

## **ECONOMIC ANALYSIS OF RETAIL AND WHOLESALE OF PROCESSED CASSAVA PRODUCTS IN BENUE STATE, NIGERIA**

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### **Abstract**

Profit making is a determinant force in any marketing venture. Whether or not marketing players (agents) continue to grace a chosen product in the marketing web of any economy (society) relies mainly on the profit yielding index and profitability prospects of such a commodity. This study analyzed the economics of retailing and wholesaling of processed cassava products in Benue State, Nigeria. More specifically, the study described the socio-economic characteristics of marketers of processed cassava products; analyzed the profitability of processed cassava wholesaling and retailing and identified the major constraints in the marketing of processed cassava in the area. The study concluded that marketing of processed cassava products in Benue State is basically a female-related enterprise, that the business is profitable and basically constrained by cost and marketing factors.

### **Introduction**

Cassava (*Manihot esculentus*) is a widely grown crop in most countries in the tropical region of Africa and Asia; and ranks as one of the main crops in the tropical countries (Katz, 2003). It is the most important staple food crop in Nigeria and, in recent years, has become an important industrial raw material for food and starch based industries. Cassava-based farming communities coped better in hunger-stressed times and uncomfortable situations (Moses, 2008). Surplus production of cassava products enter international trade in different forms such as chips, broken dried roots, meal, flour and tapioca starch. Dried cassava roots and meal are used as raw materials for compounding animal feeds, while cassava starch is used for industrial purposes; grocery tapioca is used solely for human consumption (FAO, 2003).

Cassava generates income for its producers, processors, transporters and marketers and it serves as raw material in industries such as bakery, textile, paper, plywood and confectioneries (Babaleye, 2004; FAO, 2003). Given the advantages that cassava exhibits such as ability to grow on marginal lands, low input requirement and high drought tolerance, the roles of the crop have increased. These have made it an important commodity for

intervention by the government and stakeholders in the agriculture sector.

Nweke (1994) showed that cassava production is increasing in sub-sahara Africa, especially in Nigeria and it is displacing other crops such as yam, pasture crops e.t.c. in economic importance. Cassava has advantage over other crops as it generates income for the largest numbering households (FAO, 2002). It provides the farmer with an income earning opportunity enabling him to purchase commodities, which can contribute to household food security. Nweke (1992) and FAO (2003) revealed that about 42% of harvested cassava roots in West and East Africa are processed into dried chips and flour. As a cash crop, cassava generates cash income for the largest number of households in comparison with other staples (Nweke, 1997). According to the Collaborative Study for Cassava in Africa (COSCA), cassava serves multiple roles as a food staple, farming reserve crop or cash crop (Scot et al., 2000). The use of cassava for industrial purposes is minimal. Thus, many Nigerians derive much of their food and employment from cassava production, processing, marketing and cassava based agro-industrial schemes.

Food processors play a vital role in transforming bulky raw, perishable farm products into concentrated and more appealing food products. Food processors are, therefore, involved in several supportive marketing functions such as storage, transportation and financing (Lemchi, 2005). Cassava processing involves several operations and Kwatia (1986) identified three major classes of cassava processing technologies in Nigeria. These are technology based on drying and dried products with or without fermentation, and technology based on fermented cassava dough and minor processing technologies.

Though many studies as stated above have been carried out on profitability of processed cassava products, none has been specific on the profitability of separate marketing agents (wholesalers and retailers) in Benue State. This vital information is lacking at the moment and has created a vacuum in knowledge. It has, therefore, become imperative to carry out this study in order to fill this void, with a view to providing information about profitability of processed cassava marketing simultaneously for retailers and wholesalers separately.

The broad objective of the study is economic analysis of retailing and wholesaling of processed cassava products in Benue State. The specific objectives are to:

- (i) describe the socio-economic characteristics of marketers of processed cassava products in the study area;
- (ii) analyze the profitability of processed cassava wholesaling and retailing;

Based on the specific objectives of the study, the following null hypothesis was tested:

**H<sub>0</sub>:** There is no significant difference between the profit of the wholesalers and retailers of

processed cassava products in the area.

## **Methodology**

### ***The study area***

This study was conducted in Benue State. Benue was carved out of the former Benue-Plateau state and part of the present Kwara state. It derived its name from the Benue river. It is located in the middle belt zone of Nigeria with 23 local government areas and Makurdi as its capital. The state falls between longitudes 6°35'E and 10°E and between latitudes 6°30'N and 8°10'N. It has a population of about 4,219,244 people (NPC, 2006). The state shares boundaries with six (6) states namely; Nassarawa state to the north, Taraba state to the north east, in the south by Cross River state. It is also bound by Enugu and Ebonyi states in the south west while Kogi state lies to the west. A short international boundary with the Republic of Cameroon is shared by Kwande local government area.

### ***Population and sample size selection***

The population consists of all marketers of processed cassava products (retailers and wholesalers) in the study area. The study area is divided into three agricultural zones namely zone A, zone B, and zone C. Since it is uneconomical to obtain information from the entire population, a sample was selected using a multistage sampling technique. Stage one involves a purposive selection of all the three agricultural zones for wider coverage. In the second stage, one local government area was purposively selected from each of the zones due to the predominance of cassava processing centers in these areas. These are Vandeikya (in Zone A), Makurdi (in Zone B) and Otukpo (in Zone C) local government areas as confirmed by a pre-survey by Fefa et al. (2014). These three local government areas respectively have 386, 182 and 245 cassava processing centers respectively, each owned by an individual household who are both operators and marketers (Fefa, et al., 2014). In the third stage, simple random sampling technique was used in the selection of processed cassava marketers from each local government area. A proportion of 40% from each local government was selected giving a total of 325 marketers for the study.

### ***Method of data collection***

Primary data were used for the study. The primary data were obtained through the use of structured questionnaire, oral interview and personal observation. Data on the socio-economic characteristics of respondents such as their age, sex, education, household size, occupation and years of experience in the major processed cassava marketing as well as associated costs and returns of the processed cassava enterprise were collected. These data

were collected on the two major categories of marketers of processed cassava products in the area, that is, from the wholesalers and retailers.

### ***Method of data analysis***

Simple descriptive statistics such as mean, frequency and percentage were used to achieve objective 1. Gross margin was used to achieve objective 2. While objective 3 was achieved using factor analysis. The hypothesis was tested using t-test.

## **Results and Discussion**

### ***Socio-economic Characteristics of Marketers of Processed Cassava Products***

The result in table 1 shows that 14.72 % of the retailers of processed cassava products were single, 68.53 % married, 7.61 % either divorced or separated and 9.14 % were widows or widowers. For wholesalers table 1 shows that 14.06% of the respondents (wholesalers of processed cassava products) were single, 70.31% were married, 9.38% were either divorced or separated and 6.25% were widows/widowers. Married people as shown in table 1 have the highest percentage (68.53 % and 70.31% for retailers and wholesalers respectively) participation in the marketing of processed cassava products in the study area. This finding is in line with the findings of Asogwa et al. (2013) that married people (59.8%) were mostly involved in the marketing of cassava in Benue State and Nzeh and Ugwu(2014)also found that majority (60%) of cassava are married. Married people receive assistance from their spouses for other human activities thereby availing them more time to concentrate on the rigorous activities of marketing.

Indicated in table 1 also is the distribution of the marketers by sex. The table shows that 93.91% of the retail marketers were female and only 6.09% of them were male, 34.38% of the wholesalers were male while 65.63% were female. This finding agrees with Asogwa et al. (2013) that majority (57%) of the cassava marketers were female. This wide difference in gender participation for both marketers is not surprising as processed cassava marketing activities are typically considered as women's job in the study area. It can also be seen in table 1 that the highest percentage (31.47%) of the retailers falls within the age bracket of 31-40, while for wholesalers highest number of wholesalers (42.19%) falls within the age range of 41-50, which is considered an active age bracket. These age brackets are deemed to be an active age brackets as people within these ranges still have the physical energy required to carry out the rigorous marketing activities of processed cassava products.

The household size of 6-10 as shown in table 1 is the highest (51.78%) for retail marketers, for wholesalers 1 indicates that 28.13% of the respondents have household size of less than

or equal to 5 ( $\leq 5$ ), 59.38% have a household size range of 6-10 and 12.50% have household size of above 10. Household size plays a very significant role in marketing activities, basically, the higher the household size, the cheaper the labour required in marketing, as family labour serve as a cheap source of labour. It has been observed that large family size may imply more supply of labour hence reducing money spent to hire labour (Nwaru, 2006; Okolo, 2007).

The levels of educational attainment of the retailers of processed cassava products in the study area as shown in table 1 indicates that 23.86% of respondents have no form of formal education, 36.04% had formal education between 1-6 years, 37.06% spent between 7-12 years in school, while only 3.05% of the retailers had more than 12 years of formal education, table 1 also shows that wholesalers with more than 12 years of formal education (higher certificates) constitute the least percentage (10.16%) in this business. This implies that most marketers of processed cassava products in the study area had less than higher education qualification, largely because people with higher qualifications tend to look for white collar jobs. This finding is in contrast with that of Nzeh and Ugwu (2014) that majority (54%) of the cassava marketers had higher level of education. The experience of the retailers in the marketing of processed cassava products as indicated in table 1 shows that number of participants increase from 29.44% to 37.06% from between 1-5 years and 6-10 years of experience respectively, however the number of retailers starts decreasing from 21.83% to 11.68% from between 11-15 years of experience and above 15 years of experience respectively. The experience in years of wholesale marketers of processed cassava products in the study area as presented in table 1 shows that 32.03% of the wholesalers have marketing experience of 1-5 years, 34.38% have 6-10 years of experience, 21.09% have 11-15 years of experience and 12.5% of the wholesalers have more than 15 ( $>15$ ) years of experience in the marketing of processed cassava products. Experience is very crucial in marketing, the more experienced one is, the less the chances of incurring losses in the business just as the saying goes “experience is the best teacher”.

The result in table 1 indicates that 71.57% of the retailers of processed cassava products in the study area travel less than 10km to access the market for marketing of their products, 23.86% travel between 10-20km to access market and 5.57% travel above 20km before accessing market. Table 1 also indicates that 66.41% of the wholesalers travel less than 10km ( $<10$ km) to access a market, 19.53% travel between 10-20km while 14.06% travel more than 20km ( $>20$ km) before accessing a market for their products. Proximity to market has a direct relationship on total marketing cost; this is because the transportation cost naturally

increases with distance covered in moving products, . Table 1 also shows that 51.78% of the retailers belong to a market association, while 48.22% did not belong to any market association, for wholesalers the result in table 1 indicates that 77.34% of the wholesalers belong to a market association while 22.66% of them belong to no market association. This agrees with Asogwa et al. (2013) that majority of the respondents (92.5%) belong to cassava marketing association. Membership of market associations helps marketers to collectively protect their welfare against harsh policies by government, again some market associations give loans at low interest rates to their members through money realized from individual contributions thereby serving as a good source of capital. 73.10% of the retailers have access to credit while 26.90% had no access to credit. For wholesalers, 86.72% have access to credit while 13.28% have no access to credit facilities. Access to credit plays a vital role in marketing process since capital is the backbone of any business. It is shown in table 1 that 91.37% had access to market information while 8.63% had no access to market information. Lastly table 1 shows that 94.53% of wholesalers have access to market information while only 5.47% had no access to market information. High access to market information is made possible basically through the use of mobile phones which are now very common in the study area irrespective of the age, experience and education of the marketers.

#### ***Distribution of Marketers by Type of Processed Cassava Products***

Table 2 below shows that 21.32% of retailers of processed cassava products patronize Garri, 7.61% patronize cassava flour, 62.94% patronize fufu while 8.12% concentrate on the marketing of cassava chips. It can be seen in table 2 that fufu is the most patronized (62.94%) processed cassava product by retailers in the study area, this may probably be due to the fact that it is commonly consumed by many people within the study area and again its common and cheap source of food away from home.

The result of table 2 also shows that 67.97% of the wholesalers of processed cassava product patronize garri, 2.34% patronize flour, 21.88% patronize fufu while 7.81% patronize cassava chips.

**Table 2: Frequency Distribution of Marketers by Type of Processed Cassava Product**

Product	Frequency	Percentage
<b>Retailers</b>		
Garri	42	21.32
Flour	15	7.61
Fufu	124	62.94
Chips	16	8.12
<b>Wholesalers</b>		
Garri	87	67.97
Flour	3	2.34
Fufu	28	21.88
Chips	10	7.81

Source: Field survey 2018

**Table 1 : Socio-economic Characteristics of Marketers**

Variable	Frequency		Percentage	
	Retailers	wholesalers	Retailers	wholesalers
<b>Marital Status:</b>				
Single	29	18	14.72	14.06
Married	135	90	68.53	70.31
Divorce/Separated	15	12	7.61	9.38
Widow/widower	18	8	9.14	6.25
<b>Gender:</b>				
Male	12	44	6.09	34.38
Female	185	84	93.91	65.63
<b>Age (years):</b>				
≤ 20	24	12	12.18	9.38
21-30	37	20	18.78	15.63
31-40	62	30	31.47	23.44
41-50	57	54	28.93	42.19
>50	17	12	8.63	9.38
Mean	36.96	38.70		
<b>Household size (#):</b>				
≤ 5	79	36	40.1	28.13
6-10	102	76	51.78	59.38
>10	16	16	8.12	12.5
Mean	6.56	7.70		
<b>Education (years):</b>				
None	47	29	23.86	22.66
1-6	71	38	36.04	29.69
7-12	73	48	37.06	37.5
>12	6	13	3.05	10.16
Mean	6.70	7.72		
<b>Experience (years):</b>				
1-5	58	41	29.44	32.03
6-10	73	44	37.06	34.38
11-15	43	27	21.83	21.09
>15	23	16	11.68	12.5
Mean	9.46	9.62		
<b>Market Access (km):</b>				
<10	141	85	71.57	66.41
10-20	47	25	23.86	19.53
>20	9	18	4.57	14.06
<b>Market Association:</b>				
Yes	102	99	51.78	77.34
No	95	29	48.22	22.66
<b>Credit:</b>				
Yes	144	111	73.18	86.72
No	53	17	26.91	13.28
<b>Market information:</b>				
Yes	180	121	91.37	94.53
No	17	17	8.63	5.47

Source : Field survey 2018

**Profitability of Processed Cassava Retailing and Wholesaling**

Profitability analysis of processed cassava products in the study area (Benue State) is presented in table 3. The result shows that retailers have a gross margin of N66950.00 while the gross margin of wholesalers stood at N316548.40. This implies that both marketers (retailers and wholesalers) operate within the profit zone since both have positive gross margin. This is in line with Nzeh and Ugwu(2014)that the production and marketing of cassava is profitable because every N1.00 invested in the enterprise gave a return of N 2.97. Though both marketers made profit as shown in table 3 but wholesalers had a higher profit/gross margin of N316548.40 as against retailers who had a mean profit of N66950.00. Profitability seems to increase with higher units of products sold, therefore it's not surprising that wholesalers obtained higher profit than retailers since they (wholesalers) market higher quantities of products than retailers.

The t-test of equality of profitability in table 4 between wholesalers and retailers showed a significant t-value of – 8.042 (0.000) which is significant at 1% indicates a difference in profitability between the two marketers (mean difference of -249598.40). This finding therefore rejects the null hypothesis which states that there is no significant difference between the profit of the wholesalers and retailers of processed cassava marketing in the study area.

**Table 3: Profitability Analysis of Processed Cassava**

Statistics	Total variable cost	Gross revenue	Gross Margin
<b>Retailers</b>			
Mean	3614.975	70564.970	66950.000
Std. Dev.	4085.582	63147.220	61945.650
<b>Wholesalers</b>			
Mean	6939.063	323487.500	316548.400
Std. Dev.	3384.058	430252.200	429163.400

Source: Field survey 2018

**Table 4:T- Test of Equality of Profitability**

	Type of marketer	Mean	Std. Error	Mean Difference	T-value	df	Sig.
Gross Margin	Retailers	66950	4413.445	-249598.4	-8.042	323	0.000
	Wholesalers	316548.4	37933.04				

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## **Conclusion and Recommendations**

This study was conducted to analyze economics of retailing and wholesaling of processed cassava products in Benue State. The study concludes based on findings that marketing of processed cassava products in Benue State is profitable and mostly carried out by women. The study further concludes cost and marketing constraints are the major problems militating against marketing of processed cassava products in Benue State. It finally concludes that there is a significant difference between the profit of the wholesalers and retailers of processed cassava products in the study area.

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