



ECONOMIC ANALYSES OF PERFORMANCE OF WATERMELON MARKETING AMONG MARKETERS IN OWERRI MUNICIPAL COUNCIL AREA, IMO STATE, NIGERIA

¹Egesi, Z. O. and ²Ebe, F. E.

¹National Root Crop Research Institute, Umudike, PMB 7006, Umuahia, Abia State, Nigeria

²Department of Agricultural Economics, Michael Okpara University of Agriculture, Umudike PMB 7267, Umuahia, Abia State, Nigeria

Corresponding Authors' email: okwuchukwuzinaegesi@gmail.com

Abstract

This study analyzed the performance of water melon marketing among marketers in Owerri Municipal Council Area of Imo State. Purposive and random sampling techniques were used to select 70 marketers for the study. Data were collected through primary source. The data were analyzed using cost and returns, marketing margin and efficiency index. The findings of the study indicated that both marketers (wholesalers and retailers) had positive net profit, depicting that the watermelon marketing was economically viable. The result further showed that the market returned N1.37 and N1.17 for every N1.00 invested in the business at the wholesale and retail levels respectively. The market had marketing margins of 58.97% and 30.56% and marketing efficiencies of 36.71% and 16.16% among the wholesalers and retailers respectively. This shows that the watermelon marketing in the study area was still economically profitable but not efficient at both wholesale and retail levels. The values of expense structure ratio were 0.3 and 0.1 for wholesalers and retailers indicating that 30% and 10% of the total costs in the wholesale and retail levels respectively were made of fixed capital. Therefore, new entrants with little capital can easily enter into the business especially at the retail level as it is not fixed capital intensive. The study therefore, recommends the need to encourage more marketers to trade in watermelon as well as more entrants into the trade. This will help to enhance efficiency of the market and improve the standard of living of the marketers as their means of livelihood will equally increase. Some unemployed youths in the area should be encouraged to join the watermelon business especially at the retail level as the business is profitable.

Keywords: Watermelon, profitability, marketing margin, marketing efficiency

Introduction

Watermelon (*Citrullus lanatus*) is a vegetable crop that belongs to the cucurbitaceae family and one of the most widely cultivated crops in the World. Its centre of origin has been traced to both Kalahari and Sahara deserts in Africa (Jarret *et al.*, 1996). Watermelon is the most preferred exotic vegetable produced in large quantities and consumed because of its nutritional and health values (Adeoye *et al.*, 2011). The crop is enjoyed by many people across the world as fresh fruit (Mayberry *et al.*, 2008). Eating the fruit lowers the risks of and prevents a number of serious illness and health problems such as cancer, high blood pressure and cardiovascular diseases (Voorrips *et al.*, 2000). Watermelon is rich in vitamins A and C, contains vitamin B6; which the body uses for the production of energy. It is also rich in carotenoid lycopene; which contains little fat. Lycopene is the element that gives watermelon its rich, red colour and is associated with reduced risk of developing muscular degeneration, prostate challenges and a variety of other degenerative conditions (De lannoy,

2001). A study by Harvard University, found out that men who eat lycopene rich diets of tomato, tomato product and watermelon had a much lower risk of developing certain cancers, especially prostate cancer (Harvard Health Publications, 2012). Watermelon also helps quench the inflammation that contributes to conditions like asthma, atherosclerosis, diabetes, colon cancer and arthritis (Emokaro and Ejuetuyin, 2017).

Watermelon is an exotic vegetable crop cultivated by farmers in the world at large. In Nigeria, the crop is cultivated in large quantity at commercial scale in the North-East, -West and -Central regions of the country. In the recent years, the production of the crop in the South-south, South-West and South-East region of Nigeria is gaining ground but at a small scale level. The watermelon is supplied from the Northern and Middle Belt parts of Nigeria where it is produced in large quantities to the Southern parts of the country. The supply of the commodity is carried out by the marketers (wholesalers) who transport the product to the South

where there is high demand for it. The people who do the supply engage in various activities to ensure that the commodity reach the consumers. The performance of all the business activities in the movement of agricultural commodities from point of production to consumers is termed agricultural marketing (Ugwumba and Uzoegbunam, 2011). These processes ensure that the right product is available at the right place, at the price, and at the time, to fully satisfy the consumers (Ebe, 2007). Therefore, the marketing bridges the gap and ensures that products are supplied in the form, place and time the consumers need them.

Marketing of watermelon enables the farmers and the marketers to earn income, create wealth and employment opportunities. Watermelon being an exotic vegetable crop has the potentials of generating more income than indigenous vegetables. This is due to increase in trade and commercial activities surrounding the exotic vegetables, especially in urban areas in Nigeria, as there are increases in the consumption of these commodities. The high demand for these vegetable fruits is not met in the Southern part of Nigeria because of un-favourable climatic conditions (Okonmah *et al.*, 2011). The performance of watermelon marketing depends largely on the efficiency of the marketing system. This is because the efficient market is capable of moving goods from the producers through the middlemen to the consumers at the lowest costs consistent with the provision of services those consumers demand for (Crawford, 1997). The marketing performance is an assessment of profitability, marketing margin, and efficiency of any business enterprise. The profitability and marketing margins are direct indicators of efficiency of any enterprise. The marketing margin is used as an indicator of economic efficiency, as high marketing margins are evidence of gross marketing efficiency (Anuebunwa, 2008). Profitability in its own indicates the success or failure of business enterprise and the overall performance of such business.

In the South-East region of Nigeria, Imo State inclusive, the consumption of watermelon has been on the increase, but the cost of carrying out the various marketing activities have led to a rise in the price of the commodity (Nya *et al.*, 2010). Watermelon marketers experience a lot of challenges in the course to meet up the demand of consumers in the South-East region. The supply of the commodity fluctuates as a result of the seasonality of this crop. Secondly, this product is a perishable commodity which cannot be stored for a long period without encountering wastes. The supply of the watermelon is also hampered by the deplorable nature of Nigerian roads as the product is transported from Northern part of the country where the watermelon is produced. In addition to this is that watermelon is a bulky product. All these tend to hike the transportation cost, and hence increase the cost of marketing. Coupled with these, is the problem of insecurity (banditry and herdsmen) in the Northern part of the country, where the watermelon is produced; this equally hampers the

availability of this product and leads to increase in the transactions cost by the marketers in the process of marketing the watermelon. These problems affect the economic performance of the watermelon marketing in the study area. Previous studies in the production and economic use of watermelon include; Emokaro and Ejuebuyin (2017), Adeoye *et al.* (2011). Also some other studies were on the marketing of watermelon in South-West and South-South regions of Nigeria (Isibor and Ugwumba, 2014; Olumide, 2015), but there is dearth of literature on the economic performance and efficiencies of watermelon marketing in the South-East States and Imo State in particular. Based on this knowledge gap problem and other challenges facing the watermelon marketing in terms of its performance and viability necessitated this research in order to assess the economic performance of watermelon marketing in Owerri Municipal Council Area of Imo state.

Methodology

The study was conducted in Owerri Municipal Council Area of Imo State. Owerri is the capital of Imo state. The capital is located within latitudes $7^{\circ} 15'$ and $7^{\circ} 45' N$ and longitudes $6^{\circ} 25'$ and $6^{\circ} 50' E$. It has a population of about 215,038 people (NPC, 2006). The inhabitants of the area are highly enterprising. Some of the people are into trading who mostly engage in marketing of agricultural products such as yam, cassava, rice, maize, fruits, vegetables, etc. Others are into farming, civil service and artisans. Purposive and random sampling techniques were used to select 70 marketers for the study. Purposive sampling technique was used to select markets, while random sampling was used to select the marketers. This was carried out through the list that was obtained from the watermelon marketers association which served as the sample frame. Therefore, from the sample frame, 20 marketers were selected as wholesalers and 50 as retailers. Data were collected through primary source, and data collected analysed using cost and returns, marketing margin and efficiency index. The profitability was achieved by using cost and returns with the following formula:

$$\begin{aligned} \pi &= TR - TC, \text{ or} \\ \pi &= TR - (TVC + TFC), \text{ or} \\ \pi &= GM - TFC, GM = TR - TVC \dots (1) \end{aligned}$$

Where; TR = Total revenue, TVC= Total variable cost, TFC= Total fixed cost, TC= Total cost, GM=Gross margin, and π = Profit. The performance and viability of the traders were determined by the use of the following profitability ratios:

Marketing margin

The formula for marketing margin is expressed as:

$$\text{Marketing margin} = \frac{\text{Selling price} - \text{Purchase price}}{\text{Selling price}} \times 100 \dots (2)$$

Benefit and Cost Ratio (BCR)

$$BCR = \frac{\sum B}{\sum C} \dots (3)$$

Where; B = Benefit, C = Cost, Σ = Summation

Expense Structure Ratio (ESR)

$$ESR = \frac{TFC}{TVC} \dots\dots (4)$$

Where; TFC and TVC are as defined in equation (1)

Marketing efficiency

Marketing efficiency =

$$\frac{\text{Value added (Net profit)}}{\text{Total marketing cost}} \times 100 \dots\dots (5)$$

According to Kydd and Scarborough (1992), the value of marketing efficiency ranges from 0% to infinity. If marketing efficiency is 100% (unity), it means that the market is perfectly efficient, whereas, if marketing efficiency is greater than 100%, then there is excess profit. Also if marketing efficiency is less than 100%, there is inefficiency.

Results and Discussion

Economic Performance of watermelon marketers

The economic performance and viability of the watermelon was computed using the cost and returns in order to determine the profitability of the watermelon marketing in the study area. This is presented in Table 1. The result shows that the revenue generated from the sale of watermelon was N791,000.00 for wholesalers and N1,139,040.00 for retailers respectively. The results indicate that the total costs incurred by wholesalers were N578,617.93 with total variable costs of N446,243.18 and fixed costs of N132,374.75, while the total cost of retailers were N976,889.69 with variable costs of N887,316.33 and fixed costs of N89,573.36. From the costs incurred by the marketers, the variable costs incurred by both marketers were higher than the fixed costs. This is in line with the studies of Simpa (2011) and Simpa and Nmadu (2015) who confirmed in their studies that fixed costs were low compared to variable

costs. The Table further shows the gross margin of N344,756.82 for wholesalers, and N251,723.67 for retailers. The net profit made by the wholesalers and retailers were N212,382.02 and N162,150.31 respectively. This result indicates that the watermelon marketing was economically viable as the profit of the marketers were positive in both wholesale and retail levels, but the wholesalers made higher profit than the retailers. The positive net profit result made by both marketers is in consonance with the findings of Ebong (2007), who noted that marketers hardly make negative gains. The high net profit made by the wholesalers could be attributed to the economy of scale in which the wholesalers enjoy. Secondly it might be that the wholesalers buy from the producers directly at the farm gate at low price. This result is in tandem with the findings of Ukwuaba *et al.* (2019) in their study on watermelon marketing in Enugu State. The values of expense structure ratio (ESR) for wholesalers and retailers was 0.3 and 0.1 respectively. This implies that about 30% and 10% of total costs in the wholesale and retail levels were made of fixed capital. The implication of this is that fixed cost component will not tie down the equity capital of the marketers in the watermelon marketing business. Therefore, small traders could easily enter into the business as it does not involve much fixed capital. The profitable ratio shows that the watermelon business was more profitable at the wholesale level as the benefit cost ratio indicates that the wholesalers made higher return (N1.37) than their retailer counterparts (N1.7). This implies that for every N1.00 invested on the business, wholesalers generate N1.37 compared to retailers (N1.17). This result agrees with the findings of Ogunlade *et al.* (2009) who reported that wholesale in tomato was more profitable than retail because wholesalers had more return on every N1.00 invested than the retailers.

Table1: The Economic Performance of Watermelon Marketers in the Study Area

Item	Wholesaler	Retailer
Revenue (A)	791,000.00	1,139,040.00
Variable (B)		
Purchase price	324,563.12	791,000.00
Transportation	109,651.56	83,686.40
Loading/Off-loading	10,528.50	83,686.40
Union dues	1,500.00	1,575.00
Total Variable Costs	446,243.18	887,316.33
Fixed costs (C)		
Storage cost	129,374.19	86,423.77
Security	1,800.56	1,890.59
Sanitation	1,200.00	1,260.00
Total fixed costs	132,374.75	89,573.36
Total cost (B+C)	578,617.93	996,889.69
Gross margin (A-B)	344,756.82	251,723.67
Net profit (A-B-C)	212,382.02	162,150.31
ESR TFC/TVC	0.30	0.10
BCR=A/(B+C)	1.37:1.00	1.17:00

Source: Field survey 2018

Marketing Margin and Efficiency of Watermelon Marketers in the Study Area

Results in Table 2 present the marketing margins and efficiency of wholesalers and retailers of watermelon in the study area. The Table shows that at the wholesale level of the average selling prices of 1kg of watermelon was N250.00 and the purchasing price was N102.25. On the other hand, the average selling price at the retail level was N360.00, while the purchase price was N250.00. The Table further indicates that wholesalers made higher profit (N212, 382.07) than the retailers (N162,150.31). The marketing margin for both the wholesalers and retailers was 58.97% and 30.56% respectively. Although the two figures were low, but that of the retailers were lower compared to wholesalers, but both activities were profitable. These imply that the

wholesalers had reduced and lower costs, and probably had more economic power, and made more gains than the retailers. This is in line with *a priori* expectations and supports the findings of Adakarem (2014). The marketing efficiencies of wholesalers and retailers were 36.77% and 16.16% respectively. This implies that the watermelon marketing in the study area are not efficient as depicted by the values of the efficiencies of the marketers and that about 63.23% and 83.84% of inefficiencies exist in both wholesale and retail markets respectively. The higher inefficiency recorded at the retail level could be attributed to the high cost of marketing activities incurred by the retailers. This finding confirms the result obtained by Isibor and Ugwumba (2014) who found out that watermelon marketing was inefficient in their study.

Table 2: Analysis of Marketing Margin and Efficiency of Watermelon Marketers in the Study Area

Item	Wholesalers	Retailers
Purchase price per a Kg (₦)	102.58	250.00
Selling price per a Kg (₦)	250.00	360.00
Total marketing cost (₦)	212,382.07	996,889.69
Net profit(₦)	212,382.07	162,150.31
Marketing margin (%)	58.97	30.56
Marketing efficiency (%)	36.71	16.16

Source: Field survey, 2018

Conclusion

The findings of performance analysis of watermelon marketing in the study area indicated that both marketers (wholesalers and retailers) had positive net profit, depicting that watermelon marketing was economically viable. The result further showed that the market returned N1.37 and N1.17 for every N1.00 invested in the business at the wholesale and retail levels respectively. The market had marketing margins of 58.97% and 30.56%, and marketing efficiencies of 36.71% and 16.16% respectively. This shows that the watermelon marketing in the study area was still economically profitable but not efficient at both wholesale and retail levels. The values of expense structure ratio were 0.3 and 0.1 for wholesalers and retailers indicating that 30% and 10% of the total costs in the wholesale and retail levels respectively were made of fixed capital of the marketers. Therefore, new entrants with little capital can easily enter into the business especially at the retail level as it is not fixed capital intensive. This will help to enhance efficiency of the market and improve the standard of living of the marketers as their means of livelihood will equally increase. Some unemployed youths in the area should be encouraged to join the watermelon business, especially at the retail level as the business is profitable.

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