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Resource Constraints and East European Foreign Trade Structures

by Jan Winiecki, Warsaw*

Among the many constraints facing all participants in the international division of labour in the present decade, some seem to affect centrally planned economies (CPEs) to a greater extent than other countries. The CPEs' additional problems are due, according to Prof. Winiecki, to specific, economic system-related features, in particular their relatively high resource intensity.

Statistics indicate an extremely high energy intensity in the centrally planned economies. Data for 1979 prove the point: to produce \$ 1 of gross national product East European CPEs need on average twice as much energy, in terms of kilograms of coal equivalent, as West European market economies (see table).

Some authors stress, however, that economies pass through three phases of energy intensity: a pre-industrial phase of low energy intensity; a high energy intensity period of industrialisation and infrastructure-building (roads, bridges, harbours, etc.); and, finally, a period of slowly falling energy intensity as an economy matures and its structure shifts again toward less energy-intensive industries and services.

However, even if we compare the 1979 energy intensity of the CPEs with the 1960 energy intensity of the market economies (MEs), assuming a 20 years' lag between levels of development, we find that differences in this respect have not disappeared, even if they have become somewhat smaller. It is obvious, then, that there also exist some determinants of the CPEs' high energy intensity other than their level of economic development. All the more so, as two middle developed West European countries with GNP per capita levels similar to those of East European countries, Spain and Ireland, display an energy intensity only fractionally higher than most West European countries displayed in 1960.

As the dispersion of energy intensity coefficients between CPEs is also smaller than their respective factor and resource endowments would suggest, one is inclined to venture the opinion that the other determinants are to a large degree system-related. In all East European countries it is the centralized planning

system that has resulted in the permanent, although fluctuating, excess demand for production factors and resources.

A combination of system- and policy-related influences, such as a preference for investments as a way of expansion, rewards that are positively correlated with the volume of output but not negatively correlated with the cost of inputs, a preference for gross rather than net indicators, anti-innovative features of the system, etc., encourages excessive consumption of resources (and plain waste). There is a large and growing body of literature on both excess demand and the cyclical nature of this phenomenon.

At the same time the degree of domestic resource availability has been declining steadily as industrialisation has progressed. All East European countries except the Soviet Union had already turned into net importers of industrial raw materials by the 1960s, and over time one after another (again except the USSR) also became net energy importers (in terms of tons of coal equivalent), with Poland closing the list in 1980.

Under the conditions of much higher relative energy prices than in the past – conditions which are expected to continue in the 1980s and beyond – the extremely high energy intensity of the East European economies, coupled with the growing import needs of all of them except the USSR, becomes a serious growth-inhibiting factor. Added to that are also high and growing import needs for industrial raw materials. Both will affect the production and trade structures of the East European economies in the years to come.

Impact on CPEs' Imports

Excess demand for production factors and resources manifests itself in permanent shortages of both. This, in turn, generates pressure for increased imports, mostly imports from market economies, as other CPEs, firstly,

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trade with each other on the basis of earlier trade agreements and secondly, and more important, face similar system-related problems of self-reproducing excess demand, which severely limits the flexibility of their export supplies at short notice. It should be noted that the excess demand also affects exports, for the national economy "sucks in" exportable raw materials and intermediate products.

Excess import demand for investment goods, as well as for raw materials and intermediate products, not only puts pressure on the balance of payments but also disrupts to a certain extent the flow of planned imports. Certain imports planned to alleviate shortages somewhere else or to improve the production structure or (more rarely) to increase the supply of consumer goods have to be postponed. Additional instructions are issued by the planning authorities in order to restore the internal and external balance. As a result, "foreign trade becomes contaminated by the deficiencies of the domestic economy".¹

After periods of increased "suction" come, thus, periods of increased restraint, and just as the former generally take place in the earlier part of the five-year plan, the latter take place in the latter part of it. Greater credit availability in the 1970s relaxed somewhat the necessity of restoring the external balance within the five-year cycle. It did not disappear, however, in the longer run.

Leaving aside for the time being the difficulties in generating increased exports, import restraint is particularly difficult in import substitution-oriented, semi-closed economies. These difficulties stem from their

specific import structure. Foreign trade in such economies is supposed to perform, on the import side, three functions. It supplies an economy with:

- ☐ fuels, raw materials and intermediate goods not produced at home;
- ☐ investment goods not produced at home; and
- ☐ intermediate, investment, and consumer goods supplementing the respective domestically produced goods.

What comes under the heading of *competitive imports* in export-oriented market economies is better defined in CPEs as *supplementary imports*, for they are aimed at alleviating shortages appearing in one or another area under the conditions of permanent excess demand for production factors and resources. Thus imported goods falling into the third category do not compete with domestic goods and cannot be produced domestically in sufficient quantities if and when relative costs change to the advantage of the latter.

With such an import structure, almost all imports are necessary imports, i.e. necessary for the employment of domestic production factors and resources, and even small cuts have a strong impact on domestic production (and on exports as well). For the same reason CPEs adjust less easily when the terms of trade change to their disadvantage.

It is worth pointing out that an increased pressure for imports, or, to put it differently, an unusually high share of necessary imports, stems from the continuation of what is in reality an import substitution-oriented policy (under one or another name). With little participation in the international division of labour in manufacturing industries, too wide a range of finished goods is produced domestically and much too large a range of intermediate inputs. Given the high cost of small-scale production, the more finished goods are produced domestically, the greater are import needs for those inputs that cannot be produced due to the (systematically reproduced) shortages.

Summing up the above considerations, both the economic system and related policy features generate excessive needs for production factors and resources and this, in turn, creates an increased pressure for imports. On the other hand, most of the burden of restoring an equilibrium falls on exports, which in economies lacking an export orientation is very problematical.

Energy Intensity of Gross National Product in 1979 in Selected European Countries

(in kilograms of coal equivalent per US \$)

Eastern Country	1979	Western Country	1979
Bulgaria	1.464	Austria	0.603
Czechoslovakia	1.290	Belgium	0.618
GDR	1.356	Denmark	0.502
Hungary	1.058	Finland	0.767
Poland	1.515	France	0.502
USSR	1.490	FRG	0.565
		Italy	0.655
		Netherlands	0.659
		Norway	1.114
		Sweden	0.713
		Switzerland	0.371
		United Kingdom	0.820
mean (unweighted)	1.362	mean (unweighted)	0.660
standard deviation	0.157	standard deviation	0.184

Source: World Development Report 1981, Annex, Tables 1 and 7.

¹ A. W a k a r : Foreign Trade in a Socialist Economy, Warsaw 1968, p. 163 (in Polish).

In spite of numerous foreign trade expansion programmes, as well as less systematic campaigns and exhortations throughout two decades, there exists broad agreement among experts that the goal of creating an export-oriented economy is yet to be realised. As a result, a more general question ought to be asked, namely whether there are certain features of central planning that hamper the evolution of these economies in the desired direction.

Constraints on Export Orientation

To begin with, it is the opinion of the author that traditional central planning, i.e. that introduced in the USSR in the 1930s and in other East European countries in the early 1950s, is systemically unable to create a real export orientation with respect to manufactured products. Under traditional central planning, according to numerous textbooks, foreign trade plays the role of a supplier of necessary imports which are paid for by exporting domestic production surpluses. Export plans are drawn up only after the so-called material balances for all important products and product groups have been made and surpluses determined, all within the framework of the drawing up of the national plans. In reality, surpluses usually turned out to be smaller than expected and, at the same time, imports turned out to be larger (see above). As a result, export needs created the necessity of shifting to exporting goods required by the domestic economy, more often than not for consumption.

Given the demands of the domestic economy, the smaller the exports of any product the better. The higher the price realised on the world markets for the product, the smaller the quantity which needs to be exported. This paradoxical situation could best be described by the concept of a downward sloping supply curve for the CPEs.² Market economies tend to increase the supply of export goods when their prices increase. Thus, their supply curve is upward sloping.

Obviously, with the lack of interest in exporting larger quantities of certain products rather than smaller quantities of many others due to the policy of exporting surpluses (or alleged surpluses as the case might be), no export specialisation was possible in theory. Nor for that matter was an efficiency calculus of foreign trade possible.

It was mostly in the 1960s that the first attempts were made in these respects. To begin with, various attempts

at creating export orientation in manufactures through the selection of "production for export" did not bring satisfactory results. And not surprisingly so, as production for export differing in quality from the production for domestic consumption is an antithesis to export orientation. Export orientation cannot be "decreed" from above. Intra-industry specialisation means the production of hundreds and thousands of intermediate products at various stages of processing, the quality (and cost) of each product depending very much on the quality (and cost) of the products at the earlier stages of processing. Establishment of manufactured export enclaves creates a harmful dualism in the economy, with the relative backwardness of the remaining industries and enterprises affecting negatively not only the quality (and cost) of products turned out for domestic consumption, but also that of products selected for export.

On the other hand, given the price formation procedures in CPEs, the efficiency of manufactured exports is all but impossible to calculate properly. Various indicators devised over the years in several East European countries are, at best, able to show a relative efficiency of certain products compared with that of some other products within the same product group or the same enterprise only.

Actually, certain systematic cost distortions may have caused what amounts to a wrong specialisation pattern in manufactures. Due to the continuation of the two-tier price system in many CPEs, with investment goods and intermediates being relatively less expensive to customers than consumer goods, as well as with low and undifferentiated depreciation rates, capital intensive goods (mostly investment goods and intermediates) are often made to look relatively cheaper than their labour-intensive counterparts (mostly consumer goods). This, in turn, encourages excessive demand for investments domestically and specialisation in capital-intensive goods for exports, possibly realising losses rather than gains from foreign trade.

The Case of Iron and Steel

Let us exemplify what has been said above by analysing briefly two capital-intensive and resource-intensive product groups: *iron and steel* and *bulk chemicals*. Their exports made up an important part of manufactured exports to the West in the previous decade. Iron and steel have both been exported and imported in large quantities, with the balance depending both on investment cycles in CPEs and on business cycles in the West. One of the consequences of

² Cf. F. D. Holzman: Foreign Trade and Central Planning, Cambridge, Mass., p. 103, although he describes the curve differently.

exporting in the periods of low demand was a strong reliance on price competition. However, even without this feature, the profitability of exports of steel products could be regarded as doubtful. First of all, absurdly low prices for energy seriously understated real production costs. To give but one example, according to some assessments, in the case of Poland, the cost of the total energy input of exported steel products was equal in dollar terms to between 35 % and 49 % of the value of these exports. And these assessments do not take into consideration other disadvantages: the necessity of imports of iron ore, relatively obsolete equipment, undervalued capital costs, etc.³ Under these conditions export specialisation in steel products in general seems to be a mistake. The situation does not appear to be basically different elsewhere, for all of the CPEs (except the Soviet Union) import energy and iron ore, and all of them (except Hungary) undervalue capital costs and are at a technological disadvantage vis-à-vis most of the West and, increasingly, also vis-à-vis a growing number of LDCs. Thus, whereas East European exports fluctuated in 1970-1980 around 4.0-4.5 % of total Western imports, developing countries increased their share from 3.4 % to 4.8 %.

The comparative advantages of the latter may improve their position in the future. They are either large-scale producers and exporters of iron ore (India, Brazil) or of energy (Mexico) or potentially of both (Venezuela). The only important LDC exporter of steel products which, like most East European countries, imports both raw materials and energy is South Korea, but the advantage of that country depends mainly on its very productive modern equipment, coupled with an educated and disciplined work force (a Japanese pattern of the early 1960s).

Whereas supply constraints seem to be much stronger with respect to CPEs than NICs, demand constraints will dampen any rapid increase in exports to the West. Structural surplus capacity in the West is expected to disappear at best by the end of the decade and, in the meantime, "organised market", marred by various restrictions, will prevail, limiting the export possibilities of third countries to products with a lower degree of processing, where Western producers are at a marked cost disadvantage.

Bulk Chemicals

Bulk chemicals possess too diverse characteristics to be analysed in any but general terms. Like steel products, they weigh importantly in the total manufactured exports of CPEs to the West (5-6 %), as

well as in their total imports from the West (all chemicals 10-14 %). The difference between steel products and bulk chemicals lies in the much greater differentials in energy intensity and in resource endowments possessed by some East European countries with respect to certain organic chemicals and fertilisers.

The expansion of the chemical industry proceeded in Eastern Europe at a fast pace in the 1970s and it has often been expected that in the present decade the trade balance of East European CPEs in chemicals will become positive. These expectations may have been overstated, however, given both increasing Eastern demand for fine chemicals, as well as the high demand for imported inputs in this industry. Here, too, given the changed relative prices of energy vis-à-vis manufactures, at least *some* choices of export specialisation seem doubtful. Using the source already referred to, total energy inputs for Poland, in dollar terms, amounted to 44 % of the export value of soda ash, 61 % of the export value of caustic soda, and 119 % of the export value of methanol. The increasing energy constraints will be forcing East European countries to both limit the expansion of the heavy chemical industry and change their export mix of chemicals.

Within the international framework, competitive conditions will be changing greatly in the 1980s and 1990s, with the further slowing down of demand and changing patterns of competition between different groups of suppliers. Moreover, one cannot exclude successful attempts at creating another "organised market", like the one in steel products, this time in bulk chemicals, especially in the EC area, to ease the strains of adjustment. Such developments would most seriously affect East European producers, whose exports of chemicals are most exclusively centered on Western Europe, putting another constraint on an industry already in serious need of rethinking its present production and export strategies.

Actually, a more general questioning of the role to be played by capital- and resource-intensive products in East European exports in the years to come will be difficult to postpone any further. For years we have been observing the so-called Leontief paradox in East-West trade, with the East exporting to an increasing extent goods which are both resource- and capital-intensive: foodstuffs, raw materials, fuels and intermediate products characterised by a low degree of processing.⁴

³ Zycie Gospodarcze of 1981, No. 37.

⁴ B. K a d a r : The Commodity Pattern of East-West Trade, in: Acta Oeconomica, Vol. 18, 1977, No. 2, p. 158.

Interestingly, this feature is common to all East European CPEs, even the most developed ones.

Thus, both strands of the author's reasoning, that concerning export efficiency and that concerning export specialisation, are brought together, for constraints on export orientation stem from the same system-related sources. Any economic reform aiming at the creation of an export-oriented economy has to begin by removing these constraints.

Increasing International Competition

In the highly competitive environment on the world market in the 1980s and beyond, producers from East European CPEs, given their high resource intensity, are faced with a narrowing area of export expansion.

On the one hand, LDCs have been increasing their range of products exported to the West, including those exported previously only by the CPEs. In 1980 there were few two-digit SITC product groups left with respect to which CPEs held a larger share of total Western imports than LDCs. On the other hand, OECD producers have been reinforcing their position with respect to high value-added technology-intensive goods, as well as finding renewed strength in certain traditional product groups, due to the electronics revolution. The effects of these "closing scissors" of increased international competition will be felt all the more strongly since East European economies will also be under increasing resource constraints.

The question arises as to what, under the circumstances, would be the most appropriate area of expansion for CPEs' exports in the 1980s. The following formula has been put forward in this respect for Hungary by an Hungarian economist: "The Hungarian structure optimum in the following 10-15 years may be found in the not too wide zone which the most advanced countries have already started to leave, and which the medium developed and developing countries with lower cost levels cannot yet attain for technical, organisational and qualification reasons."⁵

However, the existence of other middle-developed countries such as Spain, Ireland, South Korea and Taiwan means that these are more or less at the same development level as the CPEs, with the possible exception of Czechoslovakia and the German Democratic Republic. But the latter have been developing under the conditions of relative isolation from the world market, world technology etc., and in consequence, the commodity structure of their exports

to world markets does not seem to be any more advantageous than that of, say, Poland or Hungary, or middle-developed LDCs, to say nothing of Spain and Ireland.

Need for Comprehensive Reforms

A logical consequence of the above statement is that there do not exist – or, at best, almost do not exist – product groups or products that could become an object of export specialisation for Poland or Czechoslovakia but which could not become one for Spain or South Korea. Thus our search for an export zone, as well as for appropriate strategies to implement clearly formulated aims in this respect, will actually cover certain parts of this zone rather than the whole zone outlined by B. Kadar.

To avoid increasing constraints, smaller East European countries should institute comprehensive economic reforms. Comprehensive, because attempts to change only one or another aspect of foreign trade management only will fail in this respect, as they did in the past.

More specific postulates regarded by the author as minimum requirements for successful reforms are the following:

- ☐ Elimination of distortions in cost-price relationships in the domestic economy.
- ☐ Introduction of an incentive system for producers that is correlated positively with the value of output while negatively correlated with the (undistorted) cost of inputs.
- ☐ Increase in competition, both internal and external, on the domestic market.
- ☐ Return of the exchange rate to its traditional role in the price formation process, informing domestic producers, consumers, and policy-makers about scarcities of inputs (resources and production factors) on the world market.

The above list does not contain anything strikingly new. Postulates of this sort appear in many a discussion on economic reforms of CPEs in general. That the list of postulates has been presented here in a different context, i.e. with respect to the external economic performance of East European countries, serves as evidence that, whether the aim is to improve domestic economic performance (the perennial "intensive economic growth" issue) or external economic performance (the not much less debated "export orientation" issue) the means postulated to achieve these aims are by and large the same.

⁵ B. K a d a r : Major Specialisation Tendencies of Hungarian Exports to the West, in: *Acta Oeconomica*, Vol. 20, 1978, No. 1/2, p. 167.