Impacts of Turkey's Integration into the European Union on Agricultural Markets and Income Distribution

Saban Nazlioglu and Ekrem Erdem[*]

Abstract

This study analyzes the impacts of Turkey's integration into the EU on price, production, consumption, and self-sufficiency in the selected agricultural markets (wheat, maize, sugar, milk, beef, lamb, and poultry). The study also examines the welfare and the income distribution impacts of the integration. A partial equilibrium model, Modéle Internationale Simplifié de Simulation (MISS), is used to simulate the impacts of the integration on the agricultural markets and Gini coefficients are calculated to examine the income distribution effects. The results show that the integration has substantial impacts on the selected agricultural markets in Turkey and deteriorates the distribution of income among the selected Turkish producers.

Keywords: *Economic integration, agricultural markets, impact analysis, income distribution*

JEL Classification: F15, Q13, D30

Introduction

The process of Turkey's integration into the European Union (EU) has had a long history. Turkey made its first application to join the European Economic Community (EEC) in 1959. The EEC's response to this application was a proposal for the creation of an association between the EEC and Turkey which led to Ankara Agreement in 1963. The aim of the agreement was to establish commercial and economic relations. In November 1970, an additional protocol was signed which set out a timetable for the abolition of tariffs and quotas on goods circulating. The 1980's military intervention in Turkey caused to stop the process which was re-started following the multiparty elections of 1983. In 1987, Turkey made an application for full membership to the EEC. This progress was followed by Customs Union (CU) which came into effect in January 1996. The CU includes free trade of industrial goods and processed agricultural products while it excludes agricultural products. In December 1999, Turkey was officially accepted as a candidate country at the Helsinki European Council. In December 2004, the EU approved that Turkey fulfills the Copenhagen political criteria to open accession

[*] Saban Nazlioglu, Institute of Social Sciences, Erciyes University, Erciyes Universitesi Iktisadi ve Idari Bilimler Fakultesi, 38039, Kayseri/TURKEY
e-mail: snazlioglu@erciyes.edu.tr, Tel: 0090 352 4374901 (30507), Fax: 0090 352 4375239
Ekrem Erdem, Faculty of Economics and Administrative Sciences, Erciyes University,
Erciyes Universitesi Iktisadi ve Idari Bilimler Fakultesi, 38039, Kayseri/TURKEY.
e-mail: ekremerdem@erciyes.edu.tr, Tel: 0090 352 4374901 (30451), Fax: 0090 352 4375239

negotiations at the Brussels European Council. Then, the negotiations have started on 3 October 2005 (EC, 2007).

The negotiations for the adaptation of Turkish agricultural support policies and institutional framework to the EU's Common Agricultural Policy (CAP) are expected to be one of the most important areas (Cakmak, 2004). The EU-like agricultural policies will constitute significant changes of current agricultural policies of Turkey. These policy changes will affect both farmers and the wider population in Turkey (Togan et al., 2005). Therefore, this study attempts to analyze the impacts of the adaptation of Turkish agricultural polices to the CAP. The purpose of the study is twofold. First is to analyze the impacts of Turkey's integration into the EU by introducing the CAP on price, production, consumption, welfare, and self-sufficiency in the selected agricultural markets (wheat, maize, sugar, milk, beef, lamb, and poultry) of Turkey and the EU. Second is to examine the income distribution effects of the integration among the selected agricultural producers. To accomplish these purposes, we utilize Modéle Internationale Simplifié de Simulation (MISS) which is a partial equilibrium trade simulation model and calculate Gini coefficients (GCs) to examine the impacts of the integration.

The paper is organized as follows. Agricultural policies in Turkey and the EU are briefly introduced; some selected studies are reviewed; analytical framework and the data are explained; empirical findings are interpreted; and finally, the main findings are summarized in the conclusion.

Agricultural Policies in Turkey and the EU

The main objectives of Turkish agricultural policies are i) to ensure adequate level of nutrition, ii) to increase yield and output, iii) to reduce the vulnerability of production to adverse weather conditions, iv) to raise self-sufficiency, v) to provide adequate and stable incomes for those working in the agricultural sector, vi) to increase export, and vii) to develop rural areas (Togan et al., 2005).

To achieve these objectives, until the late of 1990s, Turkish agricultural support policies has consisted of guaranteed output prices, input subsidies, control of supply, free or low cost services to farmers, import protection, and export subsidies. Price supports and input subsidies have been the most important two policy tools, respectively (Flam, 2004). However, these policies were fiscally expensive and unsustainable. They did not provide a cost-effective way for addressing policy objectives, alleviation of rural poverty, and regional development. Therefore, in the late 1990s, Turkey decided to reform its agricultural policies. The government developed the Agricultural Reform Implementation Project (ARIP) to phase out current policies and replace them with area based income support payments (Togan et al., 2005). The main philosophy of the ARIP is to liberalise Turkish agricultural market organizations, to remove input subsidies, and to compensate farmers. The key elements of the ARIP are reduction of price support by introducing direct income support, privatization of the state-owned economic enterprises and reorganization of the agricultural sales co-operatives, decreasing and abolishing input subsidies, restructuring agricultural production for specific products such as hazelnuts and tobacco, and observing the effects of policy changes in a household survey by annual surveys (Oskam et al., 2004). Cakmak (2004), Flam (2004) and Oskam et al. (2004) argue that basic principles of the ARIP and Turkish agricultural reform are

broadly consistent with the long-term policy direction of the CAP, EC (2006), however, states that it moves Turkey further away from the principles of the reformed CAP by defining agricultural support policies linked to production as a key policy instrument.

The aims of the CAP are higher productivity, a fair standard of living for the population in agriculture, stable markets, food security, and reasonable prices for consumers. Until recently, the CAP has been focused on price supports. The prices of many agricultural products are kept above world prices by the purchase of excess supplies. As production responded to higher prices, excess supplies became chronic and fiscally expensive. As a result, starting in 1993, the CAP has gradually shifted away from price supports to income supports. Prices in the EU are gradually equaled world prices and farmers are being supported by payments on the basis of their holdings of land and animal (Flam, 2004; Togan et al., 2005).

The reforms in the process of adaptation of Turkish agricultural structure and policies to the CAP will constitute some challenges for Turkey. The main challenges are differences in the structure of basic factors in agricultural production and agricultural productivity, smaller farm size, lack of funding, lack of sufficient qualified personnel who are knowledgeable in both Turkish agricultural policies and the CAP, lack of institutional and technological capabilities, coordination problems arising from required different ministries/units in the alignment process, labor force in agricultural sector, and arable land availability (Cakmak, 2004; Oskam et al., 2004; Gunes and Unsal, 2005; Grethe, 2007).

Literature Review

Oskam et al. (2004) reviewed a number studies which analyze the impacts of Turkey's integration into the EU on agricultural sector. They summarized model characteristics, scenarios, and the main findings of the selected studies in Chapter 11 and 12 of their study. We therefore considered other two studies in this study for brevity.

Togan et al. (2005) used a static partial equilibrium simulation model to analyze the impacts of various adaptation scenarios on Turkish agriculture for the base year 2000. Four scenarios are considered in the study that these are i) A1: Partial adoption of Agenda 2000 without direct payments, ii) A2: Complete adoption of Agenda 2000, including direct payments equal to those currently applied in the EU, iii) B: Adoption of European Commission proposal similar to that given CEE countries, including direct payments at the level of 35 percent of payments granted in the EU member countries, and iv) C: Free trade with direct payments. The authors summarized their main findings as i) the integration into the EU will lead to substantial changes in the agricultural incomes of producers, the welfare of consumers, and budget revenues of government, ii) the impact on farmers' income of EU-type agricultural policies (Scenarios A1, A2, B, and C) will be driven mainly by the amount of CAP-like compensation payments granted to farmers, and the impact will be greater in the medium to long term farmers adjust to new policies, iii) the impact will not uniformly distributed across all agricultural products; some farmers will gain and others will lose from the reforms as a result of changes in relative rates of protection, iv) the EU-type agricultural policies will reduce agricultural prices substantially in Turkey, leading the lower food prices. In the short term, food expenditures fall by 5.91% compared with the base period. In the me-

dium to long term, EU-like changes (Scenarios A1, A2, and B) would induce a 5.14% average drop in food expenditures, v) in the medium to long term, EU-like policies (Scenarios A1, A2, and B) will lead a 1.87% increase in real household income in Turkey, vi) although farmers as a group could lose from the EU-like policies, the population as a whole gain from the introduction of these policies, and finally vii) the budgetary costs to Turkey of adopting EU-like policies will amount to €2.998 billion under scenario A, and €1.96 billion under scenario B, when Turkey will not receive any compensation from the EU budget.

Atici and Kennedy (2005) analyzed the welfare and income distribution impacts of Turkey's international agricultural trade policies and of integration into the EU using partial equilibrium trade model and calculating GCs. Results show that Turkey exhibits a preference to integrate with the EU from a welfare perspective, but that income distribution within the agricultural sector becomes less equal with the integration.

Analytical Framework and Data

To analyze the impacts of the implementation of the CAP in Turkey on the selected agricultural markets, we use a partial equilibrium trade simulation model, Modéle Internationale Simplifié de Simulation (MISS). MISS is a simplified world trade model which utilizes a comparative static framework to simulate the effects of various policy implications. Vectors of supply, demand, and excess demand represent the levels of aggregate production, consumption, and trade for a country. MISS operates the principal of Walrasian equilibrium. Policy implications of any country firstly cause the adjustments in the world price levels. This adjustment results in changes in supply and demand, and a rebalancing of world trade. MISS utilizes several identities to simulate policy changes in the sectors of production and the final demand of the selected regions (Kennedy and Atici, 1998; Atici and Kennedy, 2005).

Initial world market equilibrium for commodity i (i=1,….,N) occurs where total supply is equal to the summation of final demand and initial stocks. This initial equilibrium is written as

$$\sum_k S_{ik} = \sum_k D_{ik} + \sum_k I_{ik} , \tag{1}$$

where S_{ik}, D_{ik}, and I_{ik} represent supply, final demand, and initial stocks, respectively, for commodity i in country k.

To analyze the impacts of any change in agricultural policy, the model links price and non-price policy variables with quantities. Percentage change in supply of commodity i are composed of supply price effects and shifts resulting from non-price variables. This percentage change is written as

$$s_{ik} = \sum_j (E_{ijk}^s \times p_{jk}^S) + \varpi_{ik}^S , \tag{2}$$

where s_{ik} represents the percentage change in supply of commodity i, E_{ijk}^s represents the matrices of supply elasticities for commodity i with respect to output and input prices of commodity j, p_{jk}^S denotes domestic price of supply for commodity j, and ϖ_{ik}^S is quantity shift instrument for supply.

Percentage change in final demand of commodity i is composed of final demand

price effects with respect to price changes for all commodities and shifts resulting from non-price variables. Percentage change in final demand is written as

$$d_{ik} = \sum_j (E_{ijk}^D \times p_{jk}^D) + \varpi_{jk}^D , \tag{3}$$

where d_{ik} represents the percentage change in final demand for commodity i, E_{ijk}^D represents the matrices of demand elasticities for commodity i with respect to consumer prices of commodity j, p_{jk}^D denotes domestic price of demand for commodity j, ϖ_{ik}^D is quantity shift instrument for demand.

The domestic price (P_{ik}^N) of commodity i in country k is a function of the world price (P_i^W), the exchange rate (ER_k), domestic protection (DP_{ik}^N), and transportation costs (C_k). This relationship is written as

$$P_{ik}^N = P_i^W \times ER_k \times DP_{ik}^N \times C_k , \tag{4}$$

or, in logarithmic terms, where C_k is fixed,

$$p_{ik}^N = p_i^W + er_k + dp_{ik}^N + c_k , \quad N=S \ and \ D. \tag{5}$$

Final equilibrium for commodity i in country k occurs where the change in supply for each commodity is equivalent to the corresponding changes in final demand. This equation is written as

$$\sum_k S_{ik} \times s_{ik} = \sum_k D_{ik} \times d_{ik} , \tag{6}$$

To evaluate the welfare impacts of any policy instrument, MISS calculates producer surplus for each producer, consumer surplus for whole consumers, and budget savings for government. The change in the welfare of a producer of commodity i in country k is calculated as

$$PS_{ik} = \Delta P_{ik}^S (S_{ik}^0 + 0.5 \times \Delta S_{ik}) , \tag{7}$$

where PS_{ik} is producer surplus, ΔP_{ik}^S is change in producer price, S_{ik}^0 is initial supply, and ΔS_{ik} is change in supply. The change in the welfare of consumers in country k is calculated as

$$CS_k = \Delta P_{ik}^D (D_{ik}^0 + 0.5 \times \Delta D_{ik}) , \tag{8}$$

where CS_k is consumer surplus, ΔP_{ik}^D is change in final demand price, D_{ik}^0 is initial final demand, and ΔD_{ik} is change in final demand of commodity i in country k. Net final budget costs for the government of country k are calculated as

$$BC_k^F = \sum (P_{ik}^S - P_{ik}^B) \times S_{ik} - \sum (P_{ik}^D - P_{ik}^B) \times D_{ik} , \tag{9}$$

where BC_k^F is government final budget costs, and P_{ik}^B is the border price of commodity i in country k. Then net budget savings are calculated by the equation,

$$BS_k = BC_k^I - BC_k^F , \tag{10}$$

where BC_k^I is government initial budget costs in country k.

To examine the impacts of Turkey's integration into the EU on the income distribu-

tion among the selected producers, we utilize below described GC formula developed by Milanovic (1997).

$$GC = \frac{1}{\sqrt{3}} \frac{\sqrt{N^2-1}}{N} \frac{\sigma_y}{\bar{y}} \rho(y, r_y),$$ (11)

where N is the number of producers (N=7 in this study); σ_y is the standard deviation of income ; y is income, $\bar{y}$ is mean income, r_y is the ranking of individuals according to their income (the lowest income gets the rank 1 and the highest income gets the rank N), and $\rho(y, r_y)$ is the correlation coefficient between y and r_y.

The data on supply and demand elasticities are collected from Gardiner et al. (1989) and Koc et al. (2000). Production, consumption, prices, and protection ratios are compiled from OECD (2005).

For the empirical analysis world is divided into three regions: Turkey, the EU, and politically passive rest of the world (ROW). Agricultural products (wheat, maize, sugar, milk, beef, lamb, and poultry) are selected due to their importance in Turkey and the EU for the base year 2004. The base year is determined due to data availability. In order to examine the effects of Turkey's integration into the EU, it is assumed that Turkey will adjust its domestic protection levels to the protection levels of the EU. Producer Subsidy Equivalents (PSEs) and Consumer Subsidy Equivalents (CSEs) are used as protection ratios for producers and consumers, because they include the total protection levels in agricultural sector.

Protection ratios of Turkey and the EU are presented in Table 1. PSE ratios for all selected commodities of the EU are greater than those of Turkey. This means that the producers in the EU have more agricultural supports compared to Turkish producers. However, Turkey's higher CSE ratios than those of the EU for all selected commodities but sugar, lamb and poultry indicate that burden on consumers for agricultural support policies in Turkey is greater than that of the EU's consumers.

Table 1. Protection Ratios (2004)

	PSE		CSE	
	Turkey	EU	Turkey	EU
Wheat	1.19	1.72	1.16	1.02
Maize	1.42	1.46	1.11	1.06
Sugar	1.63	1.69	1.61	1.67
Milk	1.34	1.50	1.38	1.29
Beef	1.53	1.68	1.57	1.50
Lamb	1.04	1.53	1.08	1.25
Poultry	1.68	1.79	1.42	1.49

Source: OECD (2005).

Results

The impacts of Turkey's integration into the EU on the prices are given by Table 2. Results show that response of the EU prices to the integration is small compared to Turkey. The prices in the EU decrease by 0.34% for wheat, 0.06% for maize, 0.03% for sugar, 0.06% for milk, 0.01% for beef, 0.6% for lamb, and 0.08% for poultry. Turkey's integration into the EU increases Turkish producer prices for the selected agricultural

markets. The price increases are approximately 45% for wheat, 3% for maize, 4% for sugar, 12% for milk, 10% for beef, 47% for lamb, and 7% for poultry. For consumer prices, the integration has a positive impact on the price of sugar, lamb, and poultry while the effects are negative in the cases of wheat, maize, milk, and beef.

Table 2. Percent Change in Prices

	Turkey		EU		World
	Supply	Demand	Supply	Demand	
Wheat	44.50	-12.10	-0.34	-0.34	-0.34
Maize	2.80	-4.50	-0.06	-0.06	-0.06
Sugar	3.70	3.70	-0.03	-0.03	-0.03
Milk	11.90	-6.50	-0.06	-0.06	-0.06
Beef	9.80	-4.50	-0.01	-0.01	-0.01
Lamb	47.10	15.70	-0.60	-0.60	-0.60
Poultry	6.60	4.90	-0.08	-0.08	-0.08

Source: Authors' calculations.

The simulated changes in production and consumption for Turkey and the EU are presented in Table 3. For Turkey, the integration leads to increase in domestic production of the selected agricultural markets. With the integration, domestic consumption in Turkey increases in the selected agricultural markets except sugar, lamb, and poultry. For the EU, the integration has considerable impacts on both domestic production and consumption in the cases of wheat and lamb.

Table 3. Percent Change in Production and Consumption

	Turkey		EU		ROW	
	Prod.	Cons.	Prod.	Cons.	Prod.	Cons.
Wheat	11.68	1.73	-0.23	0.11	-0.12	0.05
Maize	1.11	1.86	0.03	-0.04	-0.02	0.01
Sugar	0.36	-0.36	-0.01	0.01	-0.01	0.01
Milk	4.41	2.72	-0.03	0.01	-0.02	0.02
Beef	1.98	1.96	0.02	-0.01	-0.01	0.01
Lamb	20.33	-9.99	-0.46	0.51	-0.06	0.03
Poultry	2.0	-1.90	-0.04	0.01	-0.07	0.04

Source: Authors' calculations.

The changes of interest groups' welfare are illustrated in Table 4. When Turkey joins the EU, consumers and the selected producers obtain welfare gains in Turkey. The welfare increase of wheat, milk, and lamb producers is higher than those of other products. The reason for the increase in the welfare of the selected producers is the fact that the integration requires adjustment of Turkey's smaller protection levels to higher protection ratios of the EU. The source of the increase in the welfare of consumers is the adaptation of Turkey's higher CSEs to smaller CSEs of the EU. Accordingly, as the integra-

tion causes to ease the burden on consumers for agricultural support policies in Turkey, the welfare of consumers will increase. The integration causes to decrease budget savings by approximately 3,5 million US dollars. The reason for this finding is that with the integration, while the selected producers have more agricultural support payments, the burden on consumers decreases for these payments. However, it is important to emphasize that the model does not include aid flows from the EU to Turkey for agricultural support policies. If this fact is taken into account, Turkey's integration into the EU will provide important benefits to both producers and consumers. We observe from Table 4 that Turkey's trade surplus increases by approximately 540 million US dollars while the EU's trade surplus decreases by approximately 114 million US dollars. The simulation shows that for the EU both consumers and government better off but the selected producers suffer welfare losses.

Table 4: Change in Interest Group Welfare (U.S. $ mil.)

	Turkey	EU
Producers	2,664.78	-211.01
Wheat	1,546.09	-121.42
Maize	21.22	-7.61
Sugar	18.98	-1.83
Milk	489.09	-33.39
Beef	147.91	-2.52
Lamb	310.89	-25.16
Poultry	130.60	-19.10
Consumers	557.21	135.36
Government (Budget Savings)	-3,469.28	115.90
Wheat	-2,058.01	84.68
Maize	-56.81	0.67
Sugar	-2.22	0.64
Milk	-792.88	10.24
Beef	-218.94	-2.54
Lamb	-262.05	14.59
Poultry	-78.05	7.61
Net Welfare Gain	-247.29	40.24
Trade Surplus	540.03	-113.88

Source: Authors' calculations.

Self-sufficiency is one of the main objectives of both Turkish agricultural support policies and the CAP. The CAP aims at promoting rates of self-sufficiency for the EU (Kennedy and Sonnier, 1997). Therefore, it is important to analyze the effects of Turkey's integration on self-sufficiency of the selected agricultural markets. Table 5 presents the rates of self-sufficiency which are calculated as a ratio of domestic production to domestic consumption. For Turkey, self-sufficiency ratios increase in all selected markets but maize and beef. The integration does not considerably change the EU's self-sufficiency ratios. This result implies that Turkey's integration into the EU does not conflict with one of the initial objectives of the CAP.

Table 5. Rates of Self-Sufficiency

	Turkey		EU	
	Status quo	Integration	Status quo	Integration
Wheat	1.061	1.165	1.297	1.293
Maize	0.783	0.778	0.990	0.991
Sugar	1.025	1.033	1.242	1.242
Milk	0.989	1.005	1.001	1.001
Beef	1.002	1.002	0.983	0.983
Lamb	1.005	1.343	0.782	0.774
Poultry	1.008	1.048	1.037	1.036

Source: Authors' calculations.

Promoting income distribution is one of the basic objectives of agricultural support policies. Analyzing income distribution effects of the integration will therefore provide useful information to policy makers.

Table 6. GCs for the selected producer groups

	Status quo	Integration
Turkey	0.41	0.43
EU	0.42	0.42

Source: Authors' calculations.

Table 6 presents the calculated GCs in the cases of status quo and the integration. It is important to note that the GCs are calculated under the assumption of that producer income (y) is equal to the multiplication of domestic consumption and domestic producer price of the commodity i. It is clear from table 6 that the integration deteriorates the income distribution among the selected producers in Turkey. This result implies that income of some selected producers increases more relative to other producers with the integration. Therefore, Turkish agricultural policy makers should be very careful in the process of Turkish agricultural policy adaptation to the CAP, if they aim to increase the welfare of both producers and consumers and to improve the income distribution at the same time. From table 6 we observe that the income distribution among the selected agricultural producers in the EU does not effected by the integration.

Conclusion

This study analyzed the impacts of Turkey's integration into the EU on price, production, consumption, and self-sufficiency of the selected agricultural markets in Turkey and the EU. The welfare and income distribution effects of the integration were also examined. The main findings can be summarized as i) producer prices of the selected markets in Turkey increase, but vice-versa for the EU; ii) Turkish consumer prices except sugar, lamb, and poultry increase; iii) production of all selected markets and consumption of wheat, maize, milk, and beef increases in Turkey; iv) production of all se-

lected markets but maize and beef in the EU decreases while consumption of all markets with the exception of maize and beef increase; v) although the welfare of producers in Turkey increases, the producers in the EU are exposed to welfare losses; vi) the welfare of consumers in both Turkey and the EU increases; vii) the effect of the integration on budget savings in the EU is positive; on the other hand it is negative in Turkey; viii) although the integration deteriorates the income distribution among the selected producers in Turkey, it does not have any impact on the income distribution in the EU.

The results can provide important information for Turkish policy makers. According to changes in production, consumption, welfare, budget savings, and the income distribution, policy makers should carefully harmonize Turkish agricultural support policies for the selected agricultural markets with the CAP. The integration changes the composition of agricultural income in favor of the producers of wheat, milk, and maize. Policy makers can therefore utilize welfare gains of these producers to compensate the budget expenditures of the integration. This policy implication may also alleviate destructive effects of the integration on income distribution among the selected producers.

References

Atici, C. and P.L. Kennedy. (2005). Tradeoffs Between Income Distribution and Welfare: The Case of Turkey Integration into the European Union. *Journal of Policy Modelling* 27: 553–563.

Cakmak, E. (2004). Structural Change and Market Opening in Turkish Agriculture. EU-Turkey Working Papers, No.10/September 2004, Centre for European Policy Studies.

EC (European Commission). (2006). Turkey 2006 Progress Report. Commission Staff Working Document, COM(2006) 649 final, Brussels.

EC. (2007). The EU-Turkey Relations. http://ec.europa.eu/enlargement/ turkey/ eu_ turkey _ relations_en.htm.

Flam, H. (2004). Turkey and the EU: Politics and Economics of Accession. *CESifo Economic Studies* 50(1): 171-210.

Gardiner, W. H., V. O. Roningen, and K. Liu. (1989). Elasticities in the Trade Liberalization Database. United States Department of Agriculture, Economic Research Service, Agriculture and Trade Analysis Division, New York.

Grethe, H. (2007). The Challenge of Integrating EU and Turkish Agricultural Markets and Policies. *International Journal of Agricultural Resources, Governance and Ecology* 6(4/5): 440-459.

Gunes, E. and F. Unsal. (2005). Turkish Membership in the European Union: Challenges and Opportunities for the Agricultural Sector. International Trade and Finance Association 15th International Conference, Istanbul.

Kennedy, P. L. and C. Atici. (1998). A Sectoral Analysis of Agricultural Trade Liberalization. *Journal of Agricultural and Applied Economics* 30(2): 277-284.

Kennedy, P. L., and G.P. Sonnier. (1997). Economic Integration and International Agricultural Trade: The Case of Central and Eastern Europe. *Journal of International Food & Agribusiness Marketing* 9(3): 57-72.

Koc, Ali, A. Bayaner and S. Tan. (2000). Analysis of the Impact of Support Policies and Programs on Animal Resources Development in Turkey. Ministry of Agriculture and Rural Affairs, Agricultural Economics Research Institute, Ankara.

Milanovic, B. (1997). A Simple Way to Calculate the Gini Coefficient and Some Implications. *Economic Letters* 56O(1): 45–49.

OECD, (2005). Producer and Consumer Support Estimates 1986–2004. http://www. oecd.org/statisticsdata/0,2643,en_2649_37401_1_119656_1_1_37401,00.html.

Oskam, A. and A. Burrell, eds. (2004). Turkey in the European Union: Consequences for Agriculture, Food, Rural Areas and Structural Policy. Wageningen University, Netherland.

Togan, S., A. Bayaner and J. Nash. (2005). Analysis of the Impact on Agricultural Markets and Incomes of Turkey. in B. M. Hoekman and S. Togan (Eds) Turkey: Economic Reform and Accession to the European Union. The World Bank and Center for Economic Policy Research.