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18 Foreign Trade in Eastern Europe's Transition: Early Results

Dani Rodrik

Integration into the world economy is one of the difficult tasks awaiting East European countries in transition. Three of these countries—Hungary, Poland, and (former) Czechoslovakia—have already traveled far along this road. Their economies have opened up dramatically, and trade with the West has expanded rapidly, while trade with the East has collapsed under the joint influence of the demise of the CMEA (Council for Mutual Economic Assistance) and the loss of Soviet markets. This paper discusses and analyzes the early results on the trade front in these three countries.

As we shall see, such an analysis is plagued by many uncertainties. Basic trade data are in some cases unreliable, and many other statistics are plagued by the inability of official statisticians to keep track of institutional changes and the expansion of the private sector. With many reforms taking place simultaneously and many shocks to contend with, it is difficult to discern changes that can be attributed to the trade reforms alone. Hence, few solid conclusions emerge.

The paper starts by reviewing the changes in trade policy since 1989 in Hungary, Poland, and Czechoslovakia. Then I present an overall evaluation of recent trends in trade flows, paying particular attention to the shortcomings of official statistics. The rest of the paper is devoted to groping for answers to four questions. How much trade reorientation from East to West has really taken place? How bad is the Soviet trade shock? What has caused the boom in

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exports to the West? Has import liberalization fostered price discipline and restructuring?

18.1 An Overview of Trade Policy Reforms

The three countries started their reform process from rather different initial points. In Hungary, considerable decentralization and market-oriented reform had taken place since 1968, with central planning largely discarded and enterprises already having a large degree of autonomy. In Poland, a similar, if more recent, process had been under way since the early 1980s. Czechoslovakia, by contrast, had retained most of the archetypal characteristics of central planning and of state ownership. Since 1989, the process of economic transformation has picked up considerable speed in Poland and Hungary and was started anew in Czechoslovakia.

Despite the differences in initial conditions and in the timing and speed of reforms, the trade regimes of the three countries looked quite similar by the end of 1991. In all three countries, trade is now demonopolized, and licensing and quotas play a very small role. Exchange controls have virtually disappeared for current account transactions. As in market economies, the main instruments of trade control have become tariffs and the exchange rate. Average tariffs are low relative to countries at similar levels of development (and in the case of Czechoslovakia compare very favorably with those of the industrialized countries). The exchange rate is managed in a “realistic” fashion, and the black market premium is contained well within 20 percent in Hungary, while it has virtually disappeared in the other two countries (table 18.1). In all three countries, some of the more important remaining quantitative restrictions (QRs) are those exercised in connection with the VERs (voluntary export restraints) imposed on them by the European Community, the United States, and some others. This irony highlights the dramatic liberalization that has taken place since 1989.

Appendix A provides a short summary of the main reforms and describes the current makeup of trade policies in each of the three countries (as of December 1991). Here, I emphasize only some of the main features and differences.

The major trade reforms in Poland and Czechoslovakia were undertaken simultaneously with their respective “big bangs”—at the beginning of 1990 in Poland and of 1991 in Czechoslovakia. Hungary’s reforms were introduced in a more gradual fashion. Nonetheless, as mentioned above, the speed of reform appears to have had little effect on the end product. While the scope of licensing and QRs remains broader in Hungary, the difference is one of degree, not one of kind. Also, the other two countries have not been shy in tinkering with their commercial policies as circumstances have demanded. Czechoslovakia introduced a surcharge on consumer goods at the beginning of 1991, but then proceeded to reduce it when it became apparent that import demand had been

Table 18.1 Exchange Rates, Official and Parallel

| | Hungary | | | Poland | | | Czechoslovakia | | |
|--------|--------------|---------------|-----------|--------------|---------------|-----------|----------------|-------------|-----------|
| | Off. (Ft/\$) | Para. (Ft/\$) | Prem. (%) | Off. (Zl/\$) | Para. (Zl/\$) | Prem. (%) | Off. (Kčs) | Para. (Kčs) | Prem. (%) |
| 1988 | 50.4 | | | 431 | 1,979 | 359 | 14.36 | 33.40 | 133 |
| 1989 | 59.1 | | | 1,446 | 5,565 | 285 | 15.05 | 42.39 | 182 |
| 1990:1 | 64.0 | 95.1 | 49 | 9,500 | 9,476 | -0 | 16.54 | 41.14 | 149 |
| 1990:2 | 64.9 | 90.9 | 40 | 9,500 | 9,713 | 2 | 16.62 | | |
| 1990:3 | 62.9 | 77.7 | 24 | 9,500 | 9,502 | 0 | 15.99 | | |
| 1990:4 | 61.0 | 71.4 | 17 | 9,500 | 9,590 | 1 | 22.67 | | |
| 1991:1 | 70.3 | 82.5 | 17 | 9,500 | 9,471 | -0 | 27.88 | 34.10 | 22 |
| 1991:2 | 75.9 | | | 10,394 | 10,416 | 0 | 30.32 | 31.80 | 5 |
| 1991:3 | 76.3 | | | 11,298 | 11,428 | 1 | 30.52 | 32.40 | 6 |

Sources: GUS (1991c); *Prague Post*, 23 November, 1991; World Bank (1991); and OECD (1991b).

Table 18.2 Share of Import Duties in Central Government Revenue (%)

| | |
|-----------------|--------------------------------------|
| Hungary: | |
| 1990 | 5.7 (import duties only) |
| | 7.5 (including all taxes on imports) |
| Poland: | |
| Jan.–Jul. 1991 | 5.8 |
| Aug.–Sep. 1991 | 13.6 |
| Czechoslovakia: | |
| 1991:1–2 | 1.9 (import duties only) |
| | 2.4 (import duties + surcharge) |

Sources: OECD (1991b), GUS (1991c), RIFER (1991).

overestimated. Poland applied temporary tariff suspensions for items covering more than 50 percent of tariff lines, in part to ease inflationary pressures. In August 1991, it then introduced a new tariff schedule, with higher tariffs, when the real appreciation of the zloty and a growing budget deficit reversed the political pressures.

Tariffs average around 13–14 percent in Hungary and Poland (after the recent change there) and around 5 percent in Czechoslovakia. In Poland, the August 1991 change in the tariff schedule has helped more than double the share of tariff revenues in the government budget (from 6 to 14 percent). But some of this increase can be attributed to the decline in other tax revenues (particularly in enterprise taxes). In the other two countries, tariffs constitute a smaller share of budgetary revenues (see table 18.2).¹

With respect to exchange rate policy, Poland's big bang devaluation on 1 January 1990 eliminated the parallel market premium overnight. This was achieved by raising the official rate to the level of the parallel rate. The exchange rate has remained unified since then (table 18.1). In Hungary and Czechoslovakia, the strategy has been somewhat different. In both these cases, unification has been more gradual and achieved in part by increases in the official rate and in part by a *decrease* in the parallel rate (as a consequence of the restrictive monetary and fiscal policies in place). This can be seen in the data presented in table 18.1. In Hungary, restrictive macro policies during 1990 helped squeeze the parallel market premium even though the official rate was constant. By the end of the year, the premium was below 20 percent. In view of the remaining restrictions on the convertibility of the forint, the remaining premium is modest and does not indicate a fundamental misalignment of the exchange rate. In Czechoslovakia, a similar downward movement in the parallel rate is also visible. A devaluation in December 1990 and highly restrictive

1. Foreign firms are an important constituency pushing for higher tariffs; they desire greater protection in exchange for direct investment. This has been especially marked in the auto sector.

macro policies in 1991 have led to the virtual disappearance of the premium by the second quarter of 1991.²

Compared to gradualism, instant exchange rate unification as in Poland may have had an important cost: the unification in Poland had to take place at the level of the parallel rate and may therefore have entailed overvaluation. In general, the reunification parallel rate will be too depreciated in view of the macroeconomic stabilization measures to be put in place subsequently. Such measures can be expected to pull the parallel rate down by reducing aggregate demand. And, as mentioned above, this is what has happened in both Hungary and Czechoslovakia. Hence, the price paid by Poland for instant unification may have been overvaluation. Whether this was a price worth paying to stop a developing hyperinflation is another question. I return to this issue below.

The real exchange rate has appreciated considerably in Poland since the big bang, as a consequence of continued, if reduced, inflation. The same has happened in Hungary also. Czechoslovakia, the country with the greatest degree of success in stabilizing the price level, has also had more success on this front: it has managed to maintain most of the real depreciation achieved by the devaluation at the end of December 1990. Real exchange rate indices are shown in table 18.3.

As a consequence of these reforms, there has been a substantial expansion of private activity in trade, especially on the import side. In Poland, close to half of imports and around 15 percent of exports were undertaken by private entities by late 1991 (up from 20 percent and 5 percent, respectively, in the first quarter of 1990). The number of private companies engaged in trade has mushroomed, from 2,809 in March 1990 to 12,598 in June 1991, an increase of 350 percent (Guzman 1991). In Czechoslovakia, the trade sector is the most buoyant one in terms of private activity. The number of registered private entrepreneurs in "commerce" has increased from 61,533 (12.6 percent of all registered entrepreneurs) at the end of 1990 to 222,804 (19.7 percent) at the end of September 1991. As we shall see in the next section, this mushrooming of private activity is causing problems for trade statistics.

Since the beginning of 1991, trade among the former members of the CMEA has been carried out in dollars and in accordance with the same principles as those that apply to trade with the West. The transferable ruble, in which trade was denominated prior to 1991, has been abandoned, save for the fulfillment of accounts left over from 1990: according to national statistics for the first three quarters of 1991, trade amounting to some 15 percent of the corresponding value for 1990 was still carried out in transferable rubles, but this trade is

2. Tourists were offered Kčs 36.00 to the dollar on the streets of Prague in November 1991, when the official rate was Kčs 28.00. (The transaction is illegal, unlike in Poland.) However, the gap apparently reflects overzealous entrepreneurial behavior, not economic fundamentals: the unsuspecting tourist receives a wad of bills that look like koruny but are actually Polish zlotys (with an effective rate of Kčs 0.10 to the dollar)!

Table 18.3 Real Exchange Rate Indices

| | Hungary | Poland | Czechoslovakia |
|--------|---------|--------|----------------|
| 1988 | 100.0 | 100.0 | 100.0 |
| 1989 | 100.2 | 95.2 | 103.4 |
| 1990:1 | 89.8 | 122.7 | 110.3 |
| 1990:2 | 88.2 | 105.4 | 110.0 |
| 1990:3 | 81.2 | 89.7 | 96.2 |
| 1990:4 | 76.1 | 75.6 | 130.7 |
| 1991:1 | 73.3 | 71.0 | 119.1 |
| 1991:2 | | 67.7 | 118.3 |
| 1991:3 | | 69.3 | 118.9 |

Note: The real exchange rate is calculated by dividing the nominal exchange rate (home currency per dollar) by the CPI. An increase signifies a real *depreciation* of the home currency.

being phased out fast. The obligatory trade protocols of the past have now been replaced by indicative lists, covering much smaller quantities of trade. Soviet authorities initially prohibited all barter arrangements, but the prohibition was later rescinded, and there has been some revival in barter deals during the second half of 1991. The switch to dollar pricing for the bulk of trade has implied substantial terms-of-trade losses for East European countries vis-à-vis the Soviet Union. These losses will be discussed further below.

Last but not least, Hungary, Poland, and Czechoslovakia signed association agreements with the European Community in December 1991. Under the agreement, the EC recognizes the objective of these countries to become full members of the EC in ten years and has granted a number of important trade concessions. VERs on steel products are to be eliminated as of 1992. On products subject to variable levies (such as meat), the EC will undertake three equal cuts of 20 percent each year in duties and variable levies, and quotas will be increased (again in equal amounts) by 10 percent for five years. Quotas on textiles and clothing will be increased by 50 percent or more in 1992, with a complete elimination phased according to the MFA (Multi-Fibre Arrangement) regime to be negotiated in the Uruguay Round, but over a period not exceeding five years. These measures represent a substantial opportunity for the three countries in what is already their most important export market. In return, the East European countries are not expected to implement their tariff reductions until 1995.

18.2 Developments in Eastern Europe's Trade

Table 18.4 summarizes recent developments in the external trade of the three countries, as well as can be pieced together from national sources. The table distinguishes between trade with the formerly socialist economies (FSEs) and trade with market economies (MEs). With respect to the former, an immediate difficulty is the valuation of trade carried out in transferable rubles (TRs) prior

to 1991 and the comparison of convertible-currency trade with TR trade. For 1989 and 1990, I have converted TR values to dollars by using the CMEA TR/dollar rate set by the International Bank for Economic Cooperation (IBEC) (around TR 0.65/\$1.00). Hence, the table presents changes in the implicit dollar value of trade with the FSEs. Where available, volume indices are presented also. The former East Germany has been included in the ME group in calculating the figures for 1991. While these data are subject to a number of problems (to be discussed below), some of the broad trends that they reveal are unmistakable.

First, there has been a rapid downward spiral in trade with former CMEA

Table 18.4 Recent Trends in Eastern Europe's Trade (% change from corresponding period previous year)

| | Formerly Socialist Economy ^a | | Market Economy | | Total ^b | |
|----------------|--|----------------------|----------------|-------------------|--------------------|--------------------|
| | 1990 | 1991 ^c | 1990 | 1991 ^c | 1990 | 1991 ^c |
| <i>Exports</i> | | | | | | |
| Value (\$): | | | | | | |
| Poland | -4 | -87.5 | 40.9 | 6.7 | 11.8 | -1.8 |
| Czechoslovakia | -18.9 | -76.4 | 7.9 | -1.2 | -17.0 | -13.3 |
| Hungary | -17.3 | -74.4 | 19.3 | 11.3 | .8 | .4 |
| Volume: | | | | | | |
| Poland | -13.3 | -44.0 | 40.5 | 19.3 ^d | 13.7 | -5.6 |
| Czechoslovakia | -20.1 | (-50.0) ^e | 15.1 | | -5.9 | -25.0 ^f |
| Hungary | -27.0 | | 13.0 | | | |
| <i>Imports</i> | | | | | | |
| Value (\$): | | | | | | |
| Poland | -25.6 | -75.9 | 6.3 | 73.9 | -2.5 | 64.7 |
| Czechoslovakia | -7.3 | -70.6 | 20.5 | -24.9 | -7.0 | -23.6 |
| Hungary | -9.8 | -51.0 | 14.6 | 38.4 | -.1 | 34.3 |
| Volume: | | | | | | |
| Poland | -34.1 | -45.0 | 2.9 | 89.1 ^d | -17.9 | 41.3 |
| Czechoslovakia | -11.5 | (-33.0) ^e | 34.7 | | 6.4 | -28.0 ^f |
| Hungary | -18.0 | | 4.0 | | | |

Sources: GUS (1991b, 1991c), FSU (1991a), PlanEcon (1991), GATT (1991), and tables provided by the Embassy of the Republic of Hungary.

^aFor 1989 and 1990, dollar values are calculated by using the IBEC exchange rate between TR and dollars rather than implicit national cross-rates. For 1991, the former East Germany is included in market economies, and growth rates are calculated accordingly.

^bCalculated by converting national currency values to U.S. dollars at period-average exchange rates. Owing to the difference between the IBEC and national cross-rates between TR and dollars, these figures are inconsistent with those for the FSEs in the first two columns of the table.

^cJanuary–September.

^dEC only.

^ePlanEcon estimate, for trade with the Soviet Union only.

^fJanuary–June.

trade partners. The cumulative decline in the dollar value of exports to the former CMEA since the beginning of 1990 has been on the order of 80–90 percent and is nothing less than monumental. Declines in volume terms are somewhat smaller, indicating a fall in (implicit) dollar prices in intra-CMEA trade. Soviet deliveries of fuels and raw materials have been severely disrupted. The volume of Soviet petroleum exports to East European countries declined by 23 percent in 1990 and is estimated to have declined by a further 53 percent in 1991 (IMF 1991a). As shown in table 18.5, the collapse of trade with the Soviet Union has been accompanied by substantial terms-of-trade losses. Poland's terms of trade with its former CMEA partners has deteriorated by 48 percent in the first nine months of 1991, and similar numbers are plausible for the other two countries also.

Second, some of the decline in trade with the East has been offset by an increase in trade with the West. Just to point out some of the more remarkable numbers in the table, Poland's exports to the West rose by 41 percent in 1990, while its imports were up by 74 percent in 1991. Hungary's imports from the West have increased by 38 percent in 1991, while its exports have been expanding at less remarkable but still healthy rates. Czechoslovakia seems to be an outlier, as both its exports and its imports appear to have fallen in 1991 after a respectable performance the previous year. However, this evidence is not borne out by the statistics of Czechoslovakia's trade partners: the latter show a continuation of the upward trend, rather than a reversal (see below).

The Czechoslovak case is symptomatic of a general problem with these statistics. As a consequence of the reforms discussed above and of the mushrooming of private traders in particular, a considerable part of trade appears not to be recorded. Previously, central statistical offices collected trade statistics directly from the small number of state trading organizations permitted to undertake trade. The demonopolization of trade has required new modes of data collection, which these countries have now introduced. But, at least in the

Table 18.5 Terms of Trade (% change from corresponding period previous year)

| | 1989 | 1990 | 1991 |
|--------------------|------|-------|--------------------|
| Poland | 18.5 | -17.2 | -10.8 ^a |
| In trade with CMEA | 5.7 | 4.2 | -48.2 |
| Hungary | 2.8 | .1 | N.A. |
| In trade with CMEA | 3.6 | 7.6 | -33.5 ^b |
| Czechoslovakia | 4.3 | 2.3 | -27.7 ^c |
| In trade with CMEA | 6.1 | 2.5 | N.A. |

Sources: GUS (1991b), OECD (1991b), FSU (1991b).

^aJanuary–September.

^bMidpoint of the estimates reported for Soviet trade in Oblath and Tarr (1991), based on 1990 quantities.

^cJanuary–June.

Table 18.6 Comparisons of Home- and Partner-Country Trade Statistics (% change in dollar value of trade with market economies)

| Source | Exports | | Imports | |
|------------------------------|---------|------------------|---------|-------------------|
| | 1990 | 1991:1 | 1990 | 1991:1 |
| Poland: | | | | |
| National statistics | 40.9 | 16.3 | 6.3 | 68.8 |
| IMF statistics | 39.5 | 13.3 | 12.8 | 84.5 |
| Czechoslovakia: ^a | | | | |
| National statistics | 12.9 | -19.0 | 27.5 | -32.3 |
| OECD statistics | 17.3 | 11.7 | 32.4 | 29.2 |
| Hungary: | | | | |
| National statistics | 19.3 | 9.6 ^b | 14.6 | 38.0 ^b |
| IMF statistics | 15.5 | 5.9 | 23.4 | 16.2 |

Sources: Same as in table 18.4 plus IMF (1991b) and OECD (1991a).

^aTrade with OECD only (including Yugoslavia).

^b1991:1-2.

case of Czechoslovakia, these changes appear to have made statistics even less reliable in the short run.³

Table 18.6 compares official figures with those obtained from partner-country data. For Poland and Hungary, the partner data are the exports and imports reported by developed and developing countries in the IMF's *Direction of Trade Statistics (DOTS)*. As *DOTS* does not give a separate entry for Czechoslovakia, I use the totals reported by OECD countries in the *OECD Monthly Statistics of Foreign Trade* in this case. In each case, exports (imports) of the East European country are matched with imports from (exports to) that particular country reported by these groups. As the figures show percentage changes, c.i.f./f.o.b. valuation differences should not affect the comparisons. However, since national statistics are converted to dollars at period-average exchange rates, some statistical discrepancies are possible on this account. Another source of discrepancy is due to the time that goods spend in transit (and during which they are recorded as exports by one country but not as imports by another). Finally, note that only the first quarter of 1991 is covered by the comparisons, as the most recent (aggregate) data available from IMF and OECD sources at the time of writing (December 1991) did not go beyond 1991:1.

On the export side, table 18.6 shows that the trends revealed by home and partner data are reasonably close to each other, with the striking exception of

3. The Czechoslovak monthly foreign trade bulletin puts it bluntly: "The data do not reflect real exports and imports in the reported period but only those exports and imports for which arrive [*sic*] completed proposals for customs procedure. . . . As a result of the above mentioned differences, the surveyed data in 1991 can be compared to the data of the previous year (1990) only for rough orientation" (Federal Statistical Office, *Foreign Trade* [Month 1991], 3).

Czechoslovak exports in 1991:1. According to Czechoslovak statistics, exports to the OECD fell by 19 percent in 1991:1, while OECD statistics show an *increase* of 12 percent. In the other two countries, increases in exports are somewhat higher according to official statistics, but the discrepancies are nowhere as large and can be accounted for by the factors mentioned above.

On the import side, home statistics almost consistently understate the increase in imports from the West and typically by nonnegligible margins. The growth of Poland's imports, for example, appears to have been twice as large in 1990 as was reported in table 18.4.⁴ This is consistent with anecdotal evidence, such as widespread stories of enterprising individuals coming back from Germany with their cars full of consumer goods for resale at home. Since the bulk of private activity in trade has taken place in imports, it is not a surprise to find the discrepancies mostly on the import side. Once again, however, the magnitude of the Czechoslovak discrepancy is noteworthy: while the Czechoslovak statistics show a decline of 32 percent in imports from the OECD in 1991:1, the OECD statistics show an increase of 29 percent!

In view of the large discrepancies in Czechoslovak statistics, table 18.7 displays the comparative data at the level of individual countries. I have selected here important trade partners for which OECD data were available through the first half of 1991 so that we can also see whether the discrepancies extend beyond 1991:1. The answer seems to be yes. On the whole, both imports and exports appear to be greatly underreported in Czechoslovak statistics. Some of the discrepancies on the import side in particular are extremely large: while France reports an increase in exports to Czechoslovakia of 180 percent, Czechoslovakia's own statistics suggest an increase of only 2 percent!

What conclusions can we therefore draw from these comparisons concerning trade with the West? First, it seems evident that Czechoslovak trade statistics for 1991 are not reliable and hence that the 1991 declines in trade with the West reported in table 18.4 should not be taken seriously. Second, official statistics considerably understate the volume of imports from the West in all three countries. Third, while imports appear to have been increasing at impressive rates in 1991 (especially in Poland), export performance is not as solid in 1991 as it had been the previous year. In Poland, the 1990 export boom has fizzled out (and has been replaced by an import boom). In Hungary, a less impressive import boom is in place also, while exports have not expanded as rapidly in 1991 as in the previous year.

We finally look at trade balances, which are shown in table 18.8. Two points are noteworthy here. First, in all three countries, the balance with the FSEs (mainly the Soviet Union) deteriorated significantly in 1991, with surpluses in 1990 turning into deficits in Poland and Hungary and a small deficit growing sixfold in Czechoslovakia. These deficits reflect the deterioration in the terms

4. On the underreporting of Poland's imports in 1990, see also Berg and Sachs (1991), who, however, report a larger discrepancy.

Table 18.7 Czechoslovak Trade with Leading OECD Partners, 1991:1-2 (% change from 1990:1-2)

| | Exports | | Imports | |
|----------------|-----------|-----------|-----------|-----------|
| | CSFR Data | OECD Data | CSFR Data | OECD Data |
| <i>Partner</i> | | | | |
| Germany | 15.8 | 21.5 | -22.6 | 6.0 |
| Italy | 19.0 | 19.0 | 28.8 | 33.6 |
| Yugoslavia | 61.8 | 72.1 | -26.4 | 1.1 |
| France | -11.4 | -1.1 | 2.0 | 179.9 |
| Netherlands | 6.7 | 21.3 | 14.8 | 20.1 |
| United Kingdom | -40.2 | -13.0 | -51.8 | 2.0 |

Sources: Same as in table 18.6.

Table 18.8 Trade Balances

| | Formerly Socialist Economies | Market Economies |
|-------------------------------|------------------------------|------------------|
| Hungary (Ft billion): | | |
| 1990 | 10.9 | 47.8 |
| Jan.-Sep. 1991 | -52.9 | -57.0 |
| Poland (Zl billion): | | |
| 1990 | 8,934 | 36,608 |
| Jan.-Sep. 1991 | -2,311 | 3,071 |
| Czechoslovakia (Kčs billion): | | |
| 1990 | -1.43 | -6.59 |
| Jan.-Aug. 1991 | -8.26 | 9.62 |

of trade that followed the move to dollar pricing and the collapse of exports to the Soviet market. Unlike in previous years, these balances are now denominated in real money, that is, dollars. (It is still not clear how claims in transferable rubles that derive from previous surpluses with the Soviet Union will be settled.)

Second, each of the three countries has run a trade surplus with market economies during its program's first year (1990 in Poland and Hungary, 1991 in Czechoslovakia). Poland's 1990 trade surplus was particularly large, amounting to close to \$4 billion. Moreover, in each of these cases, the surplus was entirely unanticipated. The Polish stabilization program had predicted a trade deficit in convertible-currency trade of \$0.5 billion for 1990. Similarly, the 1991 Czechoslovak program had predicted a current account deficit of \$2.5 billion. Hence, these economies have exhibited early on either an unexpectedly strong expenditure reduction or an unexpectedly strong expenditure switching, or both.

The standard economic prescription for a country that is undergoing a one-time transition cost is to run trade deficits for a while in order to smooth con-

Table 18.9 Partner Composition of Exports (%)

| Year | Eastern Europe ^a | | | EC | Others |
|------------------------------------|-----------------------------|--------------|-------|------|--------|
| | EE5 | Soviet Union | Total | | |
| Czechoslovakia: | | | | | |
| 1985 | 13.4 | 33.1 | 46.5 | | |
| 1988 | 17.2 | 33.4 | 50.6 | 16.7 | 32.7 |
| 1989 | 16.7 | 30.5 | 47.2 | 18.2 | 34.6 |
| 1990 | 13.0 | 25.2 | 38.2 | 26.5 | 35.3 |
| Jan.–Sep. 1991 | 13.0 | 19.4 | 32.4 | 40.1 | 27.5 |
| Medium-run prediction ^b | 10.8 | 14.3 | 25.1 | 46.3 | 28.6 |
| Poland: | | | | | |
| 1985 | 14.8 | 28.4 | 43.2 | 23.2 | 33.6 |
| 1988 | 11.8 | 24.5 | 36.3 | 28.3 | 35.4 |
| 1989 | 9.9 | 20.8 | 30.7 | 32.1 | 37.2 |
| 1990 | 6.8 | 15.4 | 22.2 | 47.2 | 30.6 |
| Jan.–Sep. 1991 | 6.1 | 11.8 | 17.9 | 53.3 | 28.8 |
| Medium-run prediction ^b | 9.3 | 13.9 | 23.2 | 51.2 | 25.6 |
| Hungary: | | | | | |
| 1985 | 12.8 | 33.6 | 46.4 | | |
| 1988 | 11.8 | 27.6 | 39.4 | | |
| 1989 | 10.5 | 25.1 | 35.6 | 24.9 | 39.5 |
| 1990 | 8.0 | 20.2 | 28.2 | 32.2 | 39.6 |
| Jan.–Sep. 1991 | | | 19.7 | 45.6 | 34.7 |
| Medium-run prediction ^b | 15.0 | 18.0 | 33.0 | 37.2 | 29.8 |

Sources: Rosati (1991), OECD (1991b), FSU (1991a), GUS (1991a).

^aExcluding former GDR.

^bFrom Collins and Rodrik (1991). See text for explanation.

sumption. Since these deficits have not materialized (at least until later on), the implication is that the early phase of the transition has been more costly than it need have been.⁵

18.3 How Much Trade Reorientation Has Really Taken Place?

The boom in trade with the West, combined with the collapse of intra-CMEA trade, suggests that a considerable amount of reorientation has already taken place in East European countries' trade patterns. Statistics using national exchange rates vis-à-vis the dollar and the transferable ruble seem to indicate that this has been going on for some time now. The figures show a nonnegligible reorientation of exports away from the CMEA and toward Western markets (the EC in particular) since the mid-1980s in both Poland and Hungary and since 1988 in Czechoslovakia as well (table 18.9). The basic trend is one of

5. A strong argument can be made that external financing was available for more borrowing than took place (see, e.g., "Poland Fails" 1992).

sharp reduction in the importance of other Eastern markets (mainly the Soviet Union), offset by an equivalent increase in the importance of the EC. Between 1985 and 1990, Hungary and Poland both reduced their shares of exports going to the Soviet Union by almost 14 percentage points; the shares of the EC meanwhile doubled. Czechoslovakia has undergone the slowest transformation, and the importance of Eastern markets remains much higher in this country than in the other two.

However, these pre-1991 figures are somewhat suspect. The reason has to do with the conversion rates used in translating exports in transferable rubles (TR) to the national currency. It is well recognized that national exchange rates against the TR have been rather arbitrary, rendering comparison of flows to the dollar area and the ruble area problematic. This in itself would not affect the trends in trade shares over time. But, in both Hungary and Poland, changes in the national exchange rates vis-à-vis the TR and the dollar have implied a depreciation of the TR against the dollar (Table 18.10). In part, these changes were motivated by the authorities' desire to discourage exports to the Soviet Union and to reduce trade surpluses in nonconvertible-currency trade. Consequently, the decline in Hungary's and Poland's CMEA trade is overstated relative to that in Czechoslovakia (where the cross-rate has remained more stable since 1985).

These considerations no longer apply to the trade figures for 1991, as the bulk of trade with the East began to be carried out in dollars in that year. These later figures show that former CMEA markets now receive less than a fifth of Polish and Hungarian exports and about a third of Czechoslovak exports. The share of the EC, meanwhile, is greater than 40 percent in all three countries.

These dramatic changes have occurred faster than predicted. Indeed, the decline in the Soviet and former CMEA markets has probably overshoot the longer-run, steady-state market shares. Table 18.9 shows for each country a predicted regional distribution of exports at the end of the transition, taken from work that Susan Collins and I have done previously (Collins and Rodrik 1991). These predictions were obtained by updating an interwar (1923) trade matrix for these countries using information from the evolution of the trade of six comparator countries since then.⁶ Since these predictions make no allowance for the hysteresis created by four decades of socialism and integration under the CMEA, a reasonable hypothesis is that they overstate the reorientation toward the West that will likely take place in the long run. However, in the case of Poland and Hungary, the 1991 results indicate that the realized reorientation has already surpassed those ambitious projections. In both countries, the share of the CMEA is lower and the share of the EC higher than the levels that our method yields as the most "reasonable" projections over the medium run.

6. The comparator countries are Germany, Austria, Finland, Spain, Italy, and Portugal. For a study based on the gravity model, see also Wang and Winters (1991), the results of which are broadly similar to those of Collins and Rodrik (1991).

Table 18.10 **Implicit Ruble-Dollar Exchange Rates, Based on National Rates (TR/\$)**

| | Hungary | Poland | Czechoslovakia |
|---------------------------------|---------|--------|----------------|
| 1985 | 1.88 | 1.76 | 1.85 |
| 1988 | 1.94 | 2.21 | 1.44 |
| 1989 | 2.09 | 2.96 | 1.51 |
| 1990 | 2.30 | 4.52 | 1.79 |
| ratio of 1990 rate to 1985 rate | 1.22 | 2.57 | .97 |

Source: Rosati (1991).

Impressive as they may be, these statistics do not really inform us of the extent to which enterprises have been able to shift sales from Eastern to Western markets, for these outcomes are also consistent with sharp reductions in the kinds of products exported to the East and sharp increases in products exported to the West, with no real reorientation of trade, save in a statistical sense. Evidence indicates that a considerable share of manufactured products previously exported to the East is unmarketable in the West, at any price. Examples are computer products that are several generations old and manufacturing activities specifically geared to Soviet standards (e.g., tramcars).⁷

In principle, it would be possible to see how much reorientation has taken place at the product level by examining highly disaggregated trade data. Here, I analyze somewhat aggregate product categories, exploiting the differences in the product composition of exports to the two areas.

I focus on Hungary and Poland, which are the candidates for the greatest reorientation. Tables 18.11 and 18.12 show the product composition of these countries' exports to the East and the West for 1990 and for either 1985 (Poland) or 1986 (Hungary). The data show large differences in product composition with respect to the two areas. Machinery has constituted almost half of Hungarian exports to the ruble area but less than 15 percent of exports to the West. Exports of raw materials to the West have been twice as important as exports to the East. In Poland, electroengineering products constitute three-quarters of exports to the East but less than a third of exports to the West.

Such differences allow us to check for reorientation of trade at the product level. If these countries have been successful at redirecting their Eastern exports to the West, we would see a certain convergence in the product composition of exports to the two areas. A quick look at the tables suggests that no convergence has in fact occurred since the mid-1980s, despite the remarkable decline in the overall share of exports to the East as discussed above. The shares of machinery and electroengineering exports to the West, in Hungary

7. For an argument that East-West trade is likely to remain small on account of the East's specialization in low-quality goods for which the West has little demand and no comparative advantage, see Murphy and Shleifer (1991).

Table 18.11 Hungary: Product Composition of Exports by Area (%)

| | Ruble Area | | Nonruble Area | |
|----------------|------------|-------|---------------|-------|
| | 1986 | 1990 | 1986 | 1990 |
| Energy, elect. | .6 | .3 | 3.4 | 3.3 |
| Raw materials | 22.3 | 20.8 | 38.9 | 43.8 |
| Machinery | 46.0 | 43.9 | 14.5 | 11.6 |
| Ind. consumer | 16.7 | 19.1 | 16.4 | 15.6 |
| Food | 14.3 | 15.9 | 26.9 | 25.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Source: OECD (1991b).

Table 18.12 Poland: Product Composition of Industrial Exports by Area (%)

| | Ruble Area | | Nonruble Area | |
|--------------------|------------|-------|---------------|-------|
| | 1986 | 1990 | 1986 | 1990 |
| Metallurgy | 4.3 | 2.1 | 19.5 | 21.9 |
| Electroengineering | 74.2 | 76.2 | 30.0 | 29.2 |
| Chemical | 10.5 | 14.8 | 17.6 | 15.3 |
| Mineral | .9 | .6 | 1.8 | 2.5 |
| Wood and paper | .9 | .6 | 4.6 | 6.1 |
| Light | 6.3 | 3.0 | 9.5 | 9.2 |
| Food | 2.2 | 1.8 | 16.1 | 15.0 |
| Others | .6 | .9 | .8 | .8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Source: GUS (1991a).

and Poland, respectively, were lower in 1990 than in the mid-1980s. Hence, there is no evidence that the overall increase in trade with the West was fueled by redirecting Eastern sales to the West or indeed that the latter played any role at all in the former.

To make this conclusion a bit more precise, table 18.13 shows an index of similarity of trade with the two partner groups. This index is calculated as $1 - \sum(\sigma_i^e - \sigma_i^w)^2$, where σ denotes shares of product categories in exports, i indexes product categories, and e and w stand for East and West, respectively. The index takes values between zero (completely dissimilar product composition of trade) and one (identical product composition). The index is calculated for the mid-1980s and for 1990. In addition, a hypothetical calculation is presented under the assumption that all the actual decline in trade with the East was diverted to the West. This hypothetical calculation shows the maximum value that the index would take if the reorientation from East to West had been complete. The following steps go into the calculation: (i) I assume a count-

Table 18.13 Index of Product Similarity in Trade in East and West

| Hungary: | | Poland: | |
|-------------------|------|-------------------|------|
| 1986 | .856 | 1985 | .755 |
| 1990 | .832 | 1990 | .716 |
| 1990 ^a | .949 | 1990 ^a | .900 |

Source: Calculated from tables 18.11 and 18.12. See text for explanation.

^aHypothetical, with full trade diversion from East to West.

erfactual scenario in which exports to the East and West increase by an identical proportion, corresponding to the aggregate growth rate in exports. (ii) I calculate the “shortfall” in exports to the East in 1990, by product category, by subtracting the realized level of exports from the counterfactual level. (iii) This shortfall is then added to the exports that go to the West under the counterfactual scenario, to arrive at a hypothetical structure of exports to the West under full diversion.

The values of the indexes in table 18.13 bear out the previous conclusion from eyeballing the statistics. Not only do the values of the index come nowhere near the hypothetical values that they would take under the full-reorientation scenario, but they actually *decline* in both countries. While more disaggregated analysis could show some areas where diversion has occurred, the conclusion has to be that very little overall reorientation has taken place, even in the two countries where the shares of Eastern markets have exhibited the steepest declines. Moreover, a look at more recent export statistics for 1991 does not change these conclusions.

18.4 How Bad Is the Soviet Trade Shock?

The transition to dollar pricing in Soviet trade in 1991 and the sharp decline in exports to that market have wreaked havoc with the economies of all three countries. The effects show in many different ways. Alongside the collapse in exports has come increases in unemployment and reductions in profitability. Table 18.14 shows the Polish situation: industrial exports to the Soviet Union have fallen by 40 percent when evaluated at dollar prices implicit in the national cross-rate between the TR and the dollar and by more than 90 percent when evaluated at the former IBEC exchange rate. From the perspective of domestic activity and profitability, the former figure is perhaps the more relevant one, but even with that the decline in sales is very significant.

With the decline in enterprise profitability, the tax base of the government has shrunk. In Poland, the deterioration in the fiscal situation during 1991 can be attributed in large part to the reduction in enterprise taxes. In Czechoslovakia, fiscal revenues have also been reduced in the second half of the year.

Meanwhile, the increase in prices of raw materials and energy imports relative to prices of manufactured exports has implied a substantial transfer of

income to the Soviet Union. The sharp increase in the (domestic) price of raw materials has also affected adversely energy- and raw-material-intensive exports to the West, in pharmaceuticals and petrochemicals, for example.

A comparison of economic outcomes in the Czech and Slovak republics highlights the devastating effect of the Soviet trade shock. Such a comparison is instructive because the two republics are quite different in the extent of their reliance on Soviet trade. As table 18.15 shows, the Czech Republic has twice the population and more than twice the income of the Slovak Republic, yet the volume of trade with the Soviet Union is comparable in the two republics. Exports to the Soviet Union are only 60 percent lower in the Slovak Republic, while the volume of imports is actually higher.

The greater orientation toward the Soviet market in the Slovak Republic finds reflection in a much worse economic performance compared to the Czech Republic. Starting from similar macroeconomic positions in mid-1990, output and employment trends in the two republics have diverged greatly. By the end of 1991, the Slovak unemployment rate was more than double the Czech rate, and the industrial recession was considerably deeper (table 18.15). The gap between the two regions has continued to widen since mid-1990, indicating (i) that the difference is intimately linked to the Soviet trade shock and (ii) that, as of the third quarter of 1991, the costs of the Soviet trade shock had not been fully paid yet.

Conceptually, the Soviet trade shock consists of three independent shocks that are frequently lumped together: a terms-of-trade shock, a removal of an implicit import subsidy in Soviet trade, and a market-loss effect. Appendix B discusses these shocks in a more analytic manner (see also Rodrik 1992).

Table 18.14 Poland's Exports to the Soviet Union (\$ million)

| | 1990 | | 1991 ^a | Increase (%) | |
|-----------------------|---------|----------|-------------------|--------------|-------|
| | (A) | (B) | | (A) | (B) |
| Fuels and power | 126.5 | 937.4 | 82.8 | -34.5 | -91.2 |
| Industry | 1,837.7 | 13,617.4 | 1,102.1 | -40.0 | -91.9 |
| Metallurgy | 81.7 | 605.4 | 5.5 | -93.3 | -99.1 |
| Electroengineering | 1,354.0 | 10,033.1 | 666.5 | -50.8 | -93.4 |
| Chemical | 203.9 | 1,510.9 | 249.3 | 22.3 | -83.5 |
| Wood and paper | 9.6 | 71.1 | 0.4 | -95.9 | -99.4 |
| Light | 153.9 | 1,140.4 | 44.9 | -70.8 | -96.1 |
| Food processing | 34.6 | 256.4 | 131.2 | 279.2 | -48.8 |
| Construction | 66.8 | 495.0 | 51.5 | -22.9 | -89.6 |
| Agricultural products | 38.1 | 282.3 | 58.8 | 54.2 | -79.2 |
| Total | 2,069.2 | 15,332.8 | 1,295.2 | -37.4 | -91.6 |

Note: Zloty values converted to dollars using (A) the official exchange rate (Zl 9,500/\$1.00) or (B) the implied Zloty/dollar rate in trade with the ruble area ($9,500 \times 4.52/0.61$).

^aFirst three quarters multiplied by 4/3.

Table 18.15 Comparison of Economic Performance in the Czech and Slovak Republics

| | Czech Republic | Slovak Republic | Ratio |
|---|----------------|-----------------|-------|
| Imports from Soviet Union (Jan.–Aug. 1991, Kčs million) | 30,888 | 34,684 | .89 |
| Exports to Soviet Union (Jan.–Aug. 1991, Kčs million) | 26,047 | 16,381 | 1.59 |
| Population (million) | 10,299 | 5,269 | 1.95 |
| Money income of population (1990, Kčs billion) | 361.1 | 163.8 | 2.20 |
| Industrial output (same year, previous period = 100): | | | |
| 1990: | | | |
| Apr. | 97.8 | 102.7 | .95 |
| Aug. | 94.8 | 96.8 | |
| Dec. | 94.1 | 89.4 | |
| 1991: | | | |
| Jan. | 96.8 | 92.9 | |
| Feb. | 95.1 | 91.0 | |
| Mar. | 78.3 | 80.8 | |
| Apr. | 86.3 | 80.6 | |
| May | 76.6 | 68.8 | |
| Jun. | 89.7 | 81.6 | |
| Jul. | 71.3 | 64.4 | |
| Aug. | 72.0 | 65.7 | 1.10 |
| Unemployment rate (%): | | | |
| 1990: | | | |
| Apr. | .1 | .1 | 1.00 |
| Aug. | .3 | .5 | |
| Dec. | .8 | 1.5 | |
| 1991: | | | |
| Jan. | 1.1 | 2.4 | |
| Feb. | 1.4 | 3.0 | |
| Mar. | 1.7 | 3.7 | |
| Apr. | 2.0 | 4.6 | |
| May | 2.2 | 5.4 | |
| Jun. | 2.6 | 6.3 | |
| Jul. | 3.1 | 7.7 | |
| Aug. | 3.4 | 8.7 | .39 |

Sources: FSU (1991b) and Statistické Prehledy (1991).

The first of these is a conventional terms-of-trade (TOT) shock. As pointed out earlier, with the transition to dollar pricing, border prices of exports have fallen relative to border prices of imports. The TOT shock has come about primarily because dollar export prices to the Soviet Union have fallen. Unlike what is often claimed, implicit dollar prices charged by the Soviet Union for oil and other energy exports have in fact not risen greatly: under the CMEA moving-average pricing mechanism, Soviet oil export prices had been *higher*

Table 18.16 Pricing of Crude Oil Imports in Poland, 1990

| Source of Imports | Volume of Imports (million barrels) | Domestic Prices | | Border Prices | |
|-------------------|--|-----------------|-----------|---------------|-----------|
| | | Zl 1,000/Barrel | \$/Barrel | TR/Barrel | \$/Barrel |
| Soviet Union | 55.5 | 27.61 | 2.91 | 13.32 | 21.83 |
| Others | 40.8 | 240.76 | 25.34 | ... | 25.34 |
| Total | 96.3 | 117.96 | 12.42 | ... | 23.32 |

Source: Own calculations from value and volume statistics in 1990 trade yearbook, using IBEC and Polish cross-rates between the TR and the dollar.

than world prices between 1986 and 1989 and became only slightly lower in 1990 owing to the jump in world market prices after the Gulf crisis in August.

Nonetheless, the *domestic* price of oil imported from the Soviet Union did increase substantially because the elimination of the TR removed a huge, implicit subsidy on imports from the CMEA area. The subsidy arose from the discrepancy between the internal cross-rate between the TR and the dollar and the rate used by the IBEC in translating a five-year moving average of world (dollar) prices into TRs. Compared to the IBEC rate of TR 0.61/\$1.00 in 1990, the internal rates were TR 4.52, 2.30, and 1.79 in Poland, Hungary, and Czechoslovakia, respectively (table 18.10). Since the ruble was a lot cheaper domestically than externally, importers paid only a fraction of the dollar cost of the oil imported from the Soviet Union. Table 18.16 shows that, in Poland, where the implicit subsidy was largest, Soviet oil cost domestic users less than \$3.00 a barrel, while the border price charged by the Soviet Union was TR 13.31 (i.e., \$21.83). The second effect of the collapse of the CMEA, therefore, is the removal of an implicit import subsidy (and export tax) on trade with the Soviet Union, which I will call the *RS effect*. This is of course a positive shock, even though in the short run it has undoubtedly caused distress among enterprises dependent on cheap Soviet oil.⁸

The third shock arises from the reduction in the volume of export sales to the Soviet market. It involves the loss of rents earned previously from selling manufactured products to the Soviet market at prices that were on average double those that they would fetch in Western markets (see the figures in Oblath and Tarr [1991] and FTRI [1991, 135–37]). This market-loss (ML) effect operates independently from the TOT effect and would be present even if the terms of trade had not deteriorated. However, the deterioration has clearly squeezed the margin between dollar prices in the Soviet Union and those in world markets. So, in practice, there is a certain degree of arbitrariness in attributing the Soviet trade shock separately to the TOT and ML effects.

8. The import subsidy served the purpose of restraining ruble trade surpluses, which was a sensible objective as long as these surpluses were not convertible. For more details and a formal model, see Rodrik (1992).

Table 18.17 Estimates of the Soviet Trade Shock, 1990–91 (billions of dollars, unless otherwise noted)

| | Poland | Hungary | Czechoslovakia |
|---|---------|---------|----------------|
| <i>Basic data</i> | | | |
| Imports from Soviet Union (1990) (A) | 7.840 | 5.467 | 7.574 |
| Changes in prices in Soviet trade (%): | | | |
| Terms of trade | -48.2 | -33.5 | -38.7 |
| Export prices (\$) | -46.4 | -41.6 | -43.6 |
| Import prices (B) | -3.5 | -12.2 | -7.9 |
| Ratio of ruble imports to exports (1990) | .687 | .824 | .949 |
| Changes in prices adjusted for worthless ruble surpluses in 1990 (%): | | | |
| Terms of trade | -24.6 | -19.3 | -35.4 |
| Export prices (\$) (C) | -27.2 | -29.1 | -40.5 |
| Price premium in Soviet market (%): | | | |
| 1990 (D) | 50.1 | 44.1 | 47.1 |
| 1991 (E) | 3.7 | 3.3 | 3.5 |
| Value of ruble exports to Soviet Union: | | | |
| 1989 (F) | 12.450 | 8.696 | 9.419 |
| 1990 (G) | 10.794 | 6.348 | 7.526 |
| Change in export volume to Soviet Union (%): | | | |
| 1990 (H) | -13.3 | -27.0 | -20.1 |
| 1991 (I) | -44.0 | -45.0 | -50.0 |
| Increase in domestic prices of energy (%) (J) | 615.1 | 231.0 | 170.2 |
| Value of energy imports from Soviet Union at domestic prices (K) | .801 | .668 | 1.291 |
| Reduction in energy use by subsidized users (%) (L) | 27.1 | 11.5 | 8.2 |
| <i>Estimates of the Soviet trade shock</i> | | | |
| Market-loss effect (ML) (1990), $D \times F \times H$ | -.83 | -1.05 | -.89 |
| Market-loss effect (ML) (1991), $E \times G \times I$ | -.18 | -.09 | -.13 |
| Terms-of-trade effect (TOT) (1991), $A \times (C - B)$ | -1.86 | -.92 | -2.47 |
| Removal-of-subsidy effect (RS) (1991), $\frac{1}{2} \times J \times K \times L$ | .67 | .09 | .09 |
| Cumulative 1990–91 shock | -2.20 | -1.97 | -3.40 |
| (As % of GDP) | (-3.46) | (-7.82) | (-7.46) |
| Ruble trade surplus at domestic prices | .39 | .30 | .15 |
| Cumulative 1990–91 shock at domestic prices | -2.59 | -2.27 | -3.55 |
| (As % of GDP) | (-4.07) | (-9.01) | (-7.79) |

Source: Rodrik (1992).

Table 18.17, based on Rodrik (1992), presents some estimates of the income losses suffered by the three countries on account of the TOT, ML, and RS effects.⁹ Before discussing the results, three methodological issues deserve comment.

First, as mentioned above, it is not possible to draw an airtight distinction between the TOT and the ML effects in actual calculations involving discrete

9. For other (partial) estimates of these losses, the reader is referred to Berg and Sachs (1991), Oblath and Tarr (1991), and Kenen (1991).

(as opposed to infinitesimal) changes. If the TOT effect is calculated on the basis of base-year (1990) trade volumes, then, in order to avoid double-counting, the ML effect would have to be calculated using end-year (1991) margins between prices in Soviet and alternative markets. Alternatively and equivalently, we could calculate the TOT effect on the basis of 1991 trade volumes and use the 1990 price margin for the ML effect. The first option is followed in this table. Note also that the ML effect is calculated for both 1990 and 1991, as it was operative even before the transition to dollar pricing at the beginning of 1991.

Second, there is the issue of conversion from TRs into dollars. For calculating welfare costs, the appropriate valuation of trade is in terms of world prices. Using the IBEC exchange rate to convert TR values into dollars yields the implicit border prices (in dollars) used in Soviet trade (as explained in app. B). Using any other exchange rate (such as the internal cross-rate) would be inappropriate, in view of the pricing rules followed in CMEA trade, and would confuse the external terms of trade with an internal tax/subsidy scheme. That the IBEC rate may have been "unrealistic" in valuing the ruble too highly is beside the point in this context. Where East European countries are concerned, the trading opportunities among CMEA countries were defined by these "world" prices, no matter how inflated in dollar terms they may have been. One complication that arises, however, is the nonconvertibility of trade surpluses in TRs. We do have to adjust for the fact that ruble trade surpluses could not be redeemed at anything approaching the IBEC exchange rate. So the results in table 18.17 are based on the assumption that ruble surpluses in 1990 were in fact entirely worthless. This assumption calls for scaling down the "effective" dollar price of exports in 1990 by a factor that equals the ratio of recorded imports to exports (Rodrik 1992).

Third, the available data are incomplete and in some cases unreliable. In order to present a full set of estimates, I have occasionally had to rely on extrapolations, especially where Czechoslovakia is concerned (for details, see Rodrik 1992). So the results presented in table 18.17 are, at best, tentative. However, I have generally made the assumptions that would make the Soviet shock appear less costly. The results are therefore likely to represent a lower bound on the magnitude of the shock.

The numbers in table 18.17 show that the three effects combined amount to a huge loss of income (on impact) in the three countries, even on conservative assumptions—\$2.2 billion in Poland, \$2.0 billion in Hungary, and \$3.4 billion in Czechoslovakia. These losses represent 7–8 percent of GDP in Hungary and Czechoslovakia and 3½ percent of GDP in Poland. Taking Keynesian multiplier effects into account, the Soviet shock could easily "account" for a large part of the cumulative decline in GDP in Hungary and Czechoslovakia during 1990–91. The shock plays a comparatively small role in Poland, as Soviet trade is less important in this larger economy.

It should be stressed again that these numbers are somewhat shaky and

based on incomplete data. But, in view of the conservative assumptions made here, it is unlikely that revised estimates would change these conclusions greatly. Hence, there can be little doubt of the devastating effect of the demise of the CMEA in the short run.

18.5 What Caused the Boom in Exports to the West?

As discussed above, export performance in Western markets has been quite good in all three countries (provided that we rely on OECD statistics in the case of Czechoslovakia). In fact, this performance has been much better than most analysts had predicted on the basis of well-known problems with product quality and rigidities in enterprise behavior. What were the reasons for this?

Some of the contributing factors can be listed as follows. First, the external environment was very favorable. By the beginning of 1990, the EC had abolished its discriminatory quantitative restrictions on these countries' exports (except in the "sensitive" areas of agriculture, steel, and textiles). The remaining quotas were somewhat eased in 1990 and 1991. Further, domestic demand rose quite significantly in West Germany (by 5 percent in 1990, compared to a post-1973 average of 1.9 percent), a key export market for all three countries.

There were also important domestic reasons. Enterprise managers were aware of the need to reorient their sales from Eastern to Western markets in view of the coming collapse of the CMEA. Moreover, following price liberalization, enterprises came under pressure to unload their inventories, which had been at very high levels owing to special features of the previous policy regime. The pressure was magnified by a collapse in domestic demand, a by-product of the stabilization measures put in place in all three countries. Finally, the trade reforms discussed earlier must have increased the profitability of exports to the West: import liberalization made available cheaper and higher-quality inputs, and devaluations served to increase the profitability of export sales.

Of these, only the collapse in domestic demand and the changes in trade policy (devaluation, in particular) qualify as serious contenders. The favorable external environment could have played at best a minor role. In view of the small volume of exports from East European countries, it is difficult to believe that these countries faced a serious external demand constraint. Hungary, Poland, and Czechoslovakia taken together accounted for just about 1 percent of EC imports in 1988 and 2 percent of German imports. With respect to quantitative restrictions, there can be little doubt that these restrictions were pervasive, especially in textiles and clothing and in steel. But, once again, their importance is limited since quotas were rarely binding. Some figures for Poland bear this out: only 68.7 percent of the EC quota in steel products was utilized in 1989, and similar ratios held for previous years also; in textiles, in only three out of thirty-three EC categories were quotas filled by more than 90 percent in

1989 (Synowiec and Rzeszutek 1991). The situation was similar for Hungary and Czechoslovakia as well.

On the supply side, the incentive to reorient sales from East to West was clearly in place in 1990. But, as I have already discussed at greater length above, the reorientation that has taken place so far appears to have been limited at best. As regards the unloading of inventories, the decline in inventories generally preceded the export response. In Poland, the sharpest reduction in inventories took place in January, when exports to the West actually fell.¹⁰

These considerations leave exchange rate policy and the domestic demand shock as the most important determinants of export performance. Both Poland and Czechoslovakia started their big bangs with substantial depreciations in the real exchange rate. And the collapse in domestic demand has exceeded 10 percent in both cases. In Hungary, meanwhile, the real exchange rate has appreciated somewhat during 1990 (table 18.3 above), and the reduction in demand has not been as marked as in the other two cases.

It is unlikely that either exchange rate policy or the demand shock alone could have been responsible for the export boom to the West. First, the effective real depreciations at the beginning of 1990 in Poland and at the beginning of 1991 in Czechoslovakia were smaller than the figures in table 18.3 suggest, owing to the presence of foreign-currency retention accounts in both countries prior to their big bangs. Enterprises were allowed to retain a share (40 percent in Poland and 30–35 percent on average in Czechoslovakia) of their hard-currency earnings from exports. Hence, exporters were partially able to obtain the more depreciated parallel rate even before the official devaluations. An appropriately calculated real exchange rate for exports would show a much smaller jump in both countries (for the Polish case, see Pinto [1991]). Second, the real rate has tended to appreciate after to the big bang. The appreciation was especially marked in Poland, where the fixed rate was eroded by a smaller-than-before, but nonetheless significant, inflation rate (table 18.3). By the third quarter of 1990, domestic prices had fully caught up with the exchange rate, as had domestic wages by the fourth quarter. These considerations undermine the importance of exchange rate policy and suggest that domestic demand may have played the key role. However, the Polish export boom has fizzled out in 1991, despite the continuation of the domestic slump. This outcome would be consistent with the sustained real appreciation of the zloty, suggesting that that boom had at least something to do with the devaluation on 1 January 1990.

In principle, we can discriminate between the two competing hypotheses as they have somewhat different empirical implications. If the increase in exports is due primarily to devaluation (or to the reduction in costs that arises from import liberalization), profitability across firms would be positively correlated with export orientation. If, on the other hand, the increase in exports is due primarily to the reduction in home demand, profitability would be *negatively*

10. For data on real inventories, see Calvo and Coricelli (1991, fig. 3).

correlated with export orientation. This is demonstrated in appendix C in the context of a simple model of firm behavior, with the firm assumed to be a price taker in world markets but a price maker domestically. When the increase in exports is a defensive move to compensate for the reduction in domestic sales, firms that increase their export shares the most will be the ones that suffer the greatest reductions in profitability in equilibrium. But, when the increase comes about because of an increase in export prices (or a reduction in input costs), higher export shares will go with higher profitability.

Table 18.18 shows profitability rates and export shares (in convertible-currency trade) for twelve Polish industrial sectors. Note that profits have declined in all sectors (except for food processing) while the export share has increased across the board. Table 18.19 shows the situation in Hungary for the enterprise sector as a whole. While overall profitability appears to have increased slightly in 1990, this can be attributed to a shift in the composition of exports from the East (where exports were less profitable) to the West (where they were more profitable). The profitability of exports to the convertible-currency area has actually fallen in 1990, while the export share has increased. The broad evidence, therefore, is more favorable to the demand-shock hypothesis.

We obtain the same conclusion from analyzing the variation across industries in the Polish case (shown in table 18.18). The correlation coefficient between the change in profitability and the change in export share is $-.43$ for the

Table 18.18 Export Orientation and Profitability in Polish Industry

| | Exports to Convertible-Currency Area as a Share of Sales ^a | | Cash-Flow Profitability ^b | |
|----------------------|--|--------------------|--------------------------------------|--------------------|
| | 1990 | % Change from 1989 | 1990 | % Change from 1989 |
| Metallurgy | .34 | 129 | .23 | -17 |
| Electromachinery: | | | | |
| Metal | .40 | 119 | .15 | -19 |
| Equipment | .39 | 75 | .13 | -39 |
| Precision | .42 | 63 | .18 | -28 |
| Transport equipment | .04 | 89 | .02 | -89 |
| Electrical equipment | .31 | 65 | .09 | -39 |
| Chemicals | .28 | 59 | .19 | -19 |
| Glass | .42 | 96 | .12 | -61 |
| Wood and paper | .71 | 482 | .10 | -57 |
| Textiles | .28 | 107 | .01 | -98 |
| Clothing | .31 | 71 | .09 | -49 |
| Food processing | .48 | 15 | .07 | 243 |

Sources: Mueller (1991, table 4) and Schaffer (in press, table 6).

^aFrom a sample of 167 large enterprises.

^bCash-flow profit is defined as historical cost profit $-$ nominal inventory accumulation $+$ imputed depreciation.

Table 18.19 Export Orientation and Profitability in Hungary (all enterprises and cooperatives)

| | 1989 | 1990 |
|--|------|------|
| % of net revenue ^a attributable to: | | |
| Domestic sales | 88.2 | 89.4 |
| Ruble exports | 4.2 | 2.5 |
| Nonruble exports | 7.6 | 8.1 |
| Net revenue from all sales as a share of direct costs ^b | 18.4 | 18.7 |
| Net revenue from ruble exports as a share of direct costs for ruble exports | 19.2 | 16.2 |
| Net revenue from nonruble exports as a share of direct costs for ruble exports | 31.4 | 26.1 |

Source: OECD (1991b).

^aSales revenue plus subsidies minus direct costs.

^bLabor costs plus costs of material inputs plus marketing costs.

twelve industries included. That is, the industries that improved their export performance the most also suffered the greatest collapse in profits.

Hence, this evidence suggests that the demand shock may have been the predominant source of the export boom, with exchange rate policy playing a more secondary role. However, the evidence is weak and far from conclusive.

18.6 Has Import Liberalization Fostered Price Discipline and Restructuring?

The Polish and Czechoslovak big bangs encompassed trade liberalization alongside price decontrol in large part because the discipline of foreign competition was seen to be a crucial restraint on domestic enterprises. Since the industrial sectors of these economies are highly monopolized, one fear was that enterprise managers would use their new freedom to charge monopoly prices. Free trade would preclude such practices and obviate the need for a lengthy process of industrial restructuring before price liberalization could be launched.

In Poland, there is no evidence that this has worked. As table 18.20 shows, the inflation rate came down substantially after the price adjustments had worked themselves through in the first two months of 1990. However, inflation exhibited a considerable persistence at the rate of 3–5 percent a month for the rest of the year. Given the constant exchange rate, this implied a substantial loss in competitiveness through the end of the year and the first half of the next (see the real exchange rate index in table 18.3 above). Moreover, inflation was not confined to services and nontradables, as the index for industrial goods' prices in table 18.20 shows. Wages in fact rose slower than tradables prices, suggesting also that this was not a case of wage-push inflation (as in the similar

Table 18.20 Inflation in Poland: Change in Prices from Previous Month (%)

| CPI | | Industrial Price Index | | CPI | | Industrial Price Index | |
|-------|------|------------------------|-------|-------|------|------------------------|-----|
| 1990: | | | | 1991: | | | |
| Jan. | 79.6 | | 109.6 | Jan. | 12.7 | | 9.8 |
| Feb. | 23.8 | | 9.6 | Feb. | 6.7 | | 5.4 |
| Mar. | 4.3 | | −.2 | Mar. | 4.5 | | 1.4 |
| Apr. | 7.5 | | 2.1 | Apr. | 2.7 | | 1.0 |
| May | 4.6 | | .6 | May | 2.7 | | 1.6 |
| Jun. | 3.4 | | 1.5 | Jun. | 4.9 | | 3.1 |
| Jul. | 3.6 | | 3.3 | Jul. | .1 | | 2.1 |
| Aug. | 1.8 | | 2.9 | Aug. | .6 | | 1.6 |
| Sep. | 4.6 | | 2.7 | Sep. | 4.3 | | 1.6 |
| Oct. | 5.7 | | 4.9 | Oct. | | | 2.1 |
| Nov. | 4.9 | | 3.6 | | | | |
| Dec. | 5.9 | | 3.3 | | | | |

Source: GUS (1991c).

Chilean experience with exchange rate-based disinflation during the late 1970s).

The question is, How can the prices of domestic tradables continue to rise in the presence of a fixed exchange rate, low tariffs, and no quantitative restrictions on imports? The only possible answer is that the unification of the exchange rate with the jump devaluation of 1 January 1990 took place at too high a level, that is, that the zloty was undervalued throughout much of 1990. The devaluation left domestic prices too low in dollar terms and left headroom for upward adjustment. Hence, it must have been the undervaluation of the zloty that put upward pressure on domestic prices.

In principle, it is not clear why the adjustment in prices could not have taken place in one jump. But in practice it is not difficult to see how enterprises would be adjusting in a slower fashion and groping around for the prices that the market would bear. Of course, once the undervaluation was eliminated, as it must have been sometime toward the end of the year at the latest, the pressure for inflation on this account should have subsided. The reasons for the persistence of inflation from this point on must be sought in other factors, such as the relaxation in fiscal and credit policies and the increase in wages in the second half of the year (see Calvo and Coricelli 1991).

That the zloty was undervalued throughout most of 1990 is evinced also by the huge, unanticipated surplus in Poland's trade balance and by the fact that the fixed exchange rate could be maintained until May 1991, even though the initial judgment had been that it would last for a few months only. Interestingly, not only did the Polish authorities not come under pressure to provide domestic firms with trade protection—after a radical trade reform and during a severe industrial recession—but they were in fact pressed to do quite the opposite. As mentioned in section 18.1 above, beginning in early 1990, a wide range of

customs duties were suspended. Many of the imports involved were inputs for which no domestic competition existed, but the suspensions were also aimed at imposing price discipline through imports. The suspensions covered more than half of all tariff lines and served to reduce the effective tariff rate by half (from 10.9 percent in the first half of 1990 to 5.2 percent in the last quarter [Bak et al. 1991]).

Berg and Sachs (1991) report the results of a cross-sectional regression of changes in Polish industrial sales (by sector) on a number of variables, including changes in import penetration. For 1990, they find that imports did not have any (economically or statistically) significant effect on industrial sales. This is consistent with the argument that the zloty was undervalued and import competition was not a serious disciplining factor during most of 1990.

In 1991, with the continued appreciation of the zloty in real terms, the situation changed quite a bit. Since the first quarter of 1991, an import boom has been in place, especially in consumer goods (table 18.21). Enterprise profits have plummeted in light industries, which bear the brunt of import pressure. Consequently, pressures for protection have intensified, and the government has eliminated the suspensions and put in place a new tariff schedule with higher average tariffs (see app. A). However, it is clear from the persistence of inflation that free trade is still not stabilizing domestic prices.

Czechoslovakia's inflation experience has been different from Poland's. Table 18.22 shows the remarkable stabilization in Czechoslovak prices by the middle of 1991. The liberalization of prices has led to a textbook case of a one-time jump in the price level. Since July, prices have been completely stable (further adjustments in controlled prices in November have led to some increases not shown in the table, however). During the second half of the year, prices of many consumer durables (such as radios, televisions, and passenger cars) were in fact declining. Profits in manufacturing industry have deteriorated significantly throughout 1991, especially in consumer goods, although

Table 18.21 **Composition and Trends in Imports (corresponding period previous year = 100)**

| | Total | Capital Goods | Raw Materials and Intermediary Goods | Consumer Goods |
|----------|-------|---------------|---|----------------|
| Poland: | | | | |
| 1990:2 | 75.9 | 86.3 | 70.0 | 101.0 |
| 1990:3 | 75.8 | 87.7 | 70.1 | 93.5 |
| 1990:4 | 82.1 | 89.0 | 76.9 | 97.0 |
| 1991:1 | 128.7 | 98.9 | 122.3 | 165.3 |
| 1991:2 | 143.5 | 153.1 | 118.2 | 226.6 |
| 1991:3 | 141.3 | 139.7 | 118.0 | 225.3 |
| Hungary: | | | | |
| 1991:1-3 | 133.2 | 125.2 | 151.9 | 173.9 |

Table 18.22 Inflation in the CSFR: Change in Prices from Previous Month (%)

| | CPI | Of Which: | | | |
|-------|------|------------|---------------|----------|------------------|
| | | Foodstuffs | Nonfoodstuffs | Services | Industrial Goods |
| 1991: | | | | | |
| Jan. | 20.7 | 25.9 | 19.2 | 6.5 | |
| Feb. | 6.8 | 1.0 | 13.6 | 3.6 | 19.3 |
| Mar. | 4.7 | -2.2 | 11.4 | 1.5 | -2 |
| Apr. | 2.0 | -1.6 | 3.9 | 4.8 | 2.9 |
| May | 2.0 | -.5 | 3.5 | 4.2 | 1.7 |
| Jun. | 1.8 | -.3 | .5 | 12.8 | -.8 |
| Jul. | -.0 | .4 | -.6 | .6 | -.5 |
| Aug. | .0 | -.1 | -.1 | .6 | .4 |
| Sep. | .3 | | | | -.4 |
| Oct. | -.1 | | | | .0 |

Source: Statistické Prehledy (1991).

much of this is no doubt due to the loss of export markets in the former Soviet Union.

As discussed above, the devaluation of the koruna was cautious compared to the Polish case and did not aim to eliminate the black market premium at one go. The latter was achieved instead by a progressive reduction in the parallel rate as the domestic credit contraction took effect. In this sense, the Czechoslovak program was perhaps more conducive to importing price discipline from abroad. Nonetheless, the devaluation in December 1990 was still a large one (table 18.1 above), which left considerable room for an upward adjustment in domestic prices when price liberalization went into effect the following month. As in Poland, the pressures on tariffs were in the downward direction, not upward: the phasing down of the 20 percent surcharge introduced on consumer goods alongside the big bang took place more rapidly than anticipated.

There is of course another key difference from Poland. Inflation was never a serious problem in Czechoslovakia. Therefore, the stabilization program of 1991 did not have to concern itself with rooting out endemic inflation; it could be limited to minimizing the effects of a one-time price adjustment arising from decontrol. The inertial and expectational elements present in Poland were probably absent in Czechoslovakia. Hence, while the stabilization of prices in Czechoslovakia is consistent with the more gradual unification of the exchange rate, one cannot read too much into it.

18.7 Concluding Remarks

Briefly put, the tentative conclusions of this paper are as follows. First, the changes in trade policy have been quite dramatic, and all three countries have achieved a substantial increase in openness despite some differences in timing

and speed. Second, judging by partner statistics, export performance has been impressive in all three countries, and import booms are under way in at least Hungary and Poland as well. Third, despite what the aggregate statistics show, there is no evidence that exporters have had any success in finding Western markets for the exports that they have lost in Eastern markets. The export boom is based on different kinds of products than those traditionally sold in the East. Fourth, the Soviet trade shock is very serious indeed, with real income losses (on impact) amounting to 7–8 percent of GDP in Hungary and Czechoslovakia and 3½ percent of GDP in Poland. Fifth, export performance can be attributed to exchange rate policy in part, but the collapse of domestic demand has possibly played an even more important role. Sixth, trade liberalization so far appears to have had little effect on price discipline among domestic enterprises or on industrial restructuring, thanks in large part to the substantial devaluations that have accompanied it.

Appendix A

*A Summary of Reforms in Trade and Exchange Rate Policy*¹¹

Hungary

Foreign exchange system. The forint is not convertible to foreign currencies, but in principle foreign exchange is made available to importers automatically if the product is not subject to licensing. As a general rule, other transactions are subject to a foreign exchange license. The exchange rate is set on the basis of a basket of currencies, with the value of the forint adjusted against the basket at irregular intervals.

Tariffs. Tariffs averaged around 13 percent in 1991. Other charges apply in addition to tariffs: a 2 percent customs clearance fee, a 3 percent statistical fee, and 1 percent licensing fee if the imported item is subject to licensing.

Licensing and import quotas. Until January 1989, all imports and exports were subject to licensing. Continued liberalization since then has reduced the scope of licensing to imports covering less than 10 percent of total import value. There exists a consumer goods quota that covers fifteen product groups. The size of the consumer goods quota was tripled in 1991 to (\$650 million from \$200 million in 1990). There is also an advance import-deposit requirement for 100 percent of the value of the intended import.

Export measures. Restrictions apply on exports of steel (to the EC and the United States), sheep and sheep meat (to the EC), and textiles and clothing (to

11. Information reported in app. A has been obtained from World Bank (1991), GATT (1991), and other, national sources.

the EC, the United States, Canada, and Norway). Hungary maintains export subsidies on a number of agricultural products (including milk and dairy products, fruit and vegetables, and sheep meat).

Poland

Foreign exchange system. Since 1 January 1990, the zloty is convertible to foreign currencies for current account transactions. The exchange rate was held fixed against the U.S. dollar at Zl 9,500 from this date until 17 May 1991, after which the zloty was pegged to a basket following a discrete devaluation. On 14 October 1991, the zloty was put on a preannounced downward crawl (at the rate of about 1.8 percent a month). Another discrete devaluation took place in February 1992.

Tariffs. The average (trade-weighted) tariff rates were 8.9 percent in 1989 and 8.6 percent in 1990. During 1990 and the first half of 1991, tariffs were suspended on a wide range of goods (mainly raw materials, intermediate goods, and engineering products), pulling the average rate down. On 1 August 1991, a new tariff schedule was introduced, with eight basic rates from 0 to 40 percent, and suspensions were considerably limited. These changes have raised the average tariff rate to 13.6 percent.

Licensing and import quotas. Import quotas do not exist (save for certain alcoholic beverages), and licensing is limited to a few items.

Export measures. There are no export subsidies. Export restrictions apply on some "essential" goods for the domestic market and on goods subject to "voluntary" export restraints (textiles and clothing, steel, and sheep- and mutton-meat exports to the EC; textiles exports to the United States, Canada, Sweden, and Norway).

Czechoslovakia

Foreign exchange system. As of 15 January 1991, the koruna is convertible to foreign currencies for current account transactions. (There is a limit of Kčs 5,000 per person for travel abroad, however.) The value of the koruna is determined according to a basket of currencies.

Tariffs. Tariffs average around 5 percent, and 96 percent of tariff lines are bound under GATT. On 28 December 1990, a temporary 20 percent import surcharge was introduced mostly on foodstuffs and consumer goods. The surcharge was reduced to 18 percent and subsequently to 15 percent during the course of 1991.

Licensing and import quotas. Quantitative controls on imports are abolished, and only a few import licenses remain (on items such as drugs, weapons, and the like).

Export measures. There are no taxes or subsidies on exports. Almost 20 percent of exports remain subject to licensing. These cover weapons, "essential" inputs for domestic users (e.g., coal, cereals, and milk), and "voluntary" export restraints. The latter apply on metallurgical products (the EC), mutton

(the EC), and textiles and clothing (the EC, the United States, Canada, and Norway).

Appendix B

The Anatomy of the Soviet Trade Shock

Understanding the Soviet trade shock requires understanding the mechanics of the pricing of imports and exports under the CMEA.

The domestic price of, say, crude oil, imported from the Soviet Union was determined in the following manner. First, a five-year moving average of world market prices (in dollars) would be calculated. Then this average price would be converted to TRs by using the IBEC exchange rate (which has varied in the range TR 0.60–TR 0.75/\$1.00). This price in TRs would then be the border price at which the oil was imported. The domestic-currency price would in turn be the TR price multiplied by the national exchange rate between the TR and the national currency. Hence, the domestic price (denoted P_m) would be

$$(B1) \quad p_m = p_m^* \times e'_{RS} \times e_R,$$

where P_m^* is the dollar moving-average price, e'_{RS} is the IBEC rate (TR/\$), and e_R is the national exchange rate between the domestic currency (NC) and the TR (NC/TR). This can be stated equivalently as

$$(B2) \quad p_m = p_m^* \times (e'_{RS}/e_{RS}) \times e_S$$

where e_{RS} is the *national* cross-rate between the TR and the dollar (TR/\$), and e_S is the national exchange rate against the dollar (NC/\$). Note that e_{RS} is an implicit rate, obtained by dividing e_S by e_R . As mentioned in the text, the ruble was implicitly valued more cheaply than the IBEC rate in all three countries, so $(e'_{RS}/e_{RS}) < 1$.

Export prices were determined in more or less the same manner:

$$(B3) \quad p_x = p_x^* \times (e'_{RS}/e_{RS}) \times e_S,$$

with the caveat that manufactured exports rarely had adequate comparators in world markets. So the border price set in TRs was more or less a negotiated price. Nonetheless, we can still use this (and the IBEC exchange rate) to define an implicit dollar price at the border, p_x^* . Note the important conclusion that the gap between e_{RS} and e'_{RS} kept domestic prices of imports and exports cheap (relative to trade with the convertible-currency area), acting as an import subsidy and an export tax in ruble trade.

With the demise of the CMEA, pricing in Soviet trade has become the same

as in any other trade. So import and export prices in domestic currency are now given by

$$(B4) \quad p_m = p_m^{*'} \times e_s,$$

$$(B5) \quad p_x = p_x^{*'} \times e_s,$$

where the prime indicates that posttransition world prices in dollar terms may differ from those prevailing earlier. (But, to save on notation, and with no loss of generality, e_s is assumed to remain unchanged.)

Comparing (B2)–(B3) with (B4)–(B5), we see that the move to dollar pricing involves two distinct effects. One, the terms-of-trade (TOT) effect, is the change from p_m^*/p_x^* to $p_m^{*'}/p_x^{*'}$. The second, the removal of the import subsidy (RS), is the unification of the cross-rate as e'_{RS}/e_{RS} effectively goes to unity.

The third shock arises from the gap between export prices obtained in the Soviet market, p_x^* , and those prevailing for comparable substitutes in world markets, p_a . Holding export prices constant, on every unit reduction of exports to the Soviet Union, a loss of $p_x^* - p_a$ is incurred on this account. This is the market-loss (ML) effect.

Appendix C

Discriminating between the Exchange Rate and Demand-Shock Explanations for the Export Boom

Consider a firm that has market power at home but is a price taker in its export sales. Let home demand be given by $q = a - p$, where p stands for the domestic price. The demand intercept, a , will proxy for demand shocks. The world price in domestic currency is given by e , which also stands for the exchange rate. Costs are given by $c(q + q^*)$, where q^* is exports. The firm's profits are

$$\pi = pq + eq^* - c(q + q^*)^2 = (a - q)q + eq^* - c(q + q^*)^2,$$

with the following two first-order conditions for domestic and export sales, respectively

$$a - 2q - 2c(q + q^*) = 0,$$

$$e - 2c(q + q^*) = 0.$$

Solving these two equations, we get the equilibrium values of q and q^*

$$q = \frac{1}{2}(a - e), \quad q^* = \frac{1}{2}\{e[(1 + c)/c] - a\}.$$

For home sales and exports both to be positive, we require

$$a > e > (a - e)c.$$

We assume that this condition is satisfied.

By substituting back into the objective function, we obtain the indirect profit function:

$$\pi(a, e, c) = (1/4)[(a - e)^2 + (e^2/c)].$$

The share of exports in total sales ($= \alpha$) is in turn given by

$$\alpha(a, e, c) = 1 - [(a - e)c]/e.$$

Note the various derivatives:

$$\begin{aligned}d\pi/da &= 1/2 (a - e) > 0, \\d\pi/de &= 1/2[(e/c) - (a - e)] > 0, \\d\pi/dc &= -(1/4)(e/c)^2 < 0, \\d\alpha/da &= -(c/e) < 0, \\d\alpha/de &= ace^2 > 0, \\d\alpha/dc &= -(a - e)/e < 0.\end{aligned}$$

Now we can see how profits and the export share covary with changes in the exogenous parameters:

Devaluation: $de > 0 \rightarrow d\pi > 0$ and $d\alpha > 0$.

Reduction in input costs: $dc < 0 \rightarrow d\pi > 0$ and $d\alpha > 0$.

Reduction in home demand: $da < 0 \rightarrow d\pi < 0$ and $d\alpha > 0$.

Hence, these shocks have different implications for the correlation between export shares and profitability. When the predominant shock is a fall in demand, we would expect firms that experience the highest reductions in profits also to experience the largest increases in export orientation. With the other two shocks, profits and export orientation are positively correlated.

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Comment Susan M. Collins

This paper provides a useful and informative survey of a number of key aspects of recent trade performance in Poland, Hungary, and Czechoslovakia. I agree with many of the conclusions reached in the paper and found it quite interesting to read. However, there are a few areas where it seems to me that the paper misses some central points, leading the conclusions astray. I will discuss five of the main sections of the paper, pointing out my agreements and disagreements along the way.

The paper begins with a review of recent developments in trade policy in the three countries. Quite rightly, it emphasizes the dramatic shift toward liberalization in each country, although there have been differences in the speeds of liberalization. This section provides a very helpful summary of the key changes.

The paper then discusses recent trade performance. In particular, it shows the impressive increase in both exports and imports with the West. This discussion incorporates an appropriate skepticism of the available data, providing very interesting comparisons of figures from the countries themselves with figures from partner countries. It is worth making the point that, in 1989 and 1990, many analysts predicted that the East European economies would find it extremely difficult to increase exports to the West in the short run because there were supposedly very few products that Western consumers would wish to purchase. This line of thought led to extremely pessimistic forecasts of their external balances during transition. The actual export figures tell a very different story. Exports grew within the first few months of the new policy regimes. Of course, these experiences raise two questions. First, what accounts for the rapid export increases? Second, can they be sustained? I will return to these issues below.

One possible explanation for the very rapid surge in exports to the West is that enterprises simply reoriented exports that used to go to CMEA (Council for Mutual Economic Assistance) countries to market economies. The paper does a very nice job of debunking that hypothesis. It shows—not surprisingly—that the mix of products exported to the West has historically been quite different from the mix exported to the East. If trade had simply been reoriented, one would expect to see the discrepancies in the industrial composition narrow. However, there is no evidence of this at the aggregate industrial sector level. (Of course, there may have been reorientation of specific products.)

The paper then goes on to consider four explanations for the boom in exports to the West: favorable foreign demand, pressure to unload inventories, the collapse in domestic demand, and the increased relative profitability of exports owing to the devaluations and other policy changes. The first two are dismissed rapidly. I agree that demand from the market economies had not been a constraint; therefore, market conditions in the West cannot be the explanation for

the dramatic surge. While the observed timing of inventory depletion and the export surges does not suggest that inventories are the key to the explanation, this connection warranted additional discussion in the paper. The larger the role that inventories played, the worse the prognosis for the increased exports to be sustainable.

Too much of the paper is then devoted to trying to distinguish between the demand collapse and the relative price explanations. First, it seems to me that this is a secondary issue, considerably less interesting and important than assessing whether the export surge can be sustained and how well exports in these countries responded to market signals at all during the early phase of their transitions. Second, the methodology used cannot adequately distinguish between these and alternative explanations of performance. I elaborate on this point below.

The approach is based on a simple model of profit-maximizing firm behavior in which all firms can choose between selling domestically as price setters or selling abroad as price takers. This model implies that a decline in domestic demand will give rise to a negative correlation between observed exports and firm profits since those firms experiencing the largest decline in domestic demand and thus in profits will increase exports most. However, a devaluation would give rise to a positive correlation between profitability and exports. Let me leave aside all the data issues and assume that we have accurate measures of profitability and exports (recall, however, that an earlier section of the paper emphasized that small private endeavors, which now account for an increasing amount of exports, are not adequately reflected in published statistics).

There are at least three problems with applying this model to Eastern Europe in transition. First, not all products are equally salable in the West. As the regime changes to allow additional sales to market economies, we should expect those firms producing goods most easily sold in the West to experience the smallest declines in profits and the largest rise in exports. This phenomenon could account for a positive correlation even without a decline in domestic demand. Second, the model implicitly assumes that firms have optimally allocated their sales between exports and domestic consumers before the shock (demand collapse or devaluation). Clearly, this need not be true of pretransition enterprises. Given an arbitrary allocation, it is difficult to interpret the changes observed at the beginning of the transition. Finally, it may not be accurate to classify East European exporters as price takers in Western markets for this purpose. Even though they account for a very small share of total Western consumption, it would not be surprising to find that they had reduced prices on a number of products in order to sell them quickly for Western hard currencies. If the East "dumped" products in the West, one would expect to observe a negative correlation between profitability and export volume, even if there had been no devaluation.

The last section of the paper argues that, contrary to some people's expectation, import liberalization has not been successful in disciplining price infla-

tion, citing the persistence of inflation despite fixed exchange rates, low tariffs, and the removal of quantitative restrictions on imports. Here, I think that the paper focuses too much on the issue of discipline and not enough on the issue of price-system restructuring. In light of the experience with the slow reduction of inflation in the Southern Cone and other stabilization attempts, I do not find it at all surprising that Polish inflation persisted. But there is a second, and perhaps more interesting, explanation for the persistence of inflation. The economies in Eastern Europe are attempting to rationalize the structure of their price systems by importing prices from the rest of the world. The discrepancies in relative prices in socialist economies compared with comparable relative prices in market economies are well known. Thus, in some cases, the required relative price adjustments are enormous. It may well be that it is easier to achieve a massive price restructuring primarily through price increases than through nominal price decreases. If so, the restructuring would give rise to a general price inflation. It is interesting to note that Czechoslovakia, which had a price structure more in line with world prices than the Polish structure, has found inflation to be less persistent than Poland. The extent of price restructuring and the relation between restructuring and overall inflation are important topics that warrant additional analysis.

Discussion Summary

Kemal Derviş noted that state enterprises produce most of the goods that Poland exports. *Geoffrey Carliner* wondered whether state-owned firms have sufficient motivation and skills to expand this activity by seeking out new markets in the West.

Jeffrey Sachs made several comments. First, he noted that, at least in Poland, an "equalization tax" was used in internal markets to increase the price of Soviet imports. Moreover, the revenue from this tax was used to subsidize exports. Together, these programs undid the effect of the overvalued effective exchange rate of Poland vis-à-vis the Soviet Union. Second, Sachs said that it is not appropriate to compare a terms-of-trade loss, which is an income effect, to a reduction in real GNP, which is an output effect. Third, Sachs presented evidence supporting the thesis that the export boom was due largely to an aggressive policy of export expansion by East European industrial firms. He noted that World Bank economists have observed an explosion in the number of contacts between East European industrial firms and Western buyers/suppliers. Sachs also cited particular instances in which East European firms have produced new products exclusively for export to the West. Finally, he emphasized that only a small part of the export boom can conceivably be explained by depleted inventory stocks.

Richard Freeman suggested that Rodrik consider the economic performance

of Finland as a benchmark for comparison with the East European countries. Freeman also wondered whether the East European import boom was being driven by consumption goods.

Mark Schaffer supported the consensus view that, at least in Poland, inventory depletion did not play an important role in the export boom. He said that, whatever the movements in inventories, the inventory stocks just were not large enough to account for the massive increase in exports.

Kalman Mizsei noted that, in most of Eastern Europe, and particularly in Poland and Hungary, pressure is mounting for the governments to reverse their programs of import liberalization. He said that many of the governments have already increased tariffs and quotas and temporarily suspended the liberalization process.

Sweder van Wijnbergen suggested that Rodrik look at the correlation between changes in sectoral markups and changes in sectoral import penetration. A strong negative coefficient would provide evidence that trade competition provides price discipline.

Dani Rodrik disagreed with Sachs's suggestion that the equalization tax completely offset the effects of overvalued exchange rates. Rodrik said that the equalization tax only partially mitigated the exchange rate distortions. To support this point, he noted that the effective price that East European enterprises pay for oil rose as a result of price liberalization. Finally, Rodrik agreed with Sachs that terms-of-trade effects are not directly comparable to GDP effects. However, Rodrik suggested that it is not clear which measure is more informative since both are problematic. The GDP measure understates the effect on incomes of the terms-of-trade shock, and the terms-of-trade measure needs to be scaled by a Keynesian multiplier.