



Original Article

Marketing Margin Analysis of Jujube (Case Study: Birjand)

Seyed Yaghoub Zeraatkish*

Department of Agricultural Economics, Science and Research Branch, Islamic Azad University, Tehran, Iran

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Abstract

Among Medical products, jujube (*Ziziphus jujuba* Mill.) is very important due to its very high nutritional value. Jujube as one of the most valuable medicinal plants can play an important role in Iran's non-oil exports. In spite of this fact, unfortunately, the production, distribution and marketing of this product are confronted with a number of obstacles. Therefore, this study can help for identifying the market layers challenges of this product in accordance with the production. Since, the retail price has a significant effect on the marketing margin, if the margin control and preventing its increase is desired, it is necessary to adopt appropriate strategies as applying continuous monitoring, and avoid volatility and rising of prices. It seems the pattern of changes in retail jujube prices is similar to the pattern of changes in producer prices. The retail-margin function is influenced by retail price, retailer cost and the wholesale margin. The results of estimating of the marketing margin function indicate that the marketing margin have a direct relationship with the retail price.

Keywords: Jujube, Marketing, Market margin

Introduction

In many countries, and virtually every less developed country (LDC), agriculture is the biggest single sector. Agriculture typically employs over 30 percent of the labor force in Iran.

Agricultural marketing covers the services involved in moving an agricultural product from the farm to the consumer. Numerous interconnected activities are involved in doing this, such as planning production, growing and harvesting, grading, packing, transport, storage, agro- and food processing, distribution advertising and sale. Some definitions would even include "the acts of buying supplies, renting equipment, (and) paying labor", arguing that marketing is everything a business does. Such activities cannot take place without the exchange of information and are often heavily dependent on the availability of suitable finance [1] Marketing systems are dynamic; they are competitive and involve continuous change and improvement. Businesses that have lower costs, are more efficient, and can deliver quality products, are

those that prosper. Those that have high costs, fail to adapt to changes in market demand and provide poorer quality is often forced out of business. Establishment of marketing producers can be the solution to many of the marketing problems. Purchase of inputs in bulk and their sale to members only can provide them agricultural inputs at right time and at minimum possible price. After harvest of the crop, these marketing cooperatives could accumulate the marketable surplus of farmers and send it to big markets and consumer cooperatives at maximum prices as they have the bargaining power [2]. Also the post-harvest losses are reduced to minimum. In this way the farmers will get maximum reward for their output. When these marketing cooperatives become so much developed they can perform other market functions like storage, grading and packaging etc. In this way the return of the farmers can further be increased. The experience of marketing cooperatives had not been very much successful in the past but that

*Corresponding author: Department of Agricultural Economics, Science and Research Branch, Islamic Azad University, Tehran, Iran

Email Address: drzeraatkish@gmail.com

failure was due to mismanagement and poor implementation in the real concept. In other word, the government should firmly show Supply of agricultural inputs in the proper position, Good quality and reasonable prices support. Agricultural credit facilities should be available for increasing value added of agricultural products especially for export items. There is also need to subsidies the imports of processing machinery especially for agriculture export items i.e. citrus, mango, rice etc. Due to population growth and urbanization which result in increasing the producers and end consumer gap, the existence of an efficient marketing and market update system is considered as a necessity [3]. The more the ability of a marketing system of agricultural products in a, on one hand, the manufacturer welfare will be increased and on the other hand, more employment opportunities will be provided [4].

Traditional use of jujube dates back 2,500 years in original Chinese materia medica records. The fruit, seed, and bark are described in Korean, Indian, and Japanese traditional writings, as well.

Ziziphus jujuba Mill. is a thorny rhamnaceous plant that is widely distributed in Europe and Southeastern Asia. Fruits of this plant are edible and different parts of *Z. jujube* possess multiple medicinal properties such as anti-fertility, analgesic, and anti-diabetes. *Z. jujube* begins its grow from early April and its fruits ripen in September and falls from the middle to the end of autumn and then its hibernation occurs. its precise natural distribution is uncertain due to extensive cultivation, but is thought to be in southern Asia, between Lebanon Iran ,Pakistan, northern India, Bangladesh, the Korean peninsula, and southern and central China, and also southeastern Europe though more likely introduced there [5].

They are used to alleviate stress and insomnia and as appetite stimulants, digestive aids, anti arrhythmics, and contraceptives. The sweet smell of the fruit is said to make teenagers fall in love. The fruit is eaten fresh or dried and made into candy; tea, syrup, and wine are also made from the berries.

Therefore, given the importance of Iran jujube and its special status, the economic structure of this product in the areas of production, marketing, market update and export needs essential revision and development [6]. So, the present study has studied the marketing status and market update of this product has been studied as a case study in

Birjand. Zohourian and Karbassi [7] indicated that jujube product goes through a marketing path from the manufacturer to the consumer in a traditional manner. Throughout this process, the increase in products and introducing them to domestic and foreign consumers are ignored (the target markets are very restricted). From another perspective, in case, this product marketing improves and its production increases; consequently, production growth and increased export can be witnessed.

Hoshyari and Khadivar [8] examine the issues of marketing of tomatoes in Fars province (County of *K zir n*). Therefore, the problems and difficulties of marketing of tomatoes were reviewed by computation of the values of the margin of the total marketing, retail and wholesale margins, the share of marketing agencies, marketing cost coefficient an technical, price and total efficiency of this product. The data and statistics required for this research were collected and analyzed in two ways of the study of statistical and survey sources through random sampling and filling the questionnaire for 45 producers, 35 wholesalers and 30 retailers. The results of estimating of the marketing margin Function indicate that the marketing margin in the Mark-up Model and the marketing margin have a direct Relationship with the retail price [8].

Estakhr and Esmaili [9] in a study examined the economic analysis of Kabkaab date internal marketing in Kazeroun. The results indicated that marketing margin functions show a significant positive relationship between retail price, marketing costs and the value of goods sold and the marketing margin.

Nasabiyani *et al.*, [10], have also studied the presence or absence of export comparative advantage of date of Iran and fourteen countries that were among the world's leading exporters of date during 1995 (simultaneous with the start of the World Trade Organization) until 2007.

Jujube, which has comparative advantages and is one of the growth potential of the agricultural sector in this region, is of great importance. Therefore, review of the factors affecting the marketing margin of this product helps understanding the market layers of the product in the province according to the production rate.

Material and Methods

Marketing margin analysis was used to evaluate the economics of jujube marketing in terms of profitability and viability [11]

To analyze the data and extract results, a series of mathematical relationships such as marketing margins, wholesale margins, retail margins and marketing system efficiency are used [12] and finally, the marketing margin is estimated by using markup model

Marketing margin is defined as follows [13].

$$MN = PR - PP$$

$$MW = PW - PP$$

$$MR = PR - PW$$

Wherein, MN is marketing margins, MW margin of wholesale, MR is retail margin, PR is retail price, PP producer price and PW is the wholesale price (14).

The following formula is used to calculate the efficiency:

$$\text{Technical inefficiency: } T_{\text{inef}} = CW/M$$

$$\text{Price inefficiency: } P_{\text{inef}} = CM/MM$$

$$\text{Total inefficiency: } O_{\text{inef}} = (CW/CM)/MM$$

The difference of each of these inefficiencies from number one, achieves the performance of each of them.

The share of each market factor is calculated as follows (13):

$$SP = \left(\frac{PF}{PR} \right) \times 100$$

$$SW = \left(\frac{MW}{PR} \right) \times 100$$

$$SR = \left(\frac{MR}{PR} \right) \times 100$$

That SP, SW and SR represent the manufacturer's share of the retail price, the wholesaler share of retail price and the retailer share of retail price [13]

Marketing cost coefficient is calculated as follows:

$$R = (CM / PR) * 100$$

Wherein R: Marketing cost coefficient, PR: retail price and CM is cost of marketing.

So, to determine the effective and determining factors in marketing margins, various models are used that the famous mark-up model is referred to as follows [15].

Markup Model

In this model, the marketing margin is considered as a function of the retail price and marketing costs:

$$MM = f(RP, Z)$$

Where: MM is marketing margins, RP: retail price and Z is marketing cost and other issues such as time trend, dummy variables, etc.

Marketing Cost Model

The model by Mullen and Wohlgenant [2]¹¹ is presented. Total cost of activities and services performed on the gap between product production to consumption, as a percentage of the price offered to consumers, the cost coefficient is called marketing [16]. The coefficient indicates the share price of the final product cost in marketing. This coefficient is calculated from the relationship:

$$R = (C_m / P_r) * 100 [8]$$

Where R, C_m and P_r are marketing cost model, marketing cost and retail price, respectively. Furthermore a random sample of 50 farmers was done by using random sampling technique based on major areas producing the product [17].

Results

The results showed that the producer's share of the final price is 38.4%, the wholesaler share 18.6% and retailer share is 43%. Therefore, the hypothesis that the wholesaler share of jujube final price is higher than the share of retailer and manufacturer is rejected. Calculating jujube marketing margin shows that the retail margin is more than the wholesale margin. This is because the price difference between the farm and the retail price is high and on the other hand, the vast majority of marketing activities, including grading, packing and transportation, which allocate a large part of the marketing costs to them, are in the margin of retail.

The above results also present policy analysis application. Based on the statistical and economic significance of the two cost drivers and trade volume, it is possible to influence improved marketing efficiency in the jujube retail business through policy interventions that reduce marketing costs while enhancing the scale of operation.

Jujube marketing profit is 110880 Rials/kilo, which shows that if the farmer want more benefit, it is better to do much of his marketing activities personally and transfer the product to retail outlets in person.

Marketing efficiency is another study criterion. The results show that the price efficiency in retail level 57.5% had the highest rates. Thus, if the farmer

does personally marketing activities of jujube has most efficiency.

The results of estimating marketing margin in the mark-up model shows that marketing margins has a direct relationship with the retail price. So, the marketing margin of jujube is directly related to the retail price.

The average price of jujube in farm, wholesale and retail market is estimated as the average price in these three markets 69120, 102600 and 180000 Rials, respectively (Table 1).

So the prices indicate that jujube price from wholesale to retail involve relatively great increase, calculating marketing margin.

Thereby, the portion of retailer the entire price of jujube is more than that of wholesaler and producers. To compute net profit of marketing factors, different costs were separately calculated in three steps; producer, retail and wholesale (Tables 3). Basic costs involve transportation, maintenance and work place. Results show that net profit of jujube producers marketing operations and marketing cost are about 13 and 9 percent, respectively, of retail price by selling per kg (Table 3).

Results indicated that Net profits of wholesale marketing and its marketing costs are 24 and 8 percent of the average wholesale price (Table 4).

Retail market is about 38 and 5 percent of the average retail price relative to the net profit and retail cost (Table 5).

Marketing cost model shows that 22 percent of jujube retail price is related to the product marketing costs, that is the portion of marketing factors in the total price of the product is 22 percent (39600 Rials). Season supply is feature of many agricultural products, also immediate consumption of some of the products, such as jujube caused this feature to leave a variety of effect, however, the most important of them is price fluctuation over each season and some other problems are due to the weak functioning of market including low price and of transparent market. Results indicated that total, whole sale and retail margins are 110880, 33,480 and 6630 Rials/kilo, respectively. Share values of the wholesaler and retailer jujube marketing margin in birjand are 30,24 and 69,8 percent, respectively (Table 2). The direction of jujube marketing and supplying in the province is not transparent because total farm price and marketing cost are lower than the retail price, less than the function of the market presenting its transparency.

Table 1 The average price received by the farmers, wholesaler and jujube (*Ziziphus jujuba* Mill.) retailer

Descriptions	Retailer	Producer	Wholesaler
Average Price Received (RLS)	180000	69120	102600

Source: Finding Research

Table 2 Marketing margins and share values of the jujube in birjand (RLS).

Descriptions	Retailer	Wholesaler	total
Margin (RLS)	77,400	33,480	110880
Share (percent)	69,8	30,2	100

Source: research findings

Table 3 Marketing net profit for the producers of jujube (*Ziziphus jujuba* Mill.) per kg.

Descriptions	Sum (RLS)
Average prices producers received	69120
Transport costs	5200
Other costs	1000
Total marketing costs	6200
Net price received	62920
Producers jujube prices before marketing operations	54500
Net profit producing marketing operations	8420

Source: Research Findings

Table 4 Net profit marketing wholesalers and the costs per kg jujube (*Ziziphus jujuba* Mill.).

Descriptions	Sum (RLS)
The average price received by wholesalers	102600
Transportation costs	7500
Location acquisition costs and other expenses	1000
Total marketing costs	8500
Net price received by wholesalers	94100
Purchase price	69120
Wholesale marketing operations, net income	24980

Source: Research Findings

Table 5 Net income market retailers and the cost per kg of jujube (*Ziziphus jujuba* Mill.).

Descriptions	Sum (RLS)
The average price received retailers	180000
Transport costs	8000
Location acquisition costs and other expenses	500
Total marketing costs	8500
Net price received retailers	171500
Purchase price	102600
Retailers marketing operations net income	68900

Source: Research Findings

Conclusion and Suggestion

The introduction of commercial jujube in the country offers scope for crop diversification in horticulture sector, significant employment opportunities and financial solvency to the growers. Moreover, the crop is highly nutritious, temperature and drought tolerant, highly productive and offers less shade effect on the crop beneath as a main crop in intercropping system.

In view of the practical absence of primary post-harvest handling facilities at the village level, small-scale jujube farmers were highly dependent on seasonal marketing operations, and local consumers preference. Marketing margin has remained an important tool in analyzing the performance of marketing systems. Marketing costs and profit margins which make up marketing margins can be both indicators of efficiency or inefficiency of marketing systems. The benefits that accrue to the individual participants may be incentives or disincentives to continue in the business. Proper Computation, understanding and interpretation of marketing margin value in relation to prevailing circumstances can reveal a lot about performance in the marketing channels.

Lack of technical capability in the ground of jujube marketing in addition boundary the expansion in this sub-sector. The main technical problems faced by these activities. Moreover, there was no market information system, with the result that many farmers in an area tend to produce the same crops. In addition, the lack of capacity in post-harvest handling or storage implied that most farmers had to sell their products during the short period of time, causing low prices. Farmers could obtain better prices if they had access to the marketing information, and facility to properly handle and store their products after harvest.

Farmers usually due to inability to maintain the product and certain financial problems and being in need of cash, sell jujube at lower prices to wholesalers and dealers who consequently sell the product after storage and warehousing, in good market condition at a reasonable price. As a result, lack of mechanized warehouses for preserving jujube can harm the farmers significantly. Lack of grading and packaging of jujube is still another weakness. Moreover, jujube products can be processed and used in preparing sweets and other medical and industrial markets. Unlikely, this benefit has also been ignored. The majority of crop farmers enter the product to the market without processing and with simple packaging. Whereas, if the product is packed in a stylish way and a percentage of agricultural product is processed before entering the market, the farmer can obtain high profits. The export sector, despite the potential and opportunities for development, is undeveloped and suffer from some weaknesses. The most important reason for that can be the foreigners' lack of familiarity with nutritious, pharmaceutical and industrial properties of this product.

For improvement of the marketing situation, it is needed to 1) held training courses to learn about the marketing factors and the direction of jujube supply, based on the condition of market and the way of implementing marketing operations; 2) analyze and specify significant effects on developing the industrially modern export of jujube; 3) expand marketing facilities and advertising; 4) remove all physical barriers, define a clear and codified production by relevant organizations to increase production and export of jujube and increase employment, the province specific schedule should be presented; 5) provide loans, the government makes the establishment of industries and packaging, ranking possible in the

province resulting in increasing the added value and improving the employment.

Since the retail price has a significant effect on the marketing margin, if margin control and prevention of its increase is desired, it is necessary to adopt appropriate strategies as continuous monitoring, and avoid fluctuations and rising of prices and reduce retailers' waste by providing appropriate solutions to improve the product transportation system.

Not only the stem but also the fruit, leaves, branches and roots of Jujube have got pharmaceutical and industrial use that is why jujube is considered as one of the most unique products. Therefore, it is a necessity to introduce it to people outside the geographical boundaries. However, as mentioned, one of the problems in terms of jujube export is in attention in packaging that has an important role in product marketability. Holding international conferences focusing on jujube and its properties and providing product information booklet in jujube export packages can contribute to the product export through familiarizing it to the foreigners. Furthermore, with stylish and modern packaging and presentation of awards to farmers and exporters of this valuable product, it would be possible to find a special place in the global economy.

The price efficiency in retail-wholesale-level Indicates that wholesale marketing costs was high and it is recommended to stop the rise of retail marketing costs by providing appropriate services in product transportation system. Gross marketing margins were lowest for farmer traders who do not have a better access to day to day price information. In order to improve the problem of pepper price fluctuation and the bargaining power of producers, implementation of a well-defined standard of the commodity is relevant.

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