Economic Structures of Tobacco Farms: The Case of Denizli Province in Turkey

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Abstract: Tobacco is important for Turkey in terms of the economic, employment and consumption gains it provides. In addition, "Oriental Tobacco", also known as "Turkish Tobacco" abroad, has also provided great awareness. This study was carried out in the Denizli province which constitutes 20% of the tobacco produced in Turkey. Data were obtained by face-to-face survey with 79 farmers. The number of farms to be surveyed was calculated by using the Stratified Sampling Method. Purpose of working; to reveal the economic structures of tobacco growing farms in Denizli and to determine the effects of privatization of TEKEL on tobacco producers. In Turkey, imports of cigarettes have been started since the 1980s. In 1986 foreign companies were allowed to produce cigarettes. In 2002, TEKEL was privatized with the law no. 4733 and tobacco production was started to be contracted and government support was also abolished. After this ban, there has been a great decline in tobacco production. Therefore, sampling of Denizli province in tobacco farmers and the reasons of this change were aimed. With the privatization of TEKEL, the number of farmers producing tobacco and numbers decreased and the share of imported tobacco increased. Farmers who gave up production have migrated from the village to the city. The farmers were not satisfied tobacco farming after the privatization of TEKEL, and also there were problems in the contracted system. The farmers interviewed said that the number of producers decreased due to falling profits in tobacco production and labour demand and thus the production of tobacco has been decreasing in the investigated area.

Keywords: Tobacco, Farmers, Privatization, Policy, Turkey

Introduction

Tobacco cultivation areas in Turkey are distributed to the Aegean, Marmara, Black Sea, East and South East regions depending on climate and soil characteristics. Approximately 96% of the produced tobacco is Turkish (Oriental) tobacco. The remaining tobacco is Virginia, Burley, Puro, Tömbeki and Hasankeyf tobacco (Yücer et al., 2006). Changes in imports of cigarettes were made with the policies implemented after 1980. By law no. 1177, cigarettes were started to be imported. With this law and another law coming out in 1986, cigarette manufacturing was allowed in the country. In the past years, tobacco stocks and uncompleted inventory costs, which were caused by the fact that the production amounts exceeded the export and domestic consumption requirements, revealed the fact that the tobacco policies were re-sighted and thus the government-supported production policies were abandoned (Orman, 2011). With the law numbered 4733 issued in 2002 in Turkey, the tobacco market has been left with a special sector. With this law; Contract manufacturing, auction system, leaving all the market administrations to the Tobacco and Alcohol Market Regulatory Authority (TAPDK) on behalf of the state, and opening the privatization of TEKEL (Alıcı, 2010). Along with the change in policies towards tobacco, the biggest impact is the producer number between 2000 and 2013. The number of farm households, which was 586.311 in 2000, decreased by about 86% and reached 81,840 farms by the year 2013. Parallel to the decline in the number of tobacco producers, there has been a significant decline in the amount of production. The share of regulations made after 2002 was enormous in this decrease in the number of tobacco growers. In some regions, alternative crops have been passed and in some regions, families were withdrawn

completely from the agricultural sector (Alıcı, 2010). Table 1 listed the tobacco production and cultivated areas between 1993 and 2013 in Denizli province of Turkey. The amount of tobacco production both in Turkey and Denizli has been decreasing until 2011, and an increase has been taking place since 2012. Parallel to this, there was a decrease in the cultivated area until 2011, an increase after 2012.

Table 1. Number of tobacco producers by region in Turkey

Years	Production (tons)		Cultivated area (decares)	
	Turkey	Denizli	Turkey	Denizli
1993	338.796	25.732	3.398.560	295.150
1995	204.440	20.557	2.099.190	244.220
2000	200.280	23.199	2.365.690	325.840
2003	112.158	15.942	1.830.430	287.540
2005	135.247	18.954	1.853.420	278.050
2010	53.018	10.839	813.335	192.288
2011	45.435	11.558	766.575	191.297
2012	73.285	19.084	1.076.984	255.117
2013	93.158	22.120	1.330.733	308.985

Source: TÜİK, 2016

The highest tobacco production was in Denizli province. The products grown in Denizli in 2014 constituted 20% of the total tobacco production. Therefore, it was aimed to determine the causes of this change with reference to Denizli province of tobacco producers. The tobacco legislation has caused a significant reduction in production.

Materials and methods

The main material of this research was obtained from the tobacco producers in Denizli province. The sample size was found to be 79 producers according to the Stratified Sampling Method, with a permissible error amount (average deviation of 5%) and a 90% confidence limit from the average of the population. These farmers were distributed in 3 groups by their tobacco area. The farmers with 1 to 15 decares tobacco area were defined as the first group (24 farmers), while farmers with 15.1 to 30 decares tobacco area were defined as the group II. group (24 farmers), farmers with 30.1 and over decares tobacco area were III. group (31 farmers) (Table 2). During the visit to the farmers, prepared questionnaires were directed to the producers. In analyses for farmers, both the tobacco area was calculated separately for size groups and for the average of farmers. The effects of privatizations in the tobacco market were taken on questionnaires to the producers and likert scale (5).

Table 2. Sample size

Farmer groups	Population	Standard deviation	Variance	Mean	Sample volume
I. group (1 to 15 decare)	7697	3.2	10.5	10.9	24
II. group (15.1 to 30 decare)	5637	4.5	20.1	23.1	24
III. group(30.1 and over decare)	2050	16.1	258.2	46.3	31
Total	15384	13.6	184.0	20.1	79

1 decare equal 0.1 hectare

Results and discussion

It is determined that farmers have education at primary school level (5.5 years) There was no statistically significant difference (P> 0.00; P = 1.017) between tobacco field groups and the level of education of farmers, although the level of education with tobacco field

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groups increased. The average age of the farmers interviewed was calculated as 46.4 years. Farmer ages, 46.2 years in the first group, 46.3 years in II. group, and it was 46.6 years in II. group (Table 3). There was no significant difference between the groups and farmer's age criterion. The duration of experience of tobacco farmer was 29.4 years. According to tobacco land size groups; this value was 26.2 years in group I, 23.7 years in group II, 36.4 years in group III (Table 3). As the area of tobacco grows, the experience of the farmer was also increasing. On the other hand, there was no statistically significant relationship between tobacco field width groups and the farmer's experience in tobacco production ($P > 0.00$; $P = 0.995$). The average household size was 4.1 persons. The lowest number of household members was with 3.7 persons in the group II, and the highest number of household members 4.6 in the group III. There was a statistical relationship between the size of the household and the size of the enterprise. The tobacco cultivation area ranged from 0.8 to 3.7 hectares in the groups, with an average of 2.2 hectares. In the farmer groups, between 44.2% and 73.1% of the total crop production areas constituted tobacco cultivation areas. This ratio was 62.5% in the farms average (Table 3). The operational land area was 3.49 hectares and 45.1% of the land was owned land and 54.9% was rented land. Farmers were producing tobacco generally by renting land. The share of non-irrigated land was 93%. The share of non-irrigated land varies between 82.0% and 95.1% in the groups (Table 3). So the rate of irrigation in the production of tobacco growers was also very low.

Tobacco has the highest share in gross production value at 55.0%. This ratio was followed by 33.8% of livestock activity and 11.2% of other products. The share of tobacco gross value in the III. group was 58.4% and was the highest value. The most important production value item in group I farmers was livestock. The share of tobacco cultivation in farmer groups also varies from 44.2% to 73.1%. Farmers' satisfaction with agricultural activities, tendency to continue tobacco growing, level of satisfaction with tobacco growing, level of knowledge with tobacco growing were also asked and the results were given in Table 3. These answers were taken on a 5-point Likert scale. Farmers' levels of satisfaction with agricultural activities and tobacco growing were found to be low (2.3 and 2.3). Farmers tend to continue to grow tobacco (3.7) and knowledge level in tobacco growing was moderate (3.4). There was no statistical difference between these criteria and the groups of tobacco cultivated area.

The attitude of producers interviewed in the field of research to various applications in tobacco farming was evaluated according to the 5 Likert scale. When the growers' attitudes to various practices in tobacco farming were examined, it was determined that the farmers participated in the following statements: "difficult to supply tobacco seed"; "Input prices are high"; "There is a problem in the supply of labour in tobacco growing"; "Tobacco production declined after privatization of TEKEL"; "With TEKEL privatization, inputs in tobacco production were more expensive"; "The privatization of TEKEL increased the farmers' migration from the village to the city"; "With the privatization of TEKEL, the number of unemployed in the village has increased"; "Increased costs of switching to contracted tobacco production"; "Most tobacco manufacturers have left tobacco production after privatization"; "Tobacco growing is an important source of livelihood in the region"; "The marketing situation of tobacco products affects production"; "Climate change affects tobacco growing"; "Tobacco growing is a profitable activity"; "Privatization negatively affected tobacco production"; "Tobacco is no longer as important as it used to be"; "Privatization of TEKEL facilitated tobacco marketing" (Table 4).

Table 3. Some social-economic indicator in tobacco production

Indicators	Groups of farms			Average
	I	II	III	
Farmers age (year)	46.2	46.3	46.6	46.4
Farmers education level (year)	5.1	5.6	5.7	5.5
Household size (head)	3.8	3.7	4.6	4.1
Farmers experience on tobacco production (year)	26.2	23.7	36.4	29.4
Owned land (%)	60.0	62.4	32.2	45.1
Rented land (%)	40.0	37.6	67.8	54.9
Irrigated land (%)	18.0	5.6	4.9	7.0
Non-irrigated land (%)	82.0	94.4	95.1	93.0
Irrigated land for total tobacco cultivated area (%)	2.8	0.0	5.7	4.0
Tobacco land (%)*	44.2	51.4	73.1	62.5
The share of tobacco production value in total gross production value (%)	37.6	55.1	58.4	55.0
The share of other product production values in total gross production value (%)	14.5	7.7	12.8	11.2
The share of livestock production value in total gross production value (%)	47.9	37.2	28.8	33.8
Share of total agricultural income in total income (%)	72.1	92.2	93.8	90.3
Share of non-agricultural income in total income (%)	27.9	7.8	6.2	9.7
Parcel numbers of tobacco cultivated area (per)	2.2	2.4	3.7	2.8
Tobacco cultivated area (hectares)	0.8	1.7	3.7	2.2
Satisfaction level with agricultural activity*	2.3	2.2	2.3	2.3
Satisfaction level of tobacco growing*	2.5	2.2	2.1	2.3
Level of knowledge on tobacco growing*	3.3	3.4	3.4	3.4
A tendency to continue tobacco growing**	3.7	3.7	3.7	3.7

**1 Very low 2 Low 3 Medium 4 High 5 Very high; **1 Definitely no 2 Not thinking 3 Undecided 4 Thinking 5 Definitely yes*

Table 4. The participation of farmers in various statements about tobacco growing

Statements	Groups of farms			Avg*
	I	II	III	
Supply of tobacco seed was difficult	4.8	5.0	5.0	4.9
Input prices were high	5.0	5.0	4.9	4.9
There was a problem in the supply of labour in tobacco growing	4.7	4.7	4.4	4.6
Tobacco production decreased after privatization of TEKEL	4.4	4.3	4.6	4.4
With the privatization of TEKEL, inputs in t. produc. become more expensive	4.7	4.5	4.1	4.4
The priv. of TEKEL increased farmers' migration from the village to the city	4.5	4.1	4.4	4.3
With the priv. of TEKEL, the number of unemployed in the village has increased	4.3	4.2	4.3	4.3
Increased costs of contracted tobacco production	4.2	3.8	4.5	4.2
After privatization, tobacco producers have stopped tobacco production	4.4	4.1	4.0	4.2
Tobacco growing was an important source of livelihood in the region	4.0	3.8	4.1	4.0
The marketing situation of tobacco products affects production	3.3	3.8	4.5	3.9
Climate change affects tobacco growing	3.5	3.5	4.2	3.8
Tobacco growing was a profitable activity	3.8	3.8	3.8	3.8
Customization adversely affected tobacco production	3.8	4.0	3.5	3.8
Tobacco was no longer as important as it used to be	3.9	3.7	3.2	3.6
The privatization of TEKEL has facilitated tobacco marketing	3.5	3.4	3.8	3.6
Knowledge of business management for t. farm (profit, account, etc.) was sufficient	3.2	3.5	3.3	3.3
Tobacco growing infrastructure was sufficient (farmer)	2.7	3.1	3.7	3.2
Marketing infrastructure of tobacco products was sufficient (farmer)	2.7	3.0	3.8	3.2
Tobacco growing was more advantageous than other crop growing	3.0	2.8	3.1	2.9
Tobacco farming cannot be done without government support	3.3	2.9	2.7	2.9
Organization in tobacco growing was important	2.6	2.1	3.5	2.8
There was a lack of technical knowledge in tobacco growing	2.5	2.9	2.7	2.7
Organizing was important in marketing tobacco products	2.3	3.3	1.7	2.4
Agricultural organizations (union, cooperative) provide adequate info. support	2.6	2.5	1.6	2.2
After privatization the income from the tobacco has increased	2.4	2.3	2.0	2.2
Organization in tobacco growing was sufficient	1.8	1.5	2.1	1.8
Tobacco growing was an easy activity	1.7	2.0	1.8	1.8
Satisfaction with contractual crossing	1.8	2.0	1.7	1.8
I am pleased with the privatization of TEKEL	1.9	1.8	1.4	1.7
With the privatization of TEKEL, more farmers have begun to produce tobacco	1.7	2.0	1.1	1.6
The privatization of TEKEL did not change the number of tobacco producers	1.3	1.4	1.1	1.3
Tobacco growing was also a hobby	1.3	1.2	1.0	1.2
With the privatization of TEKEL, the net profit of t. production has increased	1.2	1.2	1.1	1.1

**:1 = I definitely do not participate 2 = I do not participate 3 = Partially 4 = I participate 5 = I fully agree*

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On the contrary, it was determined that they were not agreed with the following statements: "Agricultural organizations (union, cooperative) provide sufficient information support"; "After privatization the income from the tobacco has increased"; "Organization in tobacco growing is sufficient"; "Tobacco breeding is an easy task"; "Satisfied with the passage of contractual agriculture"; "Satisfied with the privatization of TEKEL"; "With the privatization of TEKEL, more farmers started to produce tobacco"; "The privatization of TEKEL did not change the number of tobacco producers"; "With the privatization of TEKEL, the net profit in tobacco production has increased further" (Table 4).

Ceylan (1995) pointed out that due to the changing consumer tastes and anti-smoking campaigns in the world, tobacco, known all over the world in the name of Turkish tobacco at the beginning of the century, is facing the danger of extinction today. Bas implementation of Law No. 4733. He reported that 98% of the tobacco farmers did not want to privatize the TEKEL. Gül et al. (2009) stated that most of the few producers who gave up tobacco production and benefited from the project support, were directed to cereal farming. They pointed out that profit of wheat, aspirants and canola products that may be an alternative to tobacco. According to the authors, canola was the best alternative product. Gümüş (2009) reported that producers were not satisfied with applications after the new tobacco legislation. The author stated that several multinational cigarette companies, which the contracted system makes dependent on the producers and which are handled by the auctioned sales system, play a decisive role in the tobacco market. He found that the tobacco real price of the producer has declined by half in ten years. Orman (2011) examined the changes in the economic structure of tobacco producers in Adıyaman tobacco production with the policies applied after 2000. According to the author, the changes made in the privatization and tobacco law have greatly reduced TEKEL's market share. The author claimed that the withdrawal of producers from tobacco production did not create an alternative production model, so a wave of migration to cities from rural areas began and an idle labour force emerged. Gültekin Karakaş (2014) reported that the tobacco sector in Turkey had undergone a market-oriented transformation with neoliberal policies implemented after the 1980s, during which the state control over the production and distribution conditions of tobacco production and cigarettes as an input of cigarette production was gradually phased out. The tobacco market has been left to the determination of transnational tobacco companies. The author pointed to the need to establish public control over tobacco products, production and trade, in the perspective of protecting public health. In contrast to the above results, Alıcı et al. (2011) found that farmers were producing for the private sector and were satisfied with this situation.

With the law numbered 4733 which came into effect in 2002, privatization of TEKEL has been made and then a significant decrease in tobacco production has occurred. With the privatization of TEKEL, the number of farmers producing tobacco and numbers decreased and the share of imported tobacco increased. Farmers who gave up production have migrated from the village to the city.

Conclusions

Farmers produced tobacco on a small scale. More than half of their income was from tobacco production. Farmers had more than thirty years of experience in tobacco production. It was determined that the producers were not satisfied with the privatization of TEKEL,

and there were problems in the contracted system. The tobacco sector is important in terms of evaluating the family workforce for farmers and also in terms of income in the region. Farmers' production scale was small. Farmers were also less satisfied with tobacco production. But their tendency to continue production was still high. This is caused by the fact that the share of tobacco in income is important. It can be said that if the farmers organized, it could be possible to be a market actor.

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