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Assessment of the Production and Marketing Cotton in Khorasan Razavi Province

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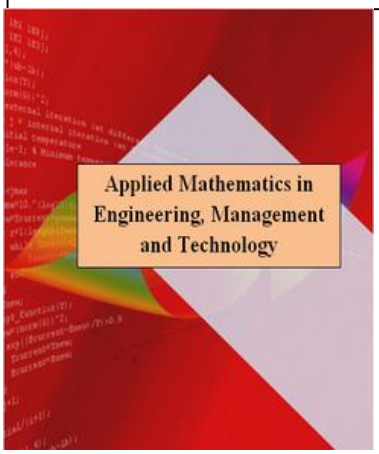

Abstract

Cotton is one of the agricultural products that have a most important role in employment, preparing animal food, supplying primary materials of different industries such as sewing, oil extraction, and hygiene and so on. In this respect it is one of the limited primary materials that cause the most added values inside the country. Therefore paying attention to the condition of production and marketing of this product is very important. To do this study two stage clustering method sampling in one city was applied and producers, whole sale and retailers in 2011 were interviewed and required to answer questionnaires. In addition, additional information acquired from related organizations like Jihad Agricultural organization. Result showed that margins of retailing in each studied ways are more than wholesale, because a large part of marketing price is situated at the margin of retailing. Also in the way that manufacturer offers its product to Filtration Company to give the product to the consumer, for having the lowest marketing price and the most marketing margin is the most profitable way of marketing. This way also has the lowest lack of technical efficacy, price and lack of general efficacy among the entire ways of study. In estimating the models of surcharge, variables of marketing price and prices of retailing has a direct and significant influence on marketing margin and in the model of relative margin variables of marketing price, retailing price and manufacturer's income has a direct and significant influence on marketing margin. In the model of marketing price variable of marketing price and rate of supplied product has a direct and significant relationship on marketing margin. Also result showed that in the entire different ways of this product as the sum of price in the farm and marketing prices are lower than prices in retailing, therefore analyzed ways are not transparent that this issue lessens market efficacy.

Key words: cotton, marketing, marketing profit, marketing margin, marketing efficacy

1.Introduction

Agricultural is one of the oldest and major sectors in the economy of developing countries such as Iran. Although the economic importance of this sector in the development process of the country has decreased, but still it covers a significant share of GDP , employment and non-oil foreign trade and for supplying food and assistance in economic growth in the country has a significant situation . One of the most important factors that cause failure in development goals and increase agricultural production and income of farmers in developing countries is improper marketing of agricultural products. Success of the production process depends on effective marketing organization and understanding marketing nature of agricultural products. Cotton is one of the agricultural products that have a most important role in creating job, preparing animal food, supplying primary materials of different industries such as sewing, oil extraction, and hygiene and so on. In this respect, it is one of the few materials that originally create the most value added within the country. Therefore attention to the production, marketing and the marketing of this product is of particular importance. Some studies in the field of marketing, and marketing of agricultural products within and outside the country are as follow:
Vaseghi & Bakhshodeh (2009) in a study as marketing of Dutch Roses in Isfahan city, analyzed production and marketing problems and different marketing channels and related services in Isfahan city. Marketing efficiency showed that for every 100 rials marketing services 188 rials of value added is created. Based on the results, problems of Dutch Rose marketing about solving problems and improving production and marketing of these products were offered. Qadrzadh & HajiRahimi (2009) studied condition of marketing strawberry crop Kurdistan province. Result showed that the retail margin in the studies in1996, 1999 and 1996, respectively

were 480, 562, 8 and 1940 Rials (product class 1) and 2270 rials (product grade 2), wholesale margin 440, 25 / 998, 1,000 Rials (product class 1) and £ 1410 (Product class 2) and the margin of the entire market, 920, 1561, 2940 (product class 1) and 3220 (product of class 2) was respectively. Salem and Zare (2010) in a study entitled as studying marketing and relative almond advantage in Yazd province studied various problems in marketing of this product in this province. Based on the results price volatility in the harvesting season and uncertainty of market are the main problems of almond producers

Estakhr& Ismail (2010), studied domestic marketing KabKab Dateinthe Kazeron city .Criteria of marketing margins, marketing efficiency, marketing margin functions and marketing cost coefficient were used. Marketing margin Functions showed a significant positive relationship between retail price ,marketing costs with marketing margins .Traub & Jayn (2008)studied the effects of price distortions on marketing margins of maize in South Africa during the period of 1976 to 2004 and concluded that real margins of corn wholesale in South Africa at least 20 % has increased due to disturbances retail prices. Piggot (2000) identified and evaluated marketing strategies and risk management in marketing of rice in America. He analyzed time sensitivity in the cash price, product storage, transportation costs and future prices payment using collected information to suggest the best strategy. Thomson Lyon (1993) examined different models of marketing margin in milk products. In their study, the marketing margin function of the retail price and farm and marketing costs are discussed. Rajagupal (1992) in a study area in Bastar , India , examined the economic efficiency of maize marketing. Results of this study showed that in most of the markets correlation coefficient is significant between rates of production marketable surplus. But relationship between profit margins and sales volume are reverse.

In this study required data and information were collected by two methods of documentary study from formal resources of libraries and other resources such as Jahad Agriculture in the province by survey study using completing the questionnaire and other resources such as Jihad Keshavarzi Organization and by means of interview in the level of manufacturer, retailer, wholesale, and transformer.

To do the study from among Khorasan Razavi province, three cities of Nneyshabur, Sabzevar, Roshtkhar are selected that allocated highest acreage to the cotton in the crop year 2011. After specifying the questionnaire validity 100 questioners forms about cotton producer, 25 questionnaire of wholesale and 50 questionnaire of retailing and also 5 questionnaire of transformer are offered to manufacturers, buyers, and transformers in the stated provinces. To analyze data and estimating models Eviews software package was used.

2.Materials and methods

2.1.Marketing prices

Generally marketing costs refer to the costs of good preparation from production to consumption. These costs are paid by producers and marketers. Marketing costs are significant so that they contain a considerable part of consumer payment price. Marketing cost changes causes changing farmer's share from the price of offered product to the consumer.

2.2.Marketing cost coefficient

The sum of activities price and services on product from production to consumption that is offered in the form of a percentage of product price to the consumer is called marketing costs coefficient. The mathematical form of this coefficient is as follow:

$R= (MC/PR) \times 100$

In which R is marketing price coefficient, PR is the price of retailing and MC is marketing price.

2.3.Marketing Charges

Marketing charges is the return for working institutes in marketing activities. This profit is a dimension for services of retailers, wholesale and processors.

2.4.Marketing margin

Marketing margin in the form of difference of prices is defined between marketing chains. Based on three margins of wholesale, retailing and general marketing margin they are distinguishable.
Mr = Pr – Pw Mw = Pw – Pf Mm = Mr + Mw = Pr – Pf
In which: Mr=retail margin Mw=wholesale margin Mm=Aggregate marketing Margin
Pr=Retail Price Pw=Wholesale price Pf= Farm-Gate Price

3.Marketing Margin Models

To specify influential factors of marketing margin use different patterns that refers to four well=known models that are used in applied studies:

3.1.Mark Up Model

In this pattern marketing margin is considered in the form of a function of retail price and marketing costs.
MM = f(RP،Z)
In which: MM= marketing margin PR= retail price Z= marketing prices and other cases like time process, ambiguous variables and so on.
In this model market margin model can be in the form of absolute value or a percentage of Mark up or a compound of them. Mark up model based on Heien Dynamic method is established.

3.2.Relative margin model

This model is introduced by wohlgenant & Mullen (1985) by considering Gardner (1975) structural analysis .in these models
In this model marketing margin is defined as a function of retail price, value of goods and price of marketing factors.
MM = f(RP،TR،Z)
In which PR is the price of retailing, TR is the value of sold goods and Z is the costs of marketing. These Homogeneous linear models are used in the prices of factors.

3.3.Marketing cost model

In this model marketing margin is stated in the following form:
M=f(Q,Z)
In which: Q is the rate of offered product and Z is the vector of marketing prices. This model is used by many researchers such as Lyon & Thompson (1993).

3.4.Rational expectation model

In this model to estimate marketing margin, in addition to the price of product and marketing prices from expected price, rate of profit and ration of cash to the rate of sale in each period, way of financial supply and sale damage is used. This model is estimated in the following form.

$MM=f(PF_t,E_t(PF_{t+1}),Z_t,r,g)$
In winch : PFt is Farm-Gate Price in the curent time, $E(PF_{t+1})$ expected value price in the farm gate in the future time, r, rate of charges of profit and g is cash ratio to sale and Zt is the vector of marketing prices.

4.Marketing efficiency

Lack of efficacy in the marketing path through ratio of marketing costs and wastages to the general margin of marketing can be achieved. To the extent that lack of efficacy in the general marketing of a product is lower path or marketing system is more efficient three types of marketing efficacy containing Technical Inefficiency, Price Inefficiency, and Overall Inefficiency introduced as follow:

5.Technical Inefficiency,

Oinef = (CW + CM) / MM

5.1.Price Inefficiency,

Pinef = CM / MM

5.2.Overall Inefficiency

Tinef = CW / MM
That based on these formulas MM is overall marketing margin, CM marketing costs and CW is wastage cost.

6.Market transparency

Among the criteria used to assess the market structure is market transparency criterion. In static mode, or in a specified time when the retail price is equal to farm-gate price sand marketing costs, then market is transparent and competitive.

7.Result and discussion

Available markets in cotton marketing, including Farm-gate market, the wholesale market and the retail market. Farm-gate market is markets that cover cotton fields. Farm-gate Market is limited to farm level. The market vendors are farmers. The market may be abused by some purchasing agents and some unwanted cases are forced on farmer. Marketing agents in the market are mainly farmers, local buyers , and wholesalers. In the farm gate markets, studied cases are farmers, seed suppliers. Transactions of this market in the studied areas are at the same time with harvesting cotton in rural farm and trade rarely occurs in rural areas. In this market seed is purchased by observation and the agreement without grading. On the other hand, in the marketplace ,the farmer only package sacks and other marketing operations including shipping is the buyer responsibility. Exchanging production in this market was done in two ways of exchange while at the harvest and pre-harvest time it performed. In this market, mainly buying and selling takes place at harvest time. Also wholesale trade in farm-gate was for lack trust in farmers and customers in cash form and rarely it was timing.
When the farmer is not willing to offer his products on the farm-gate by accepting some marketing activities such as shipping product offer their products in wholesale market. Wholesale market vendors mostly farmers and local buyers and wholesalers in the case of cotton supply in the market, the highest percentage of transactions conducted in the wholesale market of the city studied each term respectively, in cash and in the form of accounting. In the cotton trade in the wholesale market as a durable farmers at the time of the

transaction and the remaining approximately 50% of the funds received from the sale of cotton. If the buyers are clarifiers, then payment is done in the cash form. In this market, in addition to cash and deferred transaction, the transaction is deferred into account and it is the kind of transaction is common. If selling method is into account, seller receives a portion of its funds at the time of sale and the remainder postponed until the determination of prices is done by the government. In the wholesale market areas self sale studied areas are rare , it is because the major cities for shopping Neishabor and Sabzevarare most cotton farmers in the cooperative farms and the same company did not achieve any self purchasing. Buyers of wholesale market often buy their needs from the farm market.

Existence of intermediaries in the marketing process is for distance between producer and consumer. But their activities in the marketing process are noteworthy. Mediators in cotton marketing, including wholesalers, clarifiers, and cooperatives are local buyers. Local buyers are a group of customer in cotton farm farmers market. This group stayed in the areas of cotton production and harvesting of cotton to serve this market. Local customers due to short harvest period method, and consequently in a short period of work have various jobs including agriculture, livestock and administrative jobs. This group independently or in return of some works is buying and selling cotton. Local buyers do purchasing using cash method, and provide sack and yarnfor farmers in some cases for farmers. Local buyers of studied areas purchased seed cotton from the market and offer them to wholesale markets in different regions. Another group of cotton buyers that have the most important role in the process of marketing cotton are wholesalers. This group does different activities such as preparing packaging materials, transportation, cotton filtration and selling its products.

With regard to the financial ability of wholesalers most of the purchase of cotton is formed by cash. This Group does their activities in the farm-gate market by purchase, collection and transportation of seed cotton in the wholesale market to refine and sell their products. Wholesalers while activity in the farm-gate market just buy cotton from farmers and do wholesale market activities and often buy their seed requirements from farmers and seldom have purchased other suppliers. Wholesalers have activities in two independent wholesaler and working rights. Based on the range of work of wholesalers, they are divided into two groups: the first groups are often wholesalers in the areas of seed cotton and rarely with agent purchase cotton in farm-gate market altogether. This group sell seed cotton in the wholesale market and other cities. These people constitute the majority of wholesalers in the Khorasan province. The second groups of wholesalers are owners of illegal units of refined method. This group previously purchased and sold cotton, but gradually by favorable financial situation, with the construction of purification unit independently refined method of action and its activities. Majority of these people in the market sale their needs in the Farm-gate without grading calibrated to sell textile factories.

Growing cotton is one of the activities that its product is considered as primary article in industry section and in other words the seed that is harvested from cotton farms can not be used automatically and they should be purified and their textile should be divided from cotton seed. This process can be done in the units of cleaning the cotton units. Method of filtrating cotton based on scale and scope of activities are divided into three groups:

The first groups are units that are locally refined to pay for the needs of rural people. Activity of this group was in very small -scale and cotton production that are provided by these units are used in preparing mattresses, pillows and bed linen. The second groups are units which actin a larger scale than the first group. These units for Lack of additional units are well-known as unauthorized seed units that filter through cotton baling Mahlooji. The capacity of these units is lower than gin mills. Also due to lack of cleaning machines, cotton Mahlooji Kiels of these products is low. Third group of refining cotton is gin mills factories that do their activities widely and in large scale.

Transportation is one of the physical activities of marketing cotton, which has an important role in the marketing process. In cotton marketing transportation activities starts from farm-gate and village. When farmer sell its product in the market in the farm-gate and village location, then transportation costs are responsibility ofthe buyer and farmer has no role in this field. It is when farmers and cotton producers are going to sell their products in the wholesale centers in the cities and province to transport the products by track. Price of cotton in the farm-gate market is based on agreement of parties that is usually higher than common price in the wholesale market. In other words the common price in the wholesale market is used as basic price in the farm-gate market and cotton seed buyers in the farm-gate market for more attraction of farmers increase the level of price a little higher than price of wholesale marketing and in return to compensate decreasing of their profit decrease more for empty sack and sell cottons with different qualities. In the Khorasan province there are three main ways of marketing cotton based on changing product ownership. These paths are:

path (1): producer--------- filtration factory ---------- consumer retailers
path (2):producer ---------wholesale filtration ---------- consumer retailers
path (1):producer ------ Iran's sewing texile and cotton servicing companies------consumer retailers.

8.Marketing margins.

Marketing margins paths (1), (2), (3) in the Khorasan province based on 1 kg cotton seed respectively was 194.275 ، 1595.29 و 1424. 1125 rial (table 1). Therefore path 1had the most margin after path 2 and finally path 3 is positioned. path (1) has lower farm-gate price than other paths. On the other hand this path, respecting the value of filtration of one kg cotton seed has a value equal to path 2 and a value more than path 3. Therefore path 1 has the most marketing margin. As cotton servicing company and Iran's textile sell products lower than the price of other purchasers' path 3 has the lowest marketing margin. Retailing margin of each studied path is more than wholesale margin. This means that process of filtration, packaging of cotton products and grading them allocates a large part of marketing price to itself and situated in the margin of retailing. Also doing such process caused creating higher added value in the cotton seed products.

9.Marketing price

Main marketing price of this product contains prices of filling sacks, transportation, preparing yarn, payment, grading, filtration, and price of business. Sum of marking cotton in paths 1,2,3, are respectively 28.05 ،535. 625 and 05 .625. The reason of this cost in path 1 than two other paths that is application of seed filtration in paths 2 and, 3 is more than the price in the factory in the path1 for filtration of cotton seed. Also paths 2 and 3 have prices of business that this price does not exist in path(1).

10.Marketing price coefficient

Marketing price coefficient in path 1,2, and 3 is respectively 133.672 ، 3. 3 and 680 . 3rial. In path 1for for low marketing prices than other paths marketing price coefficient is higher. In path 2 and 3 though marketing price in the two paths is similar but for low price of retailing in path 3 its price correlation than path 2 is greater.
Marketing profit marketing profit of cotton in paths 1,2, and 3 was respectively 914.225 ، 1059. 24500 799 rial. In path 1 for having lowest marketing price and most marketing margin the most profitable path is marketing. In path 3 this province the cotton servicing company and textile has a price lower than common price has the lowest marketing profit.

11.Lesions

Respecting theory, efficacy of marketing by lowering lesions and cost is like efficacy in transportation that is transportation by means of price and lower lesions that efficacy in storage is defined using the same definition. Therefore the rate and value of lesion has a specific position in marketing discussions. Lesion can be started by dropping after complete ripping of product in the farm until retailing and consumers homes it exceeds. The first stage of corruption is in the farm its agent in the stated level contains atmosphere changes, storage, and diseases, longevity of the time of harvest, lack of regulating harvest issues and so on.
Table 1 is the rate of cotton lesions in different paths of marketing. As this table shows a part of cotton lesions are in the level of product harvest that is for changes of atmosphere, diseases, and longer time of harvest. As harvest of this product was done by labor in a traditional form, averagely lesions of this stage in half a percent per hectare. Main part of lesions in this product is in the stage after harvest that these lesions contain weight lesions in 5% in the factory and moisture lesions that are 4% in the factory.

Table 1-Average rate of cotton lesions in different paths of marketing cotton in Razavi Khorasan province in the entire cotton crop year2011 (percent) (percent)

Lesions	Path (1)	Path (2)	Path (3)
Lesions in the cotton harvest loss(half a percent per hectare)	25	27	22
Weight losses(5 percent in factory)	175	164	150
Moisture losses(4 percent in factory)	145	160	136
Sum	345	351	308

Source: research findings

12.Lack of marketing efficiency

Table 2 represents lack of technical efficiency, price and total lack of efficiency in different paths of cotton marketing in Khorasan province. As this table shows, path 1 has the lowest lack of technical efficiency, price and total lack of efficiency among the entire studied paths.

Table2 -Lack of technical efficiency, cost effectiveness and efficiency of Razavi Khorasan province in the entire cotton crop year2011 (percent)

Path	Lack of technical efficiency	Lack of price efficiency	The total lack of efficiency
Path (1)	0.216	0.335	0.551
Path (2)	0.214	0.438	0.684
Path (3)	0.273	0.555	0.825

Source: research findings

13.Marketing Margin Models

To estimate functions of cotton marketing margin models of adding price, relative price, marketing price and logical expectation hypothesis model was used. Result of estimating these models for cotton product is as follow:

Table 3-Results of the - Marketing Margin Models, Mark up Model and Marketing Cost Model

Model	Depended variable	Constant coefficient	Marketing Cost Model	Retail Price	Total Revenue	R^2	D.W	F	Sigif F
Marketing Margin Models	Marketing Margin	156.62	0.01	0.0006	0.045	0.95	1.68	37.77	0.000
	S.E	0.597	(0.11)	0.11	0.021^{***}				
Mark up Model	Marketing Margin	1168.30	0.017	0.0064					
	S.E	88.96	1.7166^{***}	0.0035^{***}		0.88	2.05	18.95	0.000
Marketing Cost Model	Marketing Margin	1373.11	0/023	0/97					
	S.E	53.2	1.07	0.005^{***}		0.77	1.98	9.14	0.000

Source: research findings
*
: is significance in 1% level. ** is significance at 5% level. *** is significance at 10% level
In each of the upper relations as observed in estimating added value model variables of marketing price and retailing price have direct and significant influence on marketing margin and in the model of relative margin variables of marketing price and retailing price and manufacturer income has a direct and significant relationship on marketing margin. In the model of marketing price variable of marketing price and rate of offered product has a direct and significant impact on marketing margin.
Market transparency table 4 compares farm-gate price, marketing price and cotton retailing price in different marketing paths in Khorasan province. Comparing figures in this table shows that in the entire cotton marketing paths in Khorasan as the farm-gate price and marketing prices are lower than price in retailers, therefore, studied paths are not transparent that this issue lessens the market efficiency.

Table 4-Comparison between the farm price, marketing costs and retail prices of cotton different routesin each Marketing in Khorasan in crop year 2011(RLS)

Path	Retail prices	Farm Price (Rial)	Marketing costs	Total marketing costs and farm price	Retail prices
Path (1)	17080.833	15485.639	535.28	16020.919	17080.833
Path (2)	17020.533	15596.258	625.05	16221.308	17020.533
Path (3)	16982.811	15857.521	625.05	16482.571	16982.811

Source: research findings

14.Suggestions for better cotton marketing

1. The most important problem of agriculture of cotton is commercial sale product issues that most of the years farmers are facing with, because after harvesting cotton is offered to consumer in the raw form and in the factory should be filtered and in textiles it will be converted to the cloth and other materials. Therefore, in the years that market is facing depression farmers are facing numerous problems and in some situations and in most of the provinces they can not sell products and as these products can not be saved in the storages for different reasons should be offered to the buyers after harvest therefore farmers are forced to accept conditions of buyers as it is to avoid other related issues.
2. Filtrations for benefiting considerable financial resources play the most influential role in cotton market. These factors are the product of agricultures and are bought in cash form, but impose some costs to them and it is lower price of product. Therefore paying credit facilities to some factors of organization like rural cooperative organization of cotton agricultures can obviate this problem and can lesson domination of filtrations.
3. Precise supervision on grading cotton seed from farmers and educating them about correct principles of harvest and packaging can decrease percentage of product lesions considerably and share of manufacturers can be increases by final price.
4. Efficacy of cotton marketing in paths of studied marketing in a lower level, therefore, improving services and marketing activities and decreasing costs of them and also product lesions in different stages can result in increasing of marketing efficiency.
5. A considerable part of cotton seed transactions timely is used and this issue causes some of the producers for financial needs were pre-soled. Therefore, financial supplying of manufacturers in different seasons of harvesting can increase its share in financial cost.
6. Improving the Kiel of cotton can increase the income of cotton seed farmers and other marketing factors; therefore developing farming studies should be done aiming at quantitative and qualitative performances.
7. One of the most influential reasons of decreasing harvesting level is the zero tariff of cotton while most of the countries had subside supports of their products and tariffs are increased. Unfortunately in our country reversal of this activity was done that resulted in lowering the price of cotton by other factories of cotton after

filtration, agricultures money should be paid because they were not able to sell their cotton and they were not able to pay the money to agricultures. Therefore, producers should be supported.

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