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anlatacaklardır. Ayrıca bu çalışma ile ilgili bir özet sizlere dağıtılmıştır. Toplantıya katılan siz değerli üyelerin konu ile ilgili ileri süreceği görüşlerinin proje sonuçlarının geliştirilmesinde yardımcı olacağı inancındayım.

TURKISH AGRICULTURE AND EUROPEAN COMMUNITY :

POLICIES, ISSUES, STRATEGIES

AND

INSTITUTIONAL ADAPTATION

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1. The Common Agricultural Policy of the EC

1.1 EC agriculture and integration

The agricultural sector of the EC has been treated differently from other parts of the integrated EC economy since the establishment of the Community. While much intervention in industrial sectors in the original member states was based on tariff protection with little direct domestic market manipulation the situation in agricultural market was in stark contrast. Here all original six governments intervened in their domestic agricultural sectors to a high degree in addition to providing protection from import competition. The particular problems of agriculture such as unstable and declining prices and poor resource mobility, coupled with sustained and effective political pressure, has made such intervention typical as economic growth proceeds in developed countries. The Treaty of Rome recognized that these conditions would persist in an integrated Community and so requires a common agricultural market (Article 38) and a common agricultural policy (Article 39). These Articles of the Treaty have provided the objectives of EC agricultural policy and remain prominent in all current considerations of farm policies.

However, the way these objectives are to be achieved, that is, the policy instruments to be used, are less clearly defined and the legislation is permissive rather than mandatory. Of the five major objectives, the requirement of'..increasing the individual earnings of persons engaged in agriculture..'has received the greatest attention and many of the policy instruments developed following the 1958 Stresa Conference on the formation of the CAP reflect this.

1.2 Principles of the CAP

There are three guiding principles of the CAP:

a) Unity of the market

b) Community preference

c) Financial solidarity

a) Unity of the market refers to the common market for agricultural products and requires free trade across internal EC borders such that differences in prices reflect short-term differences in supply and demand conditions or differences in transport costs only. Thus, this is the principle of common agricultural prices intended to promote competition and achieve the advantages of efficient resource allocation in line with the overall objectives of economic integration.

Although existing in principle, common agricultural prices have not been the norm in the EC since the late 1960s due to the complications of the Community's agrimonetary system which operates on different exchange rates rather than usual market rates. This has persistently resulted in zones with significant price differences and consequently the need to prevent the development of an "artificial" trade in farm products across internal borders by the system of taxes and subsidies called monetary compensatory amounts.

b) Community preference provides a margin of advantage for EC farmers compared to suppliers from the world market. It gives protection against imports and has been the main way that the Community has channelled funds to its farmers.

Methods of providing EC preference vary according to type of product and international agreements. Instruments typically used include tariffs (eg, beef some fruit and vegetables), variable import levies (eg, cereals, milk product, sugar, beef) production and processing aids (eg, oilseeds, pulses, some processed fruit and vegetables) and minimum import prices (eg, some fruit and vegetables).

c) Financial solidarity adopts the provision of Article 40 of the Treaty of Rome for common Community funding of the Common Market Organizations (CMOs) required for EC market policy

and for common financing of certain structural, or' guidance',measures.

Financing the EC is achieved through the system of 'own resources' whereby the Community receives revenue automatically, as of right, rather than as national contributions. Under the CAP, the European Agricultural Guidance and Guarantee Fund (EAGGF or FEOGA), provides finance for the policies: the Guidance section for structural policies and the Guarantee section for action on prices.

2. Turkish European agricultural model (TEAM)

2.1 Introduction

TEAM was the model used to assess the impact of EC accession and Turkish adoption of the CAP and is a mathematical programming sector model. It was employed first to simulate the agricultural resource use, production, consumption, trade and prices in Turkey in the base year, 1988. The model's simulated results were then compared with those actually observed in the base year for calibration and validation purposes. Due to the unique feature on non- linear cost parameters which are estimated endogenously in the model, the traditional validation and calibration methods are not applicable to TEAM. The exact calibration of the model is guaranteed by the non-linear cost parameters. The validation of the model is performed in two ways. First, the non-linear cost

parameters estimated for the 1979-88 period and in terms of projectability into the future. Second, most model simulations (1979-86) are employed to project the base year employed in the model, 1988.

2.2 Turkish accession - 1988

Once calibrated and validated, the model was modified by removing the elements of Turkish agricultural policy and substituting the various regimes operated under the CAP. The simulated resource use, production, consumption, trade, price and intervention quantities were compared to the base magnitudes to analyse what would have been the impact of accession if Turkey had become a full EC member state in 1988 with all CAP regimes instantly and fully applied.

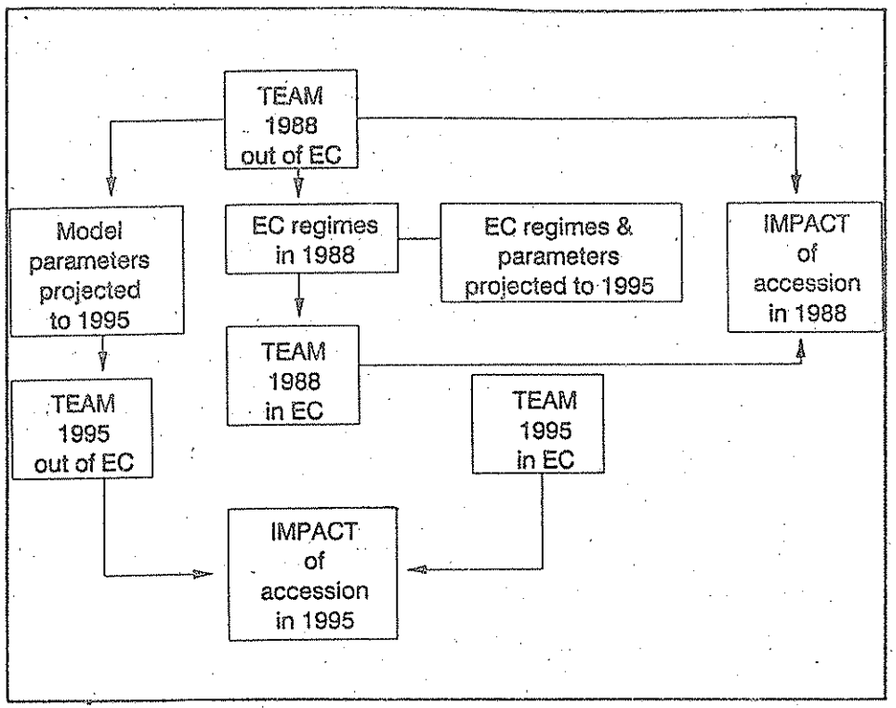


Figure 1 : TEAM simulations

2.3 Turkish accession - 1995

The next stage of the simulations addressed a more realistic question, namely the impact of accession in 1995. This entailed the projection to 1995 of the following parameters for incorporation into TEAM in order to simulate Turkish agriculture in 1995 outside the EC: resource endowments, resource costs, trade prices and limits and consumer demand. To see the effect of accession in 1995, it was then necessary to project the following EC parameters for TEAM: EC support prices and market prices, world prices, quotas, producer/processor aids and the operation of CAP regimes. Comparing the results of the two 1995 simulations gives a more realistic idea of the likely impact of accession.

2.4 Operation and components of TEAM

TEAM is an optimizing model covering the whole of the Turkish agricultural sector. It is a mathematical programming model which operates by maximizing the sum of consumer and producer surplus. Thus the welfare of consumers and producers, which often conflict, are considered in the model's objective function.

For each product covered, an exogenous, linear demand function is specified. In addition, the domestic demand is augmented with foreign demand, specified as EC plus that from the rest of the world, and intervention possibilities.

For each product the domestic supply function is endogenous in the model and determined by the costs of production which include the opportunity costs internally generated by the model. Domestic supply is also augmented by foreign supply, specified as EC plus rest-of-the-world supply. Optimality in the model entails equality of total utilization and total availability for all commodities.

The core of model consists of production (input-output) activities and resource constraints. The input-output coefficients for single and rotation activities as well as the resource endowments such as labour, land, animal stock, and tractors are specified exogenously, while some inputs such as feed, seed and animal power are produced endogenously in the model.

The model consists of three interlinked sub-sectors, namely, annual crops, perrennial crops and livestock. These sub-sectors are linked via inputs. The livestock sector uses as input, the output and by-products of crop production as feed, and yields animal power as an input to both annual and tree products. The model is given a choice of two production techniques, animal or mechanized, and can assign any combination of weights to these two techniques to produce a given product depending on the optimal allocation of resources guided by the objective function.

Table 1 gives a summary of model statistics regarding numbers of inputs, products, activities and model size.

Table 1 : TEAM statistics

Feature	Size
Model size	180 x 761
Number of linear variables	638
Number of non – linear variables	123
Number of equations	160
Number of products	
Final products	66
Annual	27
Perenial	19
Livestock	20
Intermediate products	19
Number of activities	150
Number of inputs	65
Labour	4
Tractor	4
Animal power	4
Feed	6 (26)
Seed	24
Capital	15
Land	8
Fertiliser	2

2.5 Commodity Selection

For this study, sixty four commodities were selected in order to give as comprehensive a coverage of Turkish agricultural output as possible. For the purpose of analysis and presentation of results, these products have been aggregated into groups as set out in Table 1. Thus discussion relates to the commodities according to the following classification:

O : Overall (ie,all 64 aggregated);

A - D : 4 commodity groups;

a - o : 15 commodity groups;

1 - 64 : 64 individual commodities.

This classification system does not necessarily result in homogeneous groups in terms of detailed CAP market support system. The common market regimes for the sixty four products are set out in Table 2 arranged in the four commodity groups A - D.

Table 2 : Commodity coverage and classification

(i)	O	Overall				
(ii)	A	Cereal + Pulses				
	B	Industrial				
	C	Fruit and Veg				
	D	Livestock				
(iii)	a	Cereals	A			
	b	Pulses	A			
	c	Vegetables	C			
	d	Oilseeds	B			
	e	Fruit and nuts	C			
	f	Cotton	B			
	g	Tobacco	B			
	h	Sugar	B			
	i	Tea	B			
	j	Wine	B			
	k	Sheep meat	D			
	l	Beef	D			
	m	Poultry and eggs	D			
	n	Milk	D			
	o	Wool and hides	D			
(iv)	1	Common wheat	a	33	Grapes for sultanas	e
	2	Durum wheat	a	34	Fresh figs	e
	3	Corn	a	35	Figs for drying	e
	4	Rye	a	36	Oranges	a
	5	Barley	a	37	Lemons	e
	6	Rice	a	38	Apples	e
	7	Chick pea	b	39	Pears	e
	8	Dry beans	b	40	Fresh peaches	e
	9	Lentil	b	41	Peaches for processing	e
	10	Dry peas	b	42	Apricots	e
	11	Potato	c	43	Cherries	e
	12	Barley potato	c	44	Wild cherries	e
	13	Onion	c	45	Sheep meat	k
	14	Fresh tomato	c	46	Sheep milk	n
	15	Tomatoes for processing	c	47	Sheep wool	o
	16	Aubergine	c	48	Sheep hides	o
	17	Melon	c	49	Goat meat	k
	18	Cauliflower	c	50	Goat milk	n
	19	Sunflower	d	51	Goat wool	o
	20	Soya beans	d	52	Goat hides	o
	21	Linseed	d	53	Angora meat	k
	22	Colza (rape)	d	54	Angora milk	n
	23	Cotton	f	55	Angora wool	o
	24	Tobacco	g	56	Angora hides	o
	25	Sugar beet	h	57	Cow meat (beef)	l
	26	Pistachio	e	58	Cows milk	n
	27	Hazelnuts	e	59	Cow hides	o
	28	Table olives	e	60	Buffalo meat	l
	29	Olives for oil	e	61	Buffalo milk	n
	30	Tea	i	62	Buffalo hides	o
	31	Table grapes	e	63	Poultry meat	m
	32	Grapes for wine	j	64	Eggs	m

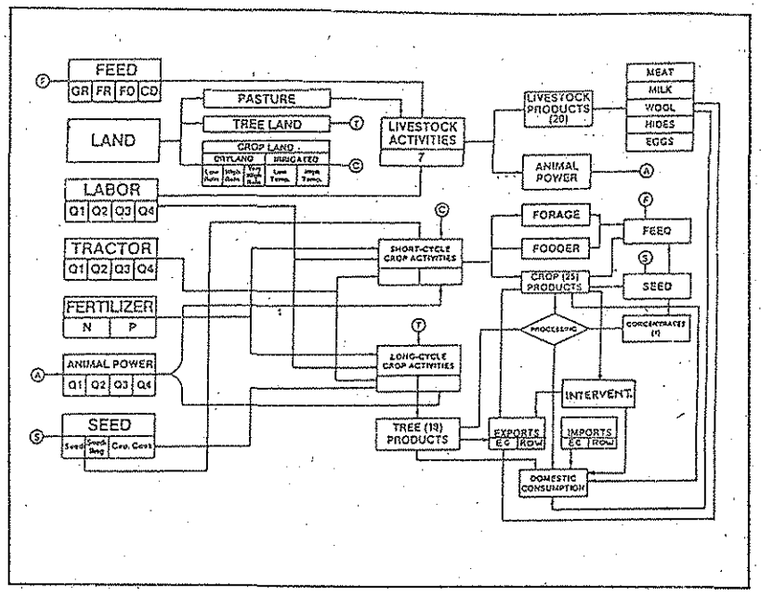


Figure 2 : Basic structure of TEAM

3. Impacts of Turkish adoption of the CAP: The results

3.1. How to read and interpret the results

Assessing the likely impact of a new economic policy is

fraught with difficulties. It is an exercise concerned with the future. It is therefore based on assumptions about three matters: the new policy, the policy which would have applied in the absence of the new policy, and the changes which will take place irrespective of policy. In this study there is a further complication. The new policy to be analysed, Turkey's adoption of the CAP, is examined at two points in time, 1988 and 1995. The first date was chosen as the most recent for which full data is available, it is therefore statistically well founded. The second date represents a future date before which Turkish accession is unlikely and yet not so far into the future that the statistical basis for the modelling is unsound. Chapter 4 describes the detailed assumptions about the economic circumstances in which the Turkish agricultural and food industries would have to operate if she joined on either of these dates. Between 1988 and 1995 there will continue to be general economic growth which will stimulate increased consumption of many farm products. There will also be further technological progress in agriculture and further development of the resource base, particularly of irrigated land, which will enhance the productivity of the agricultural sector.

Thus, all the result to be summarized and discussed in this chapter are conditional on the assumptions made. Because these results are produced by a computer model it would be possible to discover the effects of making different assumptions about any of the above factors. Indeed, an important part of the brief of this

study was to ensure that Turkish officials were provided with the means and training necessary to recompute the results in the light of changing circumstances.

In technical jargon, the analytical procedure used is partial and comparative static. "Partial" refers to the fact that only the direct effect on the agricultural economy have been estimated here. In reality, membership of the EC will affect all sectors of the economy. This will set up new competitive relationships for factors of production between sectors. Some sectors will be advantaged and will be better able to bid for resources, others will undergo relative decline. It is also expected that there would be a general boost to the economy through a better allocation of resources and the benefits of scale economies achieved by operating in a much larger market. None of the inter-sectoral effects have been analysed, and only a crude exogenous general "income effect" of EC membership has been incorporated.

"Comparative static" refers to the mode of analysis in which two situations are compared with and without a policy change, in this case, membership of the CAP. The comparison thus tries to hold all other variables constant so that the effect of the policy change can be distinguished from all other sources of change in economic variables. The static nature of the analysis refers to the fact that no attention is focused on the process of

adaptation to the new policy. The comparison is between the base and the new situation after the change and after all economic agents have completely adjusted to the new policy. In reality there are two elements of dynamism which are ignored by this mode of analysis. First, the adoption of the CAP will not be an instantaneous process. New members are generally offered a transitional period during which the existing methods of support are dismantled and the new measures and prices gradually applied. This accesionary period usually spans many years, 5 in the case of the UK and 10 for Spain and Portugal. The second dynamic elements is that producers, traders and consumers generally take time to perceive and respond to changes in economic signals. Thus the processes of investment, reallocating resources and changing consumption patterns in the face of new price relationships and income levels all take time, perhaps several years to work out. The analysis reported here assumes full adoption of the CAP (either in 1988 or 1995) on the firs day of the year in question and full adaption to the new circumstances by the end of the year. Thus the large impacts discussed below will, in reality, not all appear in the firs year of membership but would be manifest over a much longer period. In short, the results described show the effects of instant and full adoption of all the support regimes in the CAP in the year indicated, and immediate and full adjustment of Turkish farmers, traders and consumers to this policy.

A final word of qualification before presenting the results concerns the nature of policy making itself in the EC. By becoming a member of the Community, Turkey will of course have the full rights and obligations of any other member. This includes participation in the continual process of decision making for the Common Agricultural Policy. The CAP is not a fixed set of policies but is a continually changing set of compromises reached between the participating members. As it will be seen below, many features of the present CAP were not defined with a country of the size and characteristics of Turkey in mind. Both the negotiations for accession and subsequent Turkish participation in the agricultural decision making once she becomes a member would undoubtedly affect the decisions reached, thereby moulding the CAP more to her benefit. In what follows, with one exception in the case of oilseeds and certain other processed products, very little allowance has been made for these interactive effects. The analysis shows the effects of the CAP as it is currently constituted and not as it might be with the interaction of Turkish negotiators.

These results are therefore not forecasts of what Turkish agriculture would look like after full adoption of the CAP, but they are indications of the type and magnitude of impacts of subjecting Turkey's agricultural sector to a completely different set of price relationships and support arrangements. In what

follows all prices and values are quoted in constant 1988 US dollars. The exchange rate between the dollar and EC assumed was unity.

3.2 Overview of the economic effects of the CAP

In measuring the impacts of changing policies economists have devised indicators of the welfare of two main groups in society, producers -in this case farmers, and consumers- in this case the entire population because everyone eats. The indicator of producer welfare is called producer surplus. This is akin to the net income of farmers after all variable factors have been paid for and is thus a return to the fixed factors in farming, the farmer and his family, his land and capital. The indicators of consumer welfare is consumer surplus. This measures the benefit to consumers of a particular combination of prices and consumption in terms the of extra worth of all intra-marginal units consumed. The importance of these measures, which are added together to calculate 'total welfare' is not their absolute value which is extremely difficult to interpret, but the changes from one situation to another.

Based on this overall measure of welfare which is the sum of economic well being of consumers and producers the overall impact of membership in 1988 is an improvement of 18%. If membership is delayed until 1995, the corresponding welfare improvement is

24%.The full meaning of these changes may be seen from the absolute welfare indicators shown below:

Table 3 : Overall welfare effects of the CAP

		Billion dollars	Change %	Index 1988=100
1988	Turkey out of EC	29.9		100
	Turkey in EC	35.4	18	118
1995	Turkey out of EC	47.3		158
	Turkey in EC	58.6	24	199

Compared to the base situation, that is Turkey outside the EC in 1988, the economic effect of membership in 1995 is an increase in well being of 99%, ie, from $30 billion to $60 billion. However,of this increase, 58% is the effect of the expected economic growth in Turkey Between 1988 and 1995 outside the Community and the effects of the improvements in agricultural resources and technology during this period. These figures serve to illustrate the several comparisons which can be made to indicate the impact of membership of the CAP. Throughout the presentation of all the results it is possible to make four comparisons:

A. Description The effects of membership 'now'.
Comparison 1988'in 'and 1988'out' of the EC.
Example $29.9bn to $35.4bn, an 18% chance.

B. Description The effects of membership in the 'future'.
Comparison 1995'in 'and 1995'out' of the EC.
Example $47.3bn to $58.6bn, a 24% chance.

C. Description The effect of future membership compared to now.
Comparison 1995'in and 1988 out.
Example $ 58.6 bn to $ 29.9 bn, a 99 % change.

D. Description The future changes outside the EC.
Comparison 1995 'out' and 1988 'out' of the EC.
Example $ 47.3 bn and $ 29.9 bn, a 58% change.

These indicators of overall welfare measure the economic benefits of each set of circumstances to farmers and consumers. It is possible to partition the total effects into the impacts on each of these two groups. This is done in Table 4 below.

Table 4 : Economic effects of membership on farmers and consumers

			Billion dollars	Change %	Index 1988=100
Farmers	1988	Turkey out of EC	6.4		100
		Turkey in the EC	13.2	106	206
	1995	Turkey out of EC	10.5		164
		Turkey in the EC	15.0	42	133
Consumers	1988	Turkey out of EC	23.5		100
		Turkey in the EC	22.2	-6	94
	1995	Turkey out of EC	36.8		157
		Turkey in the EC	43.6	19	187

The results are striking but not unexpected. The Common Agricultural Policy comprises a set of measures designed to provide protection and support to farmers. It would be unusual if farmers therefore did not benefit. The figures show that farmers would gain in welfare by 106 % through membership now. However

if membership is delayed until 1995 these benefits fall to an improvement of 42 %. The index numbers show that compared to the present, membership in 1995 improves the position of farmers by a third. These figures, technically, are an indicator of net income. It will be shown below that a more direct measure of income show that these figures give an exaggerated impression of the advantages to Turkish farmers of the CAP.

As far as consumers are concerned, membership now would be an undesirable event. The economic well being of consumers actually falls by 6 %. This is not a surprising result. Joining an organisation which systematically raises the prices of food at the farm level is bound to be seen as a disadvantage by consumers. By delaying entry until 1995 this pain to costumers is eliminated. The smaller disparity between Turkish and EC prices in 1995, and the intervening economic growth ensure that consumer welfare is not only higher in 1995, but it actually rises upon accession to the EC by some 19 %. All these figures are based on the economic concept of consumer surplus. This is a device used to indicate the benefits to consumers of being able to purchase more at lower prices or the costs they suffer if less is purchased at higher prices. It is not a perfect measure, but none other is better.

In the summary in Table 3 the benefits to farmers and consumers were added to find an overall measure of welfare to

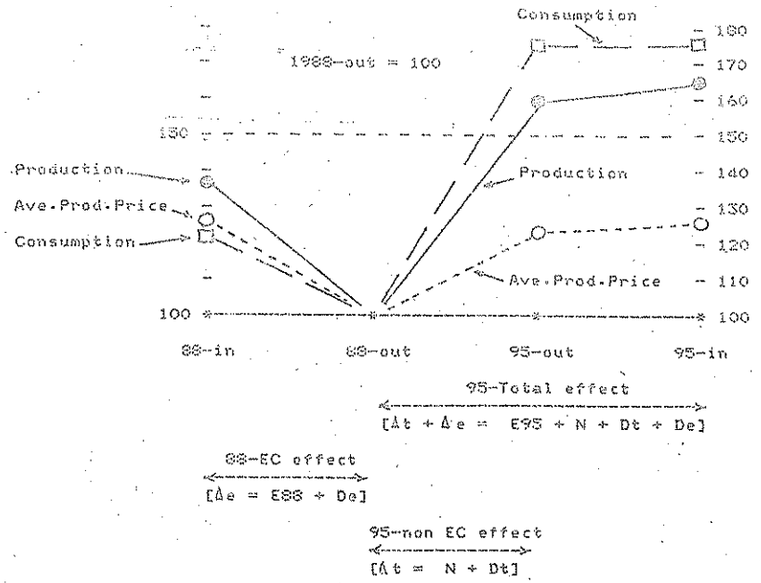
society. This follows the conventional approach to such analyses, but it does imply that the marginal benefit of one dollar is the same both to farmers and consumers. Based on these welfare calculations, Turkey benefits from membership of the CAP by between one fifth and one quarter in overall welfare. However, farmers will gain considerable more from early membership and consumers do better if membership is delayed.

Figure 3 and Tables 5 to 6 show the overall effects of the CAP on production volume and value, consumption volume and values, the value of trade and on the average level of producer prices. In each case, the results are shown for both 1988 and 1995, outside and inside the Community.

Figure 3 shows that membership in 1988 would have boosted the value of production by 36 % and food expenditure by 21 %. The effects of future membership are very much smaller, only a 3 % rise for production and less that half a percentage point rise for consumption. This is due to two factors. First, it is expected that the degree of protectionism in the EC will be much lower by 1995 as EC and world market prices converge. Second, the liberalisation of Turkish agriculture which is taking place in advance of membership together with the changes in technology and resources, imply a large growth in agricultural output and food consumption. Thus, most of the very large effects on production and consumption inside the EC compared to the base situation are

due to the changes which will take place before Turkey joins the EC.

Table 5 compares these figures on the value of production and consumption with the corresponding figures for the volume of output and consumption. The changes in volume are very much smaller than for total value. Most of the value changes are thus accounted for by the changes in price. This table also shows again how the changes which may take place outside the EC before Turkey joins may dwarf the effects of membership itself. Thus production volume increases 3% with present membership and 6% with future membership (the table shows indicesbased on 1998=100 thus 139/131 is a 6% increase). Consumption volume increases 4% now, and only 3% later.



Key:

Δ t – Change due to internal Turkish effects.

Δ e – Change due to EC effects.

E88 – Adoption by Turkey of CAP prices in 1988

E95 – Adoption by Turkey of CAP prices in 1995

N – Removal of Turkish input subsidies.

Dt – Demand growth in Turkey (1985–95)

De – Additional demand growth in Turkey due to trade creation in the EC.

Summary	Δ e88	Δ t	Δ e95	Δ t+Δ e
Prodn.	+36%	+59%	+5%	+64%
Consumpn.	+21%	+76%	0%	+76%
Ave.Prod.Price	+25%	+24%	+2%	+26%

Figure 3 : Effect of CAP on the value of Turkish production, consumption and average producer prices (1988,1995)

Table 5 : Indices of aggregate production and consumption (1988 out=100)

	1988		1995	
	In	Out	Out	In
Production				
Volume	103	100	131	139
Value	136	100	159	164
Consumption				
Volume	104	100	149	152
Value	121	100	176	176

The effects on Turkey's agricultural trade will be an important factor in considering the benefits of her membership of the CAP. Agricultural exports are an important contributor to foreign exchange earnings. Table 6 shows that the existing positive balance of agricultural trade of about one billion dollars is quadrupled if Turkey joins now. If membership is delayed, the trade balance first worsens slightly and is then helped by joining the Community, but by a much smaller margin in 1995; that is about 33% from $900 million to $1200 million. No matter whether Turkey joins now or later, there is a large boost to exports. The difference between entry sooner or later is due to the substantial rise in agricultural imports if membership is delayed until 1995.

Table 6: Impacts of the CAP on agricultural trade

	1988		1995	
	In	Out	Out	In
Agricultural Trade		millions $		
Exports	5,668	2,110	1,207	4,448
Imports	1,555	1,133	312	3,237
Balance	4,113	976	895	1,211

These results show the estimated effects of the reactions of Turkish farmers and consumers to the economic signals experienced under the CAP. The most important such signals are the support prices, import levies, export refunds and processor subsidies which are the main instruments of support. Under the complex commodity regimes of the CAP, farmers generally do not receive direct subsidies, rather the market prices are indirectly manipulated by border protection and the devices of intervention buying, and subsidies storage and processing. Indices of the average producer prices which result from these supports are shown in Table 7, together with the corresponding average producer prices outside the EC. In all cases, these average prices take into account the different prices producers will obtain from their domestic market and the various export markets open to them.

The overall rise in prices due to the CAP in 1988 is 25% . This is a weighted average for all commodities based on the pattern of production under EC prices. Table 7 shows that the expected changes in market circumstances over the seven years 1988 to 1995 gives rise to a similar average price change (24%). By contrast, because EC support prices are projected to continue to trend downwards, the prices effects of membership in 1995 in very much smaller, just 2%. The table also shows that effects are very different from one crop group to another. Taking just four categories of crops and focusing on 1988, the biggest price rises will be experienced by cereal producers (95%), the next biggest by industrial crop producers (24%) and livestock producers (11%). Because the support regimes for fruit, vegetable and nut producers are very much lighter their price rises are lower (7%). The differences in producer prices inside and outside the Community in 1995 are quite different. Whilst cereal producers still, on average, enjoy a significant price effect (about 40%), the average prices for the three other commodity groups all decline, especially for industrial crops (-23%).

Table 7: Impact of the CAP on average producer prices

	1988		1995	
	In	Out	Out	In
Index of average producer price 1988 Out = 100				
Overall	125	100	124	126
Cereals and pulses	195	100	118	162
Industrial crops	124	100	117	95
Fruit, vegetables and nuts	107	100	121	115
Livestock	111	100	122	118

Given the periodic crises caused by the excessive growth in agricultural budgetary expenditure in the EC it is not surprising that the budgetary cost is considered to be a most important factor in assessing the effects of further enlargement of the EC. For this reason calculations have been made to assess this cost for all the relevant commodities and all the main categories of expenditure. The results show that the cost to the EC budget of supporting the commodity regimes in Turkey in 1988 would amount to $4.5 billion (ie, 17%). This compares to the total FEOGA guarantee expenditure in that year of $26 billion. BY 1995 this cost is significantly lower at $3.1 billion. No projections have been made of the expected total FEOGA expenditure for the whole Commodity in that year.

3.4 Impact on agricultural production and farming incomes

3.4.1 Effects on the volume of production

It will have become clear by now that there is no simple single answer to the question, what is the effect on Turkish agriculture of joining the CAP? There are several comparisons which are interesting and useful. In the tables in the next three sections the absolute levels of production, consumption and trade will be presented together with two sets of percentage changes. The first percentage change, denoted '95i/95o', shows the effect of EC entry in 1995 compared to the situation outside the Community in 1995. This is comparison B explained in section 3 above; it is called the effects of membership in the future. The last column in each table, denoted '95i/88o', shows the change in the variable after entry in 1995 compared to the present, ie, 1988, level. This is comparison C explained above and termed the effect of future membership compared to now. It has already been pointed out that in making this latter comparison much of the observed change in many variables is not due to EC membership, but the changes likely to happen irrespective of Turkish accession between now and 1995. For this reason, and because the main object of this study is to focus the effects of the CAP, most of the discussion will focus the comparison of 1995'in' versus 1995 'out', (ie,95i/95o).

Table 7 summaries the changes in volume of production for the four aggregate commodities and for the fifteen commodity groups. Reading down the table, it can be seen that the overall 6% rise in the volume of output hides a range of changes for different commodities ranging from the fall in production of livestock products and to a lesser extent cereals and pulses, to the large increases in output of industrial products. Fruit, vegetables and nuts show a modest increase in output.

The EC is the major market for corn (maize). The limit to this trade imposed is the current EC deficit in corn, 4.3 million tonnes. For all the other exports to the Community the upper limits imposed were binding. The magnitude of these limits was somewhat arbitrary, they were based on estimates of what proportion of Turkey's exports would be of sufficient quality to be acceptable in EC markets. The fact that all the limits were reached implies that there would be pressure from within Turkey to gain acceptance into the EC market for these products given the relative prices in the two areas. The imports in the 'fruit and nuts' category were mostly accounted for by imports of olive oil. The other major imports from the Community are livestock products, chiefly dairy and poultry products and beef. This is trade created by the single market between Turkey and the rest of the EC after her accession.

3.5 The budgetary cost of Turkey's accession

Within the EC a major element in the political economy of the CAP is the cost of the support regimes to the Community's budget. Most major changes in the Common Agricultural Policy to-date have resulted from the need to contain the growth in the budgetary cost of farm supports. In the discussion of Turkish entry, the issue of the potential budgetary cost has been raised as a possible problem. These therefore provide the justification for calculating the budgetary cost of further enlargement of the Community to include Turkey.

The budget of the EC is used to support the common policies of the Community, the most expensive of which is the CAP. There are four sources of funds for the budget, the common customs tariff, levies on agricultural imports and sugar production, a share of a commonly based value-added tax and a share based on each member state's contribution to Community GDP. Expenditures under the Common Agricultural Policy take place from the fund known as FEOGA, (this is the French acronym for the European Agricultural Guidance and Guarantee Fund). The major share of FEOGA (about 95 %) is the guarantee section which supports the spending under the common organisation of the markets. The remaining 5 % is the guidance section from which some of the structural measures are funded. Chapter 7 discusses the possibilities for Turkey benefiting from guidance expenditures.

The rest of this section presents calculations of the likely budgetary flows in and out of the FEOGA guarantee section as a result of the application of the support regimes to Turkish agriculture. No attempt is made to calculate the expenditures on other European policies; this would be outside the brief of this study. Neither, for the same reason, is there any attempt to calculate Turkey's likely contributions to the Community budget.

Although the analysis reported here is based on a very detailed consideration of how the CAP would operate in Turkey, it was not possible to capture all of the intricacies of the operation of the CAP. The major omitted area involving considerable budgetary expenditure is storage of surplus produce. In reality, the Community spends a large amount of money storing agricultural surpluses or subsidizing the private sector to hold such stocks. In a comparative static model it is difficult to incorporate the dynamics of storage. The working assumption adopted is that this analysis refers to a long run equilibrium in which stocks are neither run down nor increased, thus there is no additional cost of storage to measure. Any production which is surplus to domestic or foreign commercial sales is thus exported with a refund equal to the difference between the Community and world market price. The two main headings of budgetary expenditure are thus export refunds and producer and processor aids.

There are some contributions to the budget from the operation of the CAP. These are also classified under two headings, variable import levies and co-responsibility levies. The former apply to the imports of produce into the EC from third countries. They ensure that the Community's high support price is not undermined by cheaper foreign goods. Co-responsibility levies are taxes imposed on a number of commodities (eg, cereals, milk and sugar) which lower the producer price and raise revenues to be used for market promotion or as a contribution to the budget. Sugar coresponsibility levies are an Own Resource, those for milk and cereals are classed as negative expenditure. The sum of these four quantities is referred to here as the total net FEOGA guarantee expenditure. The results of the calculations are shown in Table 8 for 1988 and Table 9 for 1995.

Table 8 : EC budgetary expenditures and receipts arising out of Turkey's accession, 1988

		Export Refunds '000$	Producer/ Processor Aids '000$	Import Levies '000$	Coresponsibility Levies '000$	Total Net Expenditure '000$
1988						
0	Overall	483,339	4,157,105	67,509	46,367	4,526,568
1	Cereal+Pulses	116,911	536,504	47,751	22,402	583,261
2	Industrial	207,083	2,478,514	0	23,915	2,661,683
3	Fruit & Veg	45,364	696,312	7,740	0	733,936
4	Livestock	113,980	445,776	12,018	50	547,688

In 1988 the total FEOGA cost of Turkish accession would be $ 4.5 billion. This is about 21 % of the 1988 cost of organizing the markets in the EC of twelve. It can be seen that the major contributor to the budgetary cost is the cost of producer and processor aids (accounting for 90 % of expenditures). The export refunds are a smaller share of the costs. This pattern of expenditure by the nature of the measures in not typical of the general pattern in the Community. The major source of the expenditure on processor aids is in the regimes for durum wheat ($ 537 m), sunflower ($713 m), soya ($ 284 m), cotton ($ 801 m), tobacco ($ 664 m), olive oil ($ 303 m), sultanas ($ 229 m) and sheep meat ($ 349 m). The largest contributors to the cost of export refunds were tobacco and sheep meat. Import levies and co-responsibility levies contributed a relatively trivial amount to the budget, most of what was collected under these headings came from rice imports and sugar production respectively.

Table 9 : EC budgetary expenditures and receipts arising out of Turkey's accession, 1995

		Export Refunds '000$	Producer/ Processor Aids '000$	Import Levies '000$	Coresponsibility Levies '000$	Total Net Expenditure '000$
1995						
0	Overall	109,658	3,329,984	348,134	58,555	3,123,953
1	Cereal+Pulses	61,758	402,517	18,359	21,073	424,843
2	Industrial	21,454	1,911,593	0	37,396	1,895,651
3	Fruit & Veg	2,766	558,227	0	0	560,993
4	Livestock	14,680	457,647	229,775	86	242,466

In 1995, the closing of the gap in EC and world prices reduces the FEOGA cost of support in Turkey to $ 3.1 billion. The same overall pattern of expenditure occurs in 1995 as in 1988. Thus the major heading of expenditure is the producer and processor aids relating to the same commodities as listed above. Expenditure on export refunds falls proportionately more because of the narrowed gap in EC and world prices and because the volumes exported under 1995 'in' are smaller than for 1988 'in', Turning to the revenue sources for FEOGA, because there is a considerable rise in imports, the import levies raise more money in 1995 than in 1988. The main contributors are eggs and milk. However the magnitudes are still small by comparison to the expenditure flows. Co-responsibility levies raise a little more in 1995 chiefly because the production of sugar is much higher for 1995 'in' than 1988 'in'.

The FEOGA costs presented are not the full story. The the above amounts must be added any accession compensatory amounts (ACAs) which may become necessary if Turkish membership is phased in over a period of years, and also monetary compensatory amounts (MCAs). Neither has been included. The ACAs are a transitional item whose magnitude cannot be determined without the details of the accessionary arrangements. In any case they are usually small. MCAs are intended to cope with the difference between the politically determined green rates of exchange for each currency

and the ECU and the market rate. As MCAs and green rates of exchange are planned to be eliminated by 1993, there is no reason to include them in the 1995 analysis. It seemed a pointless exercise trying to determine what the green Turkish Lira would have been in 1988 so MCAs were not included for that year either.

This concludes the review of the results of the analysis of the impact of Turkish adoption of the CAP. The warnings given at the beginning of this chapter should be noted carefully. The numbers presented do not purport to forecast what will happen in 1995 if Turkey is admitted to the Community. Rather, they indicate the direction and magnitudes of change in the patterns of production, consumption and trade of agricultural produce if Turkish farmers and consumers were confronted with the price relativities likely to prevail in the EC in 1995.

ÜÇÜNCÜ OTURUM

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