THE STRUCTURE AND PROBLEMS OF TURKISH AGRICULTURE

Havva TUNÇ[*]

Abstract

This paper examines the structure of Turkish Agriculture and its problems by using statistical data. The article begins the analysis with explaining the importance and position of agricultural sector. Then the outlines of the structure and problems of Turkish Agricultural Sector as well as agricultural policies and their impact are analyzed. Before concluding, a brief evaluation of the overview of Turkish agricultural system is assessed. By this article, an attempt is made to analyze some of the agricultural policies that have been applied to the Turkish Agriculture Sector. The article also suggests ways to improve Turkish Agriculture.

Keywords: *Turkish Agriculture, Structure of Turkish Agriculture, Rural Population, Problems of Turkish Agricultural Sector, Turkish Agricultural Policies.*

Özet

Bu çalışmada Türk Tarımın yapısı ve sorunları, sayısal veriler kullanarak, incelenmektedir. Başlangıçta tarım sektörünün önemini ve genel durumu verildi. Sonra Türk Tarım Sektörünün yapısı ve problemleri, uygulanan ve/veya uygulanmakta olan tarım politikaları ve onların sonuçları belirtilerek tarım sektörünün analizi yapıldı. Daha sonra Türk Tarım Sektörünün genel görünümünün bir değerlendirilmesi yapıldı. Türk Tarımının gelişimi için alınması gereken önlemler ve yapılması gerekenler belirtilerek çalışma sonlandırıldı.

Anahtar Kelimeler: *Türk tarımı, Türk tarımının yapısı, Kırsal Nüfus, Türk tarım sektörünün sorunları, Türk tarım politikaları.*

[*] Prof. Dr., Istanbul University, Department of Economics.

Introduction

The agricultural sector has great importance for national economy because of providing nutritional products for households, raw materials for industrial sector and creating demand for industrial products and also is a great source of national income.

Turkish agricultural sector constitutes 15 % of the national income and 35 % of the total employment and in addition its social importance is as prominent as its economical importance.

In this study, first we will display the present structure of the sector and try to determine its problems. Secondly, agricultural policies from early Turkish republic to today and their implications are analyzed. Finally, the effects of eliminating subventions and interventions in agricultural policies after the "Stand-By Treaty" with IMF in 1999 are investigated.

1. An Overview of Agricultural Sector

1.1. Importance and Positions of Agricultural Sector

Agriculture is one of the most "protected" sectors in both developed and underdeveloped countries. These wide protective measures and subvention policies are related to the inherent nature of agriculture: Agriculture was for centuries, and still is, just as much a way of life as an economic activity. The close relationship with nature, the ties with land and the dependence on climate is a fundamental characteristic of farming. On the other hand, as the structure of demand is far from being flexible, the fluctuations in production lead to large variations in prices, and hence, in the income of the farmers.

The agricultural sector is the basic source of nutritional material for consumers. For this reason, governments resort to agricultural subventions for both stabilizing farmers' incomes and protecting consumers.

The advancement of agriculture is also important for industrialization. Developed countries have achieved their high level of development by increasing agricultural productivity and transferring added values in agricultural sector to non-agricultural sectors. At the early stages of industrialization, agriculture was the key sector providing foreign exchange. On the other hand, in highly industrialized countries and in countries at the end stages of industrialization, governments apply protective measures both as a consequence of development and also to meet the increasing pressures

of the population working in agricultural sector. The protective measures range from giving subventions and stabilizing product prices, supporting agricultural inputs, back-up buying and storing, to export and import policies.

In the industrialization process, the ratios of agricultural income to national income and agricultural labor force to total labor force both decrease gradually. For example, in industrialized countries both of the ratios are below 10 % (see tables 6 and 7). This structural property is one of the principal indicators of industrialization. The reason underlying this fact is on one hand the high rate of increase in the productivity of the land and of the labor, on the other hand the limited demand for agricultural products compared to total income. As the income increases, the portion of the expenditures on agricultural products decreases. In other terms, agricultural products have low "income elasticity". Therefore, the target of the agriculture should be to provide satisfactory nutrition for the national population and to use comparative advantages in international markets in order to reach satisfactory export levels with relatively low labor force. Once this goal is achieved, the problem of per capita income in agriculture will be solved as the average agricultural income will be close to the average national income.

If the share of employment in agriculture in the total employment is decreasing and if the share of agriculture in GNP is increasing, the agricultural sector will develop. On the other hand if agricultural value added is not transferred to the industrial sector and also if agricultural developing should not be accompanied with industrialization so neither agricultural development nor industrial development will be successful.

1.2. General Properties of the Agricultural Sector

Agricultural sector has general distinctive features, which give rise to certain problems even in developed countries. We can summarize these features as follows.

1. Agricultural sector depend highly on natural factors. Even in countries with high technological level, agricultural sector should have privileges. The sector is protected against bad conditions that the agricultural producers may encounter.

2. There is a delayed supply reaction to the variations in agricultural demand. In other words, agricultural products have low supply elasticity in the short run. In addition, the agricultural supply is a function of the price of the product in the previous period.

3. Agricultural production is for both the market and self-consumption; that is, it has a dual structure.

4. In agriculture, as opposed to the industrial production, "the law of diminishing productivity" is valid. This discourages the use of addition capital in agriculture. In other words, the use of capital-intensive technologies in agriculture is limited.

5. The market conditions of agricultural businesses are different. A large number of scattered agricultural firms sell their production in the nearby markets under full competitive circumstances, while they purchase their inputs from "oligopoly" or "monopoly" markets.

In the light of these remarks, if there is no "government intervention", producers of agricultural products are vulnerable to exploitation both when purchasing the inputs and when selling their products. They are exposed to full-competitiveness situation when selling their output, measurable to oligopoly circumstances when purchasing their input.

2. The Structure and Problems of the Turkish Agricultural Sector

Looking at the ratio of the agricultural income in total Gross National Product (GNP), the ratio of agricultural export in total trade, the ratio of the rural population, and the ratio of agricultural labor force in total labor force, one can see that Turkey has more "agricultural" and "rural" appearance compared to countries with a similar national income. Thus, it will take relatively more time for Turkey to reach the stage of an industrial and urban society with respect to countries in the same income group.

2.1. The Structure and Problems of the Rural Population

The census results show that Turkish population has trend of increase. The distribution of the population between rural and urban areas differs with a trend of decrease in rural population and a trend of increase in urban population. The total population, the rural/urban population distributions are given in Table 1 and it can be seen that although there is a decrease trend, the ratio of rural population is still high. For example, the ratio of the rural

population in total population is 68% in 1960, 56% in 1980, and 35% in 1997.

Although the ratio of the agricultural labor force to total labor force is decreasing, (62,5% in1980, 43% in1997, 35% in 2000) it is still high compared to developed countries (5, 8% for EC and 8.1 % for Japan in 2000) (TOBB, 1990).

Comparing with other sectors, it can be seen from Table 4 that size of the agriculture places it at an important position in Turkish economy. The 35 % share of agricultural employment in total population is much higher than the other sectors while the ratio of 13.4% of agricultural income to gross national product is extremely low compared to other sectors. In other words, the agricultural production is quite unproductive because of over population this sector, insufficient technology and traditional production methods, lack of awareness of market conditions, and lack of conscious of producing for the market. It should also be remembered that land is constant as an input.

In addition, the ratio of the agricultural income in gross national income is high compared with developed countries: for example, while it is 1.7 % in USA and 1.9% in EC, 13.4% in Turkey (see tables 5-6).

After 1980s, protective and supportive policies have been abandoned and the farmers have found themselves in a full competitive market before getting ready for it. As a result, this situation had a controversial effect in achieving the expected development in agriculture.

2.2. Agricultural Production and Gross National Product

In developed economies such as USA and EC, the ratio of the agricultural income in total GNP is as low as 2%. In Turkish economy, this ratio is, 13.4 %. The contribution of agriculture to external trade is 14 % in USA while it is 7% in Turkey (see Tables 5 and 7).

This shows that the contribution of agriculture to external trade is low while its contribution to GNP is high. This is due to the following facts: Firstly, rural population is intensive; secondly, the protective and supportive policies are minimized; and thirdly the agricultural production is left face to face to competitive market conditions. In agricultural sector, if the national market comes face to face to international competition, the sector will, in general, be harmed. In addition, natural disasters would aggravate the situation as it happened in Turkey.

In developed countries, the contribution of the agriculture to GNP is low while its contribution to trade is high. They are applying protective and supportive policies to an already low density population in agricultural sector. For example, in EC, about 45 % of the EC budget is allocated to the supportive expenditures in agriculture (Tunç, 1998).

2.3. Agricultural Production and Trade

It can be seen that the relative importance of agriculture in Turkish economy decreases with time. The share of agriculture in total exports decreased by 57% in 1980, 10% in 1995, and 7% in 2000. The exports of agricultural products decreases while their imports increases. The share of agricultural products in total exports in developed countries is, for example 14% in USA and 8.9% in EC while it is 7% in Turkey (Tunç 1998).

The reduction of the share of Turkish agricultural products in the world trade has been a consequence of liberal policies implemented after 1980's.

2.4. The Demand and Supply of Agricultural Inputs

2.4.1. Agricultural Inputs

The development of Turkish Agriculture provides a considerable amount of inputs to non-agricultural sectors. As of 1963, 28% of intermediate products have been produced by the agricultural sector (Dura, 1987). This figure was 27% in 1968, 26 % in 1973, 19 % in 1979 and 13% in 1985. Despite this decrease in time, these ratios are still high compared to industrial countries. For example in USA and UK, the agricultural inputs constitute only 1% of the intermediate goods. The percentage of agricultural inputs in intermediate goods is an indicator of the degree of dependency of the industry on agriculture. In other words, Turkish industry is highly dependent on agriculture compared with developed countries.

Agricultural development influences the demand for industrial products in two ways. The first one is the increase of the demand on goods directly used in agricultural production, such as chemical fertilizers, agricultural drug, equipments etc. The second one is the increase in the income of the producers in agricultural sector which increases their demand on consumption and investment goods.

2.4.2. The Use of Modern Inputs and Productivity in Agriculture

The labor force and land are the basic inputs in agricultural production. Although the ratio of the agricultural labor force is gradually decreasing, it is still high compared with the standards of industrial countries. After 1960s as the available land has reached its natural boundaries, farmers started to use mechanization and high technologic inputs at an increasing rate. The use of agricultural machines and equipment and tractors have increased till 1980 and decreased afterwards. This decrease is due to the liberal policies adopted with "January 24 Decisions in 1980" with which the prices of agricultural equipment and credit interest rates are raised to market levels (Tunç, 1990). As a result, the cost of getting credit has increased, the degree of mechanization of inputs slowed down, and the productivity of this already unproductive sector has further decreased. As another implication of the liberal policies, the agricultural market was opened to agricultural imports; high-cost local agricultural products were forced to an unfair competition with low-cost foreign goods.

In a similar way, the widespread use of modern inputs such as chemical fertilizers, irrigation, agricultural drugs and high quality seeds after 1960s lead to an increase in productivity. However, after 1980s, because of the liberal policies, as the farmers could not afford these inputs, they stopped using them and productivity decreased.

3. Turkish Agricultural Policies and Their Impacts

3.1. Agricultural Policies and Their Impacts Till 1990s

In Turkish agricultural sector, protective and supporting policies had been adopted till 1980s. By this time a certain development trend had been caught because of subventions in oil prices, agricultural equipment bought with negative interest rates, the increase in the variety of support-buying and the encouragement of modern inputs. After 1980s, the use of high-tech inputs were disrupted because of the increase in interest rates, market priced fuel-oil and agricultural equipment resulting from liberal policies. In addition, as the Central Bank adopted higher interest rates for agricultural credits, the use of agricultural credits decreased. The amount, variety and extent of support buying on product basis decreased, resulting in a decrease of the governmental contribution to the market as a buyer. Supporting agriculture with high interest rate credit has been abolishment. Product base prices were lowered. Subventions for inputs were decreased. The adopted

price policy was not protecting the producers and input prices were high than product market prices.

Support prices maintained for a few products and/or group of product a not enough. The subventions taken off from producer are given to tl traders of agricultural products. For example, the subventions in tobacc and nut which was given hitherto to their producers, is given now to tl traders.

The prime system was started to be used instead of subventions and w first applied to cotton. But present prime system concerning a few produc is not sufficient for the sector. In fact that application of the system can giv us opportunity of manipulation the amount of production. It means that there is a shortage of some goods, we can increase this goods production c vice versa. To explain it considers this example: suppose a farmer produce tobacco and earns 10 billion dollars. But we plan to decrease the tobacc production and increase nut production. If the farmer produces nuts instea of tobacco, he would earn 7 billion dollars hence he would lose 3 billio dollars. His losing of 3 billion dollars is paid to the farmer directly by th government in the prime system. But these policies do not give expecte results. It means that it has been increasing neither amount of productio nor incoming of farmers.

3.2. Agricultural Policies and Their Impact after 1990

The objectives of Turkish Agricultural sector and procedures to achiev them are determined within the "Agriculture Section" of the "IMF Stand-by Agreement" of 1999. This agreement states that direct income suppor policies will be applied but the base and ceiling price policies will be abolished. The government will involved in buying process, the trade o agricultural goods will be done under market conditions and Nationalized Corporations (NI) and State Economic Enterprise (SEE) will be privatized.

NI and SEE which are cornerstones of Turkish agricultural system are protecting the agricultural sector against unfair competition. Thei privatization means the unprotected exposure of the farmers to marke conditions, and the extermination of the agricultural sector in the long term According to the "amendments to the stand-by agreement" with IMF afte the financial crisis of November 2000 and February 2001(Tunç, 2001), and 21st item of the "intend letter" send to IMF on May 3, 2001, it is clearly stated that legislative process for the abolition of the monopoly on sugar and

tobacco production will be completed and "sugar law" will be passed. In addition the tobacco sector will be liberalized that supporting buying will be abolished and tobacco law will be passed.

In the 32nd item of the intend letter, it is also stated that sugar quotations will be decreased and support buyouts for grain will be decreased. In agreement with the direct income support policy, the support prices will not be higher than the expected inflation rate.

The determinations of support prices have always been problematic. With a new legislation, the governmental of support prices especially in grain, sugar and tobacco will be ended in December 2002. Furthermore, till that time, the support prices are expected to be determined in such a way to catch the market prices by 2002 (TCMB, 2001). It is planned to diminish the subventions and support prices gradually until its annulations by fall 2002 (DPT, 2001). As a result, the producers will have to sell at a price below their production cost and will be forced to leave the sector. On the other hand, prices above the world market prices are not desired, became they lead to unproductivity and to the regression of the sector. The problem is not the determination of the price, but exposure of the producers in the competitive market without structural improvement measures.

We can say that the "Turkish Agricultural Policies" being applied today and that will be applied in future are a bunch of measures far away from protection and support but to the contrary are leaving out the sector to the internal dynamics of the market. As stated, "Direct Income Support" policy will be implemented in this way support prices will be parallel to the world market prices and hence, real prices will be pulled down. There will be limits to the subventions in inputs and credits, and these will be ended in time.

4. The Evaluation of the Agricultural Sector

The liberal policies in Turkish agricultural sector started in 1980 and culminated with stand-by agreement with IMF in 1999 and the financial crisis of November 2000. In Turkish agricultural sector which constitutes 35% of the labor force, 14% of the GDP, 7% of total exports and 5% of the total imports, the passage from supportive to competitive policies will result in the loss of any chance of catching a development trend. However a restructuring of the protection and support measures in order to increase productivity would be more desirable than their complete abolition. The

development of the Turkish agricultural sector has been handicapped by th delay in passing from household economy to market economy, the lo income level and the population intensity. In the present situation, as th sector has not yet reached a development trend, producers exposed to th competitive market, will either leave the sector or will be under the contr of trade sector.

In developed OECD countries where the agricultural sector has a sha of 1-2% in national income, 5% in total workforce, the farmers get 40 % their income from government support, while this figure is 31 % in Turke (Boratav,2000). In these developed countries consumers pay 31 % mo because of agricultural supports while in Turkey they pay only 14% more the support price (Boratav, 2000). In short, in Turkey; agricultural support lower than OECD average. The US dollar amount of subventions per farm is 15 times more in OECD than in Turkey (Boratav, 2000).

In both developed and developing countries, there is a need f supportive policies in agricultural sector because of its structural properties

The possible impacts of ending supportive polices on Turkis agricultural sector can be summarized as follows.

i) There will be a decrease in agricultural production

ii) Agricultural exports will decrease

iii) Agricultural imports will increase; in addition to a loss of incom expenses will increase

iv) The unemployment will increase in rural areas.

v) The immigration to urban areas will increase.

In order to achieve any development in Turkish agricultural secto "supportive and protective" policies should be adopted. The amounts a processes of production should be determined for each group of good Some goods that have been producing unproductively should be ende There should be no farming in unproductive land; domestic prices should close to world prices but the difference should be paid to the producers. areas of discontinued production, direct income support should be given the producers and they should undergo educational programs for getti new skills. New policies for the regulation of overpopulation in agricultu should be implemented.

5. Conclusion

Turkish Agricultural sector had been the locomotive sector for achievement. It means that the share of agriculture in total exports had been high enough, it provided the inputs necessary for non-agricultural sectors and it also had produced enough food side products for household consumption.

In 1980's, as a result of liberalization policies in agricultural sector, the domestic market came face to face with products from developing countries. These low- cost products were more advantageous for the consumer and they started to replace domestic production. As a result, Turkish farmers lost their share in the market and their income decreased.

In the framework of the Stand-by Agreement, liberalization or free market policies started to be applied. In addition, the agricultural sector was also confronted with the financial crisis of 2000-2001, which worsened the situation.

As we look at the agricultural policies adopted in developing countries, we see that they have applied "conservative policies" that include support, protection and subvention. For example, both European Communities and USA are applying conservative policies in their agricultural sector.

As a result, we can conclude that, as the agricultural sector is different from other sectors because of its structural and the external conditions it is faced to, it has to be supported both in developed and developing countries. The crucial point is the type and amount of support.

Countries in which agricultural sector is not developed, will never reach higher development levels. Therefore in agricultural sector we have to apply conservative policies for industrialization. The degree of conservative and the determination of the set of products to the conserved depend on the development level.

Tables:

TABLE 1

Total Population, Rural and Urban Population Based on Census Data

	Years					
	1960	**1970**	**1980**	**1985**	**1990**	**19**
Total Population	27.754.820	35.605.167	44.736.957	50.664.458	56.473.035	62.81
Rural Population	8.859.731	13.691.101	19.645.007	26.865.752	33.326.351	40.63
Share of Rural Po. (%)	31.92	38.45	43.91	53.09	59.01	6
Urban Population	18.895.089	21.914.075	25.091.950	23.798.701	23.146.684	22.1
Share of Urban Po.(%)	68.08	61.55	56.09	46.97	40.99	35

Source: DİE,Türkiye İstatistik Yıllığı, Ankara, 1993.

TABLE 2

Ratio of Agricultural Employment to Total Employment

Years	**Share of Agricultural Employment in Total Employme (%)**
1970	70.2
1980	62.5
1990	46.1
1999	42.8
2000	35.2

Source: DPT.VIII.BYKP, Ankara, 2000.

TABLE 3

Share of Agriculture in Total Employment (%)

	Years		
	1999	**2000**	**2001**
Active Population (1000)	23.086	22.100	23.255
Agriculture (1000)	9.152	7.628	7.660
%	42.8	35.2	30.0

Source: DPT, 2001 Yılı Programı, Ankara, 2000.

TABLE 4			
Comparing with Other Sectors of Agriculture			
	GNP (Billion $)	**Employment (1000 person)**	**GNP/Employment (Per capita $)**
Agriculture	29.037	7.628	4.040
Industry	46.378	3.713	12.424
Services	116.038	8.330	13.930
Construct	10.519	2.329	7.915
Totals	201.972	22.100	9.815
Source: Tarım ve Köy İşleri Bakanlığı, 2000 İstatistikleri			

TABLE 5	
Share of Turkish Agriculture in Gross National Product	
Years	**GNP/Agriculture (%)**
1923-24	43
1939	40
1970	36
1980	25
1990	16
1997	13.4
Source: DPT, VIII: BYKP, Ankara, 2000, s.39	

TABLE 6	
Share of Agriculture in Gross National Product in Developed Countries	
Countries	**%**
USA	1.7
EC	1.9
Japan	4
Source: DPT,VIII.BYKP, Ankara, 2000.s.39.	

TABLE 7				
Distribution of Agricultural Production				
%	**Vegetal**	**Animal**	**Sea Food**	**Tree Products**
Turkey	57	34	2.9	5.8
Developed Countries	30	70	-	-
Source: DPT, VIII.BYKP Tarım İstatistikleri, Ankara, 2000.				

TABLE 8

Gross National Product in Turkish Economy

	1999	2000	2001	2002	2003
GNP Growth %	-6,1	-6,1	-3,0	5,0	6,0
GNP (Quadrillion TL)	78,3	126,0	182,4	245,8	303,6
GNP (Million $)	187,4	201,9	170,7	188,5	203,3

Source: Hazine Müsteşarlığı, Türkiye'nin Güçlü Ekonomiye Geçiş Programı, Ankara, 2001, s.99,T.2

TABLE 9

Rate of Growth of Sectors in Turkish Economy

	1999	2000	2001	2002	2003
Agriculture	-5,0	4,1	1,2	5,3	1,2
Industry	-5,0	5,6	-3,5	5,1	6,6
Service	-4,5	8,7	-3,7	4,3	6,6
GDP	-4,7	7,2	-3,0	4,7	5,9
GNP	-6,1	6,1	-3,0	5,0	6,0

Source: Hazine Müsteşarlığı,Güçlü Ekonomiye Geçiş Programı, Ankara, 2001, s.99.

TABLE 10

The Share of Agriculture in the Total Exports and Imports

	Years				
Trade Title	1980	1990	1995	1999	2000*
Total Exports (billion dollar)	2.910	12.959	21.636	26.588	11.167
Exports of Agriculture product (billion $)	1.672	2.347	2.307	2.592	789
Share of agriculture in total exports (%)	57.46	18.11	10.66	9.75	7.07
Total imports (Billion dollar)	7.909	22.302	35.708	40.687	20.370
Imports of Agriculture product (billion $)	51	1.318	2.444	1.814	1.062
Share of agriculture in total imports (%)	0.64	5.91	6.84	4.46	5.21

Source: "Tarım ve Köy İşleri Bakanlığı Ticaret İstatistikleri", Ankara
* for first six months.

References:

Archer, C. and Butler F. (1992). *The European Community Structure and Process*. New York: St.Martin's Press.

Boratav, K., (16.02.2000), 'Tarımsal Destekleme: Türkiye'de OECD'de'. *Cumhuriyet Gazetesi*.

Devlet İstatistik Enstitüsü (DİE) (1993). 'Türkiye İstatistik Yıllığı', Ankara.

Devlet Planlama Teşkilatı (DPT) (2000 a). 'VIII. BYKP', Ankara.

Devlet Planlama Teşkilatı (DPT) (2000 b). 'Tarımsal Politikalar ve Yapısal Düzenlemeler, Özel İhtisas Komisyonu Raporu, 2516-OİK:534', Ankara.

Devlet Planlama Teşkilatı (DPT) (2001). Güçlü Ekonomi. Ankara.

Dura, C., (1987). *Tarımın Türk Ekonomisine Katkısı Bugün ve Yarın*. İstanbul.

Hazine Müsteşarlığı (2001). Türkiye'nin Güçlü Ekonomiye Geçiş Programı. Ankara.

Tarım ve Köy İşleri Bakanlığı (2000 a). Ticaret İstatistikleri. Ankara.

Tarım ve Köy İşleri Bakanlığı (2000 b). 2000 İstatistikleri. Ankara.

Türkiye Cumhuriyeti Merkez Bankası (TCMB) (2000). 'Niyet Mektubu-2, 18.12.2000'. Ankara.

Türkiye Cumhuriyeti Merkez Bankası (TCMB) (2001). Yeni Niyet Mektubu. Ankara.

Ticaret Odaları Borsalar Birliği (TOBB) (1990). Tarımın Türkiye Ekonomisine Katkısı. Ankara.

Tunç, H. (1990). 'AT - Türkiye İlişkileri Çerçevesinde Avrupa Topluluğu'nun Ortak Tarım Politikası ve Türk Tarımı', *Doktora Tezi*, İstanbul.

Tunç, H. (1998). 'Türkiye'nin Avrupa Birliği Gümrük Birliği'ne Girmesinin Türk Tarımı Üzerindeki Etkileri', *İ.Ü. İktisat Fak. Mecmuası*, Cilt:49, Özel Sayı, İstanbul.

Tunç, H. (2001). 'Finansal Kriz ve Türkiye Ekonomisi'. *İSO*. İstanbul.