

ASSESSMENT OF THE EFFECT OF EXTERNAL CAPITAL MOBILIZATION ON THE EQUIPMENT INVESTMENT OF BAKERY ENTERPRISES IN SOUTH EASTERN NIGERIA

Onwumere J.¹, A.C. Nwosu², J.A Nmesirionye³

¹ College of Agribusiness and Financial Management

E-mail: meetjoe64@yahoo.com

² Department of Agricultural Economics

Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.

³ College of Agribusiness and Financial Management

ABSTRACT

This study assessed the effect of external capital mobilization and equipment investment of bakery enterprises in South Eastern Nigeria. The contribution of bakeries in ensuring food for all attainment of Millennial Goal cannot be over emphasized. Considering the expanded product set of bakery enterprises, there is the need to imbue advanced technologies into its capital mobilization and investment activities. This will optimize its category management processes to help meet business goals and deliver full value to its customers. All the necessary data for this analysis were harnessed from the enterprise records, of 2005 – 2008. The methods of data of analyses involved descriptive statistics (such as percentages and Tables) and Two Stage Least Square (2SLS). The study identified that bakery firms were financially squeezed considering that only 2.2% of the firms can boast of operating with mean capital worth of 15.4% million. Also, the investment cycles were distorted with cases of disinvestment consequent upon financial frictions. The simultaneous equation analysis via 2SLS revealed the significant variables interrelating in influencing external capital mobilization and equipment investment to include current and lagged levels return on asset, current and lagged amounts of external capital mobilization, and current lagged values of equipment investment. It is thus, recommended that bakery enterprises should improve in internal capital commitment to the business to enhance financial and investment stabilities. This recommendation is necessary since return on asset being internal capital source related positively with equipment investment and also internal capital injection reduced dependence in external capital portfolio.

Keywords: External, Capital, Equipment, Investment, Bakeries

INTRODUCTION

The bakery production which has been increasing steadily in the country is among the largest processed food industries in Nigeria. The two major bakery industries viz bread and biscuit account for about 82% of the total bakery products. The bakery industries in Nigeria comprise organized and unorganized sectors. The organized sector consists of large, medium and small scale manufacturers who produced packaged biscuits and bread. The unorganized sector consists of small bakery units, cottage and household-type manufacturing goods and distributing their goods in the surrounding areas (World bank, 1995; BFW, 2005 and Warren 2002)

Bakery products contain high nutritive value and are manufactured from combinations of wheat or other flours, sugar, baking powder, condensed milk, fat (ghee), salt, jelly, dry fruits, various essences and flavoring. Different type of bakery products can be classified as dry bakery products and moist bakery products. Dry bakery products include soft biscuits, hard biscuits, cookies, crackers, fancy biscuits and cream wafer biscuits. Moist bakery products include sweet bread, milk bread, masala bread, garlic bread, fruit bread, various types of buns, cakes, pastries, muffins etc. These products are available in various sizes, shapes and forms (Indian Food Industry, 2001; Beverage and Food World, 1998)

The current demand for biscuits is likely to exceed 2.2 million tones considering their leading role as one of the major sources of energy, protein, iron, calcium, and several vitamins. Some commercial bread and biscuits contain around 7.5% to 7.8% protein respectively. In terms of cost, biscuits are amongst the lowest cost processed food in the country when compared to other salted snacks. Most of the bakery products are easy to use during travel or at home because of its availability in variety of pack sizes. They are no longer viewed as a luxury tea-time snacks but essentially daily food component for an average Nigerian household.

Considering the expanded product set of bakery enterprises, there is need for advanced technology to optimize its category management processes to help meet business goals and deliver full value to its customers. Also with the population and purchasing power rising at a record breaking pace, there is need for extended market share through immense investment. Capital mobilization among bakeries in Nigeria has been hampered by poor innovations consequent upon poor capitalization. Majority of the bakeries which bumped into the market sometimes ago fizzled out of it due to business road bumps associated with the enterprise development. There have been the recurrent loss of market share and dropping of sales volume in the bakery enterprises operation in the nation. The identifiable road bumps to efficient bakery investment in Nigeria included "a firm saddled with the burden of manual processes and cumbered with inability to deliver in terms of efficiency" (BFW, 2005). Bakery firms in Nigeria had difficulty of inventory management contributing to thrift (waste in bakery business) and units (missed shipments to ultimate consumer).

In terms of infrastructure, the firms are working with a technically challenged system. Information delivery is very rudimentary and there has been difficulty of getting timely reporting for pricing, inventory control, management decisions and planning were delayed. The state of the bakery enterprises is one fully decked with whole lots of inconsistencies. There have been various liquidation experiences over the years. The industry is noted with rising of one enterprise and the falling of others owing to the fact that there is absolutely no formidable policy upholding the operations and management of the enterprises. There has been various merger and acquisition activities in the Nigerian bakery industry and the same case applies in few other countries bakery production industry too, (Warren 2003, David, 2009). This situation has led to some rationalization of production capacity. Improvements in production, processing and packaging technology in the recent times have allowed producers to transport fresh bakery products longer distances and to serve wider markets. Further improvements and adoption of new processing production technologies owing to capital availability will likely further increase competition among producers serving the total markets.

In the past years, bakery production faced sharply rising input cost for sugar, wheat flour, cocoa and other ingredients. The hike in price of sugar led to liquidation of some bakeries. Wheat flour prices increased sharply as a result of drought in producing countries which resulted in lower wheat production.

Financial uncertainties and capitalization inconsistencies have plagued and plundered bakery enterprise investment performances in Nigerian. There is a clear indication of debt burdens yet to be settled among the firms and financial decisions among the firms skewed towards the use of external capital. Mohun *et. al* (2008) reported that intricacies of financial leverage via external capitalization have a lot of underlining effects. According to David, (2009) avoidance of negative effects presupposes the need for viable and efficient game players in the financial field. Egesa *et. al*, (2006) reported that there is no conclusive effect yet on the use of external capital to finance investment in bakery firms. Brealey and Mayers (2003) suggested that there is certainty of under-investment if a firm is majorly managed with debt in its capital portfolio. They opined that under-investment problem may be severe with firms that have high debt ratio.

Nigerian agribusiness which includes bakery firm has enjoined much prominence in Nigeria's development plans. This is because government had identified this unit as a veritable engine of growth and had continuously put in place policies and incentive packages that will promote this segment of the economy (Onwumere, 2010). However no profound success has been attained yet. A major constraint identified in this segment of the economy is financing gap to satisfy the financial need of the agribusiness, government has in the past put up various financing policies and structures (Onwumere 2001).

According to Aluko (1972); Kestler *et.al* (1986) and Bamire *et. al* (2000), capital mobilization in agribusiness firms and especially among bakeries is more dependent on absolute level of aggregate income and the nature of business. Capital accumulation is a major pre-requisite of the agribusiness investment and the subsequent development.

In commercial bakery products venture, the acceptability of the product depends on the extent of capital invested into the firm to produce competitive products. In bakery firms for instance, capital is needed to develop

market acceptable packaging quality and other aesthetic features. The packaging of the bakery product is closely interlinked with the production, presentation, storage, transportation, marketing and other capital variables. The importance of the packaging can be further gauged from the fact that packaging constitutes a fair portion (10 to 25%) of the entire cost of production and the entire capital needs a functional bakery firm, (Cauvain and Young, 2005).

Following the importance of bakery enterprises in Nigerian economy both partly as engines of economic growth and development, vehicles to achieve food security pursuit and employment generalization, the problems of capital mobilization and the implication in investment among bakeries cannot be over emphasized for bakeries to achieve local and international competitiveness. The following objectives were duly considered in the cause of this study: firstly, examination of the external capital mobilization of bakery enterprises; secondly, ascertain the annual equipment share of the enterprise and; thirdly, analyse the effect of external capital mobilization decision on equipment investment of bakeries.

METHODOLOGY

The study area of this research work was South Eastern Nigeria. The states making up the zone included Abia, Imo, Anambra, Enugu and Ebonyi state. The various agribusiness activities carried out in this place included bakeries, saw milling, palm kernel processing, fast foods, restaurant, feed milling, cassava processing and the like(World Bank2000 and Rusep, 2002)

Bakery enterprises utilizing agricultural raw materials in their production activities included firms producing and selling baked products like breads, doughnuts, biscuits, cakes and buns. The enterprises operate under the firm names which included High life, This Day, Tantabite, Daily Manna, Happpy Life, Ofoma, Happy Day, All Nations, Century and the like. The enterprises are selectively located in Aba, Umuahia, Owerri, Enugu,Abakaliki and Onitsha (Onwumere, 2010).

A multi-stage random sampling technique selection was adopted to select Abia, Enugu and Imo States of Nigeria. Also, specifically, the bakery firms studied were selected purposively based on the functioning bakeries as at the period of the survey. A total of ninety (90) bakery enterprises were chosen from the study area and thirty (30) of them were studied from each state.

The data required for analysis of the study were culled from bakery enterprises records and account for the period 2005-2008. Other information which was useful for the accomplishment of the work was sought from academic articles, journals and non government organization repositories for data and information. The analyses of the data were accomplished with the use of simple descriptive statistics such as tables and percentages with regard to the firms' yearly external capital mobilization. Analysis of bakeries yearly equipment investment was captured using graphical representations. The analyses of the effect of external capital mobilization on equipment investment among the firms were captured using simultaneous equation involving two stage least square (2SLS) regression analysis. The 2SLS is useful in this case to avoid bias in estimating the variables of equipment investment function and capital mobilization function which may interact with each other.

The two stage square (2SLS) model for the simultaneous equation analysis is stated as follows:

$$EQ_{it} = Z_0 + Z_1 Ex_{it} + Z_2 Ex_{it-1} + Z_3 Ex_{it-2} + Z_4 EQ_{it-1} + Z_5 EQ_{it-2} + Z_6 EQ_{it-3} + Z_7 roa_{it} + Z_8 roa_{it-1} + Z_9 roa_{it-2} + Z_{10}$$

$$roa_{it-3} + U \quad \dots \quad (1)$$

$$EX_{it} = Z_0 + Z_1 Ex_{it-1} + Z_2 Ex_{it-2} + Z_3 Ex_{it-3} + Z_4 roa_{it} + Z_5 roa_{it-1} + Z_6 roa_{it-2} + Z_7 roa_{it-3} + Z_8 EQ_{it} + Z_9 EQ_{it-1} + Z_{10} EQ_{it-2} + Z_{11} EQ_{it-3} + U \quad \dots \quad (2)$$

The endogenous variables from the simultaneous equation system above are as follows

EQ_{it} = Bakeries equipment investment measured in naira in the current year

EX_{it} =Bakeries current external capital mobilization status measured in naira total bank debts as its proxy

The exogenous variables in the simultaneous equation systems are:

EQ_{it-1} =Bakeries equipment investment in naira lagged for one year

- EQ_{it-2} = Bakeries equipment investment in naira lagged for two years
 EQ_{it-3} = Bakeries equipment investment in naira lagged for three years
 $Exit_{-1}$ = External capital mobilization status of bakeries in naira lagged for one year
 $Exit_{-2}$ = External capital mobilization status of bakeries in naira lagged for two years
 $Exit_{-3}$ = External capital mobilization status of bakeries in naira lagged for three years
 roa_{it} = Return on assets in the current year
 roa_{it-1} = Return on asset lagged for one year
 roa_{it-2} = Return on asset lagged for two years
 roa_{it-3} = Return on asset lagged for three years

It should be noted that from the report of Randel, (2008), that for a food enterprise to have a maximum impact that will shift its investment function, nothing less than three years lag length and above is expected.

RESULTS AND DISCUSSION

Analysis of Bakery Enterprises by Yearly External Capital Mobilization

Analysis of bakeries by yearly external capital mobilization covering from 2005 to 2008 is presented in Table 1

Table 1: Presentation of bakeries by yearly external capital mobilization

Yearly external capital mobilization (million naira)	Frequency and percentage level of external capital use								
	2005		2006		2007		2008		
	Freq	%	Freq	%	Freq	%	Freq	%	Average
0.5-2.4	31	37.8	30	34.4	28	31.1	20	22.2	31.2
2.5-5.4	49	50	46	50.1	46	50.1	48	53.3	45.2
5.5-10.4	10	11.1	20	20.2	21	23.4	24	26.7	20.4
10.5-15.4	1	1.1	14	2.2	3	3.1	7	7.8	2.4
Above 15.4					1	1.1	2	2.2	0.7
Total	90	100	90	90	90	100	90	100	
Mean external capital use 4.4 million Naira									

Source: Firms records and accounts 2005-2008

An examination of the analysis of bakeries by yearly external capital mobilization covering from 2005 to 2008 is presented in Table 1. The mean external capital mobilization of bakery firms over 2005-2008 was 4.4 million naira. The result showed that an average of 31.2% of the firms mobilized external capital to the tune of 0.5million to 2.4million. Majority of the bakeries external capital mobilization capacity were within the range of 2.5 million naira to 5.4 million naira. The result unveils that very few (2.4%) of the firms have external capital mobilization record value range of 10.5million - 15.4 million naira. Moreover, the least population (0.7%) of the firms mobilized external capital to the tune of 15million naira. The result showed that external capital was at a rudimentary stage and has not yet gained a sophistication status in the capitalization practices of bakeries. Whereas, majority of the bakery enterprises have not attained the status of using external capital decision to the range a little above 15million naira, was an indication of capitalization weakness and capital inadequacy.

Considering the mean external capital mobilization of the bakery enterprise of 4.4million naira and that majority of the firms capital strength was in the range of 0.5 million – 10.2 million put the firms operating capacity within medium scale enterprises and far less of large scale industries. Also, this mean external capital use did not significantly indicate high liquidity but a state of capital friction. This case is realistic especially for firms under mean external capital mobilization within the range of 0.5 to 5.4 million naira. The insufficient external capital mobilization of the bakeries may also have accounted for the reasons for incessant striking in the industry and why majority of the bakeries liquidated and could not raise money to buy sugar at a heightened rate between the period 2005 and 2007.

Component Share Analysis of Equipment Investment in the Total Asset of Bakery Enterprises in 2005-2008

Figure 1 presents the component share and change investment analyses of equipment investment in the total asset of bakery enterprises in 2005-2008.

Investment and Changes in investment level

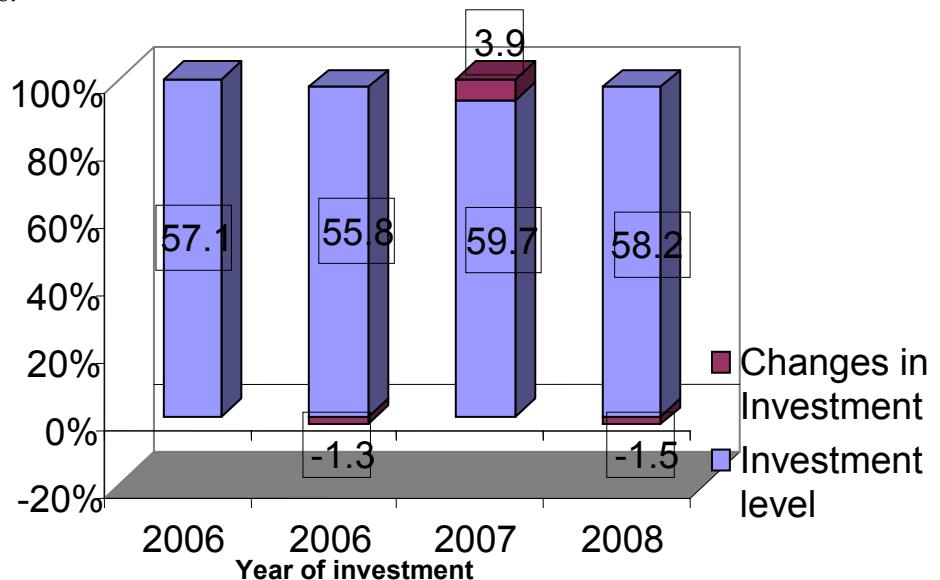


Figure1: Equipment investment share of total asset of bakery firms in 2005-2008

The least investment in equipment was recorded in the year 2006 comparable to the other years. The change in investment between 2005 and 2006 was negative (-1.3%) after which equipment investment increased again. The year 2006 witnessed a case of disinvestment, firm closure and liquidation among bakeries. Some enterprises capital base was weakened following low capital mobilization due to financial friction.

The bakery enterprises witnessed a positive investment in 2007 following a positive change in investment climate in the area. However, no consistent increase was observed, considering another case of disinvestment (-1.5%) in 2008. The analysis revealed an evident of instability in the equipment investment of bakeries within the periods under consideration. Equipment investment sustainability remained a major bottle neck among the firms. This was evident considering that majority of the enterprises still use crude equipment for operation. The notion was supported by the assertion of BFW (2005) that Nigerian bakery operators are heavily saddled with manual processes and are greatly technically challenged processes which were altogether cumbersome.

Analysis Of The Effect External Capital Mobilization Decision On Equipment Investment Of Bakeries

The effects of the external capital mobilization on bakery enterprise investment are analyzed using 2SLS and are presented in Table 2.

Explanatory Variables	Equipment Investment (EQ _{it})	External Capital- (Ex _{it})
Constant	5.778 (11.210)***	-11.421 (-2.033)**
roa _{it}	0.558 (4.626)***	-4.401 (-5.515)***
roa _{it-1}	0.845 (2.993)***	-0.416 (-2.838)***
roa _{it-2}	3.020 (2.147)**	-0.335 (-2.370)**
roa _{it-3}	0.684 (2.232)**	-1.116 (-1.956)**
Ex _{it}	-0.833 (-3.895)***	5.644
Ex _{it-1}	-2.156	

	(-4.409)***	(6.426)***
Ex _{it-2}	-0.812	9.189
	(-2.517)**	(3.822)***
Ex _{it-3}	-0.503	
	(-2.116)**	
EQ _{it}		-9.112
		(-3.619)***
EQ _{it-1}	0.868	-9.660
	(3.086)***	(-4.837)***
EQ _{it-2}	0.510	-2.652
	(4.044)***	(-2.011)**
EQ _{it-3}	0.730	-2.074
	(2.875)**	(-1.968)**
R ²	0.7586	0.80915
F-ratio	16.72145	21.79153

Table 2: A joint analyses of the effect of external capital mobilization decision on equipment investment of bakery enterprises using Two Stage Least Square

Source: 2SLS analysis: * Significant at 10% probability level, **significant 5% probability level, ***Significant at 1% probability level; a: Endogenous variables; R²: is provided for comparison only.

From the result, the predetermined variables which included returns-on-asset and its previous years values were significant instrumentals in the interrelation analyses. The return-on-asset variable which is a proxy for profit or a profit indicator was very significant in both external capital model and equipment investment function. The variable was highly significant at 1% and 5% probability levels in both functions respectively. A positive relationship exists between return-on-asset and equipment investment whereas an inverse relationship exist between return-on-asset and external capital mobilization decision of bakery enterprises. Return-on-asset which can serve as equity when it is retained as reserved capital has the potentiality of being ploughed back into the firm business to increase investment. Also, from equity capital point of view, it can reduce greater preference for external capital dependence. This effect of return-on-asset on equipment investment and external capital mobilization was also corroborated by Suto, (2001) Dehn, (2000), and Prasetyanko

Further, the Two Stage Least Square revealed an interrelationship between the external capital mobilization decision and equipment investment behaviour of the firms. The analysis of external capital mobilization function involving analysis of the effects of the current external capital and the lagged variables on equipment investment showed a negative relationship and the variables are significant at both 1% and 5% risk levels respectively as shown in Table 2. The implication of this result is that equipment asset ratio in the total asset of the firms is not very attractive and this has discouraged lenders from extending capital facility to the enterprise. It is believed that tangible assets are security that lenders can fall back to in advent of a default payment. Another, implication of the negative relationship between past external capital mobilized and the current equipment investment could be that the bakeries have not been consistent in maintaining a good financial record in terms repayment performances.

Further, analysis using 2SLS model on the effects of equipment investment and its lags on external capital mobilization revealed an inverse relationship. The current equipment investment and the lagged variables were significant at 1% and 5% risk level respectively. The negative relationship of equipment investment and external capital mobilization indicated the risky and costly inefficiency effects of debts as investment financing options. It further, shows the ability of debt to cause credit friction if it is wholly depended upon without other internal channels of capital among bakeries. Many authors have asserted that debt should not be completely depended upon except when it is the last option after exhausting internal capital (Prasetyanko, 2006; Suto, 2001; Mieno 2006 and Onwumere and Mbanasor, 2010)

The lagged variables of external capital mobilization preferences of the bakery enterprises related inversely with equipment investment status of the firm. Thus, it follows that accumulated past debts have constituted debt burden on the enterprises and the enterprises fair no better so far. Also, the mobilized external capital yet to be paid for has become a costly facility to the management of the enterprise and thus has also limited the extent of equipment investment. The lagged investment variables were all significant and positively related to current

equipment investment decision of the bakery enterprises. This result confirms that accumulated past equipment investment will promote current investment as previously accumulated asset.

CONCLUSION

The overriding impression created at a closer observation of the empirical analysis of equipment investment state of bakery enterprises in South East Nigeria is that of antiquated equipment investment and a firm technologically challenged due to capitalization factors. On the other hand, external capital mobilization was incapacitated by shortfalls in firm security related factors manifested in inadequacy of equipment investment. Capital lenders were obsessed with the fear of the means of capital recovery incase of default payment by the borrowing firms. This situation obstructs a steady capital flow to the functioning firms, resulting to capital friction and investment instability and employment uncertainties.

Evident in this study was the fact that external capital mobilization was inversely related to equipment investment. This could be due to poor debt payment by indebted enterprises, inadequate security provision base on poor availability of equipment investment and low returns based on dependence on obsolete equipment assets. The results of low external capital mobilization and consequent low equipment asset mobilization on bakery enterprises were weak competitiveness in the economy and the resultant liquidation in the face of minimal challenges. It is thus recommended that bakery firms should improve in the use of such capital decisions as owner(s) equity, retained earnings and other low cost capital sources that may cut cost and are affordable in terms of what the firm can bear.

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