The Cotton Standardization System and Market Failures in the Turkish Cotton Market

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Prime Ministry's Undersecretariat for Foreign Trade, General Directorate for Standardization is responsible for the implementation of the cotton standardization policy in Turkey. The main policy tool for the General Directorate is the countrywide classification controls held by its inspectors.

Cotton standardization and classification are of decisive importance for the price mechanism in the cotton production and marketing chain as a whole. In this paper, I want to describe cotton standardization and classification procedures in Turkey along with market failures in the market. At the end, I want to share my belief that these vital areas are open to co-operation between Asian countries, given their relative importance.

The quality of cotton fiber which is probably the most important raw material in the yarn and textile sector, has influenced both the cost and quality of yarn and textiles. The first step in the evaluation of the quality of the fiber starts with sampling from the bailed cottons during the bailing stage.

The yield and the fiber characteristics of the cotton can differ significantly due to the conditions pertaining to the climate, soil, variety and seed, conditions of maintenance, the method and timing of harvest, ginning, storage and etc. These differences may happen in the same field as in different fields, in the same variety and even in the same plant. Processing of cotton fibers, which are of special characteristics along with other fibers in the same mill, may result in decreases in output and the quality. Hence, it is an explicit necessity that fiber cottons be classified according to some criteria, or be standardized, in other words. The textile sector, which is the main consumer of cotton, at an increasing pace, demands uniform raw material. The demand of the textile sector creates a chain comprised of cotton processors and producers. As, the decreases or increases in the quality and output in the yarn and textiles sector are geared to the value of the output.

In this manner, if high quality cottons are distinguished from less quality cottons, they will get the price premium for extra quality. This will in turn lead the producers to make efforts to produce more quality cotton that the market demands for. Otherwise, the price differences between different quality cottons can not be signaled to the producers as in many cotton producer countries. Thus, the effect of this price differentiation will loose its influence on producers, as a direct result of marketing without proper classification of cottons of which are of different quality and characteristics. The price that the market sets for the mix and unclassified cottons is at large the price of the least valued among the type and varieties that compose that mixture. Consequently, the natural effect of the price mechanism would loose its influence over the producers who decide the variety or/and the type of cottons to cultivate and the balance between the supply and quality of cotton.

The accurate classification of cotton in the production and marketing chain affect the ultimate market value of the products produced from cotton. In short, cotton standardization can be described as "the mechanism which determines the characteristics of the cotton fiber according to objective technical criteria, classifies it within certain limits and grades it within certain tolerances, and the principles that underlie its implementation." Inasmuch as, classification and separation of cottons from the field to the ginning and pressing stages based on some classes and types would increase the efficiency of markets. It is possible that both the producers and the consumers can benefit from this procedure economically.

1 Regional Patterns Of Cotton Production In Turkey

Turkey is ranked 7th concerning production areas, 6th concerning production and 3rd concerning yield per hectare among cotton production countries (2005). Cotton production in the country follows a regional pattern. Ege-Western Anatolia, Çukurova and Antalya Regions-Southern Anatolia and GAP-Southeastern Anatolia are the main cotton producing regions across the country. Cotton is cultivated in the river valleys or/and between rivers in the western and southern parts of the country.

These cotton production regions are presumed to have different quality cottons by the sector. Cottons are priced according to their production region no matter how fine their fiber quality. Ege-Western Anatolia cottons are sold at higher prices compared to the other regions' cottons. However, another major pattern in the cotton production in Turkey is the shifting of the cotton production to the GAP-Southeastern Anatolia Region from Ege-Western Anatolia and Çukurova and Antalya-Southern Anatolia Regions. Cotton production in this region has increased, while the other regions have lost their production areas.

2 Cotton Standardization System

Current cotton standardization system in Turkey is run by the Prime Ministry's Undersecretariat for Foreign Trade. It is based mainly on the traditional classification of cottons which are produced in different regions of the country. In this system, cottons are classified according to their production regions. The existing system serves to the traditional pricing of the cottons, favoring Ege-Western Anatolia Region cottons in the market.

Classification of Turkish cottons began with the foundation of the Turkish Republic. Turkish cottons have been classified in the Adana and İzmir Commercial exchanges since the first years of the Republic. As the cotton became more important as an export commodity specifically after the year 1950s, the standardization activities accelerated. The "Regulation on The Control Of Cottons" was enacted on 5th August 1953 to determine the Turkish cotton standards. Classification and Control of Turkish cottons was compulsory according to this Regulation and the related Communiqués. Control activities are conducted in the main cotton producing regions of Turkey, namely Western Anatolia, Southern Anatolia and Southeastern Anatolia Regions by the Inspectors of General Directorate of Standardization for Foreign Trade. Variation of cotton characteristics according to the producing regions are mirrored in the classification of cotton and thereby different cotton types are determined as Türkiye-Ege, Türkiye, Türkiye-Ege Type and Türkiye-Çukurova.

All the raw cottons produced in Turkey are medium fiber cottons and ginned through Rollergin and Sawgin ginning machines. All the un-ginned cottons to be ginned, the unpressed cottons, the linter cottons and fibre waste cottons are subject to obligatory classification and controls (Checks for standardization).

All the produced cotton in Turkey classified and controlled according to ginning methods, different groups, classes and types, based on colour, foreign matter and preparation conditions.

In order to serve standardisation and marketing of the Turkish cottons, The Cotton Laboratory of the Regional Directorate of Western Anatolia of UFT prepares sample boxes for the different cotton types under artificial illumination in the classification room taking into account such items as colour, foreign material and preparation conditions. All of these cotton sample boxes for the standard cotton types are controlled at the HVI laboratories to eliminate artificial errors.

All these cotton sample boxes are sent to the commercial exchanges in Turkey and abroad and to the Group of Inspectors of Standardization for Foreign Trade to be taken into account in the cotton standardization controls.

Cotton controls (classification and inspections) are based on the cotton sample boxes and are conducted in two ways in due care;

Drilling Method, certain number of bales are opened in order to analyze the cotton therein visually under the northern light in the fabric stores or ginning plants or under the artificial illumination in the classification room located normally in the office of the Group of Inspectors of Standardization for Foreign Trade, based on colour, smell, foreign matter, preparation conditions and be compared with the sample cotton boxes.

Single-Bale Method，in this method, each bale of the cotton party is sampled, analyzed through HVI, classified and controlled.

Approximately, 98% of cotton produced in Turkey is classified and controlled with the Drilling method and %2 of this function is held with the Single-bale method.

3 Problems In The Cotton Market

Turkish cotton standardization system is old-fashioned. Existing system does not provide producers, traders, ginners, yarn/fabrics with accurate and relevant information concerning fiber quality. This situation leads to the occurrence of the market failures which result from asymmetric information and/or the lack of information in the market.

As regards the sector practices, yarn fabrics in Turkey, like all the other producer countries, demand information concerning fiber quality provided by HVI analyses and they use this information in the production. Traditional classification based on the inspectors' decision does not say anything about the performance of the fibers during the yarn making process.

Despite the fact that the official standardization system is assumed to provide accurate information concerning fiber quality to the sector, yarn fabrics use their own HVI analyses performed on samples taken from parties that they intend to purchase. Turkish cotton market still have many market failures florishing from trade practises and non-reliability of information provided by different actors in the sector. To make a brief overview of these problems;

-Market transactions still run on samples taken from parties. This practise increases the transaction costs.

-Many yarn fabrics, commercial exchanges and ginning facilities have acquired HVIs and begun to analyse the cotton that they sell or buy. Even with the existence of many HVIs in the sector has not improve the efficiency of the market and help reduce the transaction costs. Since, actors of this sector can not check all the bales for fiber quality and uniformity. All the bales in the same cotton party may not be of the same quality. ICAC committee for instrumental testing of cotton recommends taking samples from all the bales of cotton parties.

Additionaly, information about the fiber quality from different sources is not verified or guarenteed by a third party. Actors of this specific sector tend not to rely on the information provided by other actors in the sector, despite the sufficienct number of the HVIs in the sector. The fact that a neutral authority does not provide the sector with reliable and relevant information result in the asymetric distribution of the information derived from different and non-reliable sources. Therefore, most of the small producers and traders do not aware of the quality of the cotton they produce or trade.

-Producers are expected to be stimulated by positive relation between the quality of the cotton they produce and the market price for it. Since the market does not set different prices for different quality cottons coming from the same region, the price set for a region's cottons is usually the price set for the minimum quality cottons produced in that specific region. In that case, producers would loose their incentives to produce high quality cotton. George A. Akerlof in his brilliant article ,'The lemons market', explains how the information asymetries produce inefficiencies in a given market, the second hand car market. He argued that worst quality goods would dominate the market in case of lack of information concerning quality. A similar mechanism is prevailing in the Turkish cotton market. Even though,

producers are supported to use certified seeds, they do not receive the necessary market signals to produce high quality cotton instead of low quality. Eventually, they try to inrease the output at the expense of quality, as there is not any significant reward for quality.

-The data derived from General Directorate for Standardization's laboratory analyses has showed that cotton quality of GAP-Southeastern Anatolia cottons have deteriorated due to overirrigation. This phenomenon has become prevalant in the region since the implementation of the irrigation projects as a part of the Southeastern Anatolia Project (GAP). This trend results mainly from the lack of incentives to produce high quality cotton. The market equilibrium is reached no longer at the point where the market sets different prices for different quality cottons.

-Yarn fabrics demand high uniform quality cottons to produce uniform and high quality yarns and textures. Addtionally, they want to buy cotton parties which are of the uniform quality characteristics at reasonable prices. Although, producers and traders on the domestic market can not guarantee the homogeneity and continuity of the cottons the buyers demanded. Therefore, imported cotton becomes advantageous over domestic cotton, disregarding the price.

-Turkish government encourages private commodity warehouses, supports futures markets for agricultural produces. It desires for the establishment of a credit market running on commodity pappers in the country. But, this promising policy lacks one of the necessary tools, of which is a proper and applicable cotton standardization mechanism. Inasmuch as, cottons which are to be stored and pooled in warehouses must be of the same quality, so as the system can fuction properly. Otherwise, disputes between system participants may arise. Additionally, credit institutions and futures markets need accurate information about the quality of the produces they are dealing with to able to make proper estimations about their value and to fuction efficiently.

-Today, Ege-Western Anatolia cotton is sold at higher prices than the other two regions' cottons and assumed to be superior to both of them. Cottons of these regions are accepted be of different qualities and sold at different prices. Hence, Turkish cotton market does not operate on an integrated basis. However, traditional price differences which are based on production regions does not necessarily fit well into the quality differences determined by HVI analyses. According to these test results, price differences set by the market may not be justified through the quality parameters determined by HVI analyses. Traditional pricing of Turkish cottons may pose a certain threat to the sector, given the shifting of cotton production areas from the western regions to the GAP-Southeatern region in the country.

In short, the Turkish cotton market has serious failures resulting from asymmetric information and/or lack of information about the quality.

4 Market Disintegration

Turkish cotton market is not an integrated market and has abnormal price differentials thanks to the lack of reliable and relevant information about fiber quality.

Ege-Western Anatolia Region has 180.000 hectares, GAP-Soutestern Anatalia Region has 400.000 hectares, Çukurova ve Antalya (Southern Anatolia) Regions have 120.000 hectares of cotton production areas (2005).

Additionally, Ege-Western Anatolia Region has 250.000 tons, GAP-Soutestern Anatalia Region has 450.000 tons, Çukurova ve Antalya (Southern Anatolia) Regions have 200.000 tons of cotton production on average.

In the light of last ten years' trends, we would conclude that GAP-Southeastern Region will be the leading region in terms of cotton production areas and production. This region's production is expected to increase, while other two regions' to continue to diminish.

Today, GAP-Southeastern and Çukurova-Southern Anatolia cottons are accepted to be low quality compared to Ege-Western Anatolia Region cottons in the market. And, Çukurova-Southern Anatolia cottons are treated to be worse than both of these regions' cottons. The price differences between cottons from different regions also reflect this belief. The average price of the Ege-Western Anatolia Region cottons (Standard White 1) is between 1,95-2 Turkish liras, the price of the GAP-Southeastern Region cottons (Standard White 1) is between 1,80-2,00 Turkish liras, the price of the Southern Anatolia-Çukurova Region cottons (Standard White 1) is between 1,70 and 1,75 Turkish liras.

5 Scientific Inquiry and Data

Results of the following researches and data from laboratory analyses undermine the existing price differences in the Turkish cotton market and make them vulnerable to criticism. These researches are;

-The project for the Turkish cottons. fiber quality databank conducted by the Nazilli Cotton Research Institute along with the Turkish Prime Ministry's Undersecretariat for Foreign Trade's Regional Directorate of Western Anatolia.

-The research for the fiber characteristics of Turkish cottons conducted by Süleyman Demirel University, together with the Ministry of Environment.

Additionally,

-Data from the Turkish Prime Ministry's Undersecretariat for Foreign Trade's Regional Directorate of Western Anatolia Fiber Analyses Laboratory.

-Data from Tariş Fiber Analyses Laboratory

must be mentioned.

The information provided by these research projects and analyses conducted by above mentioned laboratories confirm that;

-As regards the fiber quality criterions, which are of decisive importance during the yarn making process, GAP-Southeastern Anatolia Region and Ege-Western Anatolia Region cottons are of equivalent quality.

-GAP-Southeastern Region cottons are of superior quality as regards the fiber length, micronaire, uniformity and strength.

-Ege-Western Anatolia Region cottons are superior to other regions' cottons, as regards the trash content and brightness and yellowness.

Cottons produced in the GAP-Southeastern Region show a higher percentage of (Spinning Consistency Index) SCI. These SCI figures are higher than the figures assigned for other regions. GAP-Southeastern Region cottons have a higher spinning consistency rate. But,

GAP-Southeastern Region cottons are disadvantageous concerning their trash, brightness and yellowness. It is also determined that Çukurova-Southern Anatolia Region cottons are of low quality compared to these two regions' cottons in terms of short fiber index, maturity, uniformity, elongation, trash content, brightness and yellowness

The chart shows the parameters that affect the cotton price on the international markets.

To conclude, the regional price differences in Turkish cotton market can not be justified on the ground of quality differences. The main reason behind this fallacious pricing is the fact that each of the bales are not analyzed through HVIs and the information about the quality of the cotton bales are not presented to the sector.

6 Prospects for the Future

The first step to improve the cotton marketing system in Turkey should be building of a mechanism for the dissemination of reliable and relevant market information concerning the fiber quality. This task should be undertaken by an independent authority. Information concerning fiber quality should be based on the same quantitative data and not on the production region. Integration of the regional cotton markets across the country and the ability of the domestic producers and traders to compete with the imported cotton depend to a larger extent on this condition

Within the context of the development of the cotton classification and control system and improvement of the cotton marketing mechanism in Turkey, General Directorate of Standardization plans to adapt the Single Bale method fully and to make it possible that sample cottons be drawn by the responsible experts working in the cotton ginning-pressing plants and be analyzed in the cotton laboratories equipped with High Volume Instruments (HVI) according to International standards.

General Directorate of Standardization for Foreign Trade's cotton fiber analyses laboratory in İzmir has started to conduct HVI analyses and to implement single-bale method in sampling on the cotton bales produced by three companies in the Ege-Western Anatolia Region. The Directorate also plans to establish a fiber analyses laboratory in this year, in Şanlıurfa province, one of the important cotton production areas in the GAP-Southeastern Anatolia Region. This region is expected to be the main cotton production area in the country, with the full implementation of the irrigation projects. Şanlıurfa fiber analyses laboratory is envisaged to be the main pillar of the cotton standardization system in the country.

If this plan is to be realized, it may be possible and even desirable that cottons should be accepted for trading on the futures market located in İzmir on condition that they have proper Cotton Control Certificates issued by the General Directorate of Standardization for Foreign Trade. Consequently, a more efficient and extensive marketing mechanism will have the capacity to replace the existing one, which is working on real exchanges or through commercial exchanges.

In this way, Turkish producers and traders will eliminate barriers to internal trade which stem from lack of information or/and the problems in reaching this information, with the help of the full market information pertaining to the cottons they produce or sell. Thus, Turkish Cotton market will eventually become more efficient and lack of market failures.

The main obstacle on the way to the full implementation of the single-bale method and HVI analyses appears to be the excess number of ginning facilities across the country. Their number is over 700. General Directorate of Standardization for Foreign Trade intends to apply single-bale method and HVI analyses on the cotton bales produced in the ginning facilities which have the necessary equipment for automatic sampling, in order to decrease their number.

The price supports to cotton production and trade are expected to diminish and the world cotton prices to increase within the framework of the WTO negotiations between countries. In the presence of such circumstances, countries are anticipated to attach great importance to quality and standardization issues, so as to be able to defend their domestic markets and keep their positions on the world markets. In this regard, developing countries should keep their production capacities and improve their standardization and classification systems until then. I believe that there exists considerable scope for the expansion of co-operation and colloboration in the cotton standardization and classification activities between our countries.

There are not any signs of stagnancy in the demand for cotton on the world markets. In this regard, it is essentially necessary for the cotton producing developing countries to produce and market high and uniform quality cotton, to be able to consolidate their trading positions on the world markets. One of the most effective means of this policy is standardization along with classification.