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Marketing Margins in Broiler Production in Jordan Industry

[1]Motasem Al-Masad, [2]Ali Al-Sharafat and [2]Bassam Al-Deseit
[1]Department of Animal production, [2]Department of Agricultural Economics and Extension,
Faculty of Agriculture, Jarash Private University,
P.O. Box 311, Jarash, 26110, Jordan

Abstract: This study has been conducted to discuss the present marketing margins of broiler production in Jordan. The associated problems during broiler marketing and potential solutions, as well as marketing channels, were also discussed. Results of the study show that marketing system of poultry in Jordan is traditional in nature. The total marketing margin of middlemen was 0.04 JDs. Out of this, total marketing cost was 0.01 JDs per 1 kg and the net margin was 0.03 JDs per 1 kg. On an average, marketing cost of the retailer was 0.09 JDs, whereas the marketing margin was 0.07 JDs. The share of intermediaries (Middlemen + retailers) was about 51%, which is almost equal to that for the producer. The study revealed that middlemen were exploiting poultry producers by exhorting a large portion of consumer's rupee. Therefore, producers were not getting remuneration according to the value of their products. Minimizing role of middlemen, providing marketing information to producers, strengthening marketing infrastructure. Government intervention is a suggested approach. A number of government broiler outlets to the consumers could be part of the solution. Government should also take initiatives to develop laws which can allow producers to sell their products directly in market. Finding means of direct linkages between producers and consumers will provide chance to producers to understand consumer's behavior. This will end better circumstances in broiler marketing process. Encouraging investment to develop infrastructure is so important to develop broiler industry in Jordan. The provision of credit to the bird growers will allow them to reach directly to the retailers and could kick the commission agents out of the process.

Key words: Broiler industry, marketing margins, producers, middlemen, retailers

INTRODUCTION

The broiler production sector is one of the most important activities among the livestock sectors in Jordan. To overcome the animal protein gap, out of various sources, poultry meat seems to offer much better prospect in this respect. It is capable of providing protein in terms of quality and quantity and can narrow down the animal protein supply gap in minimum possible time as compared to other sources of animal protein. The number of poultry birds for meat (broilers) increased significantly in Jordan during the last two decades. There are nearly 2297 working broiler farms in the country (DOS, 2008). The revenue of this sector is considered the main source of income for many Jordanian people. The broiler industry in Jordan faces many problems, the most dominant problems are the incidence of diseases, substandard and costly feed and inefficient marketing system. Wide price fluctuations lead to uncertainties in securing favorable price for both producer and consumer. Other problems are delayed payments by commission agents, relatively high transport costs and lack of knowledge on actual marketing condition. To overcome all of these problems, there is a need of improving the efficiency and lowering the cost of distribution in existing broiler marketing system.

For the achievement of this, important steps are needed, such as orderly and least expensive marketing system. Thus it is necessary to enable the producers to sell their production at reasonable price and consumers to buy their needs at minimum cost (Maqbool *et al*., 2005). However, along with this expansion of broiler industry, the broiler producers cry for low economic return for their broiler products and consumers cry for high cost of broiler products, which is considered due to high marketing margin in this industry. The marketing margin, characterized as some function of the difference between retail and farm price of a given farm product is intended to measure the cost of providing marketing services. The margin is influenced primarily by shifts in retail demand, farm supply and marketing input prices. But other factors

Corresponding Author: Bassam Al-Deseit, Department of Agricultural Economics and Extension, Faculty of Agriculture, Jarash Private University, P.O. Box 311, Jarash, 26110, Jordan

also can be important, including time lags in supply and demand, market power, risk, technical change, quality and spatial considerations (Wohlgenant, 2005). Many studies have been conducted to look into marketing channels of poultry, meat and eggs and also to determine the costs, margins and profits of different intermediaries and also to estimate their marketing problems (Parkhurst, 1967; Hussain, 1982; Walters *et al*., 1987; Sugiyama, 1989; Rasool, 1991; Zahid, 1994; Kumar and Mahalati, 2000; Khalid *et al*., 2001).

Chohan (1992) studied the marketing of poultry in district Jhang in Pakistan (A country with similar broiler production conditions in Jordan). He found that poultry producers got considerably less price than that of market. This is true for broiler producers in Jordan. The objectives of this study are twofold:

- To identify and assess factors affecting marketing margins in broiler industry in Jordan
- To measure the extent of price transmission among the different levels of the broiler marketing chain in Jordan

In addition, the study aims to look at the profitability of different stakeholders involved in broiler sector and to propose a policy that can distribute profits among different stakeholders on rationality basis. Few studies exist in the literature pertaining to analysis of marketing margins for broiler in Jordan. This study attempts to fill this void and serve as a basic starting point for more complete understanding of the broiler marketing process in Jordan.

Current situation: Jordan considered to be one of the first five leading Arab countries in broiler industry. Poultry Meat Production kg per capita in Jordan is nearly 22 (FAO). In other Arab countries this figure ranges from 0.67-33.0. Table 1 shows the Per Capita Production of Poultry Meat in the Arab World for the year 2005 and the expected Per Capita Production of Poultry Meat for the year 2015. Table 1 gives an idea about the position of Jordan among the Arab countries concerning broiler industry compared to total world. In Jordan, there is 2689 poultry farms. Almost 85% of these farms are broiler farms. A total number of 80, 340 and 350 broiler birds produced in Jordan during the year 2008 in 2297 working broiler farms (DOS, 2008). Table 2 shows the total number and percentages of poultry farms and Table 3 shows the categories of broiler farms according to their capacities. Nearly 6500 employees work in these farms. Half of those employees, with almost 50% as farms owners, are from Jordanian nationality. The compensation of these employees for the year 2008 was 7,178,620 JD (1 JD = 1.4 USD). The value of physical inputs used in broiler production in Jordan in the year 2008 was nearly 241,201.1 (Thousand JD). This value resembles about 32% of the total value of physical inputs used in livestock production in the country. The value of other expenditures used in broiler production in Jordan in the year 2008 was nearly 5,537.4 (Thousand JD). This value resembles about 35% of the total value of other expenditures used in livestock production in the country. The value of broiler production in Jordan in the year 2008 was nearly 267,829.9 (Thousand JD). This value resembles about 31% of the total value of livestock production in the country which is 872,047.7

Table 1: Per capita production of poultry meat in the Arab world

	Poultry meat production kg per cap	
Country	2005	2015
Egypt	08.57	04.22
Sudan	00.75	01.00
Algeria	07.65	09.25
Morocco	10.03	05.68
Iraq	01.86	05.05
Saudi Arabia	22.01	23.18
Yemen	05.06	06.64
Syria	06.65	06.92
Tunisia	09.75	11.72
Somalia	na	na
Libya	18.35	23.82
Jordan	22.39	22.30
Arab Emirates	07.95	22.87
Lebanon	33.20	12.96
Palestine	21.09	25.30
Mauritania	01.95	02.30
Kuwait	16.32	04.89
Oman	02.31	10.50
Qatar	05.71	03.70
Djibouti	na	na
Bahrain	07.97	11.50
Comoros	00.67	03.18
Arab World	08.62	08.28
Total World	11.15	12.00

FAO

Table 2: The total number and percentages of poultry farms in Jordan

Category	No. of farms	Percentge of the total farms
Broiler	2297	85.40
Layer	278	10.40
Parent stock	114	04.20
Total	2689	100.00

Jordan (DOS, 2008)

Table 3: Categories of broiler farms in Jordan according to capacity

Category	No. of birds	No. of farms	Precentage of the total farms
First	<5000	390	17
Second	5000-29999	1769	77
Fifth	>30000	138	6
Total		2297	100

Jordan (DOS, 2008)

Table 4: Per capita consumption and imports of broiler meat in Jordan

Year	2005	2015
Consumption (kg cap^{-1})	22.11	26.53
Imports (1000 tones)	19.74	29.61

FAO

(Thousand JD). The consumption and imports of broiler meat of the country is shown in Table 4.

Marketing margins and marketing channels: Marketing margins are indicators of trends in costs, profits and services provided by farmers and food marketing firms. This is the difference between what the consumer pays for food and what the farmer receives (Kohls and Uhl, 1980). It is also calculated as the percentage share received by each marketing intermediary. There is a strong cumulative effect on the marketing margin resulting from the increasing number of intermediaries involved in marketing process (Bashir *et al*., 2001). The marketing margin is a general term used to cover all the multitude of costs and profit margins which make up the difference between the price paid for a product by consumers in retail markets and the price at some earlier point in the marketing chain.

Marketing margin is the difference between prices at different levels of marketing system. Also called farm retail price spread or marketing cost. The value of marketing margin is the difference between prices at different levels of marketing system multiplied by quantity of product marketed. Also called marketing bill (Fig. 1).

A marketing margin is the percentage of the final weighted average selling price taken by each stage of the marketing chain. The margin must cover the costs involved in transferring produce from one stage to the next and provides a reasonable return to those doing the marketing. The price paid by the eventual consumer is made up of the amount of money paid to the farmer for their produce plus all the costs involved in getting it to the consumer in the form in which they purchase it and a reasonable return to those doing the marketing and processing for carrying out their function. Margins are often used in the analysis of the efficiency of marketing systems but the presentation of a trader's share of the final selling price in percentage terms can give a misleading impression unless you know the costs involved.

The cost of distribution of broiler products from producer to the consumer is very high, mainly due to high share of middlemen involved at various stages. The extraction of abnormal profit by middlemen reduces the profit of broiler farmers and discourages them to expand the production unit. The profit share of middlemen also needs to be reduced in order to lower prices at the retail level. The sequence of stages involved in transferring product from the farm to the consumer is generally referred to as marketing channel (Shepherd, 1996). The broiler supplied by the producers passed through certain channels before it reached the ultimate consumers. Direct marketing as practiced by the contractor was made possible only when there was a direct contact between the producer and consumers. In most of the cases, the producer sold their production through intermediaries particularly when the consumer markets were distant from the production areas.

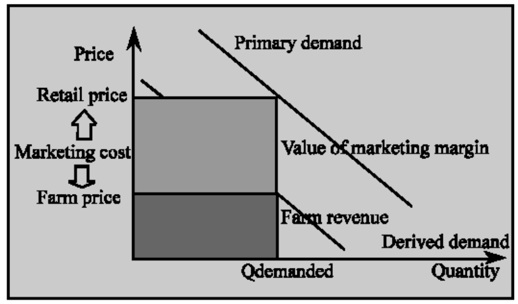

Fig. 1: Value of marketing margins

The common practice of channeling the product was through the commission agents because of the producer's desire to concentrate on production. Few market channels were observed in the flow of broiler meat in Jordan market. Selection of a suitable marketing channel depended upon the volume and quality of production and the requirements of the consumers. The followings are the most practiced two marketing channels in broiler industry in Jordan.

Channel 1: Farmers→Middlemen→Retailers→Consumers

Channel 2: Farmers→Slaughterhouses→Retailers Consumers

The first channel is popular among small and medium farms. More than 80% of small and medium size farms in the country who had transport facility and had interest in marketing contribute to this channel. Not >20% of large farms production is marketed through this channel. All the big size broiler farmers preferred this channel. This channel controlled >90% of the total broiler produce of large farms. The second and the last channel is also popular among the big farms and among the big broiler companies. Most of big broiler companies in Jordan have their own slaughterhouse.

MATERIALS AND METHODS

Data collection: A total of 100 broiler farms were selected randomly for the purposes of this study. The data related to prices of broilers at different marketing channels were collected from producers, wholesalers, retailers and slaughterhouses. The cost items were divided into fixed cost and variable cost. The fixed cost consists of value of birds, depreciation on broiler houses and equipments and interest on capital investment (if present). Variable cost includes cost of feed, electricity charges, medicines and labor charges. Depreciation on fixed capital items is calculated on the basis of the life span of items. Bird cycle refers the period from a day old chick to the period when it is marketed for meat purpose. It is in average of 40-45 days. The reference period for the study was from April 2008 to March 2009. The study covered the whole broiler production areas in the country, all the country governorates were resembled in the sample, the study area were divided into three major production regions, northern, middle and southern regions of the country.

A questionnaire was constructed to collect the necessary data. Total variable and fixed costs and net income for all the stake holders involved were the main items in the questionnaire; these items were broken down to their corresponding subtitles. The collected data is an average of six production cycles for each 10,000 birds capacity broiler farm covering almost a one year period.

Sample size: Sixty six producers were interviewed throughout the country, the sample size was determined according to the following equation:

$$n = [(p.\ q.\ z^2) / e^2] / [(N.\ e^2) + (z^2.\ p.\ q) / (N.\ e^2)]$$

Where:

n = Sample size
p = The proportion that the sample will occur
q = The proportion that the sample will not occur = (1-p)
z = The standardized score
e = Error term
N = Population

The sample size was determined at a confidence level of 0.90; this level was an appropriated level due to the reason that the population itself was relatively small in size. The term error was 0.10 and the z value correspondent to this level is 1.65, the proportion that the sample will occur was 0.50 and proportion that the sample will not occur was also 0.50 and the population was 2297. The sample size according to the before mentioned equation was 67. The number of the producers interviewed in each one of the production areas was determined according to the number of the broiler farmsin each area. Table 5 shows the number of producers interviewed in each area of three production areas. Additional 33 producers were interviewed for precession, questionnaire testing and certainty purposes.

Table 5: The total no. of interviewed producers

Interviewed producers	Area of production	Total no. of farms	Percentage of the country farms
North	1286	56	37
Middle	712	31	21
South	297	13	9
Total	2297	100	67

Prepared by the researchers

Statistical techniques: The distributions of net margins per 1 kg of broiler live weight for different stakeholders were shown as:

$$\text{Producer margin} = \text{Producer's sale price} - \text{all cost of production}$$

$$\text{Middlemen's margin} = \text{Middlemen's purchase price} - \text{Middlemen's sale price}$$

$$\text{Retailer's margin} = \text{Retailer's purchase price} - \text{Retailer's sale price}$$

The net marketing margins for different stake holders were estimated after deducting the cost of services that each stake holder was providing. The producer's marketing margin $\pi1$ was estimated using the formula given:

$$\pi1 = \text{Producer's sale price - all costs of production}$$

The Middlemen's margin $\pi2$ was estimated as shown:

$$\pi2 = \text{Middlemen's sale price - Middlemen's purchase price - cost of services provided by Middlemen}$$

The retailer's margin $\pi3$ was calculated as below:

$$\pi3 = \text{Retailer's sale price - Retailers purchase price - cost of services provided by retailers}$$

$$\text{Total profit from the poultry industry } \pi = \text{Consumer's purchase price - producer's sale price}$$

The percentage contribution in total profit of each stake holders was obtained as shown:

$$\text{Producer percentage share} = [\frac{\pi1}{\pi}] \times 100$$

$$\text{Middlemen's percentage share} = [\frac{\pi2}{\pi}] \times 100$$

$$\text{Retailer's percentage share} = [\frac{\pi3}{\pi}] \times 100$$

RESULTS AND DISCUSSION

In Jordan broiler industry there are different chains through which poultry birds move from producer to consumer. Usually, middlemen purchase birds from producers and then distribute them to retailers. Sometimes producers sell the produce to poultry slaughterhouses which in turn sell it to the wholesalers and retailers and then to the consumers. The analysis in this study will be limited to the most dominant marketing channel in Jordan which is the first channel. The net distributive margins of different actors are shown in Table 6 and 7 for the most dominant broiler marketing channels in Jordan. The net distributive margin was the highest for middlemen compared to producers and retailers, indicating that producers' net margin is the lowest, while they are a key players in the business.

Table 6 and 7 give us an idea about the position of the three main actors in broiler marketing process in Jordan. The total marketing margin of middlemen was 0.04 JDs. Out of this, total marketing cost was 0.01 JDs per 1 kg and the net margin was 0.03 JDs per 1 kg. On an average, marketing cost of the retailer was 0.09 JDs, whereas the marketing margin was 0.07 JDs

The share of intermediaries (Middlemen + retailers) was about 51% which is almost equal to that for the producer. These results suggested that marketing margins of middlemen and retailers, together were almost equals to producers marketing margin, which means that the producer share alone in these margins was higher than the two indicating that the profit of each of the middlemen and the retailer is much higher than that of the producer due to his higher share in marketing margins. In addition middlemen were exploiting producers because producers had cash constraints and had no direct relation with retailers to sell off their output. Many farmers claimed that intermediaries did not follow business ethics and tried to fetch maximum profit from business transactions. They used many tactics such as juggling with weighing scales, under counting and under weighing to deceive the farmers. Marketing system of broiler in Jordan still remains in traditional condition. As a result, producers could not develop direct linkages with the consumers.

Table 6: Distributive margins (marketing channel 1)

Participant	Price (JD kg^{-1})
Margin (JD)	
Producer's sale price or middlemen purchase price 0.095	1.27
Middlemen sales price or retailer's purchase price 0.040	1.31
Retailer's sale price or consumer's purchase price 0.160	1.47

Research survey

Table 7: Net marketing margins (marketing channel 1) in JD kg^{-1}

Marketing margin	Retailer	Producer	Middleman
Revenue	1.270	1.310	1.470
Purchase price	-	1.270	1.310
Costs	1.175	0.010	0.090
Net marketing margin	0.095	0.030	0.070
Share in margin (%)	48.730	15.380	35.890

Prepared by the researchers

CONCLUSION

One of the major findings of this study was that middlemen at various levels of broiler marketing system were exploiting the broiler producers farmers. Producers are not getting expected prices, while consumers are paying high prices. To save both the consumers and producers from the exploitation of middlemen, the process of broiler marketing in Jordan should be organized. Government intervention is a suggested approach. A number of government broiler outlets to the consumers should be encouraged so that instead of relying on middlemen, they could also buy broiler meat from these outlets. By doing this, the marketing margins of middlemen, the major players in deciding the price at the retailer's level could be decreased and ultimately the share of the producer will be increased.

RECOMMENDATIONS

Government should also take initiatives to develop laws which can allow producers to sell their products directly in market. Finding means of direct linkages between producers and consumers will provide chance to producers to understand consumer's behavior. This will end better circumstances in broiler marketing process. Encouraging investment to develop infrastructure is so important to develop broiler industry in Jordan. The provision of credit to the bird growers will allow them to reach directly to the retailers and could kick the commission agents out of the process.

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