

Full Length Research Paper

A comparison of the revenues of wheat producers in Turkey: A case of EU member and non-member status with spatial reference to Central Anatolia Region

Hasan Arisoy^{1*} and Gülcan Eraktan²

¹Department of Agricultural Economics, Agricultural Faculty, Selcuk University, 42075 Campus, Ankara, Turkey.

²Department of Agricultural Economics, Agricultural Faculty, Ankara University, 06110 Diskapi, Ankara, Turkey.

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This study aimed to present a comparison of the revenues of Turkish wheat producers with the ones in EU, based on Turkey's probable EU member and non-member status. The data of the study were based on 104 questionnaires acquired from the conducted surveys in the Central Anatolia Region in the period of 2008 to 2009. The revenues of wheat producing holdings in Turkey were below the revenues of the ones in EU according to the results of the study. Based on probable EU membership from Turkey, the gap between average revenues is widened more and the Turkish producers' competitive power is weakened. Agricultural supports ought to be directed to the cost deducting devices, and incentives for preventing land fragmentation. Besides, measures to improve productivity in agriculture should be taken into consideration in order to narrow the income gap between the Turkish and EU producers.

Key words: Wheat, revenues of wheat producers, EU, Turkey, Central Anatolia Region.

INTRODUCTION

Wheat production is of particular concern to almost whole population considering socioeconomic conditions in Turkey. Wheat is the product which is cultivated all around Turkey. Central Anatolia Region was determined as the research area, because most of the wheat production, which almost everywhere in the country grown and has the peculiarity of being a stratejic product indeed, realized in this region though water sources are insufficient and precipitation is low. The place of the Central Anatolia Region is 38% in terms of wheat cultivating areas and 36.2% of total wheat production produced there (TUIK, 2008).

Similarly, wheat is a crucial product for the European Union (EU) agriculture. Barely 15% of agricultural areas in EU-27 is assigned to wheat production and the annual wheat production amounts to approximately 150 tones. Turkey's annual wheat production reaches about 13% of the EU production (EUROSTAT, 2008).

The negotiations between Turkey and the EU started on October 3, 2005 and thus the most significant step was taken towards the full membership. Neither producers nor decision-makers in Turkey have enough information about the effects of the implementation of Common Agricultural Policy (CAP) rules on Turkish agriculture. Therefore, to analyze the probable impacts of the membership on production of some major products will be extremely useful for Turkey which is already continuing to align its legislation to the legal provisions of the EU.

The main aim of this study is to scrutinize the revenues of the wheat producers in Turkey in case of a probable EU membership and under the non-member status, and to compare it with the ones in the EU. The effects of any change in the unit production cost and in production support measures in case of membership on the revenues of Turkish wheat producers were analyzed in the study.

MATERIALS AND METHODS

Primary data obtained from the interviewed farmers constitute the

*Corresponding author. E-mail: arisoy@agri.ankara.edu.tr.
Tel: +90-312 596 14 79. Fax: +90-312 318 53 60.

main material of the study. Besides, the results of the previous studies related to this subject and records and statistical data of various institutions were made use. The survey data of the study belong to the years 2008 to 2009.

The data of the study were provided from the survey conducted in 12 villages in the provinces of Ankara and Konya in the Central Anatolia Region. All the wheat producing agricultural holdings in these villages composed the population of the survey. The Neyman method, one of the layer sampling methods, was used for the determination of the sample volume (Yamane, 1967). The samplings were selected on a basis of 2008 records of wheat production areas of the farmers. The reason of choosing that sampling procedure is to analyze the situation of wheat producers after the harmonization with the EU in accordance with the purpose of the study. The number of the holdings representing the sample population was found to be 104 with the margin of error 5% and the confidence limit 95%. The holdings have been analyzed in 4 different layers in reference to wheat cultivated areas (less than 5 ha, 5.1 to 10 ha, 10.1 to 20 ha and more than 20 ha).

The unit cost of wheat in the research area for the period of 2008 to 2009 was calculated through the combined cost calculation method. While the unit costs were calculating through this method byproduct revenues are subtracted from the total production costs, and the remaining value is divided to the amount of the main product (Kiral et al., 1999).

RESULTS

Wheat producers' revenues were calculated for each layer and through utilizing the average of layers in the region by way of using the data obtained from the research area for the year 2008. Moreover, the average wheat revenues of producers both in Turkey and the EU were calculated and compared.

DISCUSSION

The average wheat yield was 3886.8 kg/ha and hay (byproduct) revenues were 189 TL/ha, while the unit cost of wheat was calculated as 0.424 TL/kg in the study area in 2008.

The unit cost of wheat in Turkey was calculated as 0.382 TL/kg, that is, 0.202 Euro and in the EU it was 0.113 Euro/kg in the same year (Anonymous, 2008).

The average size of the interviewed holdings in the Central Anatolia Region was 33.47 ha and the average wheat sowing area was found 18.65 ha per farm. The average wheat yield per farm was found 3886.8 kg/ha. First of all producers' revenue per 1 hectare of wheat production area was calculated through adding the subsidies given to the wheat producers as different support measures and the sales revenues of the product. The announced intervention price was 0.5 TL/kg and the premium support was 0.045 TL/kg in Turkey in the year 2008. The certified seed support was 45 TL/ha, the diesel support was 29.25 TL/ha and the fertilizer support was 38.25 TL/ha. The calculated revenue per 1 hectare of land and wheat sowing area per holding were multiplied and the gross income of wheat for a holding was found.

The production costs were calculated through multiplying the unit cost and the average yield of wheat. As a result, the net income was calculated through subtracting the wheat production costs from the holdings' gross wheat revenue (Table 1).

Using the same method, wheat revenues were calculated not only for each layer in the survey area, but also for the holdings all around Turkey. A similar calculation was made for the EU wheat producers. The wheat revenues of the holdings in the EU Member States were calculated through considering the intervention price which was 101.31 Euro/ton, the total compensatory payments which were 63.0 Euro/ton equivalent and the average size of the wheat cultivating area (Table 2).

The revenues of the producers in the Central Anatolia Region in terms of layers, in Turkey as an average and in the EU were compared depending on the results of this analysis. Actually, when the revenues per unit of land (revenues of 1 ha wheat land) were examined, it was found that Turkey's average was a bit lower than the EU's average and it is the fact that especially in the research area the revenues were more than the EU's average. The high intervention prices and the total amount of subsidies paid to wheat producers in Turkey is the explanation of the higher revenues and that is the case despite the lower yields (Table 2).

However, net wheat revenues of holdings in Turkey are remaining far behind the EU holdings due to the small sizes and the high unit costs. The calculated net income of the wheat producers in the EU is approximately 3 times more than the average incomes of wheat producers in Turkey and 2 times more than that of the Central Anatolia. In the research area, on the other hand, only the holdings in the fourth layer were able to catch up with the revenues in the EU (Table 2).

In the study, up to this phase, the holdings in Turkey and the EU were compared in terms of net wheat revenue under the status quo. Additionally, another comparison was made assuming that Turkey is a member of the EU in 2008. In this case, the wheat price and agricultural supports given to the wheat producers in Turkey would be the same as the wheat producers in the EU. Moreover, the production cost of wheat would be lower. This time the production cost of wheat in the research area was calculated again considering the input prices in the EU, the unit cost would be then 0.301 TL/kg (Anonymous, 2009).

In spite of decreasing unit production costs in case of Turkey's EU membership, the producers' net wheat revenues would also decline, because wheat prices in the EU are lower than the ones in Turkey. Therefore, a comparison of producers' wheat revenues made basing on the scenario that Turkey is a member of the EU in 2008. In this case the size of holdings and the wheat yields remain same. The gross wheat income of the holdings in Turkey was calculated through taking the intervention price and the subsidies paid to the EU wheat

Table 1. Average wheat revenues of surveyed holdings.

Average wheat yield	= 3886.8 kg/ha
Wheat sowing area per holding	= 18.65 ha
Intervention price and subsidies	
Intervention price	0.5 TL/kg = 0.5 x 3886.8 = 1943.3 TL/ha
Premium support	= 0.045 TL/kg = 0.045 x 3886.8 = 174.9 TL/ha
The certified seed support	= 4.5 TL/da = 45 TL/ha
Diesel support	= 2.925 TL/da = 29.25 TL/ha
Fertilizer support	= 3.825 TL/da = 38.25 TL/ha
Revenues from 1 hectare of land	= 1943.3 + 174.9 + 45.0 + 29.25 + 38.25 = 2230.7 TL/ha = 1180.3 Euro/ha
Holding's gross income of wheat	= 1180.3 x 18.65 = 22012.6 Euro
Cost of wheat	= 0.424 TL/kg
Total cost of wheat per holding	= 0.424 x 3886.8 x 18.65 = 30735.3 TL = 16262.1 Euro
Net income of wheat per holding	= 22012.6 – 16262.1 = 5750.5 Euro

*1 Euro = 1.89 TL (2008).

Table 2. The comparison of the revenues of holding in Turkey and the EU.

Variable	Central Anatolia Region					TR	EU
	1. Layer	2. Layer	3. Layer	4. Layer	Average		
Average wheat yield (kg/ha)	3565	4159	3775	4030	3887	2200*	5630**
Average size of wheat holding (ha)	11.74	16.22	28.77	56.82	33.47	25.5*	86.3**
Average wheat cultiv. area (ha)	3.71	7.34	15.15	34.63	18.65	12.8*	41.7**
Wheat revenues of 1 ha. Land (€/ha)	1088	1259	1148	1222	1180	694	925
Gross revenue of holding (€)	4035	9239	17393	42302	22013	8882	38577
Wheat cost (€/kg)	0.228	0.228	0.228	0.228	0.228	0.202	0.113
Net revenue of holding (€)	1068	2391	4563	10995	5751	3191	12048

*Source: TÜİK/ TSI (Turkish Statistical Institute) 2009. **Source: EUROSTAT (2009).

Table 3. The comparison of revenue of wheat producers in case of Turkey's EU membership.

Variable	Central Anatolia Region					TR	EU
	1. Layer	2. Layer	3. Layer	4. Layer	Average		
Average wheat yield (kg/ha)	3565	4159	3775	4030	3887	2200	5630
Average size of wheat holding (ha)	11.74	16.22	28.77	56.82	33.47	25.5	86.3
Average wheat sowing land (ha)	3.71	7.34	15.15	34.63	18.65	12.8	41.7
Wheat revenues of 1 ha. land (€/ha)	586	683	620	662	639	361	925
Gross revenue of holding (€)	2174	5013	9393	22925	11917	4621	38577
Wheat cost (€/kg)	0.159	0.159	0.159	0.159	0.159	0.159	0.113
Net revenue of holding (€)	71	159	300	735	391	144	12048

producers into account. The recalculated unit cost of wheat for the Central Anatolia region fell to the level of 0.301 TL/kg (Table 3). Additionally, wheat revenues per ha would decrease by 46% in the Central Anatolia and by 48% in Turkey. The decrease in revenues would be bigger than that of production costs and it shows that Turkey's EU membership would be disadvantageous to the wheat producers in Turkey (Table 3).

Conclusions

The result of the study indicates that the wheat revenues of the holdings in Turkey were below the ones in the EU. The gap between revenues would narrow more in case of a probable EU membership of Turkey, and the Turkish producers' competitive power would weaken.

Three main reasons trigger the gap between the revenues. Firstly, if compared to the EU holdings, the average size of the holdings in Turkey is smaller and lands are fragmented. The wheat cultivating area per each wheat holding in Turkey is approximately 3.3 times smaller than that of the EU wheat holdings. Furthermore, the yields are lower in holdings with fragmented areas. Another reason is the yield difference per unit area between the averages of Turkey and the EU. The yield of wheat is 2.5 times less in Turkey than that of the EU average. Third reason is the differences in production costs. Input costs are very high in Turkey and that increases the producers' production costs and at the same time decreases the revenues in comparison to EU producers.

Turkey undertook the commitment of alignment its agricultural policy to the CAP. The payments made to the EU producers are decoupled, according to the Single payment system, producers receive the aids depending on the previous payment allocations. Such a system is not convenient for Turkish agriculture under the prevailing conditions. If Turkey becomes a member of the EU, the same system implemented in the EU member States will be valid for Turkey too. In order to narrow the income gap

between Turkish and EU producers agricultural support measures implemented in Turkey should be transformed. In this respect, it is crucial for the wheat producers to raise the yield and also the wheat production and decrease the production costs in terms of increasing revenues before Turkey's EU membership.

Agricultural supports ought to be directed to the cost deducting devices, and incentives for preventing land fragmentation. Besides measures to improve productivity in agriculture should be taken in order to narrow the income gap between Turkish and EU producers.

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