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## 7 Trade Regime and an Anatomy of Export Performance

It would be possible to recast the Turkish experience with external debt in terms of a narrative involving trade flows exclusively. In this view, the rapid accumulation of debt in 1973–77 was the consequence of the rise in imports while exports stagnated. In 1978–79 the economy went into a tailspin as imports collapsed. The recovery after 1980 came alongside a phenomenal increase in exports, which allowed a revival in imports.

To be sure, a perspective focusing on trade alone would be seriously misleading. The accumulation of external debt and its servicing are both clearly macroeconomic phenomena. These two are fundamentally linked to the relation between aggregate expenditures and national income. As such, the various microeconomic measures constituting a country's trade regime play a somewhat secondary role. The trade regime can be of primary importance in determining the openness of an economy, as revealed for example by the ratios of exports and imports to national income. It can also clearly influence the efficiency with which resources are utilized. But in principle a particular *net* trade position can be achieved with any trade regime in place, no matter how restrictive that regime is. Consequently, explanations of debt crisis or successful adjustment in terms of the properties of a particular trade regime have to be held suspect at first sight.

Still, important linkages exist between trade regimes and the quality of macroeconomic management. There are two important respects in which more open trade regimes tend to facilitate such management. First, the typical import-substitution regime shuts out all imports except for capital goods and intermediates. When macroeconomic adjustment calls for some import compression, the negative effects on domestic output and investment become hard to avoid. Since imports of consumption goods are a very small part of the total, they cannot provide a margin of safety. Secondly, for any given debt/GNP ratio, a higher share of exports in national income means a larger base of foreign exchange earnings with which to cushion external shocks and service debt. A country twice as open as another can generate twice as much foreign exchange through a proportionately identical increase in exports. Since commercial banks understand this, they watch the absolute level of exports closely.

In Turkey's case both factors have come into play at different junctures. During the 1970s, as in the preceding decade, the Turkish trade regime was characterized by typical import-substitution policies. As we have discussed in chapters 4 and 5, the 1980s have seen the dismantling of these policies as well as an export boom that has baffled all but the most optimistic observers. The present chapter provides an overview of these changes in the trade

regime and an analysis of their connection with the management of external debt. In the spirit of the remarks above, we will downplay the direct effects of the trade regime, and changes therein, in precipitating the debt crisis of 1977 and in extricating the economy from the crisis after 1980. Our main focus will be on the sources of the export boom, which has been the single most important success of the post-1980 policies as well as one of the key factors alleviating the burden of the debt crisis.

We shall argue that the post-1980 export performance, remarkable as it has been, has had some disturbing features. First, a non-negligible share of the increase in exports after 1980 turns out to have been the result of a statistical fiction: to take advantage of generous export subsidies, domestic entrepreneurs appear to have changed their invoicing practices from mild underinvoicing to substantial *overinvoicing*. Secondly, an important stimulating role has been played by the Iran-Iraq war, which has created almost overnight a booming market for Turkish manufactured exports to both sides. The relative role of the most important policy variable, the exchange rate, appears to have been disappointingly small, despite vast amounts of real depreciation. Finally, the depressed state of private investment throughout the first half of the 1980s suggests that very little export-oriented structural change has in fact taken place, with the bulk of exports coming from increased capacity utilization.

## 7.1 Import Regime

A complete description and evaluation of Turkey's trade regime during the 1970s and 1980s are beyond the scope of the present work.<sup>1</sup> Here, we will simply summarize some of the salient features and discuss briefly the linkages with the macroeconomy and external debt.

Until the policy reforms of the 1980s, the predominant trade strategy in Turkey was that of import-substituting industrialization (ISI). The trade regime in place throughout the 1970s exhibited all the familiar characteristics of ISI: high rates of trade protection, biased against consumer durables; a wide variation of effective rates of protection across sectors; widespread use of QRs; selectivity and discretion in import-licensing policies; and reliance on administrative allocation of foreign exchange. These policies had the usual costs and distortions associated with them. Collectively, they biased production incentives away from exports and toward the domestic market. The domestic resource costs of the manufacturing industries thus sheltered were typically several times higher than the corresponding costs in export-oriented sectors.<sup>2</sup> Perhaps more serious than the allocative inefficiencies was the widespread rent-seeking encouraged by the import regime. Import licenses garnered healthy premia, and a sizable portion of Turkish GNP was devoted to capturing them. It is no coincidence that Krueger's

(1974b) classic article on rent-seeking drew heavily from her experience in Turkey.<sup>3</sup>

Given the predominant pattern of import rationing and foreign exchange licensing, the direct role of the official exchange rate in determining the level of imports was rather limited throughout the 1970s. Hence, econometric work with import demand equations typically discovers a low import demand elasticity with respect to the official exchange rate. Table 7.1 presents the results for an import equation estimated on quarterly data from 1970:II to 1983:IV. The explanatory variables are the trade-weighted real exchange rate, the black-market premium on the dollar (both lagged), the real domestic credit stock, a time trend, and seasonal dummies. The real exchange rate term has the expected negative sign, but the coefficient ( $-0.33$ ) is low and falls short of statistical significance. The black-market premium, by contrast, is statistically significant at the 99 percent confidence level. The results suggest that a 10 percent increase in the black-market premium of the dollar reduces import demand by 7.8 percent. This provides strong evidence that the marginal cost of foreign exchange to importers was the black-market rate rather than the official rate. An important implication of this is that exchange rate devaluations which brought the official rate in line with the black-market one would not only fail to reduce imports, but could actually increase them.

**Table 7.1** Determinants of Import Volume

From 1970:II until 1983:IV					
Observations		55		Degrees of Freedom	47
$R^2$		.75627522		$\bar{R}^2$	.71997579
SSR		.92401961		SEE	.14021409
Durbin-Watson		2.30905026			
No.	Label	Lag	Coefficient	Standard Error	t-Statistic
1	Constant	0	4.9375060	1.3271870	3.720278
2	LRXTWPIW	1	-.3305008	.3433583	-.962553
3	BMXRPR	1	-.7841130	.2607478	-3.007170
4	LRCRED	0	.3267180	.3174550	1.029179
5	TREND	0	.5982761E-02	.5768430E-02	1.037156
6	ONE	0	.8587800E-01	.4672353E-01	1.838003
7	TWO	0	.1492214	.4078458E-01	3.658769
8	FOUR	0	.6235854E-01	.4188279E-01	1.488882
9	RHO	0	.6523425	.1307582	4.988922

Note: Dependent variable is LMVOL. Corrected for first-order serial correlation.

Key: LMVOL: Volume of imports (in logs).

LRXTWPIW: Import-weighted real exchange rate index (in logs).

BMXRPR: Black-market premium of the dollar (percent).

LRCRED: Domestic credit deflated by wholesale price index (in logs).

TREND: Time trend.

ONE, TWO, FOUR: Quarterly dummies for first, second, and fourth quarters, respectively.

There can be little doubt than the ISI policies of the period repressed exports—as a share of national output—below where they would have been in the absence of those measures. They also virtually eliminated imports of consumer goods, reducing such imports to less than 5 percent of all imports. Hence, in both respects they rendered a strategy of investment via foreign borrowing (as in the 1973–77 period) a risky one. To see this, it is sufficient to pose the following hypothetical question: How large would the increase in exports need to have been, assuming everything else was constant, in order to halve the current account deficit of 1977? Since the current account deficit then stood at 7 percent (of GNP) and exports around 5 percent (of GNP), the requisite increase in exports was no less than 70 percent. Had the export share been double its actual level, the corresponding export growth rate would have had to be only 35 percent. Therefore, the low levels of openness fostered by the ISI strategy did complicate the adjustment process once foreign inflows stopped.

Nonetheless, the direct links between ISI and the onset of the debt crisis are extremely tenuous. It would be difficult to sustain any line of argument that gave a role to ISI beyond the sort of calculations presented in the preceding paragraph. The ISI regime per se cannot explain why the current account deficit, and hence the aggregate relationship between income and expenditures, got progressively out of line after 1973. Certainly there was no increase in the restrictiveness of the trade regime after 1973. If anything, there was some liberalization as the authorities made use of the freedom allowed by the ready availability of foreign funds. The problem in this period was not a particular level of imports or exports, but the worsening relation between the two, which in turn reflected the underlying macroeconomic balance (as discussed in chap. 2).

Since 1980, as we discussed in chapter 4, a substantial amount of trade liberalization has been undertaken in line with the prevailing economic philosophy of the period. While small adjustments were made in the trade regime from January 1980 onward, the major break with the past came with the announcement of the 1984 import regime in December 1983. Under the new regime, commodities which had their importation banned or subject to license were explicitly listed, in sharp contrast to the previous system under which all commodities not specifically mentioned were effectively prohibited. This transition from the “positive list” to the “negative list” translated into a quantum jump in trade liberalization, as it became possible to import all products not specifically listed. In addition, large-scale elimination of QRs took place, affecting close to half of all imports (World Bank 1984, 26). While there was an overall downward movement in tariff rates as well, the government imposed specific duties on a wide range of commodities, especially consumer goods which were affected substantially by the elimination of QRs. The resulting import regime was one which was less protective overall, with an average tariff rate (including specific levies) of 30

percent (see table A.26 in the stat. app.), and in which price measures played a much greater role than quotas.

Once again, it is fruitful to speculate about the effect of these trade reforms on the relatively successful macroeconomic adjustment after 1980. There can be little doubt that the rationalization of the import regime which took place after 1983 and the elimination of QRs in particular, have been salutary for the long-run health of the Turkish economy. But no fancy causality tests need be run to determine that trade liberalization could not have played an important role in the recovery after 1980. The adjustments in the trade regime prior to 1984 were by and large small. As pointed out above, the major reforms in the trade regime came into effect in 1984, well after the recovery. It is perhaps more appropriate to regard the improvement in the macroeconomic context as the enabling cause of trade liberalization, as opposed to the other way around.

## 7.2 Export Performance

In 1979 the share of merchandise exports in GNP stood at the meager level of 3.2 percent. By 1985 exports had risen to 14.9 percent of GNP. Figure 7.1 displays the phenomenal rise in Turkish exports after 1980. In dollar terms, exports nearly quadrupled, going up from \$2.3 billion in 1979 to \$8.0 billion in 1985. As figure 7.1 shows, a substantial portion of the increase has resulted from exports to non-OECD countries, principally the Middle Eastern markets. Exports to OECD countries have risen less

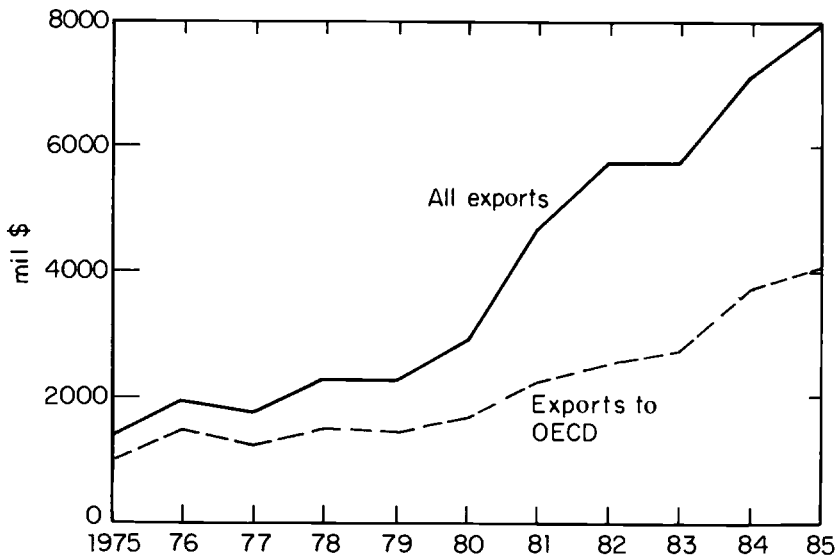


Fig. 7.1 Export performance, 1975–85

spectacularly than total exports, but have more than doubled in the same period. The latter is an important feat considering the generalized slowdown in industrial countries in the wake of the second oil shock.

The significance of the export boom to the relative success of the Turkish adjustment experience after 1980 cannot be belittled. First and foremost, the expansion of exports has allowed a commensurate increase in imports and hence overall economic expansion, without creating undue strains on the current account. Imports have risen from 7.2 percent (of GNP) during the recession of 1979 to 21.7 percent in 1985. This is the critical factor distinguishing the Turkish adjustment experience from the typical pattern of import compression in other heavily indebted developing countries after 1982. Secondly, the export boom has allowed Turkey to reenter international private capital markets starting in 1982. The newfound confidence in the creditworthiness of the Turkish economy is based principally on the success with exports, and it has waxed and waned alongside export statistics. Since the Turkish authorities understand the connection all too well, the continuation of the export drive has become a paramount consideration in policymaking.

Before going into the causes of the export boom, it is worthwhile to stress two transformations that have taken place in the structure of Turkish exports, as these provide some initial clues to the mystery. The first of these is in the geographical destination of exports, which has already been mentioned in our discussion of figure 7.1. As this figure shows, OECD countries were Turkey's main trade partners prior to 1981. The increase in exports since then, however, has come predominantly from increases in sales to non-OECD markets, and to Middle Eastern (including North African) countries in particular. In 1980 the share of the Middle East in total Turkish exports stood at 17 percent; in 1981 this number rose sharply to 40 percent, and averaged 42 percent during 1981–85. Much of the increase was due to expanded trade with Iran and Iraq, two countries involved in a prolonged war with each other. The expanded demands of their war economy, coupled with Turkey's transport cost advantages, provided an unprecedented opportunity for Turkish manufactured exports. These two countries alone took 23 percent of Turkish exports during 1981–85, compared to 8 percent in 1980.

The second transformation has taken place in the product composition of exports. The export boom has been mainly in manufactured products, as agricultural exports have stagnated. As a consequence, the respective shares of the two sectors in aggregate exports have reversed between 1980 and 1983. Industrial products, which constituted 36 percent of exports in 1980, rose to 64 percent by 1983, while the share of agriculture fell from 57 to 33 percent.<sup>4</sup> As tables A.23 and A.25 in the statistical appendix show, the expansion of manufactured exports took place across the board, and was not limited to specific subsectors, even though textiles, clothing, iron, and steel took the lead. The resulting structure of exports is at variance with the

presumption that Turkey's comparative advantage lies in agriculture, processed agricultural products, and labor-intensive light manufactures. Exports of the first two categories have been clearly undistinguished. As for the last, certain capital goods sectors (iron and steel, metal products and machinery) have managed to score impressive successes, alongside the boom in textiles and clothing. But there is less of a puzzle than it would appear at first sight. This pattern of exports is the consequence of both the shift toward the less developed countries in the Middle East and the lavish export subsidies bestowed on *manufactured* goods (on which more later).

What were the underlying determinants of the export boom? Explanations to date have relied on a long and varying list of causal factors. These can be categorized under three headings: (1) export-oriented policies of the governments since 1980, (2) fortuitous external circumstances, and (3) presence of key prerequisites which set the stage for the boom once the factors under (1) and (2) came into play. We shall take up each cluster in turn and attempt an overall evaluation.

As discussed in chapter 4, the policies followed since January 1980 were explicitly oriented toward encouraging exports. Exchange rate policy in this period was geared toward achieving a massive increase in the relative profitability of supplying foreign markets. In a sharp break with the past, the exchange rate was actively used to offset the effects of higher domestic inflation and to provide a margin of real depreciation. The consequence was an unprecedented and largely continuous depreciation of the real exchange rate. Figure 7.2 displays the pattern after 1979. By the end of 1980, a 30

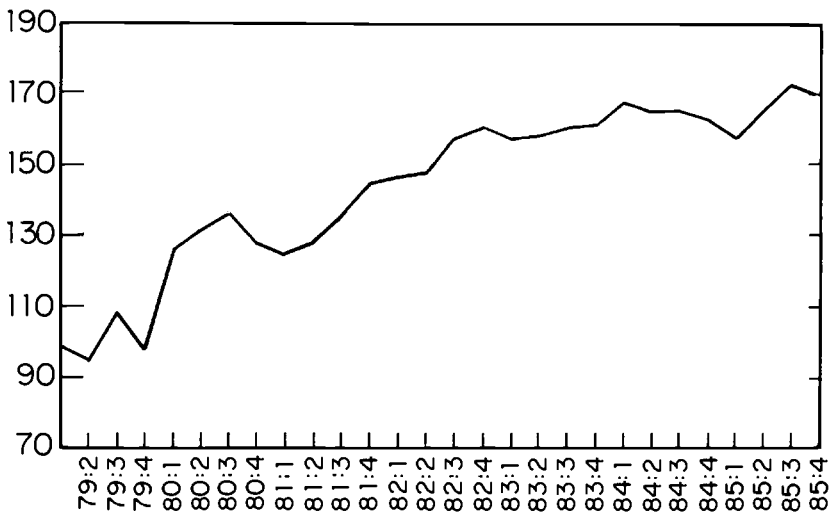


Fig. 7.2 Real effective exchange rate, 1979–85 (export-weighted, using WPI, 1979 = 100)

percent real depreciation had already taken place (relative to the 1979 average). The daily adjustments of the nominal rate after May 1981 facilitated maintaining the real rate on track, and the cumulative real depreciation between then and the end of 1985 amounted to another 30 percent. The downward trend in the real rate and the reduced instability around trend both contributed to the increased attractiveness of exporting (see next section).

The activist exchange rate policy of the period was supplemented by overt export subsidies geared almost exclusively to manufacturing industries. These subsidies took three forms: (1) export tax rebates, which were ostensibly designed to compensate exporters for indirect taxes, (2) subsidized export credits, and (3) preferential allotment of foreign exchange and duty-free imports. The relative importance of these have fluctuated since 1980, with a declining trend in the overall rate of subsidization since 1984. According to Branko Milanovic's (1986) calculations, the ad valorem equivalent of these measures averaged around 20 percent during 1980–83, with a general tendency toward favoring metal products, machinery, and transport equipment (table 7.2). As far as exporters were concerned, the subsidy scheme was equivalent to a step-devaluation of the Turkish lira by the same magnitude. But a key difference was that these subsidies inserted a wedge between the profitability of manufactures exports and the profitability of other means of earning (or saving) foreign exchange. Turkish entrepreneurs, never too shy in exploiting arbitrage opportunities, used the wedge to their advantage. As we

**Table 7.2** Ex Post Export Subsidy Rates in the Manufacturing Sector, 1980–84  
(in percentages)

Sector	1980	1981	1982	1983	1984
Food and beverage	10.8	11.7	13.0	10.6	8.2
Textiles	20.3	19.3	18.9	21.7	13.6
Leather and furs	9.4	14.5	20.6	25.1	16.8
Paper	16.6	21.6	28.1	20.9	9.9
Chemicals	6.4	16.9	16.4	25.4	15.7
Rubber & plastic	36.5	24.9	29.6	21.2	20.0
Glass	24.5	21.6	23.9	18.3	16.9
Cement	16.3	15.6	20.9	28.2	18.0
Iron & steel	16.7	15.3	23.9	29.2	21.0
Nonferrous metals	62.1	63.4	52.3	41.2	25.0
Metal products	71.1	70.2	101.5	159.5	69.7
Nonelectrical machinery	54.0	21.8	25.4	29.2	12.9
Electrical machinery	96.2	69.8	43.8	68.7	29.7
Transport equipment	57.6	47.0	31.7	28.7	25.3
Manufacturing average	22.1	20.5	20.6	23.4	15.1

Source: Milanovic (1986), table VII. 4.

Note: These rates refer to the ratio of the value of combined subsidies to export values.

will discuss below, a considerable amount of overinvoicing of exports—so-called fictitious exports—resulted.

Besides exchange rate policy and export subsidies, two other aspects of the overall policy environment deserve mention. First, the relative restraint in domestic demand management may have had the natural consequence of forcing domestic entrepreneurs to look for export markets. This has no doubt played a role of some importance, which has been highlighted by the experience in 1986 when booming domestic demand led to a reduction in the dollar value of exports. But its importance ought not be exaggerated. The 1978–80 period, in which the cuts in real domestic demand were the most severe, experienced an export performance quite undistinguished relative to what was about to come. Second, the process of trade liberalization may have stimulated exports through the general equilibrium channels captured by the Lerner symmetry theorem. As explained above, however, the major steps in trade liberalization came in 1984 when the export boom was well under way.

Among external circumstances, the Iran-Iraq war was of key importance. The flourishing export market created by the war between Turkey's two southeastern neighbors has already been mentioned. While it is difficult to quantify precisely the effect of the war, it is clear that the increase in Turkish exports after 1980 was due in large part to exports to Middle Eastern markets. Table 7.3 shows that this increase coincided with the expansion of import demand in Iran and Iraq, which reached a combined peak in 1981–83. A partially offsetting external factor was the generalized slowdown in economic growth in developed countries in the wake of the second oil shock.

Finally, the export boom was facilitated by the existence of certain prerequisites. Foremost among these was the availability of large amounts of underutilized industrial capacity, which could be mobilized once imported

**Table 7.3** Imports of Iran and Iraq (f.o.b., in billion \$)

Year	Iran	Iraq	Combined
1976	12.5	4.7	17.2
1977	14.2	4.9	19.1
1978	17.4	5.5	22.9
1979	7.5	9.0	16.5
1980	10.9	12.6	23.5
1981	11.0	18.7	29.7
1982	9.5	19.4	28.9
1983	16.4	11.0	27.4
1984	13.3	10.0	23.3
1985	10.1	9.5	19.6

Source: IMF, *International Financial Statistics*, line 71yv, for each country, converted into dollars using period-average exchange rate.

inputs became available after 1980 and export incentives became sufficiently strong. As discussed in chapter 2, the 1973–77 period had experienced a sustained investment boom, generating substantial industrial capacity. The foreign exchange bottlenecks after 1977 paralyzed the manufacturing sector, resulting in sharp declines in capacity utilization rates to around 45–50 percent.<sup>5</sup> The availability of capacity is one important reason why Turkish industry responded so vigorously to the exchange rate and subsidization policies after 1980. While this allows us to put the investment drive of the previous decade in a somewhat more favorable light, the sectoral composition of the resulting exports, as discussed above, is *prima facie* evidence of the efficiency costs of having misallocated investment through the overvalued exchange rate and other pricing policies of the 1970s: the pattern of exports has been biased away from the sectors in which Turkey possesses a comparative advantage. It can be concluded that the export boom of the 1980s has had a high resource cost compared to a scenario in which the pricing policies of the 1970s had been more benign.

### 7.3 Anatomy of an Export Boom

What were the relative contributions of the factors listed above to the export boom? The answer to this question will not only influence the choice of future policies in Turkey, it will also help determine the extent to which the Turkish adjustment experience can be “exported” to other countries.

A complete answer would require an empirical general equilibrium model constructed specifically for that purpose. Since this is beyond the scope of the present work, we take a short cut instead. Our approach is to estimate a reduced-form regression equation for export volume and to simulate the consequences of alternative counterfactual scenarios for the 1980s. The marginal contribution of an exogenous variable can then be read as the difference between the “predicted” exports from two equations, one with all exogenous variables at their counterfactual values and the other with all variables at their counterfactual values *except* for the relevant variables. In principle, the appropriate regression model ought to include all of the variables discussed above, or at least a proxy for the unobservables. In practice, of course, this is not possible. The contribution of the investment drive during the 1970s cannot be simply read off from a regression. Neither is there any obvious way of capturing the role of the Iran-Iraq war except for a dummy variable. Subject to these limitations and if interpreted cautiously, however, the exercise is still of value.

Table 7.4 contains the results of a quarterly regression for the 1970–84 period. Simple tests for the stability of the coefficients reveal no evidence of structural change after 1980. And since the longer time span provides better statistical results, we have preferred to work with data that go all the way back to 1970. Two additional variables were initially included in the model

Table 7.4 Determinants of Export Volume

From 1970: I until 1984: IV					
Observations		60			
$R^2$		.83458028	Degrees of Freedom		52
SSR		1.7155462	$\bar{R}^2$		.81231224
Durbin-Watson		1.68483936	SEE		.18163500
No.	Label	Lag	Coefficient	Standard Error	t-Statistic
1	Constant	0	-2.0945750	1.5953420	-1.312932
2	LRXTWPEW	1	.4676637	.2316874	2.018511
3	LIPDC	0	1.0402740	.2638576	3.942559
4	LIVXRWP	0	-.7159398E-01	.3479346E-01	-2.057685
5	D2	0	.4138089	.1017891	4.065356
6	ONE	0	.4278913	.6696023E-01	6.390230
7	TWO	0	.1089194	.6688130E-01	1.628548
8	FOUR	0	.4641096	.6717779E-01	6.908676

Note: Dependent variable is LXTVOL.

Key: LXTVOL: Volume of exports (in logs).

LRXTWPEW: Export-weighted real exchange rate index (in logs).

LIPDC: Industrial production index for industrialized countries (in logs).

LIVXRWP: Index of volatility of real exchange rate.

D2: Dummy variable; 0 until 1981:I (inclusive), 1 thereafter.

ONE, TWO, FOUR: Quarterly dummies for first, second, and fourth quarters, respectively.

but have been dropped here because they proved to be statistically insignificant: real stock of domestic credit and a proxy for the export subsidy rate. The first was used to capture the state of domestic demand, and its lack of significance is perhaps not surprising in light of the discussion above. The unsatisfactory results with the proxy for the export subsidy are more disconcerting and probably reflect a large amount of "measurement" error.<sup>6</sup> A time trend was originally included, but also turned out to be nonsignificant.

Among the included variables, two are directly related to exchange rate policy. The *level* of the real exchange rate has the predicted positive effect on the volume of exports, with an elasticity slightly below 0.50, and is statistically significant at the 95 percent confidence level.<sup>7</sup> The *instability* of the real exchange rate, as measured by an index of volatility, has a negative effect on export volume. The level of industrial production in the developed countries has the predicted positive effect, with an elasticity of just around unity. A dummy which takes on the value of 1 from 1981:II onward is also highly significant. Finally the quarterly dummies attest to the highly seasonal nature of Turkish exports. The overall fit of the regression equation is respectable, with an adjusted  $R^2$  of 0.81.

To calculate the contributions of the included variables on export growth we have to specify a counterfactual scenario regarding their time paths. In the following, we assume the following counterfactuals: (a) the real exchange rate remains unchanged from its 1979 level, (b) the volatility of the

real exchange rate remains unchanged from its 1978–79 average, (c) the developed countries continue to expand industrial production at the same rate as in 1970–79 (i.e., 3.36 percent per annum), and (d) the dummy variable for 1982:II remains zero throughout. The simulated levels of export volume over the 1979–84 period under the counterfactual scenario are listed in table 7.5. Notice that the simulated increase in exports is substantially less than the actual: by 1984, the actual volume of exports was almost 90 percent higher than the level that would have resulted under the counterfactual.

Table 7.5 also includes a decomposition of the increase in exports between 1979 and 1984 due to the individual exogenous variables. These calculations are performed by simulating the trend of exports while holding all right-hand-side variables, except for one, on their counterfactual paths, and taking the difference between the level predicted in this fashion and the level in the counterfactual scenario.

The results show that the bulk of the increase is due to the dummy variable for 1981:II, which alone “explains” 58 percent of the difference between the actual and counterfactual levels of exports in 1984. The real depreciation since 1979 explains 30 percent of the increase in exports, and the reduction in exchange rate volatility another 7 percent, bringing the total contribution of exchange rate policy to 37 percent. The slowdown in

Table 7.5 Sources of Export Performance, 1979–84

	1979	1980	1981	1982	1983	1984
Actual export volume	100.8	100.0	161.8	194.7	202.2	235.2
Counterfactual <sup>a</sup>	103.8	108.8	112.6	116.7	120.7	125.1
Simulations <sup>b</sup>						
LRXTWPEW	103.8	123.2	128.8	142.3	150.1	158.3
LIVXRWP	103.8	101.7	113.5	122.1	128.0	132.7
LIPDC	103.8	104.2	105.0	101.3	103.6	112.1
D2	103.8	108.8	170.3	176.5	195.6	206.6
Memo: Fitted values	103.8	110.2	183.1	195.6	206.6	227.6

Decomposition of 1984 Level of Export Volume (relative to 1979)

Total increment to be explained	235.2 – 125.1 = 110.0 (100.0)
Contribution of exchange rate policy:	
Level	158.3 – 125.1 = 33.2 (30.2)
Volatility	132.7 – 125.1 = 7.6 (6.9)
Total	40.8 (37.1)
Contribution of slowdown in industrial-country growth	112.1 – 125.1 = -13.0 (-11.8)
Contribution of post-1981 dummy	189.2 – 125.1 = 64.1 (58.2)
**Unexplained**	18.2 (16.5)

<sup>a</sup>The counterfactual scenario assumes the following: (i) an unchanged real exchange rate from the 1979 level; (ii) an unchanged level of real exchange rate volatility from the 1978–79 average; (iii) same level of industrial country growth in industrial production as in 1970–79, 3.36 percent p.a.; (iv) no dummy for the post-1981 period.

<sup>b</sup>The simulations are run by holding the values of all exogenous variables at their counterfactual level, except for the specified variable. For key to variable names, see table 7.4.

industrial countries, on the other hand, has made a negative contribution of - 12 percent.

These results are striking in two respects. First, it is rather surprising that exchange rate policy has played such a comparatively small role in view of the vast real depreciations achieved since 1980. This, of course, is a reflection of the relatively small export supply elasticity estimated here. Secondly, the predominant role of the dummy variable points to a significant upward shift in export supply or export demand (or both) during 1981. It is tempting to label this effect as having been due to the Iran-Iraq war. Indeed, the expansion of exports to these two countries started during 1981. But in the absence of more direct evidence, this conclusion has to remain perforce tentative.

The dummy variable may also be capturing the effect of export overinvoicing which appears to have begun in earnest in 1981. As explained above, the various export subsidies put into place, or strengthened, after 1980 greatly favored exports of manufactured commodities at the expense of other foreign-exchange-earning activities. The credit subsidies offered to exporters became particularly attractive as the banking sector's real lending rates shot through the roof in 1981, due to the combined effect of financial liberalization and disinflation. This created an incentive to overinvoice such exports, or to simply declare exports where none had in fact taken place, in order to obtain subsidized credit. The fictitious component of the export earnings could then be made up by purchases from the black market or by reversed capital flight. This is one reason why a sustained premium for foreign exchange emerged in the black market after its virtual disappearance in the wake of the devaluation of January 1980 (see table A.19 in the stat. app.). Since the traditional source of supply of foreign currency to the black market is workers' remittances from abroad, the same phenomenon can also be observed in the declining trend of officially recorded remittances.

How large was the magnitude of fictitious exports? A partial answer can be given by comparing partner-country import data with official Turkish export statistics. Two adjustments have to be made to partner-country data before they can be used for this purpose. First, one must adjust for the f.o.b.-c.i.f. difference in the recording of exports and imports. Here, we assume that the cost of insurance and freight adds 8 percent to the f.o.b. value of Turkish exports. This may be a bit too low, but it will allow us to form a conservative estimate of the extent of overinvoicing. Second, one must adjust for the presence of delivery lags.<sup>8</sup> On this score we assume that goods spend an average of three months in transit, which allows us to match Turkish exports with partner-country imports moved forward by a quarter. Once these allowances are made, the difference between the two series can be interpreted as having been due to over- or underinvoicing on the part of Turkish exporters. Given the unreliability of trade statistics in most other countries, we carry out the analysis here for Turkey's trade with other OECD countries only.

The results of the exercise are presented in table 7.6 for trade with the OECD as a whole and with West Germany. Look first at the implied patterns of overinvoicing in trade with the OECD. The period before 1981 seems to have been characterized by mild levels of *underinvoicing*, at an average rate of 4.2 percent. The reason presumably had to do with the existence of a black-market premium for foreign currency. Starting in 1981, there is an unmistakable transformation in the invoicing practices of exporters. The overinvoicing ratio is positive in every year during the 1981–85 period; it reaches its zenith in 1984 at a surprising level of 28 percent, before coming down to 8 percent in 1985 (presumably in line with the reduction of subsidies in that year). On average, the actual level of Turkish exports to the rest of the OECD appears to have been overstated by 13 percent during the 1981–85 period. Much of the overinvoicing appears to have taken place in trade with Germany, Turkey's principal trade partner among OECD countries. If the numbers are to be believed, Turkish exports to Germany were overstated by 53 percent in 1984. However, note that overinvoicing appears to have been endemic to this particular bilateral trade relationship, even in the pre-1981 period, although not to the same extent.

The combination of underinvoicing prior to 1981 with substantial overinvoicing since then makes for a less distinguished export performance in the 1980s than is revealed by official statistics. Once fictitious exports are eliminated, the average growth rate of Turkish exports to the OECD during

**Table 7.6** Overinvoicing of Turkish Exports, 1975–85

Year	Exports by Destination (monthly ave., million \$)					
	Turkish Sources		Partner Sources <sup>a</sup>		Overinvoicing by Destination (%)	
	OECD	West Germany	OECD	West Germany	OECD	West Germany
1975	82.1	25.4	102.2	26.2	-19.6	-3.1
1976	122.5	31.1	104.9	28.2	16.7	10.4
1977	102.3	32.4	105.9	30.4	-3.4	6.7
1978	124.7	41.9	130.3	34.1	-4.3	22.7
1979	131.4	45.6	137.0	40.1	-4.1	13.6
1980	136.2	48.8	149.1	48.8	-8.6	0.0
1975–80	116.5	37.5	121.6	34.6	-4.2	8.3
1981	190.2	54.0	186.6	47.2	1.9	14.3
1982	214.7	59.0	194.0	47.9	10.7	23.2
1983	230.9	70.6	205.1	58.4	12.6	20.8
1984	309.3	105.8	241.9	69.4	27.9	52.5
1985	340.3	115.3	314.4	83.0	8.3	38.9
1981–85	257.1	80.9	228.4	61.2	12.6	32.2

Source: OECD, *Monthly Bulletin of Foreign Trade Statistics*, various issues.

<sup>a</sup>Partner-country trade figures have been deflated by 1.08 to adjust for the f.o.b.-c.i.f. difference. In addition, the partner-source data have been moved forward a quarter to account for delivery lags (see text): the data for each year actually refer to the last three quarters of the relevant year and the first quarter of the next.

1980–85 is reduced to 16.1 percent per year (in dollar terms), which is not nearly as spectacular as the 20.1 percent calculated from official statistics, nor as impressively larger than the 7.8 percent for the earlier 1975–80 period. To make similar calculations with respect to Turkey's global exports, we could assume alternatively that (1) there was no overinvoicing in exports to non-OECD areas, or (2) the extent of overinvoicing was the same in trade elsewhere as in trade with the OECD. The recorded and "actual" exports under the two scenarios then become as shown in table 7.7. Of the \$5.0 billion increase in the level of total recorded Turkish exports between 1980 and 1985, the share of fictitious exports turns out to have been 9.2 percent (\$0.5 billion) under the first scenario, and 17.5 percent (\$0.9 billion) under the second.

It is not clear how alarming this phenomenon ought to be. To the extent that the export subsidies managed to increase the overall supply of foreign exchange to the economy, they would have to be deemed at least partly successful. Naturally, this success is diminished insofar as the foreign currency which came under the guise of export receipts would have come in the form of workers' remittances anyhow. But more importantly, fictitious exports overstate the degree to which there was structural change in the economy in the direction of tradables in which a genuine comparative advantage exists. It also sheds some doubt on the permanence of the change of entrepreneurial attitudes in favor of exports.

#### 7.4 Concluding Remarks

In a way, the export boom of the 1980s was an easy one to accomplish. The much-maligned investment-with-debt cycle of the 1970s had put into place a substantial industrial base. The economic collapse after 1977 in turn had led to large amounts of capacity underutilization. Once imported intermediate inputs became available after 1980—thanks to foreign official lending—and important export incentives were created through the exchange rate and overt subsidies, an export expansion of sorts was inevitable.

Since export performance is the clearest success of the post-1980 program, whether the Turkish economy continues to be regarded as a case of successful adjustment depends to an important extent on the continuation of

Table 7.7 Global Exports (in billion \$)

	Recorded Exports	"Actual" Exports	
		(1)	(2)
1980	2.910	3.065	3.186
1985	7.958	7.647	7.352
Difference	5.048	4.582	4.166

the export boom. The boom, of greater concern to Turkish policymakers, is also needed to maintain credit worthiness. In some ways, Turkish exporters have shown remarkable flexibility in the face of adverse market development. As declining oil revenues choked Middle Eastern import demand, exporters have successfully reoriented their efforts toward the OECD. But export performance remains extremely sensitive to the domestic policy environment. A public-investment-led boom in domestic demand in 1986 resulted in an absolute reduction in export earnings. A renewed program of export subsidization since late 1986 appears to have revived exports, as well as overinvoicing, but the underlying fragility is still clearly there.

A fundamental doubt regarding future export performance has to do with capacity constraints. The continuation of the export drive will henceforth require capital accumulation in export-oriented sectors, as output is reaching the limits of existing capacity. But, as discussed in previous chapters, private investment has remained soft since the late 1970s, and public investment continues to favor infrastructure projects with scant export potential. By late 1987, signs of a genuine structural transformation consistent with higher levels of trade orientation were still too few for comfort.

## 8            The Public Sector: Fiscal Adjustment and Resource Mobilization

In combination with price, incomes, and external borrowing policies, the government's fiscal policy has had a close bearing on the conditions of macroeconomic stability, trade balance, resource mobilization, and growth in the Turkish economy in the post-1973 period. Fiscal policy has affected macroeconomic performance through the workings of public sector deficits and their financing mechanisms, and the mix of public revenues and spending.

The 1973–77 period saw a surge in public spending and widening deficits, which were financed mainly through domestic credit expansion. Under reserve decumulation and heavy external borrowing, the expansion of credit to the public sector was largely sterilized by falling net foreign assets of the central bank, producing only a moderate monetary expansion and inflation. The unprecedented rise in imports also served to dampen the inflationary pressures. In turn, the reduced capital inflows in 1978–79 could no longer sterilize deficit financing through central bank credits, leading to a sharp