.745(-0.034)	7.403(73.138)***	-837.549(-0.299)	7.122(26.660)***
R^2	0.875	0.947	0.767	0.836
Adj R^2	0.828	0.927	0.729	0.795
F-Statistic	18.630***	47.402***	8.769***	13.627***
DW-Test	1.699	1.861	1.673	1.752

Note: Asterisk ***and ** represent 1% and 5% significance levels respectively. Figures in brackets are t- values. $^{++}$ means lead equation.

The exponential model was chosen as the lead equation based on the number and signs of the significant variables and the level of the coefficient of multiple determinations over the other functional models. The overall goodness of fit of the equation as indicated by the coefficients of multiple determinations ($R^2 = 0.947$) showed that the independent variables included in the model explained about ninety five (95) percent of the variations in agribusiness export (dependent variable) in Nigeiria. The F- statistics was significant and confirms the significance of the entire model. The Durbin Watson test for the existence of serial autocorrelation shows that there was no positive first-order serial autocorrelation at 1% that is, DW (1.861) > Du (1.85).

Liquidity management, aggregate producer's price, agribusiness output and aggregate world price of commodity index were the significant determinants of agribusiness export in Nigeria within the period of study..Value of liquidity management (which is the focus variable) was positively related to agribusiness export, an indication that agribusiness export increased as value of liquidity management increased. This relationship is consistent with theoretical expectation. Increase in value of liquidity management enables storing enough funds and raising funds quickly from the market to satisfy depositors, loan customers and other parties with a view to maintain public confidence. The consistency of the relationship between liquidity management and agribusiness export could be adjudicated to mean that formal financial institutions in Nigeria are more involved in managing liquidity for investment in agribusiness exports. Thus loans are quickly made available for investment in agribusiness export. Aggregate producer's price of commodities, agribusiness output and aggregate world price of commodities index were positively related to volume of agribusiness export at 5%, 1% and 5% significance level respectively. This implies that

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as aggregate producer's price of commodities, agribusiness output and aggregate world price of commodities index increases, volume of agribusiness export increases as well.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this study, the following conclusion can be drawn.
The performance of the agro-industrial sector in terms of output and exports is of great importance in Nigeria, and the influence of liquidity management is of essence in assessing its growth and development in Nigeria. The study observed that liquidity management had a strong bearing on the performance level in the agro-industrial sector in Nigeria. Liquidity management, value of ACGSF loans to agribusiness subsector, government capital expenditure on agriculture, value food import, and rainfall significantly determined agribusiness output in Nigeria within the period under review and based on the specified model. Liquidity management, aggregate producer's price, agribusiness output and aggregate world price of commodity index significantly determined quantity of agribusiness export in Nigeria within the period of study and based on the specified model.

The study further recommended that the government should display a high sense of commitment in its liquidity management to bring about a realistic performance in the agribusiness sector.
Farm support policies such as subsidization of agribusiness inputs to produce the desired multiplier effects on agribusiness and food production and the provision of yield increasing technologies are expedient in ensuring that the agricultural sector received the desired boosts and acceleration that it required to meet the food demand of the populace and are hence advocated.

Output price incentive scheme is recommended but should not be designed as a welfare scheme rather emphasis of the scheme should be the attainment of the objectives of increasing agribusiness output and export in Nigeria within the possible short period of time.

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