

TURKEY'S STRATEGIC TRADE POLICY ALTERNATIVES IN A WORLD OF MULTI-POLAR TRADE BLOCS: LESSONS FROM AN INTERTEMPORAL, MULTI-REGION GENERAL EQUILIBRIUM MODEL¹³²

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INTRODUCTION

Turkey has initiated its process of liberalization and integration with the world commodity and financial markets in January, 1980. With an over-reaching reform agenda, first the existing system of multiple exchange system was eliminated and a managed floating foreign exchange regime was enacted. An extensive direct subsidization scheme was introduced to promote exports. In the meantime, commodity markets were liberalized and a vigorous price reform was implemented.

The liberalization of the import regime was completed by the end of 1983 during when most of the quota restrictions on the list of "prohibited" items were lifted and tariffs were substantially lowered. In 1984 the banks were allowed to accept foreign currency deposits from citizens and to engage in foreign transactions. Capital account liberalization was completed with the recognition of full convertibility of the Turkish Lira and the elimination of all controls on foreign transactions in 1989. Since then, Turkey has been operating in a truly open macroeconomic environment, with average tariff rates standing around 5 percent of the value of its imports.¹³³

As a culmination point in the process of its liberalization efforts, Turkey signed a *customs union* (CU) agreement with the European Union (EU) in March 1995, which had been put into effect in January 1996. Among many other details, the CU agreement consisted of the following broad objectives: (1) all tariffs on Turkish imports of mining and industrial products from the EU were eliminated; (2) Turkey has agreed to adopt the European common external tariff rates on mining and

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¹³³ For a thorough overview of the phases of Turkish macroeconomic adjustment under the post-1980 reforms, see, e.g., Kose and Yeldan (1998); Boratav, Turel and Yeldan (1996a); and the edited volumes by Aricanli and Rodrik (1990), Togan and Balasubramanyan (1996), and Senses (1995).

industrial products; and (3) the existing export quotas on Turkey's textile and clothing exports to the EU under the "Voluntary Export Restraint Scheme" were eliminated. Even though no further blueprints were signed, Turkey has always interpreted the CU agreement as an initial step towards full membership to the EU club. As such, Turkey remains the single country outside the EU, with complete integration of its commodity markets under the CU.

As a consequence of the Customs Union, Turkey's weighted rates of protection for imports of industrial products originating from EU and EFTA member states have fallen from 5.9% to 0% and from 10.8% to 6% for similar goods originating from the third countries. With the implementation of the Uruguay Round reductions, Turkey's average rates for third countries will be lowered to 3.5%.

Turkey is now taking steps for adaptation to the EU's preferential trade agreements concluded with third countries. It has already signed free trade agreements with the all the candidate countries from Central and Eastern Europe as well as EFTA and Israel. Negotiations with Egypt, Tunisia, Morocco and the Palestinian Authority continue, while negotiations with Malta and Jordan should start soon.

While the existing empirical evidence on the post-CU Turkey is mixed due to severe macroeconomic turbulence in the country since 1994 and the contagion following the Asian crisis, analytical studies on the post-CU Turkish trade regime have, in general, pointed out to the possibility of significant negative welfare consequences. In their inter-temporal analytical framework, Mercenier and Yeldan (1997) argued, for instance, that due to continued presence of non-tariff barriers (NTBs) and the opportunity of strategic incentives of price discrimination by the European and Turkish oligopolists, Turkey is likely to suffer welfare losses under the simple tariff harmonization episode of CU. Mercenier and Yeldan further claim that the expected welfare gains due to enhanced trade liberalization can only be materialized with elimination of the NTBs and the invigoration of the law of one price across both partners. Kose (1995), in turn, implemented a static general equilibrium framework and argued that due to the oligopolistic mark-up pricing opportunities in Turkish manufacturing, expected price adjustments following the CU may not display the warranted price flexibility. It is only in Harrison et.al.'s (1997) static, perfectly competitive setting that the analysts were able to report positive welfare gains – albeit again at quite a modest rate.

Given this setting, Turkey seems to be at a cross-roads with respect to its strategic trade alternatives. With its growing leading role among the ex-Soviet Turkic Republics, on the one hand, and given its historical-social ties with the Middle Eastern and the North African countries, on the other, further regional or bilateral trade agreements stand out as natural policy options. It is clear that much of these designs depend upon factors outside Turkey's or, in general, the region's control; nevertheless an analytical stock of welfare accounting is certainly warranted and is of much interest to both Turkey and the regional partners involved.

In fact, the post-Uruguay world economy is widely viewed today as moving towards a multi-polar structure based on regional trade agreements (RTAs). Indeed, now almost every country in the world is either a direct member or an associate of an RTA, and it is reported that nearly 60 percent of world trade is transacted now within such blocs (Schiff and Winters, 1998).

Thus, as such, there is now a growing interest on the economics of formation of customs unions and free trade blocs. At face value, it is not clear that the current trends on RTAs will constitute a welfare improving outcome, or not. It can be argued that RTAs can be regarded as a first step towards achieving more openness in the world commodity markets. It is not clear, however, what the intrinsic outcomes would be given the changed patterns of trade due to pressures of trade diversion. In fact, it would be virtually difficult to argue that the proliferation of the RTAs is a counterpart of the welfare analytics of a freer trade regime (Fernandez and Portes, 1998). Existing economic studies tackling the issue have faced an inadequate theoretical framework; and in the absence of a well-developed theory of regional trade zoning and formation, most analysts relied on simulation-based, applied general equilibrium modeling techniques to assess the impact of free trade blocs on output, accumulation, trade, and consumer welfare.¹³⁴

The motivation of this paper derives from this growing body of modeling paradigm to analyze the nexus of these issues. We exclusively focus on the effects of extending the trade policy reform initiatives over Turkey, EU, Middle East and the so-called Economies in Transition. We investigate the likely effects on fiscal balances, capital accumulation, and on growth in an intertemporal equilibrium framework. The prevalence and nature of the linkages between globalization of the financial markets and regional capital accumulation patterns, and their effects on production and trade balance are extensively analyzed. Account is also given on issues of bilateral trade and capital flows among the identified regions and other large trading blocks of the global economy.

The model is based on intertemporal general equilibrium theory with Ramsey-type dynamics. The world economy is fully endogenized within a 7-region specification, with Turkey, EU, Middle East and the Transition Economies constituting as one of the indigenous regions. A key feature of the model is its explicit recognition of both the commodity and foreign capital flows across regions in an endogenous setting, and its explicit portrayal of the out-of-steady state dynamics under an intertemporal optimization framework.

The rest of the paper is organized as follows: In section II we give a broad review of the recent history of Turkey's macroeconomic adjustments and highlight specific traits of its trade patterns. We introduce our modeling approach and discuss the

¹³⁴ See, for instance, Smith and Venables (1988), and Mercenier (1995) on Europe; Behar (1995) and Diao and Somwaru (2000) on MERCOSUR; Kehoe and Kehoe (1994) on NAFTA. For a recent review of the political economy issues surrounding the RTAs, see the symposium on "Regionalism and Development" held in the *World Bank Economic Review*, 12(20), May, 1998.

main attributes of our economic structures in section III, and study various issues of trade liberalization under alternative policy scenarios in section IV. We provide summary conclusions in Section V, and document our data base as Appendices.

AN OVERVIEW OF THE TURKISH ECONOMY IN THE 1990'S

The growth performance of the post-1990 Turkish economy was one of mini boom-and-bust cycles. The gross domestic product fluctuated widely with rates of growth recording sharp peaks (9.3% in 1990, 8.0% in 1993 and 7.2% in 1995 and 1996) to be followed by severe contractions in the immediate aftermath (0.9% in 1991, -5.5% in 1994). The cyclical pattern is closely related to the "foreign gap", and in general, high growth years were associated with availability of external finance to cover the current account deficits and expansion of imports. The impact of the ongoing import liberalization was realized to be more effective than the export drive, which, by 1990, had lost its thrust of the 1980's (Boratav, Türel and Yeldan, 1996b).

The period was also characterized by rapid deterioration of the fiscal position of the state (Sak, Özatay, and Öztürk, 1996; Boratav, Türel and Yeldan, 1996a; Önder et.al., 1993). The major cause of this phenomenon was the sudden increase in real wage costs, fueled by political-economy pressures of the civilian elections of 1989 and 1990. *Real* wages in private manufacturing rose by 105.2% in the period 1989-1991. Even though there had been modest improvements in tax revenues, the surge in transfer expenditures overran such gains. As a ratio of GNP, current transfers rose from 6.1% in 1991, to 13.4% in 1996. Likewise, the saving generation capacity of the public sector eroded severely and turned negative after 1992. The aggregate disposable income of the public sector fell by 30% in real terms between 1988-95, and the public saving-investment gap widened by almost 4-folds.

Table 1: Main Economic Indicators, Turkey, 1988-1999

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Annual % Change												
GDP	2.7	1.2	7.9	1.1	5.9	8.0	-5.5	7.2	7.0	7.5	2.8	-5.0
Consumption												
Private	1.2	-1.0	13.1	1.9	3.3	8.4	-5.3	4.8	8.5	8.0	7.1	-3.2
Public	-1.1	0.8	7.9	4.5	3.8	2.3	-3.5	6.8	8.6	4.1	8.4	6.5
Fixed Capital Formation												
Private	12.6	1.7	19.4	0.9	4.3	35.0	-9.1	16.9	12.1	11.9	-6.7	-19.6
Public	-20.2	3.2	8.9	1.8	4.3	3.4	-34.8	-18.8	24.4	28.4	30.0	-4.1
Exports (Millions US\$) ^a	11929	11780	13026	13667	14891	15611	18390	21637	32446	32647	31220	29326
Imports (Millions US\$) ^a	14335	15792	22302	21047	22871	29428	23270	35709	43028	48005	45905	39773
Current Account (M. US\$) ^a	1596	961	-2625	250	-974	-6433	2631	-2339	-2437	-2638	1871	-1364
Ratios to the GNP (%):												
Financial Value Added	3.3	2.9	3.2	4.1	4.0	4.3	3.0	4.2	5.0	5.1	9.2	6.1
Budget Balance	-3.0	-3.3	-3.1	-5.3	-4.3	-6.7	-3.9	-4.0	-8.2	-7.3	14.3	-10.9
PSBR	4.8	5.2	7.4	10.3	10.6	12.1	7.9	5.4	9.6	8.2	8.7	-7.2
Stock of Domestic Debt	5.7	6.3	7.0	8.1	11.7	12.8	14.0	14.6	18.8	21.4	22.5	29.3
Interest Payments on Domestic Debt	2.4	2.2	2.4	2.7	2.8	4.6	6.0	6.2	9.0	7.7	10.9	14.5
Inflation rate (CPI, %)	75.4	64.3	60.4	71.1	66.1	71.1	106.3	88.0	80.4	85.7	92.6	70.5
Real Exchange Rate ^b	101.5	96.2	82.6	84.7	88.5	88.5	114.9	102.9	104.2	104.0	104.3	105.1
Real Interest Rate ^c	4.6	-3.3	-0.6	1.2	6.1	2.3	-4.4	2.7	7.2	5.2	-0.1	12.0
Real Interest Rate on Government Bonds ^d	-5.8	-2.7	-4.0	5.3	13.9	9.9	28.6	18.1	31.1	22.1	29.5	36.8
Index of Employment in Private Manufacturing	100.0	98.6	95.2	79.5	78.1	80.3	75.5	82.9	89.1	94.4	94.3	-
Index of Real Wages in Private Manufacturing ^e	100.0	144.1	152.0	205.2	210.0	208.0	147.2	156.3	172.5	160.5	157.9	-

Source: SPO Main Economic Indicators; SPO, Ekonomik ve Sosyal Gostergeler (1950-1997).

(a) Including luggage trade.

(b) Index, 1987=100. Derived from the basket with weights, 0.75\$+0.25DM; deflated by the wholesale price index. An increase means depreciation of the Lira.

(c) Rate of return on 1-year time deposits, deflated by the CPI.

(d) Annual average of Compounded Interest Rate on Government Debt Instruments deflated by the CPI.

(e) Index (1988=100) based on index of production workers' hourly wages in Private Manufacturing industry, deflated by the CPI. (seasonally adjusted)

Given the political unfeasibility of an income tax reform, successive governments had to rely mostly on indirect taxation. Revenues from indirect taxes exceeded those of the direct taxes by 50% on the average during the 1990's. With the recent move towards a customs union with the European Union (EU) in 1995, however, Turkey agreed to harmonize its tariffication system with the EU, which meant significant revenue losses of trade taxes for the Turkish Treasury. The loss of such revenues placed additional strains on the fiscal balances. Harrison, Rutherford and Tarr (1997) estimate that value added taxes must be increased by 16.2% in order to compensate for this loss of revenue. Köse and Yeldan (1995) incorporated oligopolistic mark-up pricing to a likewise static CGE of 26 sectors, and found the necessary indirect tax adjustment to reach 36%.¹³⁵

All these developments led to a sharp increase in *Public Sector Borrowing Requirement (PSBR)* which increased to as much as 12.1% of the GNP in 1993, just before the outbreak of the 1994 economic crisis. Since external sources of public sector finance were extremely limited¹³⁶, the state was forced to resort to a massive operation of domestic debt financing by way of new issues of debt instruments and implemented both market and administrative (non-market) mechanisms to transfer resources from the private sector. With the introduction of an auction market for public sector debt instruments in 1986, a complex system of incentives were enacted which involved tax exemptions on government securities and risk free net yields exceeding the returns offered by many alternative assets. The *real* interest rate offered on government bonds increased to as much as 30% in 1994 and 1996, far exceeding, for instance, the real return on one-year time deposits (see Table 1). The government debt instruments dominated the financial markets almost exclusively. In 1996, the share of new issues of public securities in the total stood at 90%; and the share of public assets in the secondary market reached to 95% (Balkan and Yeldan, 1998).

Under these conditions, the stock of domestic debt grew rapidly to reach 22% of the GNP by the end of 1997. Interest payments on domestic debt increased from 2.4% in 1990, to 9.0% of the GNP in 1996. A critical feature of debt accumulation was its extreme short term maturity. By 1992, the state was already trapped in a *Ponzi-style* finance of its debt, with net new government borrowings reaching to 94.4% of the domestic debt outstanding.

¹³⁵ See Mercenier and Yeldan (1997) for an intertemporal general equilibrium analysis of Turkey's recent move to trade integrate under a customs union with the EU. The employment effects of the CU are investigated in de Santis (1998). Yeldan (1998) also offers a general equilibrium analysis of the political economy factors behind the prolonged instability of the Turkish macro environment in the 1990's.

¹³⁶ Net foreign borrowing of the government during 1989-1997 was almost negative, and in those years when the public sector experienced *net inflows*, their amount barely reached to 1 percent of the GNP (Yeldan, 1998).

The inflow of short term capital could have been the only mode of adjustment mechanism in covering both the fiscal and the trade deficits of this period. The current account which displayed a modest positive balance until 1990, recorded a steep deficit in that year and climbed to \$6.4 billions in the before the 1994 financial crisis. Following the entrenchment of imports in 1994, the deficit in the current account grew around 5% of the GNP.¹³⁷

Appreciation of the *Lira* in real terms in the first half of the decade seems to be one of the major factors behind the sluggish performance of exports and the steep expansion of imports. Compared to 1988, exports could have been increased by only \$4 billions in 1993, whereas import expenditures doubled, rising from \$14.3 billions, to \$29.5 billions in 1993. (See also Appendix Table 2.) The post-crisis exchange rate administration succeeded in reversing most of the pressures on the TL towards appreciation, and maintained competitiveness of exports by setting the TL on a secular depreciation trend (Table 1). However, with the annual inflation rate running around 85%, the continued real depreciation policy meant a significant realignment in the financial flows and carried risks of currency substitution. All of this signal a very uncertain and chaotic environment, which, especially in the midst of the Asian-cum-Russian financial crises, put Turkey's prospects for sustained growth under scrutiny.

Turkey's Trade Patterns in the Post-CU Period

Turkey's trade with the EU corresponds roughly 50 percent for both its imports and exports. Following the initial implementation of the CU in 1996, there had been a modest rise in the share of Turkey's imports from the EU from 47.2% in 1995, to 53.0% in 1996. This pattern had not been shared—to the dismay of many Turkish industrialists—by its export performance to the EU markets (see Tables 2 and 3). Thus, the trade deficit vis-a-vis the EU has increased by two-folds between 1995 and end-of-1997, from \$5.8 billions, to \$12.6 billions. This meager performance in its trade balance along with the continued reluctance of the European parliament to give positive signals towards full membership, has left many Turks disappointed and disillusioned. This gave many interest groups, including the recent wave of Islamic

¹³⁷ The aforementioned current account value does not include revenues from the so-called "luggage trade".

groups to voice their anti-Western rhetoric along with a revived call for increased protectionism of the domestic industries against the “unfair western capitalism”.¹³⁸

¹³⁸ Cizre-Sakallioğlu and Yeldan (2000) give a thorough account of the political economy factors behind the rise of the “Islamic” power centers and the emergence of the Anatolian bourgeoisie, --the so-called “Anatolian Tigers”.

Table 2: Turkey's Imports by Countries

	1993			1994			1995			1996			1997			1998 (Jan-May)		
	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share
I. OECD Countries	2000.1	68.0	1530.8	65.9	2359.3	66.1	3090.1	69.0	33407.5	68.8	13146.7	69.4						
A. EU Countries	1387.3	47.1	1091.5	46.9	1686.5	47.2	23138.1	53.0	24837.3	51.1	9751.9	51.5						
B. EFTA Countries	727.1	2.5	562.6	2.4	892.0	2.5	1112.1	2.5	1280.1	2.6	536	2.8						
C. NAFTA Countries	3517.0	12.0	2585.4	11.1	4101.1	11.5	3990.2	9.1	4704.2	9.7	1923.8	10.2						
D. Other OECD	1882.0	6.4	1267.5	5.4	1741.7	4.9	1849.8	4.2	2585.8	5.3	935.1	4.9						
II. Islamic Countries	3518.8	12.0	3372.3	14.5	4320.4	12.1	5267.5	12.1	4935.0	10.2	1682.9	8.9						
III. Other European	1082.7	3.7	758.9	3.3	1225.1	3.4	1284.0	2.9	1306.3	2.7	436.6	2.3						
IV. Commonwealth of Ind. St.	2264.6	7.7	1821.5	7.8	3314.7	9.3	3074.2	7.0	3604.0	7.4	1601.2	8.5						
V. Others	2563.0	8.7	1986.6	8.5	3253.4	9.1	3910.7	9.0	5332.4	11.0	2064.9	10.9						
TOTAL	29428.4	100.0	23272.2	100.0	35709.0	100.0	43626.6	100.0	48585.1	100.0	18940.4	100						

Source: State Planning Organization, Main Economic Indicators.

Table 3: Turkey's Exports by Countries

	1993			1994			1995			1996			1997			1998 (Jan-May)		
	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share	Millions \$	% Share
I. OECD Countries	9077.2	59.2	10758.0	59.4	13213.4	61.1	13875.1	59.7	15021.8	57.2	6565.3	61.5						
A. EU Countries	7598.7	49.5	8635.3	47.7	11070.8	51.2	11548.6	49.7	12237.0	46.6	5250.8	49.2						
B. EFTA Countries	247.8	1.6	276.9	1.5	293.3	1.4	335.9	1.4	406.8	1.5	140.2	1.3						
C. NAFTA Countries	1045.2	6.8	1617.1	8.9	1616.1	7.5	1758.4	7.6	2158.8	8.2	1105.2	10.3						
D. Other OECD	185.5	1.2	228.6	1.3	233.1	1.1	232.2	1.0	219.3	0.8	69.1	0.6						
II. Islamic Countries	2804.9	18.3	3051.6	16.9	3264.1	15.1	3538.2	15.2	3526.5	13.4	1372.5	12.9						
III. Other European	763.8	5.0	892.9	4.9	1296.1	6.0	1213.3	5.2	1415.3	5.4	552.9	5.2						
IV. Commonwealth of Ind. St.	1030.8	6.7	1412.2	7.8	2056.9	9.5	2665.4	11.5	3512.1	13.4	1197.1	11.2						
V. Others	1668.2	10.9	991.2	11.0	1805.4	8.3	1932.3	8.3	2769.9	10.6	979.5	9.2						
TOTAL	15345.1	100.0	18105.9	100.0	21637.0	100.0	23224.5	100.0	26244.5	100.0	10680.3	100.0						

Source: State Planning Organization, Main Economic Indicators.

As for the commodity composition of Turkey's imports, one witnesses a secular trend in the rise of the share of non-oil intermediates following the CU. The elimination of tariff protection on mining and industrial products seems to have benefited such imports. On the export side, however, one does not see expected surge in textiles. Following the removal of the voluntary export quotas on textiles, clothing and wearing apparel, the export performance of the Turkish textile and clothing industry could not have met the expectations thus far. The composition of Turkish imports and exports are portrayed in Figures 1 and 2.

Figure 1: Turkey's Imports by Commodity Groups (Millions US\$)

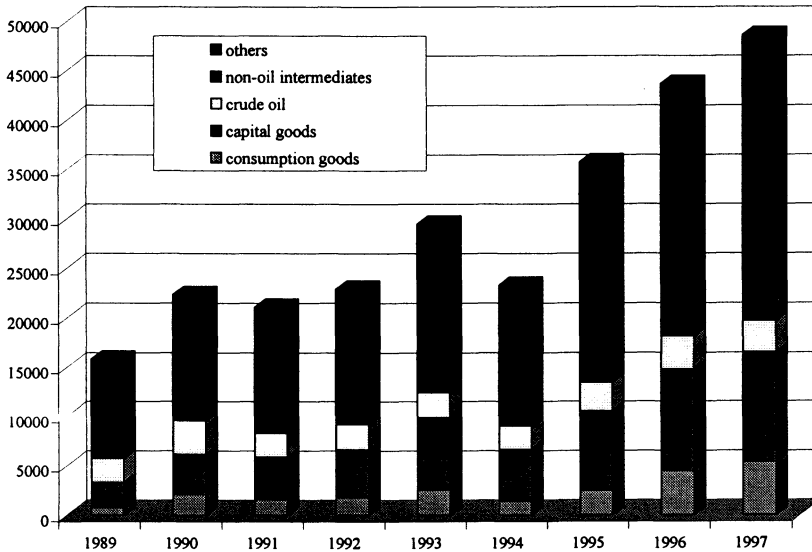
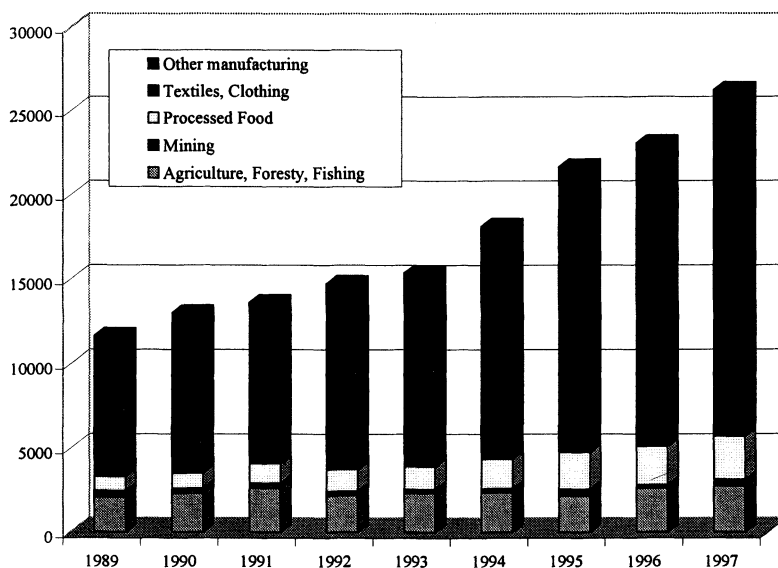


Figure 2: Turkey's Exports by Sectors (Millions US\$)

The Customs Union, as put into effect in 1995, does not cover agricultural goods; and the free circulation of agricultural products will only be realised upon Turkey's alignment of its policies to the EU's Common Agricultural Policy. However, in the period between the signing of the Ankara Agreement and the adoption of the Customs Union Decision, the EU granted certain concessions to Turkey. As a result, a large extent of Turkey's agricultural exports to the EU benefits from tariff exemptions or tariff reductions. For instance, prior to the Protocol dated 25 April 1997, 71% of the agricultural exports benefited from the exemptions and 5% benefited from the reductions. Hence in total, 76% of Turkey's exports benefited from the concessions. (Bayar, 1999).

An important positive development on the export performance in this period was the rapid rise of the export demand originating from the Russian markets. Turkish exports to the Commonwealth of Independent States increased by 240% between 1993 and end of 1997; and the share of exports to this region increased by 6.7 percentage points, reaching to 13.4% by 1998. The prolonged crisis conditions and the uncertainty prevalent in these markets, however, raise questions about future prospects of this market.

With regards to issues of harmonization, in 1995 Turkey introduced significant changes to its intellectual property regime. Those sections of the harmonization of intellectual and industrial property rights that had to be completed before the

Customs Union's entry into force, were fulfilled in 1995 by the coordinated efforts of the Turkish Patents Institute. Hence Turkey became a party to the related international conventions and adopted legislative amendments for trademarks, patent rights, protection of industrial designs and geographical indications. Moreover, Turkey became a signatory to a number of important international conventions governing intellectual property rights.

These reforms have given Turkey an extensive legal framework for the protection of intellectual property rights. However, since the Decision's entry into force, there has been no progress concerning obligations that were to be fulfilled in accordance with a timetable. Moreover, implementation of several of the harmonized legislation has been officially suspended. (Bayar, *ibid*).

The major disappointment following post-CU experience was that of the dismal patterns of foreign assistance. EU's financial aid, which was initially estimated as 3.5 billion Dollars for a period of 5 years, had been criticized from a number of aspects. Arguments that the estimated amount would never be reached or that the areas in which the aid is to be used were determined without considering the Customs Union's effects on the Turkish industry, were among these criticisms. The European Parliament's Decision of 19 September 1996 has turned the granting of credits and loans committed under the Customs Union into a highly "political" matter. In a way, the European Parliament has begun to use this basis as a means to test its budgetary authority on the Commission.

Because of the economic and political uncertainties in the country, Turkey has been unable to attract much foreign investment even after the entry into force of the Customs Union. Foreign direct investment was 663 million dollars in 1989 and since then there has not been any significant rise. It was only 554 million dollars in 1997. The share of the foreign direct investment in GDP was only 0.3%. The EU is the main provider of FDI with a share of 62% in total inflow of foreign investment in Turkey.

Given this historical background, we will now turn our attention to the strategic policy options in bilateral and regional trade arrangements between the main actors in the region. Before this, however, we first introduce the main ingredients of our analytical model in the next section.

THE MODEL

Overview

The model is based on dynamic macroeconomic theory with a multi-region and multi sector specification, and draws in many ways upon the recent contributions of dynamic applied general equilibrium modeling by McKibbin (1993), Mercenier and Sampaio de Souza (1994), Mercenier and Yeldan (1997), and Diao and Somwaru

(2000). The world economy is aggregated into seven regions.¹³⁹ In each region, there are six production sectors each of which produces a single commodity. The aggregate production sectors are: (1) agriculture (*AGRI*), (2) food processing and livestock products (*FOOD*), (3) materials and intermediates (*MATR*), (4) other manufacturing (*OMFC*), (5) textiles (*TEXT*), and (6) services (*SERV*). All the regions are fully endogenous in terms of their producers and consumers' economic behavior. Furthermore, in a multi-region and multi-sector global model, commodity trade flows are kept track by their geographical and sectoral origin and destination. Countries are further linked by an Armington system so that sectoral commodities are differentiated in demand and supply by their geographical origin.

We assume that firms within each sector of every region can be aggregated into a representative firm. The representative firm operates with constant returns to scale technology. The value added production function for labor and capital is of Cobb-Douglas, while the intensities of intermediate goods are fixed. The representative firm chooses, at each time period, the input levels of labor and intermediate goods and makes investment decision to maximize the value of the firm. With constant returns to scale technology, the number of firms does not matter. Hence, we assume that the firm finances all its investment outlays by retaining profits so that the number of firm equities within each sector of a region remains unchanged.

The starting point for specifying the firm's optimizing behavior is the condition of asset market equilibrium, i.e., the expected returns from holding the equity in the firms must be in line with those from holding a 'safe' asset, such as foreign bonds, at any time period.

Assuming an efficient financial capital market, each region faces the same world interest rate. The firms' intertemporal decision problem can be restated more rigorously as follows: in each region's sector i , ($i=1,2,\dots,6$), the representative firm chooses the optimal investment and labor employment strategies to maximize the present value of all future dividend payments, taking into account expected future price of output, unit value of sector specific capital equipment, and labor wage.

Because of the presence of adjustment costs on capital, marginal products of capital differ across sectors, resulting in unequal, although optimal rates of investments. We assume that labor is perfectly mobile across sectors (but immobile internationally), and firms never face any quantity constraints. Also, the structure of newly produced capital equipment in terms of foregone sectoral goods is of Cobb-Douglas form. The foregone sectoral output used for investment purposes can be produced domestically or imported.

In each region, the representative household owns labor and all private financial assets, namely, equity in domestic firms and foreign bonds. The household allocates income to consumption and savings to maximize an intertemporal utility function over an infinite horizon.

¹³⁹ Appendix Table 1 provides the aggregation scheme of the geographical regions.

“Government” spends all its tax revenues on consumption or as transfers to the households, and hence, public sector borrowing requirement is not explicitly modeled.

Intra-temporal equilibrium requires that at each time period, (i) demand for production factors equal their supply; (ii) in the world, total demand for each sectoral good equal to its supply; (iii) in the world, the aggregate household savings equals zero.

POLICY ANALYSIS

We now utilize our analytical model to study alternatives of CU blocs among the EU, Middle East and the Economies in Transition. We first study the historical CU path between Turkey and the EU as was formulated in 1995. The CU agreement which is currently in effect covers mainly industrial commodity trade, with agriculture and services being subject to a grace period. In our next step, we take this issue and expand the initial agreement to full trade liberalization between the two partners, covering all sectors. In what follows, we broaden the geographical coverage to include the Economies in Transition, and the Middle East.

Our starting point is the macro general equilibrium of the global commodity and finance markets as of 1995. Our data come from a direct aggregation of the database of the *Global Trade Analysis Project (GTAP)*, version 3, in McDougall (1997). We give a broad outline of the characteristics of this data set in the Appendix Tables. The initial rates of tariffication is documented in Table 4 below.

Table 4: Initial Tariff Rates (% of Import Value at the World Price)

Importing country	Exporting country	WHO	ASA	TUR	OME	EU	TRN	ROW
AGRI	WHO		74.4	25.5	12.9	24.2	3.8	15.0
	ASA	2.2		22.7	21.7	8.8	3.4	29.9
	TUR	20.2	16.3		12.3	9.0	12.3	19.0
	OME	7.1	14.8	37.0		15.2	9.5	29.5
	E U	2.4	21.8	45.1	12.4		9.0	15.4
	TRN	9.4	9.1	26.6	9.9	26.0		17.0
	ROW	8.0	21.1	17.3	23.3	14.1	5.3	
FOOD	WHO		32.1	48.3	19.5	20.4	10.9	35.7
	ASA	5.0		53.0	13.8	16.6	14.0	91.1
	TUR	3.5	11.8		12.8	11.2	16.4	28.7
	OME	9.6	19.7	21.3		12.4	13.0	69.7
	E U	14.7	39.6	26.8	17.9		16.7	40.4
	TRN	7.7	25.5	19.4	20.2	26.4		48.0
	ROW	11.6	17.7	24.1	15.0	26.6	17.8	
MATR	WHO		5.3	5.4	12.0	2.6	8.3	21.1
	ASA	5.7		9.7	12.6	4.3	11.7	38.6
	TUR	3.8	7.0		12.9	3.9	14.2	23.4
	OME	3.3	3.0	9.4		0.4	7.2	31.3
	E U	5.4	9.0	5.4	11.0		8.5	22.9
	TRN	2.8	8.1	5.7	12.5	2.5		24.4
	ROW	3.3	6.6	7.8	11.1	1.1	4.5	
OMFC	WHO		6.7	6.7	12.4	3.6	10.6	17.0
	ASA	4.1		10.2	12.4	5.0	14.1	30.3
	TUR	2.7	12.2		12.4	4.8	15.8	33.5
	OME	2.1	8.4	8.5		3.6	11.8	30.1
	E U	5.9	12.1	4.8	12.3		8.1	20.9
	TRN	5.0	19.6	9.1	12.2	4.2		32.4
	ROW	5.8	14.1	15.2	12.3	3.7	10.0	
TEXT	WHO		11.7	6.2	12.7	6.9	10.4	41.1
	ASA	13.1		10.3	12.6	9.3	12.7	58.9
	TUR	13.3	14.0		12.7	9.6	14.0	58.3
	OME	12.0	10.8	3.4		8.1	14.6	61.1
	E U	12.1	12.7	7.2	12.6		10.7	41.0
	TRN	13.2	13.6	6.9	12.3	7.3		82.9
	ROW	13.7	10.3	7.3	12.6	9.6	13.0	

We implement our policy simulation experiments via parametric changes of the relevant policy parameters and trace out the out-of-steady state transitional dynamic adjustments towards a new steady state equilibrium. Since our focus is mostly on short to medium run, we choose to limit our analysis exclusively on the first twenty periods of the dynamic adjustment; yet, in principle, one can extend this time horizon and portray the whole time path of the intertemporal equilibrium towards the steady state. The results of simulation experiments are reported in Table 5.¹⁴⁰

¹⁴⁰ Simulation results for TRN and OME can be obtained from the author.

We first perturb the initial equilibrium configuration by implementing, *ceteris paribus*, the CU agreement between Turkey (TUR) and the EU. We eliminate all tariffs across the two partners on manufacturing commodities, and harmonize Turkish industrial tariffs with the external tariff system of the EU against the rest of the world (ROW) imports. Thus, EXP-1 summarizes the main traits of the post-CU environment between TUR and the EU, and traces its direct intertemporal effects on both regions, and also the indirect effects on the third parties.

We observe that, *ceteris paribus*, the completion of CU causes a slight deflation of the real gross domestic product in TUR. This short impact is expected to be overcome by period 3, and the Turkish GDP rises over its initial value by 0.4% by period 10, and by 0.9% by the end of period 20. Part of this expansion is due to efficiency gains in resource allocation after lowering the average tariff protection, and part of it originates from the *level effects* of increased investment expenditures which lead to expansion of the capital stock (by as much as 1.8% by the end of period 20).

Both exports and imports expand in TUR; yet the rate of expansion in the latter outweighs that of the former, and the trade deficit is expected to widen. Counterpart of this deficit is the rise in the investment-saving gap in the domestic economy. Domestic investment increases by 1.4% upon impact, and by 1.7% over a time horizon of 20 periods.

Table 5: Experiment Results (Ratios to Base Run Equilibrium)
Turkey

	Exp1			Exp2			Exp3			Exp4		
	Period 1	Period 10	Period 20	Period 1	Period 10	Period 20	Period 1	Period 10	Period 20	Period 1	Period 10	Period 20
Gross Domestic Product	0.9991	1.0040	1.0086	0.9991	1.0039	1.0089	0.9997	1.0055	1.0114	1.0005	1.0066	1.0131
Consumption	0.9955	0.9978	0.9995	0.9951	0.9976	0.9994	0.9949	0.9980	1.0002	0.9954	0.9989	1.0014
Investment	1.0144	1.0207	1.0304	1.0154	1.0221	1.0326	1.0179	1.0259	1.0384	1.0187	1.0274	1.0409
Capital Stock	1.0011 (*)	1.0084	1.0170	1.0017 (*)	1.0090	1.0183	1.0013 (*)	1.0105	1.0215	1.0013 (*)	1.0110	1.0227
Exports	1.0692	1.0762	1.0892	1.0909	1.0985	1.1126	1.1112	1.1196	1.1361	1.1187	1.1271	1.1440
Imports	1.0705	1.0704	1.0659	1.0904	1.0903	1.0855	1.1094	1.1096	1.1041	1.1159	1.1164	1.1107
Trade Deficit	1.0803	1.0272	0.9947	1.0867	1.0294	0.9941	1.0967	1.0353	0.9955	1.0954	1.0371	0.9978
Real Exchange Rate ¹	1.0051	1.0033	1.0018	0.9968	0.9948	0.9932	1.0013	0.9987	0.9967	1.0040	1.0009	0.9987
Output Supply												
Agriculture	0.9953	0.9970	1.0011	0.9894	0.9882	0.9949	0.9912	0.9954	1.0035	0.9929	0.9975	1.0063
Food Processing	0.9897	0.9929	0.9991	0.9846	0.9914	0.9989	0.9994	1.0014	1.0109	0.9912	0.9955	1.0035
Intermediates	0.9663	0.9739	0.9864	0.9701	0.9783	0.9915	0.9686	0.9777	0.9931	0.9695	0.9783	0.9938
Other Manufacturing	0.9782	0.9877	0.9991	0.9839	0.9942	1.0064	0.9905	1.0025	1.0172	0.9903	1.0034	1.0193
Textiles	1.1944	1.2089	1.2377	1.2215	1.2375	1.2690	1.2400	1.2580	1.2953	1.2399	1.2586	1.2983
Services	0.9996	1.0045	1.0094	0.9993	1.0045	1.0098	0.9987	1.0048	1.0111	0.9983	1.0049	1.0117

Table 5 (cont.)
European Union

	Exp1			Exp2			Exp3			Exp4		
	Period 1	Period 10	Period 20	Period 1	Period 10	Period 20	Period 1	Period 10	Period 20	Period 1	Period 10	Period 20
Gross Domestic Product	1.0000	1.0001	1.0001	1.0000	1.0000	1.0000	1.0002	1.0005	1.0007	1.0004	1.0008	1.0011
Consumption	1.0000	1.0000	1.0001	1.0000	1.0000	1.0002	0.9999	1.0004	1.0006	0.9999	1.0006	1.0011
Investment	1.0001	1.0001	1.0002	1.0001	1.0001	1.0002	1.0014	1.0012	1.0014	1.0018	1.0018	1.0020
Capital Stock	1.0001 (*)	1.0001	1.0001	1.0002 (*)	1.0002	1.0002	1.0002 (*)	1.0009	1.0012	1.0002 (*)	1.0013	1.0018
Exports	1.0020	1.0020	1.0018	1.0027	1.0027	1.0025	1.0176	1.0176	1.0172	1.0236	1.0231	1.0216
Imports	1.0020	1.0020	1.0022	1.0028	1.0028	1.0030	1.0185	1.0187	1.0190	1.0239	1.0242	1.0249
Real Exchange Rate ¹	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Output Supply												
Agriculture	1.0000	1.0000	1.0001	1.0020	1.0020	1.0020	1.0009	1.0013	1.0014	1.0017	1.0022	1.0025
Food Processing	0.9999	1.0000	1.0001	1.0006	1.0006	1.0006	1.0034	1.0038	1.0039	1.0058	1.0063	1.0068
Intermediates	1.0003	1.0003	1.0003	1.0002	1.0002	1.0002	1.0004	1.0006	1.0005	1.0005	1.0005	1.0002
Other Manufacturing	1.0004	1.0004	1.0004	1.0002	1.0002	1.0002	1.0013	1.0017	1.0017	1.0021	1.0024	1.0024
Textiles	0.9975	0.9974	0.9970	0.9969	0.9967	0.9964	0.9984	0.9985	0.9981	0.9987	0.9989	0.9985
Services	1.0000	1.0000	1.0001	0.9999	0.9999	1.0000	0.9996	0.9999	1.0001	0.9994	0.9998	1.0001

The output responses of the experiment are diverse and it is hard to make generalizations given the complexity of intertemporal general equilibrium effects. Yet, the surge in TUR textiles in an attempt to exploit its leading role in exports is clearly visible. By period 20, other manufacturing industries along with services join the textiles sectors in the post-CU environment. Thus, the output responses to the CU seem to be a diversion of resources away from agriculture, food processing and investment towards industries with a higher value added content.

The experiment, as such, reveals minor adjustments in the EU. Nevertheless, one still observes a mild upward adjustment of investment and capital stock, and also an increase of imports and exports. Exports of the EU widen modestly by 0.20 upon impact and slow down in the periods ahead. On the production side, textiles turn out to be the only contracting sector, suggesting that the current rate of protection of the textiles and clothing sectors in the EU is sub-optimal from the point of view of resource allocation efficiency.

Now, one can ask “what should the next step be?” We envisage two interrelated routes: at one hand, one can consider the enhancement of the trade liberalization efforts by engaging into bilateral trade agreements with the EU and completion of the customs union in all sectors. On the other hand, one can also expect a direct expansion of the CU to encompass the middle east (OME) and the economies in transition (TRN) by removing tariffs on bilateral trade. Clearly these policy options remain outside TUR’s discretionary control, and to some extent are artificial. However, we argue that a categorization of these policy alternatives from the point of view of resource efficiency and intertemporal choices (current consumption versus investment) would suggest important policy conclusions that one cannot decipher otherwise, given the complexity of the systemic factors. Thus, we rely on the laboratory characteristics of our analytical apparatus and implement these strategic policy options as discrete simulation experiments sequentially.

Under EXP-2, we eliminate all tariffs and the non-tariff barriers between EU and TUR. Furthermore, TUR accepts the common trade policy of the EU in all its exports. The new commercial environment mainly results in complete liberalization of the Turkish agriculture vis-à-vis Europe and achieves in attaining a major step towards releasing resources out of agriculture. Sectoral output responses clearly underscore this point, as primary agriculture and processed food manufacturing contract to release resources to export-oriented textiles and services.

Elimination of tariffs leads to cheapening of import costs and an overall deflation of the domestic price level in TUR. Thus, vis-à-vis EU the real exchange depreciates.¹⁴¹ The decline of the domestic price level leads to an intertemporal substitution of today’s consumption in favor of current investment. Thus, current consumption declines and savings and investment expand. All this result in

¹⁴¹ We utilize the concept of the real exchange rate as the ratio of the domestic versus the EU consumer baskets. For a further analytical exposition of this point, see Obstfeld and Rogoff, 1996, Chp.4.

expansion of the gross domestic product to score an increase of almost two percentage points over its trend (Table 5).

In the next experiment (EXP-3) we turn our attention to an enlargement of the CU to cover TRN, as well as TUR. Notice that, by this experiment we not only eliminate bilateral tariffs between EU, TUR, and TRN, but also harmonize the TUR's and the TRN's tariff structure against the ROW by imposing the EU external tariffification system. Clearly, much of the elements of this policy scenario are topics of the current political agenda, and we have to finesse much of the detail given the context of our aggregate schemes.

The EXP-3 environment brings almost the same sort of adjustments on the TUR economy as the EXP-2 scenario. However, output responses turn out to be significantly stronger and all sectors, except intermediates, seem to gain by the end of period 10. The rise in exports outpace the import expansion and TUR experiences a slight appreciation of its currency over the CU scenario.

The experiment results bring forth stronger responses for both the EU and the transition economies. The gross domestic product in TRN expands by 0.6% by the end of period 20. The investment demand rises steadily to reach a 2.3% higher value. Agriculture and textiles reveal themselves as the most responsive sectors to the enlarged CU, with "other" manufacturing being the only sector to experience contraction as of period 20. The EU experiences a rise in its exports, and a slight increase in its overall trade deficit. Primary agriculture and processed food manufactures expand in EU, as textiles contract.

Finally, under EXP-4, we bring the Middle East (OME) to the analysis and eliminate bilateral tariffs between TUR, EU, TRN, and OME. Furthermore, all regions accept the EU's existing common tariff policy towards the rest of the world. From a regional viewpoint this policy maneuver is a culmination of the trade liberalization efforts. Trade preferences, thus far, are observed to be granted on a non-reciprocal basis, and many sectors of the OME remain virtually sheltered behind high levels of tariff and non-tariff protection.¹⁴²

The new trade environment leads to a further impetus to the TUR gross domestic product, bringing the overall gains to 1.3% over the base run in period 20. Likewise, investment expansion continues; but the surge in imports reveals a relative expansion of the trade gap over the EXP-3 environment compensating part of the decline in current consumption, which turns to positive by period 20. Across sectors, textiles get a slight boost over the EXP-3 level.

¹⁴² See Bayar (1998) for a further analysis of the trade integration options of the Middle East and North Africa with the EU countries.

CONCLUSION

Some caveats are in order on the limitations of the study before we go on with the summary of our main findings. First, it has to be clear that, with this type of a methodology, no distinctive conclusions can be inferred about the characterization of the future path of the economy based on "calendar" dates. The policy experiments performed are basically of *comparative* nature and are meaningful only in relation to each other, rather than revealing forecasts of the future.

Second, both the consumption and production activities of the economy are modeled in very aggregate terms. The idea of a *representative* national consumer, though a common device in modern macroeconomic thinking, precludes any analysis addressing income distribution questions and may seem implausible. This specification reflects, however, our main motivation being focused mostly on the dynamics of adjustment of the macro aggregates along a transition path in response to broad policy shifts, and on processes of resource allocation which reflect changes in production efficiency. Thus, as such, many of our insights derived from the simulation exercises do not depend on detailed considerations of heterogeneity of the private sector. In similar vein, government's saving and investment behavior are not addressed; and hence, the spillover effects of public consumption and investment on the private sector are not captured. In the absence of empirical evidence on the nature and causes of such spillovers (especially in the context of a developing country), we try to avoid forming arbitrary algebraic characterizations as much as possible, and abstain from modeling the public sector as an optimizing agent.

Third, one has to note that the adjustment path as characterized by the simulation exercises reflect *equilibrium* relationships on a *smooth* time horizon, mainly in the absence of rigidities and/or structural bottlenecks. Thus, the speed of transitional adjustment of many variables to their respective equilibrium paths should not be taken as a measure of the global stability properties of the modeled economies, but rather as a direct outcome of the laboratory characteristics of a macroeconomic model with continuous, well-behaved functional forms. For these reasons, our results should be at best regarded as crude approximations of the long-run equilibrium effects of foreign trade policies on current account, output, capital accumulation and the real exchange rate.

The model results reveal that the expected positive outcomes from the current CU agreement between the EU and Turkey very much depend on whether the non-tariff barriers could be eliminated and a move towards a more competitive environment be sustained. The simulation results suggest that Turkish gains from bilateral trade liberalizations with the Middle East or expansion of the CU with the inclusion of the Transition Economies may be equally comparable from a pure resource efficiency viewpoint.

The adjoining of TRN to the CU especially leads to a sizable increase in Turkey's exports and brings forth additional gains to Turkey's gross domestic product and

capital investments. The European Union, likewise, achieves a permanent increase of 0.1% over its equilibrium path, and a significant rise in its agricultural output. Producer manufacturing is the other sector which expands substantially from the enlargement of the customs union in this region. Textiles remains the only sector in EU to contract throughout the implemented policy reforms.

In comparison, textiles and clothing reveal itself as the leading exporting sector in Turkey that stands to have significant gains from the trade liberalization episodes. Experiment results suggest that primary agriculture and intermediates utilize excessive resources in comparison to the first best open trade arrangements. According to our results, under the analyzed patterns of macroeconomic adjustments in response to the elimination of tariff protection, there would likely be sizable increases in trade deficits of the Turkish economy. This would naturally call for the feasibility of access to foreign funds to finance the import-export gap. A key concern here is the fragility of the current external position of Turkey, given the international standards.

Clearly, much of these outcomes will depend upon a host of political factors to which we cannot address in a theoretically satisfying fashion. There is a greater degree of uncertainty on the factors that will determine the impact of the enlargement of the CU, or extension of the RTAs over the Middle East and the Transition Economies. Moreover, these outcomes will as well depend on many exogenous factors, and given the complexity of issues surrounding the trade liberalization initiatives, we need a coherent framework that can take all the fundamental macro-dynamic and micro-sectoral effects into account. We believe that the multi-region, multi-sector framework based intertemporal dynamic methodology presented here provides such an initial step in understanding these fundamentals.

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APPENDIX

Appendix Table 1: Aggregation Structure

Regions of the CGE Model	GTAP Data Base
WHO	United States, Canada, Australia, New Zealand, and all Western Hemisphere
SAS	Japan, Korea, Taiwan, Southeast Asian Five (SEAN), China, India and Hong Kong
E_U	European Union plus European 3
TUR	Turkey
RME	Rest of the Middle East Countries
TRN	Central Eur Assoc. and the former Soviet Union
ROW	Rest of the World, Sub-Saharan and poor South African Countries
Commodities of the CGE Model	GTAP Data Base
AGRI	Wheat, Rice, Other Grains, Non-grain crops and Livestock
FOOD	Processed Food Products
MATR	Materials and Intermediates
OMFC	Other manufacturing
TEXT	Textiles
SERV	Services

Appendix Table 2: Bilateral Trade Flows Across Regions (1995 Millions US\$)

	Importing Country				
	EU	TUR	RME	TRN	ROW
Exporting Country					
EU		20,732	73,748	118,818	656,249
TUR	20,987		2,729	3,656	8,060
RME	37,244	3,061		1,739	109,224
TRN	104,282	5,057	2,507		61,759
ROW	650,024	11,347	69,863	41,527	939,539

Appendix Table 3: Shares of Bilateral Trade in Region's Total Exports by Sector

Exporting Country	Importing Country				
	EU	TUR	RME	TRN	ROW
Agriculture					
EU	0.0	5.0	8.6	21.3	65.1
TUR	58.7	0.0	10.9	6.2	24.3
RME	59.4	4.7	0.0	2.4	33.5
TRN	57.8	7.8	2.0	0.0	32.4
Processed Food					
EU		1.1	10.5	22.5	65.9
TUR	27.2		18.2	41.0	13.7
RME	49.4	0.8		16.3	33.5
TRN	47.6	0.4	1.3		50.6
Material					
EU		3.1	9.2	14.4	73.3
TUR	35.1		17.3	11.4	36.2
RME	20.4	2.2		0.8	76.5
TRN	63.6	4.0	1.4		31.0
Other Manufacturing					
EU		2.6	7.1	12.5	77.8
TUR	53.5		5.7	15.3	25.4
RME	39.8	0.6		3.8	55.8
TRN	75.6	1.5	1.8		21.1
Textile					
EU		2.7	6.5	24.1	66.8
TUR	67.3		4.5	14.7	13.5
RME	54.8	1.0		1.1	43.0
TRN	87.1	1.6	0.4		10.9
Total					
EU		2.4	8.5	13.7	75.5
TUR	59.2		7.7	10.3	22.7
RME	24.6	2.0		1.1	72.2
TRN	60.1	2.9	1.4		35.6

Appendix Table 4: Shares of Bilateral Trade in Region's Total Imports by Sector

Exporting Country	Importing Country			
	EU	TUR	RME	TRN
Agriculture				
EU		26.1	17.2	47.7
TUR	3.2		3.6	2.3
RME	2.9	3.6		0.8
TRN	9.7	21	2	
ROW	84.3	49.3	77.3	49.2
Processed Food				
EU		63.3	55.1	66.9
TUR	1.6		3.2	4.1
RME	1.6	0.9		0.9
TRN	12.6	3.7	1	
ROW	84.1	32.2	40.6	28.1
Material				
EU		42.5	58.7	82.6
TUR	1		3.1	1.9
RME	11.1	16.6		2.4
TRN	24.9	21.5	3.4	
ROW	63	19.3	34.7	13
Other Manufacturing				
EU		70.3	47.8	78.7
TUR	0.6		0.3	0.8
RME	1.4	0.4		0.6
TRN	6.8	2.7	0.8	
ROW	91.2	26.6	51	19.8
Textile				
EU		46.6	26	65.4
TUR	8.1		3.7	8.1
RME	2.4	1.3		0.2
TRN	16	8.7	0.5	
ROW	73.4	43.5	69.8	26.4
Total				
EU		51.6	49.5	71.7
TUR	2.6		1.8	2.2
RME	4.6	7.6		1.0
TRN	12.8	12.6	1.7	
ROW	80.0	28.2	46.9	25.1