

# THE CURRENT SITUATION OF COTTON DOMESTIC MARKETING IN EGYPT

Mohamed A. Elsamie<sup>1,2\*</sup> and Deyi Zhou<sup>1</sup>

<sup>1</sup>College of Economics and Management, Huazhong Agricultural University, Wubao, 430070, Hubei, P.R. China.

<sup>2</sup>Department of Agricultural Economics, Faculty of Agriculture, Al-Azhar University, Assuit, P.O. Box 71524 Egypt.

\*Corresponding author's E-mail: mohamedsamie@webmail.hzau.edu.cn

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**Abstract:** *The Egyptian government focused on the cotton crop within the framework of the economic reform as the cultivated area of the cotton crop was liberalized. Furthermore, the prices of production inputs, seed cotton and lint cotton were liberalized whether these prices are government prices or cooperative prices, The marketing issues constitute obstacles which the cotton crop producers face as these issues have direct impact on the production, industry and marketing of the cotton crop and cotton products either inside or outside the country. That was clear recently, which led to the decrease of the cultivated area of the cotton crop and the decline of growing the cotton crop by farmers, when studying development and trends of domestic marketing variables of cotton in Egypt, where These variables are represented in: production costs of the cotton crop, export price, the farm price, Marketing Margin, Purchasing Marketing Margin, Selling Marketing Margin, Share of Producer from Export Price and The Marketing Efficiency shows that variables of production costs of cotton, export price, the farm price, Share of Producer from Export Price and The Marketing Efficiency has taken an increasing trend, variables of Purchasing Marketing Margin and Selling Marketing Margin has taken a decreasing trend during the study period. Also, when studying the statistical estimate of a function of cotton domestic demand in Egypt shows that the variables which largest effect in the domestic consumption of cotton is the domestic production of cotton, Population Number of Egypt during the study period.*

**Keywords:** *Free Marketing, Cooperative Marketing, Economic Reform, Marketing Margin, Marketing Efficiency, Demand, Production Costs, Farm Price, Export Price, Cotton, Egypt.*

## 1. INTRODUCTION

The Egyptian cotton crop is considered one of the important strategic crops, as it is one of the main pillars of the Egyptian national economic structure, and participates in many local industries, such as the textile industry, oil, and soap industry, animal fodder, etc. Also, the cultivation of this crop employs more than one million people. The marketing processes start from the stage of harvest until the cotton crop reaches the cotton ginner to be converted it into the Lint Cotton, after that, the marketing processes of the cotton

crop in the form of Lint cotton are maintained until it reaches the ports of the export or spinning factories, this period starting from the cotton crop cultivation and production in Egypt to 1961 is the period of the free market of the cotton crop as the cotton crop was commercially marketed through face-to-face meetings between the owners of the cotton gins and the farmers who cultivate the cotton crop. After they sort the cotton crop, the price is agreed upon. Since 1962 the Egyptian government adopted the implementation of cooperative marketing project of the seed cotton through the agricultural cooperative associations. After the Economic Reform Program Applied in Egypt The cotton crop trade was freed, as the Egyptian government set the minimum price per ton of the cotton crop through optional cooperative marketing in case that the farmers failed to sell their cotton crop for a rewarding price.

## **2. MATERIALS AND METHODS**

This study was based on the quantitative and descriptive method for studying domestic marketing variables of cotton in Egypt, where variables are represented in: production costs of the cotton crop, export price, the farm price, Marketing Margin, Purchasing Marketing Margin , Selling Marketing Margin , Share of Producer from Export Price and The Marketing Efficiency. through the application of the simple linear regression model can provide us development and trends for this variable. Also, studying The Statistical Estimate of a Function of Cotton Domestic Demand in Egypt, through the application of the Multiple Linear Regression Model can provide us the variables which largest effect in the domestic consumption of cotton

### **2.1. Simple Linear Regression Model**

Regression models describe the relationship between variables by fitting a line to the observed data. Linear regression models use a straight line, while logistic and nonlinear regression models use a curved line. Regression allows you to estimate how a dependent variable change as the independent variable change. Simple linear regression is used to estimate the relationship between two quantitative variables. we can use simple linear regression when we want to know:

1. How strong the relationship is between two variables?
2. The value of the dependent variable at a certain value of the independent variable.

### Assumptions of Simple Linear Regression Model

Simple linear regression is a parametric test, meaning that it makes certain assumptions about the data. These assumptions are:

1. Homogeneity of variance: the size of the error in our prediction doesn't change significantly across the values of the independent variable.
2. Independence of observations: the observations in the dataset were collected using statistically valid sampling methods, and there are no hidden relationships among observations.
3. Normality: The data follows a normal distribution.
4. The relationship between the independent and dependent variable is linear: the line of best fit through the data points is a straight line.

The Formula for A Simple Linear Regression Model

$$Y = B_0 + B_1X + E$$

Where, **Y** is the predicted value of the dependent variable (y) for any given value of the independent variable (x), **B<sub>0</sub>** is the intercept, the predicted value of y when the x is 0, **B<sub>1</sub>** is the regression coefficient, **X** is the independent variable, **E** is the error of the estimate.

### 2.2. Multiple Linear Regression Model

Simple linear regression is a function that allows an analyst or statistician to make predictions about one variable based on the information that is known about another variable. Linear regression can only be used when one has two continuous variables—an independent variable and a dependent variable. The independent variable is the parameter that is used to calculate the dependent variable or outcome. A multiple regression model extends to several explanatory variables.

### Assumptions of Multiple Linear Regression Model

There is a linear relationship between the dependent variables and the independent variables

1. The independent variables are not too highly correlated with each other
2. The Formula for A Multiple Linear Regression Model

$$Y_i = B_0 + B_1X_{i1} + B_2X_{i2} + \dots + B_pX_{ip} + E$$

Where,  $Y_i$  dependent variable,  $X_i$  explanatory variables,  $B_0$  constant,  $B_p$  slope coefficients for each explanatory variables,  $E$  the model's error term

### 3. SOURCES OF DATA

The study relied on published and unpublished secondary data from various sources, including cotton arbitration testing general organization, the Ministry of Agriculture and Land Reclamation (MALR), the Central Agency for Public Mobilization and Statistics (CAPMAS), the National Planning Institute, websites of Food and Agriculture Organization of the United Nations (FAO), the United Nations and the World Bank, in addition to other sites specialized in publishing data statistics. The research also used some references and analyses relevant to the study subject.

## 4. RESULTS AND DISCUSSION

### 4.1. Cotton Marketing System in Egypt

#### 4.1.1. Free Marketing System

In 1961, the marketing and export of cotton was adopted entirely on the laws governing it, as these laws are amended from time to time to suit the conditions and conditions surrounding cotton as an influential commodity in the national economy, previously cotton trade was subject to a coherent structure consisting of three main rings: Cotton Traders Union, Stock Exchange of Minya El-Basal Market and Stock Exchange of Cotton Contracts. <sup>(1)</sup>

**Cotton Traders Union in Egypt:** The Egyptian government established a union which includes seed cotton traders, lint cotton and brokers accordance to the law No. 181 of 1860, where regulates this union the cotton trade in Egypt, as each one of them has an active role in making the cotton crop develop from being a product until it reaches the cotton spinning factories whether the domestic spinning factories or the foreign ones, thus, there must be manifold facilities in the countryside, the purpose of these facilities is to fulfill the marketing process and facilitate the tasks of both sellers and purchasers. According to this, the purchases and sales carried out directly between the producers of the cotton crop and the cotton crop traders, in this phase, the cotton crop marketing was subject to the forces of supply and demand.

**Stock Exchange of Minya El-Basal Market:** Stock exchange of Minya El-Basal it is an institution through which the lint cotton is purchased and sale. so, it is the institution which regulates the control operations which are conducted on the compressed cotton which underwent hydraulic compress, Minya El-Basal Stock exchange Market also has jurisdiction to settle down the disagreements among the members.

**Stock Exchange of Cotton Contracts:** In 1861 established Stock Exchange of Cotton Contracts, after that developed this stock exchange under special legislation and laws in 1909, then in 1919, afterwards, other regulations were issued to regulate the stock exchange market in 1927, then in 1948. After that, the contracting methods and systems of this stock exchange market have been stable until it became a beacon for all the stock markets all over the world, afterwards, work was suspended in this stock market after 1952, then it was reopened, then suspended more than one time until the law No. 69 of 1961 was issued to suspend work in the future stock market indefinitely, starting from June 1961, the prices of both long-staple cotton and medium staple cotton were set through this stock market in accordance with the forces of supply and demand in the market.

#### ***4.1.2. Mixed Marketing System***

In 1961 Egyptian government issued a law stipulating that the capital of the cotton exporting companies shall not be less than 200 thousand Egyptian pounds, and share of the public sector in these companies shall not be less than 50% of the capital. In 1963, the Egyptian government issued a law providing for the nationalization of the cotton exporting companies fully, accordingly, the cotton exporting companies gave up the free market of the cotton crop according to the market forces. After the nationalization of these companies, the Egyptian government decided to stop dealing through both Stock exchange of Minya El-Basal and Stock Exchange of Cotton Contracts, as the Egyptian government decided to purchase the cotton crop from the farmers of the cotton crop through the Egyptian Cotton Committee, where became this committee is dominated on the cotton crop marketing, the purchase price of the cotton crop were set before the start of cotton crop cultivation season. These prices shall not be changed or modified throughout the cotton cultivation season, the export prices per ton of the cotton crop were being declared at the start of the cotton crop cultivation, these prices were fixed for only one week as these prices became invalid at midnight every Saturday, the Egyptian cotton exporting companies purchased the cotton crop

from the Egyptian General Cotton Corporation, these companies submitted the contracts concluded between them and third parties, also, these companies submitted evidence showing the consent of these third parties to concluding the contracts with the Egyptian companies of exports, it can be said that the period from 1961 to 1965 witnessed a mixture of the free market and the mixed market.

### **4.1.3. Cooperative Marketing System**

In Agricultural season 1961/1962 was applied Cooperative Marketing of the Cotton Crop in Egypt then it was fully applied all over Egypt starting from the agricultural season 1965/1966, the cooperative marketing system of the cotton crop is based on the following <sup>(2)</sup>

- I. Arab Republic of Egypt is divided to administrative authorities, each administrative authority is responsible for many villages and cooperative associations.
- II. Each administrative authority is responsible for many cooperative associations according to the cultivated area of the cotton crop in each village.
- III. Concluding with each company of exporting cotton in the jurisdiction of each administrative authority.
- IV. The cotton crop farmers gather their cotton crop as they pack the cotton and import it to the nearest gathering center.
- V. As the cotton crop reaches the gathering centers, it is weighed and the producer is delivered a receipt which proves this, the cotton prices are set according to the cotton type and grade, which are decided by sorters in each gathering center, these sorters are responsible of sorting and collecting the cotton from the cotton crop farmers, the applicable prices were set according to the lint cotton price, these prices shall not be changed or modified throughout the agricultural season of the cotton crop, accordingly, the agricultural incomes shall be same for all the cotton crop farmers.

### **4.2. Cotton Marketing System After the Economic Reform Program Applied in Egypt**

The economic reform program was first applied in Egypt in 1989, thus, the cotton price was liberalized since 1989 for the purpose of increasing the farm

price of the seed cotton through decreasing the domestic and international price differences. In 1993, the cotton crop production was fully liberalized according to the farmers' interests. In 1994, the Egyptian government issued decisions and laws for the liberalization of the production, marketing and trade of the cotton crop as Law No. 141 of 1994 was issued, this law for the establishment of the physical stock exchange market of the cotton crop as this stock exchange market is known as Stock exchange of Minya El-Basal, Law No. 210 of 1994 was issued to regulate the cotton trade inside the country. Furthermore, Law No. 211 of 1994 was issued, through this law, the cotton exporter union law was issued. Since that time, the cotton import system was being applied for all the gathering centers for all interested cotton crop farmers.

### **4.3. Cotton Price Policy in Egypt**

The Egyptian government focused on the cotton crop within the framework of the economic reform as the cultivated area of the cotton crop was liberalized. Furthermore, the prices of production inputs, seed cotton and lint cotton were liberalized whether these prices are government prices or cooperative prices. Since 1996, the government depended on the policy of minimum floor prices <sup>(3)</sup>, as an optional alternative which the cotton crop farmers depend on to ensure the minimum price of selling the cotton crop as a protection for the farmers against price fluctuations, the minimum prices per ton of exporting the cotton crop were set, the export price of the cotton crop are set by the cotton exporter union at the start of each agricultural season. In 1995, there was the first opportunity for the private sector traders to purchase the seed cotton, this opportunity increased the following years.

#### **4.3.1. Pricing Stages of Cotton in Egypt**

**Decision Making Stage:** This stage depends on making decision on some government authorities that are responsible for cotton pricing as these authorities are represented in: Ministry of Egyptian Agriculture, Ministry of the Economy, Ministry of Supply and Ministry of Finance.

**The Price Policy Management Stage:** In this stage, some authorities and committees which are responsible for developing and managing the price policy of the cotton crop. Some of these competent bodies are the cotton council, Cotton, spinning, weaving and ready-made garments holding company, Main Bank for Development and Agricultural Credit, exporter union, stock exchange of Minya El-Basal Stock Market.

**The Price Policy Implementation Stage:** In this stage, the decisions taken in the previous stages are implemented, after that these decisions are implemented by the executing authorities.

#### ***4.3.2. Implications of Cotton Price Policy in Egypt***

The impact of the implications of the price and marketing policies of the cotton crop on the different categories working in the field of cotton crop is show, these categories are: (farmers, traders, government, national economy) as the following<sup>(4)</sup>

##### **The Price Policy Impact on Cotton Farmers in Egypt**

- Lack of interest of the cotton crop Farmers in increasing cotton crop production.
- Lack of interest in quality of the produced cotton.
- Decrease of the cultivated area of the cotton crop.

##### **The Price Policy Impact on Cotton Traders in Egypt**

- Limited participation of the private sector in the cotton crop trade.
- Price Competitiveness is very low.
- The preference of exporting to the global markets rather than the domestic markets.

##### **The Price Policy Impact on Egyptian Government**

- Allocating substantial fund balances to subsidizing the cotton prices which were not set in advance, these fund balances increase by the decrease of the international prices.
- Difficulty of making any amendments in the guarantee prices when the prices decrease.
- The government is only responsible for the cotton price fluctuations.

##### **The Price Policy Impact on National Economy**

- High costs of the domestic cotton spinning factories.
- Increase of the imports of the cotton-fiber products and low-cost synthetic fibers.
- Low levels of the Egyptian cotton exports which are exported to the international markets.



- Stock accumulation of cotton.

### **4.3.3. Negative Effects of Cotton Price Policy in Egypt**

1. Guarantee prices are set according to the production cost parameter.
2. Guarantee prices are fully isolated from the international prices.
3. There are no sufficient incentives to be provided for the farmers to improve their production competence
4. These price policies do not consider the net revenues of the cotton course and other alternative agricultural courses.
5. These price policies are characterized by instability and they are not declared in advance every year.

It is clear from the above that the Egyptian government depended on the guarantee price policy of the cotton crop for only three years from 1995 to 1998, so due to the adverse effects of these prices, the government gave up the Egyptian cotton prices to be set according to the market mechanism and the forces of supply and demand.

### **4.4. Cotton Marketing Problems in Egypt <sup>(5)</sup>**

The marketing issues constitute obstacles which the cotton crop producers face as these issues have direct impact on the production, industry and marketing of the cotton crop and cotton products either inside or outside the country. That was clear recently, which led to the decrease of the cultivated area of the cotton crop and the decline of growing the cotton crop by farmers. These issues are summarized in the following:

1. Mixing the cotton varieties as the mixture was made whether through agriculture, or reaping, or cotton ginning. Also, there is no tight control over the cotton seed sources after the cotton seed are steamed in the cotton ginning mills as this process affects the cotton spinning quality.
2. There is no real system of cotton cultivation and marketing. Also, public business sector fully stopped the industry of the ginned long-staple cotton. Moreover, the private sector purchases the cotton crop exclusively from the cotton crop producers, that led to the control of traders over the market and the decline of prices of the sales made by the cotton crop farmers for the private sector companies.
3. Significant and continuing rise of the prices of the production inputs of the cotton crop which are required for this crop cultivation, that

led to the decrease of the revenue obtained from the cotton crop cultivation compared to the other competitive crops.

4. The instability of the marketing, price and export policies of the cotton crop as well as the lack of clarity and transparency of the traders of the Egyptian cotton crop.
5. Difficulties that hinder the cotton crop farmers in relation with classification, arbitration and weight as the general board of arbitration and cotton tests classifies the cotton as a position which is lower than its real position, accordingly, the cotton crop farmers get a lower price according to this classification.
6. The delay in the cotton crop cultivation lead to the decrease of the above-ground leafy growth period, this effect the almond size and lightening level, which decreases the productivity and quality characteristics.

#### **4.5. The Actions Taken by The Egyptian Government to Solv Cotton Marketing Problems**

Ministry of Egyptian agriculture declared that it concluded a contract with textile and Manufactured clothing company, cotton exporter union and companies which working in the field of exporting raw cotton abroad as these companies determine its actual needs from the crop in the new season as well as set the cotton price, these companies conclude contracts with cotton crop farmers starting from the new agricultural season, which is called contract farming law of the cotton crop. The prices agreed upon by farmers and these companies shall exceed the production costs of the cotton crop and achieve appropriate revenue for the cotton crop farmers. Furthermore, the end of March shall be specified as the final deadline of the cotton crop cultivation for production quality assurance. Egyptian Agricultural Economy Research Institute shall be responsible for the provision of certified agricultural seeds which are selected on the request of the companies working in the cotton crop marketing, Ministry of Agriculture shall implement an integrated plan to control and fight pests which affect the cotton crop production.

#### **4.6. Development and Trends of Domestic Marketing Variables of Cotton in Egypt**

This study shows the development and trends of the economic variables related to the domestic marketing of the cotton crop in Egypt during the

period 2000-2017, where These variables are represented in: production costs of the cotton crop, export price, the farm price, Marketing Margin, Purchasing Marketing Margin, Selling Marketing Margin, Share of Producer from Export Price and The Marketing Efficiency.

**Production Costs**

Data of table 1 shown that production cost of cotton reached its a minimum of 334 US\$ in 2004, reached its a maximum of 1101 US\$ in 2015, where the annual average of production cost of cotton of 679 US\$ during the period 2000-2017. Data of table 2 – Equation 1, figure 1 - shown that production cost of cotton has taken an increasing trend of 37.8 US\$, by 5.57% of the annual average of production cost of cotton during the study period, confirmed the Statistical Significance of the regression coefficient and the model as a whole at a Statistical Significance level 0.01, value of the determination coefficient showed that 66% of the changes in production cost of cotton is due to the time variable.

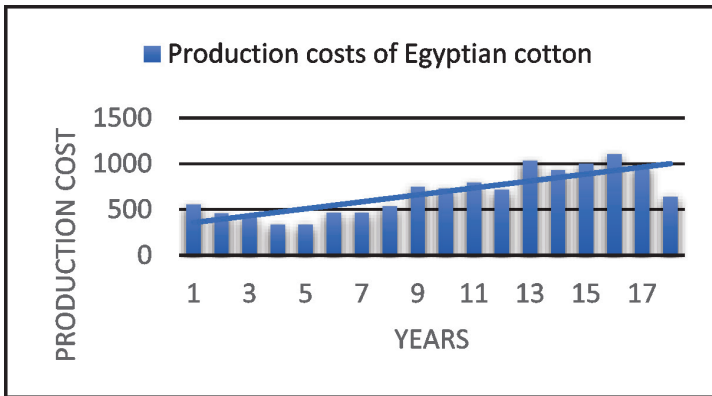


Figure 1: Production Costs of Cotton in Egypt

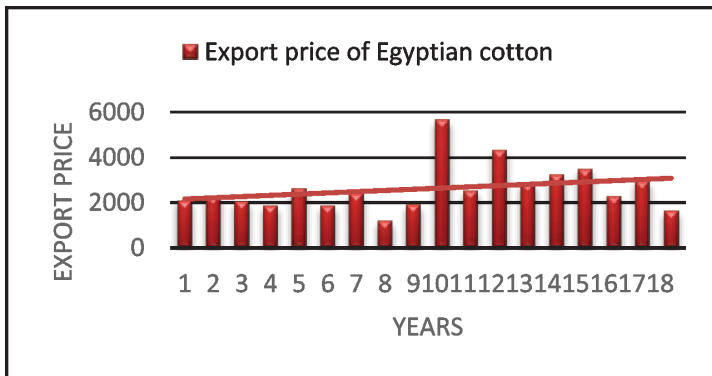


Figure 2: Export Price of Cotton in Egypt

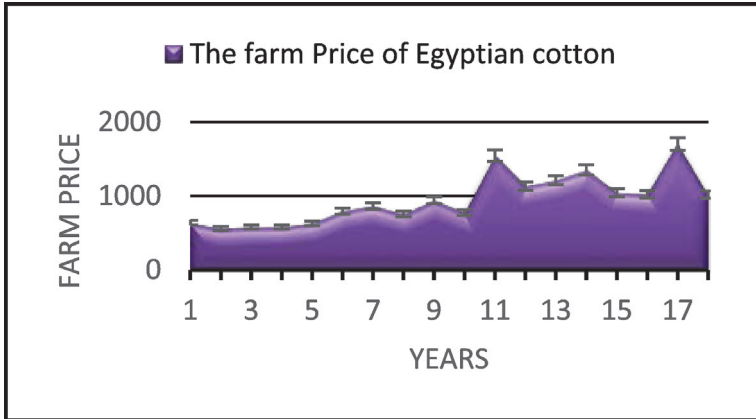


Figure 3: The Farm Price of Cotton in Egypt



Figure 4: Purchasing Marketing Margin

**Table 1**  
Development and Trends of Domestic Marketing Variables of Cotton in Egypt During the Period 2000-2017 (Value: US\$)

Marketing Efficiency (%)	Production Costs	Share of Producer (%)	Selling Marketing Margin (%)	Purchasing Marketing Margin (%)	Marketing Margin	Export Price	Farm Price	Years
27.61	554	30.61	226.72	69.39	1452	2092	640	2000
21.00	457	24.55	307.28	75.45	1719	2279	560	2001
22.38	423	28.28	253.62	71.72	1467	2046	579	2002
20.82	336	31.23	220.17	68.77	1278	1859	581	2003
14.34	334	23.97	317.13	76.03	1999	2629	630	2004
30.14	462	42.58	134.88	57.42	1072	1866	794	2005
23.07	463	35.91	178.50	64.09	1542	2406	864	2006

Marketing Efficiency (%)	Production Costs	Share of Producer (%)	Selling Marketing Margin (%)	Purchasing Marketing Margin (%)	Marketing Margin	Export Price	Farm Price	Years
55.13	536	63.43	57.65	36.57	436	1192	756	2007
43.56	745	49.38	102.52	50.62	966	1908	942	2008
12.94	727	13.68	630.78	86.32	4891	5666	775	2009
45.12	795	61.51	62.57	38.49	968	2514	1546	2010
18.39	718	26.22	281.46	73.78	3186	4318	1132	2011
38.83	1030	42.79	133.70	57.21	1622	2835	1213	2012
33.06	927	41.87	138.82	58.13	1876	3228	1352	2013
29.01	1001	29.86	234.92	70.14	2451	3494	1043	2014
46.78	1101	44.87	122.89	55.13	1253	2273	1020	2015
44.10	976	57.95	72.58	42.05	1236	2940	1704	2016
51.06	637	62.50	59.99	37.50	611	1629	1018	2017
32.07	679	39.51	196.45	60.49	1668	2621	953	Average

*Source:* Websites of Food and Agriculture Organization of the United Nations (FAO), The Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, Central Administration for Agricultural Economics, Bulletin of Agricultural Economics, Different Issues.

## Export Price

Data of table 1 shown that Export Price of cotton reached its a minimum of 1192 US\$ in 2007, reached its a maximum of 5666 US\$ in 2009, where the annual average of Export Price of cotton of 2621 US\$ during the period 2000-2017. Data of table 2 – Equation 2, figure 2 - shown that Export Price of cotton has taken an increasing trend of 238.01 US\$, by 9.08% of the annual average of Export Price of cotton during the study period, confirmed the Statistical Significance of the regression coefficient at a Statistical Significance level 0.05, while the Statistical Significance of any of the estimated models of Export Price of cotton has been not confirmed during the period 2000-2017.

## The Farm Price

Data of table 1 shown that The Farm Price of cotton reached its a minimum of 560 US\$ in 2001, reached its a maximum of 1704 US\$ in 2016, where the annual average of The Farm Price of cotton of 953 US\$ during the period 2000-2017. Data of table 2 – Equation 3, figure 3 - shown that The Farm Price of cotton has taken an increasing trend of 48.9 US\$, by 5.13 % of the annual average of The Farm Price of cotton during the study period, confirmed the

Statistical Significance of the regression coefficient and the model as a whole at a Statistical Significance level 0.01, value of the determination coefficient showed that 60% of the changes in The Farm Price of cotton is due to the time variable.

### **Marketing Margin**

Data of table 1 shown that Marketing Margin of cotton reached its a minimum of 436 US\$ in 2007, reached its a maximum of 4891 US\$ in 2009, where the annual average of Marketing Margin of cotton of 1668 US\$ during the period 2000-2017. Data of table 2 – Equation 4 - shown that the Statistical Significance of any of the estimated models of Marketing Margin of cotton has been not confirmed during the period 2000-2017.

### **Purchasing Marketing Margin**

Data of table 1 shown that Purchasing Marketing Margin of cotton reached its a minimum of 36.57 % in 2007, reached its a maximum of 86.32 % in 2009, where the annual average of Purchasing Marketing Margin of cotton of 60.49 % during the period 2000-2017. Data of table 2 – Equation 5, figure 4 - shown that Purchasing Marketing Margin of cotton has taken a decreasing trend of 1.36 %, by 2.25 % of the annual average of Purchasing Marketing Margin of cotton during the study period, confirmed the Statistical Significance of the regression coefficient and the model as a whole at a Statistical Significance level 0.01, value of the determination coefficient showed that 24% of the changes in Purchasing Marketing Margin of cotton is due to the time variable.

### **Selling Marketing Margin**

Data of table 1 shown that Selling Marketing Margin of cotton reached its a minimum of 57.65 % in 2007, reached its a maximum of 630.78 % in 2009, where the annual average of Selling Marketing Margin of cotton of 196.45 % during the period 2000-2017. Data of table 2 – Equation 6, figure 5 - shown that Selling Marketing Margin of cotton has taken a decreasing trend of 8.72 %, by 4.44 % of the annual average of Selling Marketing Margin of cotton during the study period, confirmed the Statistical Significance of the regression coefficient and the model as a whole at a Statistical Significance level 0.01, value of the determination coefficient showed that 11% of the changes in Selling Marketing Margin of cotton is due to the time variable.

Table 2  
General Temporal Trend of Domestic Marketing Variables of Cotton in Egypt During the Period 2000-2017

Eq. No	Dependent Variable	Model Equations	Annual Average	Amount of Change	Annual Change Rate (%)	R <sup>2</sup>	F
(1)	Production costs	$\hat{Y}_t = 319 + 37.8 X$ **(5.51)	679	37.8	5.57	0.66	30.38**
(2)	Export price	$\hat{Y}_t = 2818 - 555 X + 96.6 X^2 - 3.85 X^3$ (-1.11) (1.61) (-1.84)*	2621	238.01	9.08	0.33	2.29
(3)	Farm price	$\hat{Y}_t = 488 + 48.9 X$ (4.90) **	953	48.9	5.13	0.60	24.00**
(4)	Marketing margin	$\hat{Y}_t = 2155 - 483 X + 79.1 X^2 - 3.18 X^3$ (-0.91) (1.23) (-1.43)	1668	158.9	9.53	0.20	1.13
(5)	Purchasing marketing margin	$\hat{Y}_t = 73.4 - 1.36 X$ (-2.23) *	60.49	-1.36	-2.25	0.24	4.98*
(6)	Selling marketing margin	$\hat{Y}_t = 279 - 8.72 X$ (-1.43)	196.45	-8.72	-4.44	0.11	2.04
(7)	Share of producer	$\hat{Y}_t = 26.6 + 1.36 X$ (2.23) *	39.51	1.36	3.44	0.24	4.98*
(8)	Marketing efficiency	$\hat{Y}_t = 19.4 + 1.34 X$ (2.60) **	32.07	1.34	4.18	0.30	6.76*

$\hat{Y}_t$ : Refers to the estimated value of the referred dependent variable, X t refers to the temporal factor as t = 1, 2, 3, ..... , 18 years. Values between brackets under the coefficients of regression refer to the calculated value of "t". (\*\*) Significant at the 0.01 level, (\*) Significant at the 0.05 level, (-): descending annual change. Source: The data are collected and estimated from table 1



Figure 5: Selling Marketing Margin

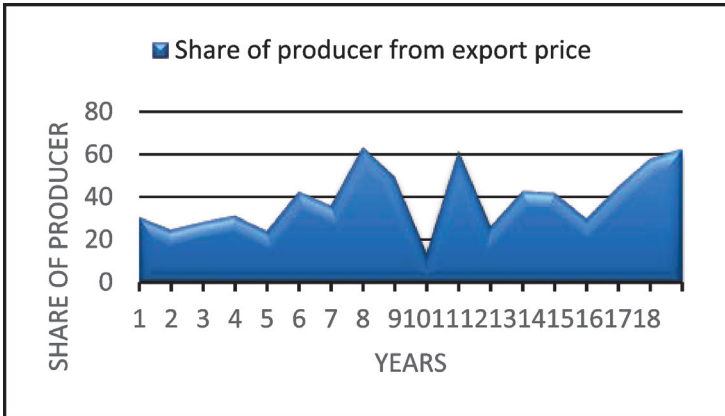
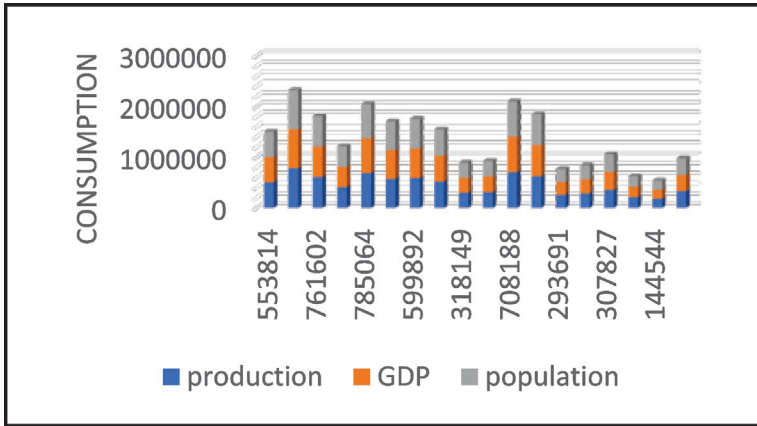


Figure 6: Share of Producer from Export Price



Figure 7: The Marketing Efficiency





**Figure 8: A Function of The Domestic Demand of Cotton in Egypt**

### Share of Producer from Export Price

Data of table 1 shown that Share of Producer from Export Price reached its a minimum of 13.68 % in 2009, reached its a maximum of 63.43 % in 2007, where the annual average of Share of Producer from Export Price of 39.51 % during the period 2000-2017. Data of table 2 – Equation 7, figure 6 - shown that Share of Producer from Export Price has taken an increasing trend of 1.36%, by 3.44 % of the annual average of Share of Producer from Export Price during the study period, confirmed the Statistical Significance of the regression coefficient and the model as a whole at a Statistical Significance level 0.01, value of the determination coefficient showed that 24% of the changes in Share of Producer from Export Price is due to the time variable.

### The Marketing Efficiency

Data of table 1 shown that The Marketing Efficiency of cotton reached its a minimum of 12.94% in 2009, reached its a maximum of 55.13 % in 2007, where the annual average of The Marketing Efficiency of cotton of 32.07 % during the period 2000-2017. data of table 2 – Equation 8, figure 7 - shown that The Marketing Efficiency of cotton has taken an increasing trend of 1.34%, by 4.18 % of the annual average of The Marketing Efficiency of cotton during the study period, confirmed the Statistical Significance of the regression coefficient and the model as a whole at a Statistical Significance level 0.01, value of the determination coefficient showed that 30% of the changes in The Marketing Efficiency of cotton is due to the time variable.

## 4.7. The Statistical Estimate of a Function of Cotton Domestic Demand in Egypt

### 4.7.1. Description of The Model

A Function of Cotton Domestic Demand in Egypt was used to determining the relationship between the domestic consumption of cotton as a dependent variable and the independent variables which affect the domestic consumption of that crop, the variables independent which effect the domestic consumption of cotton is: the domestic production of cotton, value of the gross domestic product (GDP), Population Number of Egypt, Export price of cotton during the period 2000-2017. the economic theory assumes that the relationship between the domestic consumption of cotton and variables of the domestic production of cotton, Population Number of Egypt, Export price of cotton is a direct relationship, while the economic theory assumes that the relationship between the domestic consumption of cotton and variable of value of the gross domestic product (GDP) is an Inverse relationship. Data of the Table 3 shows that The logarithmic formula has been preferred on the linear formula at its linear form and stepwise form according to F value, where F value of The logarithmic formula at its linear form and stepwise form is amounted 90.06, 144.45 respectively, While F value of the linear formula at its linear form and stepwise form is amounted 86.44, 135.24 respectively, so has been preferred the logarithmic formula on the linear formula to represent a Function of Cotton Domestic Demand in Egypt.

### 4.7.2. Results of The Statistical Estimate of a Function

**The Logarithmic Formula at Its Linear Form:** Data of the table 3 - Equation 3, Figure 8 - shows that confirmed the Statistical Significance of variables of the domestic production of cotton, Population Number of Egypt at a Statistical Significance level 0.01, 0.05 respectively, while the Statistical Significance of value of the gross domestic product variable (GDP) has been not confirmed, confirmed the Statistical Significance of the model as a whole at a Statistical Significance level 0.01 during the period 2000-2017. data of the same table shows that the positive indicators which preceding of variables of the domestic production of cotton, Population Number of Egypt Indicates a direct relationship between these variables and the domestic consumption of cotton, where These relationships are consistent with economic logic, while the negative indicators which preceding of variable of value of the gross domestic product (GDP) Indicates an Inverse relationship between this variable and the

**Table 3**  
**General Temporal Trend of the Statistical Estimate of a Function of Cotton Domestic Demand in Egypt During the Period 2000-2017**

Eq. No	Function	Equations	R <sup>2</sup>	F
(1)	Linear	$Y_t = - 406202 + 0.942 X1 + 137 X2 + 4662 X3$ (11.42) ** (0.60) (1.93)*	0.95	86.44**
(2)	Stepwise	$Y_t = - 432305 + 0.935 X1 + 5290 X3$ (11.70) ** (2.48)*	0.95	135.24**
(3)	Logarithmic	$LOG Y_t = - 1.34 + 0.912 LOG X1 - 0.0141 LOG X2 + 0.971 LOG X3$ (11.19) ** (-0.17) (1.93)*	0.95	90.06**
(4)	Stepwise	$LOG Y_t = - 1.29 + 0.912 LOG X1 + 0.929 LOG X3$ (11.60) ** (2.22) *	0.95	144.45**

Y<sub>t</sub>: Consumption, X1: production quantity, X2: GDP, X3: population of Egypt, Values between brackets under the coefficients of regression refer to the calculated value of "t". (\*\*) Significant at the 0.01 level, (\*) Significant at the 0.05 level.  
 Source: The Data are Collected and Estimated from Table 1 in The Annex.

domestic consumption of cotton, where This relationships is consistent with economic logic.

**The Logarithmic Formula at Its Stepwise Form:** Data of the table 3 - Equation 4 - shows that confirmed the Statistical Significance of variables of the domestic production of cotton, Population Number of Egypt at a Statistical Significance level 0.01, 0.05 respectively, confirmed the Statistical Significance of the model as a whole at a Statistical Significance level 0.01 during the period 2000-2017. data of the same table shows that the positive indicators which preceding of variables of the domestic production of cotton, Population Number of Egypt Indicates a direct relationship between these variables and the domestic consumption of cotton, where These relationships are consistent with economic logic, Finally it is clear to us that the variables which largest effect in the domestic consumption of cotton is the domestic production of cotton, Population Number of Egypt during the study period.

## **4.8. Marketing Track of Cotton in Egypt**

### **4.8.1. The First Stage**

The marketing track for Egyptian cotton begins with local production units (Small producers, Major producers), Where it sells its cottons to two destinations: the first one is Governmental trade companies: which are either companies affiliated with the public business sector or associations affiliated with the Ministry of Agriculture. The number its companies is 40 company distributed over the governorates of the Republic, by 15% of the total number of companies registered in the General Committee for the Regulation of Cotton Trade in Egypt, which is There are 272 companies. The second one is Private trade companies: They are private companies owned by individuals and non-governmental institutions and the number its companies is 232 company, by 85% of the total number of companies registered in the General Committee for the Regulation of Cotton Trade in Egypt.

### **4.8.2. The Second Stage**

Cotton is collected from private and governmental trade companies to governmental or private centers, where different its number and places of distribution from one agricultural season to the next. The number of government marketing centers reached 130 centers, by 26% of the total number of centers, where its numbers is amounted 495 centers at the level of

the Republic, while the number of private centers reached 365 centers, by 74% of the total number of centers. that is in the agricultural season 2017/2018.

### **4.8.3. The Third Stage**

Members of the General Authority for Arbitration and Cotton Tests sort the seed cotton at the collection centers, Then, the cotton is transferred to the government ginneries, where numbers of these ginneries is amounted 26 ginneries, by 63.4% of the total number of gins in Egypt, where the numbers of ginneries in Egypt is amounted 41 gins, or the cotton is transferred to the private ginneries, where numbers of these ginneries is amounted 15 ginneries, by 36.6% of the total number of gins in Egypt.

### **4.8.4. The Fourth Stage**

There are Three products from the seed cotton gins are: lint cotton, scarto cotton and cotton seeds. The marketing track for each of them differs the following is the marketing track for each of them:

**Lint Cotton:** lint cotton is considered the most important product of cotton, as its value ranges from 80% - 90% of the total economic value of a quintal of seed cotton, and after the cotton is compressed follows one of two track: **The Export** After the cotton is squeezed whether in gins or in Alexandria's compresses, it is exported through government export companies, where its number is amounted 9 companies, by 13% of the total number of export companies in Egypt, where the number of Egyptian export companies is amounted 62 company, or the cotton is exported through companies The private exporting companies, where its number is amounted 60 company, by 87% of the total number of export companies in Egypt. **Domestic Marketing:** Where the cotton is sold to governmental or private spinners, then the cotton is spun then it is sold to textile companies, or that spinning is exported to foreign markets. When Selling cotton textiles to companies Cotton clothes resulting from these textiles are either sold in the local market or exported to foreign markets.

**Scarto Cotton:** It is known as sweeping cotton and its economic importance decreases, as the quantity produced from it represents about 0.75 kg / quintal of seed cotton, this type of cotton is domestic consumed or exported to foreign markets in the form of export.

**Cotton Seed:** It represents about 10% -20% of the economic value of seed cotton, it is divided into two types: **The first one:** seeds that are used

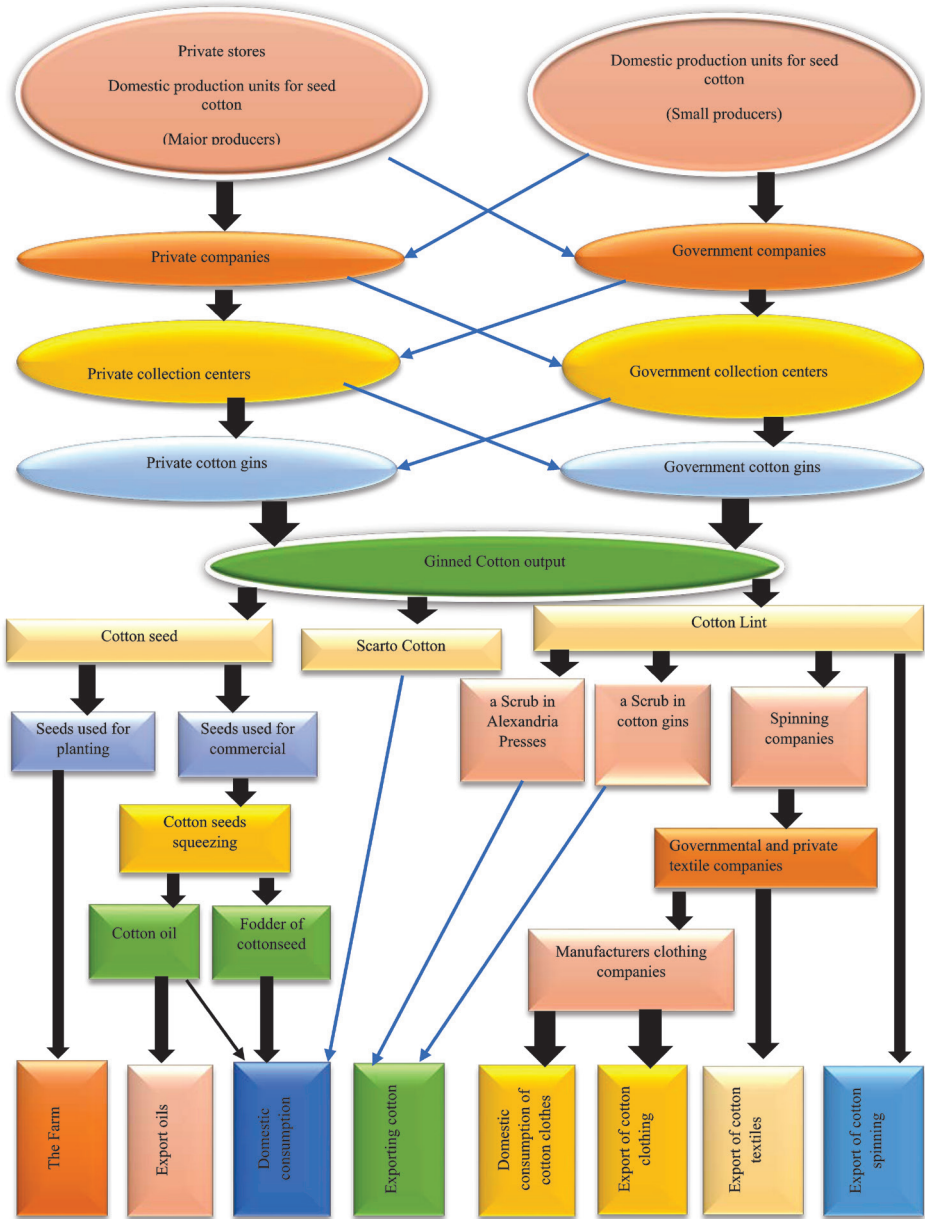


Figure 9: Marketing Track of Cotton in Egypt

in agriculture in the coming year and are placed under the supervision and control of the Ministry of Agriculture, **The second one:** seeds that are used in the manufacture of oils or animal fodder, where domestic consumed or are exported to foreign markets.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

The marketing processes start from the stage of harvest until the cotton crop reaches the cotton ginners to be converted it into the Lint Cotton, after that, the marketing processes of the cotton crop in the form of Lint cotton are maintained until it reaches the ports of the export or spinning factories, The economic reform program was first applied in Egypt in 1989, thus, the cotton price was liberalized since 1989 for the purpose of increasing the farm price of the seed cotton through decreasing the domestic and international price differences, The Egyptian government focused on the cotton crop within the framework of the economic reform as the cultivated area of the cotton crop was liberalized. Furthermore, the prices of production inputs, seed cotton and lint cotton were liberalized whether these prices are government prices or cooperative prices, The marketing issues constitute obstacles which the cotton crop producers face as these issues have direct impact on the production, industry and marketing of the cotton crop and cotton products either inside or outside the country. That was clear recently, which led to the decrease of the cultivated area of the cotton crop and the decline of growing the cotton crop by farmers, when studying development and trends of domestic marketing variables of cotton in Egypt, where These variables are represented in: production costs of the cotton crop, export price, the farm price, Marketing Margin, Purchasing Marketing Margin , Selling Marketing Margin , Share of Producer from Export Price and The Marketing Efficiency shows that variables of production costs of cotton, export price, the farm price, Share of Producer from Export Price and The Marketing Efficiency has taken an increasing trend, variables of Purchasing Marketing Margin and Selling Marketing Margin has taken a decreasing trend during the study period. Also, when studying the statistical estimate of a function of cotton domestic demand in Egypt shows that the variables which largest effect in the domestic consumption of cotton is the domestic production of cotton, Population Number of Egypt during the study period.

### **Based on The Study Results, We Recommend the Following:**

- I. Activating the role of agricultural cooperatives in cotton marketing in Egypt.
- II. Reducing the Egyptian cotton export price to increase exports of that crop.
- III. Creating a balanced marketing program that revives the cotton trade and guarantees farmers' rights and protection from the exploitation of merchants and companies working in the field of cotton marketing.

- IV. Using modern technologies in cotton harvesting to reduce waste and obtain high-quality cotton, thus increasing the marketing efficiency of cotton in Egypt.
- V. Establishing cotton gins near the places of agriculture to reduce the loss of that crop during the transfer of the crop from the farm to the places of cotton ginning.
- VI. Reducing the costs of cotton production by subsidizing the production inputs for that crop.
- VII. Cultivation of good varieties to increase domestic production to meet the requirements of domestic consumption and to achieve a surplus for export to international markets.

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**ANNEX****Table 1**

**The Statistical Estimate of a Function of Cotton Domestic Demand in Egypt  
During The Period 2000-2017 (Production: tons, Value: Million US\$,  
Population: Million Person)**

Years	Dependent Variable	Independent Variable			
	Consumption	Production	Export Price	GDP	Population
2000	498652	553814	2092	97.96	68.83
2001	773547	832163	2279	90.28	70.15
2002	602556	761602	2046	84.21	71.49
2003	404739	593259	1859	71.36	72.83
2004	683515	785064	2629	78.32	74.17
2005	567832	643460	1866	93.19	75.52
2006	584479	599892	2406	107.74	76.87
2007	514897	620493	1192	132.16	78.23
2008	295141	318149	1908	164.84	79.64
2009	306973	281151	5666	187.97	81.13
2010	698972	708188	2514	214.62	82.76
2011	617009	634577	4318	231.11	84.53
2012	252877	293691	2835	276.53	86.42
2013	281312	252473	3228	234.14	88.40
2014	351570	307827	3494	248.84	90.42
2015	208256	160226	2273	239.00	92.44
2016	177783	144544	2940	191.23	94.45
2017	325074	258258	1629	112.37	96.44
<b>Average</b>	<b>452510.2</b>	<b>486046</b>	<b>2621</b>	<b>158.66</b>	81.37

*Source:* Food and Agriculture Organization (FAO), The Central Administration for Public Mobilization and Statistics.