

Socioeconomic Factors Influencing Profitability Of Cattle Marketing In Gombe Metropolis, Nigeria

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ABSTRACT: The study examined the socioeconomic factors influencing profitability of cattle marketing in Gombe, Nigeria. A sample of forty cattle traders was randomly selected in 2010 in the area on which structured interview-schedule method was employed to collect data that were analyzed using descriptive statistics and regression model. Results indicated that respondents' age, length of experience in cattle marketing and capital level were 41.58 years, 14.15 years and ₦ 351,895.00 respectively, while majority of them (42.00%) acquired non-formal type of education. Furthermore the result showed that purchase cost of cattle and duration of keeping the cattle, significantly, affected profits at 0.001 and 0.05 respectively; while 77.7percent of the variations in profit were caused by the included independent variables. The study therefore recommends that for increased profit level, traders shall concentrate more on the large size cattle and shall be keeping them longer period for fattening before reselling.

Key Words: socioeconomic factors, profitability, cattle marketing, influencing, Gombe

1 INTRODUCTION

Livestock play very important role in Nigerian agriculture contributing about 12.7 percent of the Agricultural Gross Domestic Product, (CBN, 1999) [1]. According to RIM (1992) [2], the livestock population in Nigeria comprises of an estimated 14 million cattle, 34 million goats, 22 million sheep and 100 million poultry. In monetary terms, the value of Nigerian livestock resources was conservatively estimated to be approximately six billion US Dollars (Akande *et al.*, 2011) [3]. The livestock sub-sector is dominated by the traditional systems of production, processing and marketing thereby limiting the output and hence consumption level of its products. Owing to the low level of consumption of animal protein in Nigeria at present and expected rise in demand in future, output has to be substantially increased in order to ensure adequate supplies of protein to the rapidly growing population. Currently, (unpublished) [4] estimated the total amount of livestock product at about 1.1 million tonnes. Cattle are ruminant animals domesticated and marketed in Nigeria for their meat, milk as well as for hide and skin among other purposes. Of the Nigerian livestock population, cattle contributed about 10 percent while in monetary terms, they accounted for about 40 percent of livestock total revenue of Nigeria (McIntyre *et al.*, 1992) [5].

It is clear, however, that over the last decade the supply of cow meat and milk has failed to keep pace with increasing population. This calls for the adoption of all possible measures to accelerate the rate of cattle production in the country. However, production alone is not enough if products are not extended to ultimate consumers through the process of marketing and distribution. In turn marketing, like all other economic ventures, must be profitable to be worth undertaking and to be sustained. Thus, the study examined the factors influencing profitability of cattle marketing in Gombe metropolis, Gombe State, Nigeria. It attempts to answer questions such as: What are the socioeconomic characteristics of cattle traders in the study area? What are the factors influencing levels of profit in cattle marketing in the area? Thus, specific objectives of the study are to determining the respondents' socioeconomic characteristics and factors influencing profitability of cattle marketing in Gombe state, Nigeria. Gombe was chosen for the study because of the important position it holds in the country in terms of livestock production and marketing. Outcome of the research would be essential in guiding traders in selecting factors that would increase profit, hence justifying the relevance of the study.

2 METHODOLOGY

2.1 The Study Area

The study area lies between latitude 9° to 12° north and longitude 8° to 11° east with an altitude of 407 meters above sea level. It has mean maximum and mean minimum temperature of 32.8°C and 18.3°C respectively. The coldest months are from November to January while March to May is the hottest period. Gombe metropolis has a rainfall distribution which ranges from 970.7 mm to 1,142 mm annually, with a mean of 1,009.4 mm. The rain falls from the month of April to October. The vegetation of the area is savannah grassland (Gombe State Government, 2009) [6] with a land mass of 1,279.62 square kilometers, a population of about 261,536 people (NPC, 2006) [7]. Most of the inhabitants of Gombe are predominantly farmers and traders with well-established regional markets for livestock and grains in the area. The predominant cattle breed in the area is White Fulani while few other breeds are also found. White Fulani breeds have live weight of 250kg – 665kg (Tawa and Rege, 1996) [8].

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2.2 Sampling Procedure

Simple random sampling technique was employed to select 40 cattle traders for the survey from the sampling frame of about 400 traders in the area. First, a list containing all the names of cattle traders in the study area was collected from the local cattle traders' association and then a Table of random numbers was used to select the 40 traders as explained by Pagano (1994) [9] and many other statistical books.

2.3 Data Collection

Data were collected in 2010 from cattle traders in Gombe metropolis using interview schedule method. Types of data collected included those relating to the respondents socioeconomic characteristics such as age, length of experience in cattle marketing, amount of capital and educational attainment. Others were information on factors expected to influence profitability of cattle marketing and they included cattle purchase costs, costs of keeping or maintaining the cattle and length of keeping the cattle before selling.

2.4 Data Analysis

Collected data were subjected to descriptive statistics and regression analysis. Three functional forms of regression model - linear, semi-log and cob-Dougllass were estimated and the linear function was chosen as lead equation to explain the factors influencing profitability of cattle marketing in the area. The selection of linear function was based on conformity of the explanatory variables with a priori expectation with respect to signs of the parameter estimates, magnitude of R^2 and overall significance of the

model as indicated by the F-value, as explained by Koutsianis (1987) [10] and many other statistical authors.

3 RESULTS AND DISCUSSION

3.1 Socioeconomic Characteristics of Respondents

Table 1 shows that the mean values of respondents' age, length of experience and capital level were 41.58 years, 14.15 years and ₦ 351,895.00 respectively. This result indicates that most respondents were of middle age with reasonable length of experience and level of capital. Similarly, the Table reveals that the respective range values of the variables were 42 years, 28 years and ₦ 900,000.00. The range age of 42 years and experience of 28 years imply that cattle traders in the area were made up of individuals from different age groups with varying length of experience. In the same manner, with a minimum capital of ₦ 100,000, a maximum of ₦ 1,000,000 and a range of ₦ 900,000; it can be concluded that cattle marketing in the area composed of traders with varying levels of capital funds. This finding concurs with the findings of (unpublished) [11] in Abuja Nigeria and Ariyo *et al.* (2001) [12] in Kano Nigeria who reported that most livestock traders acquired marketing experiences of over 13 years. It also agrees with (unpublished) [13] who obtained 42 years as mean age of cattle traders in Kano State of Nigeria but it disagrees with it in respect of length of experience where 57 percent of cattle traders in the area were found to have 20 – 40 years of experience.

Table 1: Age, Length of Experience and Capital of Cattle Traders in Gombe Metropolis, Nigeria

	Range	Minimum	Maximum	Mean
Age (years)	42.00	28.00	70.00	41.58
Length of experience in cattle trading (years)	28.00	2.00	30.00	14.15
Amount of capital (₦)	900,000	100,000	1,000,000	351,895

Exchange rate: ₦151 = 1USD

Source: Field survey data, 2010

Table 2 shows the educational status of respondents and accordingly 12.50, 35.00 and 10.00 percent attended primary, secondary and tertiary levels of education respectively. On the other hand, most respondents (42.50%) acquired non-formal type of education. Having obtained one form of education or the other, it implies that all sampled traders were literates who would be able to read and write. This finding agrees with (unpublished) [11] and (unpublished) [14] where majority of cattle traders in Nigeria, and (unpublished) [13] where 100 percent of cattle traders in Kano state Nigeria were found to acquire one form of formal education or the other. However, it contradicts Olayede *et al.* (2008) [15] who reported that majority of cattle farmers (producers) had no formal education. This contradiction is not unexpected since

educational attainment of traders can differ from that of farmers.

Table 2: Highest Educational Status of Cattle Traders in Gombe Metropolis, Nigeria

Status	Frequency	Percentage
Non formal education	17	42.50
Primary education	5	12.50
Secondary education	14	35.00
Tertiary education	4	10.00
Total	40	100.00

Source: Field survey data, 2010

3 Factors Influencing Profit of Cattle Marketing in Gombe Metropolis, Nigeria

In order to determine the lead equation, linear, semi-log and cobb Douglas functions were tried, but the linear function gave the best fit based on R^2 value, F- ratio and based on conformity of the explanatory variables with a priori expectation with respect to signs and magnitudes of the parameter estimates. The regression equation as shown in Table 3 is:

$$\text{profit} = -53563 + 498.5 \text{ age} + 86.7 \text{ experience} + 0.02304 \text{ capital} + 0.17627 \text{ purchase cost} + 669 \text{ keeping period} + 0.0846 \text{ keeping expenses} + 573.6 \text{ education}$$

The coefficient of multiple regressions (R^2) of 0.777 means that 77.7 percent of the variations in profit were caused by the included independent variables ($X_1 - X_7$). The purchase cost of cattle and duration of keeping the cattle, significantly, increased profits at $p < 0.001$ and $p < 0.05$ respectively. This implies that generally, the higher the cost of purchase per cattle and the longer the duration of keeping the cattle, the higher the profit obtained per cattle. Since large-sized cattle normally cost higher, it can be inferred that large-sized cattle may result into higher profit per cattle than smaller sized. Similarly the result implies that the longer the period cattle were kept from the date of purchase to the date of selling, the higher the profit obtained by traders. This phenomenon could be attributed to fattening process taking place between the two periods of purchase and resale by traders. On the other hand all other variables (age of traders, traders' experience, capital level, keeping expenses of cattle), exerted positive but insignificant influences on the profit levels meaning that even though increase in each of these factors or variables can result into additional increases in traders' profits but the increases were not statistically significant. Finally, the F – ratio of 15.95 was significant at $p < 0.001$ which attests that the R – square value was not due to chance. This finding is in line with (unpublished) [13] in his analysis of influence of socioeconomic factors on cattle marketing in Kano state where R^2 value of 0.756 was found and F-ratio value of 33.505*** was found to be statistically significant at $p < 0.001$.

Table 3: Socioeconomic Factors Influencing Profit of Cattle Traders in Gombe Metropolis

Independent Variables	Linear	Semi-log	Cobb Douglas
Constant	-53563	-598680	-2.161
Age of cattle traders (years) X_1	498.5 (1.30)	56028 (1.18)	-0.2405 (-0.40)
Trader's length of experience in cattle marketing (years) X_2	886.7 (1.44)	10805 (0.53)	0.2037 (0.79)
Capital level of traders (₦) X_3	0.02304 (1.33)	5727 (0.33)	-0.2359 (-1.09)
Purchase cost (₦) X_4	0.17627 (7.72)***	89152 (5.57)	1.4009 (6.96)
Length of keeping cattle (Days) X_5	669 (2.71)*	20605 (1.33)	0.3910 (2.00)
Keeping expenses (₦) X_6	0.0846 (0.09)	7598 (0.51)	0.1114 (0.60)
Length of formal education (years) X_7	573.6 (0.81)	- 494 (- 0.05)	- 0.0832 (- 0.71)
R – Sq (R^2)	0.777	0.642	0.699
Adj. R^2	0.728	0.564	0.634
F – Ratio	15.95***	8.21	10.63

Note: Figures in parentheses are representing calculated t – ratios

Exchange rate: ₦151 = 1USD

* Significant at 5% *** Significant at 0.1%

Source: Field Survey, (2010).

4 CONCLUSIONS

The study examined the socioeconomic factors influencing profitability of cattle marketing in Gombe, Nigeria. Results revealed that cattle purchase costs and period of keeping the cattle between purchase and resale times significantly increased the level of profits obtained in cattle marketing while traders' age, length of experience, capital level, keeping expenses and length of formal education did not significantly increase the profit level. The study therefore recommends that for increased profit level, traders shall concentrate more on the large size cattle with high purchase costs and shall be keeping them longer period for fattening before reselling.

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