The Impact of Turkish Agricultural Policy on Competitiveness of Cotton Production

Betül Gürer, Faculty of Agricultural Science and Technology, Omer Halisdemir Universtiy, Niğde, Turkey
Berna Türkekul, Faculty of Agriculture, Department of Agricultural Economics, Ege University, Bornova, Turkey
M. Necat Ören, Faculty of Agriculture, Department of Agricultural Economics, Cukurova University, Adana, Turkey
Canan Abay, Faculty of Agriculture, Department of Agricultural Economics, Ege University, Bornova, Turkey
Burhan Özalp, Faculty of Agriculture, Department of Agricultural Economics, Cukurova University, Adana, Turkey

ABSTRACT

This study applied Policy Analysis Matrix (PAM) to assess the competitiveness of cotton production in terms of profitability and to measure the effects of agricultural policies at national level which is produced under a set of various subsidies in Turkey. First, agricultural policies applied for cotton production in Turkey were examined. Policy transfers, resource utilization, costs, private and social profits resulting from these applications were also presented with PAM. Also some important indicators such as Domestic Resource Cost (DRC), Effective Protection Coefficient (EPC), and Nominal Protection Coefficient (NPC) were calculated from PAM framework to measure competitiveness. This method is widely used to analysis of the impact of policies on production economics and it is a very effective method. PAM is mainly based on benefit-cost analysis. Besides the secondary data analysis of the effects of policy, the data obtained through face to face interviews with producers selected through stratified sampling method in the 3 regions and 4 provinces with high productions.

KEYWORDS

Agricultural Policies, Competitiveness, Cotton, Policy Analysis Matrix, Social Prices

INTRODUCTION

The specific circumstances of agriculture necessitate this sector to be protected and supported either directly or through institutions authorized by the state in every country. Therefore, in Turkey agricultural sector without any supports is inconceivable. Nowadays as a result of the internal as well as external developments agricultural support tools have changed. These changes of policy tools have made macro and micro level analysis of agricultural policies more important.

In any agricultural production system, government intervention tends to raise private production incentives for particular crops against others, driving the product mix to change over time and across regions. Such a change of product mix may or may not be desirable for the society as far as the economic efficiency of resource allocation is concerned. The change in product mix may also be driven by some natural factors such as price changes and environmental externalities associated with

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the respective crops. However, defining and quantifying government intervention and externality is a difficult empirical issue. It requires a systematic way of assessment and evaluation. A policy analysis matrix, PAM, provides a simple but powerful tool that can be used for this purpose. The PAM is an accounting matrix, constructed using enterprise budget data. Through a comparison of private and social values, the PAM generates six indicators of comparative advantage, economic efficiency, and the level of market distortions in inputs and output markets.

Given its multipurpose uses, it has been used extensively in the literature to determine comparative advantage in developing countries. For instance, Khai and Yabe (2013) used the PAM to measure the comparative advantage of soybean production in Vietnam; Mahlanza et al. (2003) for the comparative advantage of wheat production in the Western Cape, South Africa; Kristen et al. (1998) for the comparative advantage and policy incentives of commercial wheat production in South Africa; Quddus and Mustafa (2011) for comparative advantage of major crops production in Punjab; Reig-Martínez et al. (2008), for evaluating profitability in rice cultivation; Touré et al (2013), for policy induced effects on the performance of irrigated rice; Nelson and Panggabean (1991) for the costs of Indonesian sugar policy and Finkelstain et al. (2011), for studying the competitiveness and agricultural trade of Israeli agriculture. Moreover, Basavaraj et al. (2013) used the PAM to assess the competitiveness of sweet sorghum for ethanol production in India; Fang and Beghin (2000), for studying food self-sufficiency, comparative advantage and agricultural trade in Chinese agriculture; and Kydd et al. (1997) for an economic analysis of the commodity systems, by extending the Policy Analysis Matrix to account for environmental effects and transaction costs.

Turkey has annually an average of 3% share in world cotton production. Cotton is also the main raw material for industrial production in Turkey. Thus, contribution made by cotton to the fiber and food industries continues to be crucial. Therefore, to reveal the competitiveness based on the effective use of state resources with the economic and social costs of existing applications is extremely important in the formulation of appropriate policies in order to ensure economic development and food security.

This paper emphasizes application of PAM on studying the effects of government intervention, price changes and externality on the relative profitability and comparative advantage of cotton in Turkey.

**Cotton Production in Turkey**

Turkey has a huge agricultural due to suitable ecologic conditions and land resources. One of the most important agricultural products in Turkey is cotton. Agro ecological conditions and ages-old cotton production practices making cotton cultivation important for centuries, are the main advantages of Turkey. Considering its direct and indirect employment effect, cotton is the basic income source for millions of people in Turkey. Cotton is also the main raw material for industrial production in Turkey. On the other hand, its contributions to the food and textile industries as a raw material are quite important. Presently, with a cotton production of 600 thousand tons annually, Turkey ranks the seventh among cotton producing countries after India, China, the USA, Pakistan, Brazil and Uzbekistan (Figure 1).

Turkey produces one of the world’s highest quality and yield cotton. The average yield in 2015/16 is 1559 kg per hectare. National average yield has risen by almost 30% during the last fifteen years. Overall yields improved in recent years due to the modern equipment investments, planting at larger fields, increased utilization of certified seeds and mechanical harvesting. Yield is improving because the farmers that continue to plant cotton are the most efficient and experienced, well equipped and have larger fields. Turkish Government is also increasing its efforts to unite small and divided farms. Therefore, better planting techniques and economies of scale are helping to achieve higher yields.
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