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THE IMPACT OF GLOBAL STAGFLATION
ON THE HUNGARIAN ECONOMY

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I. INTRODUCTION

The Hungarian economy, like other "small" countries
linked to world markets, was afflicted during the 1970's by
ailments of exogenous origin. The relatively smooth develop-
ment during the 1960's in Hungary's major western trading
partners has given way first to unforeseeable inflation
then to severe recession. One could expect serious reper-
cussions in resource-poor Hungary, since inflation was most
pronounced in raw materials. In addition, it was particularly
ominous that stagnation struck with great force Hungary's
western export markets.

This direct generation of economic disturbances was
followed by indirect effects on Hungarian foreign economic
relations with other CMEA countries. Global inflation and
drastic changes in relative world market prices could hardly
be ignored in CMEA trade. Western price inflation led to
a re-examination and a lagged adjustment of foreign trade
prices also within the CMEA. The earlier stable prices
negotiated in transferable rubles increased in 1975,
reflecting to some extent the previous rise in world market
prices, and raw material prices were considerably raised
relative to those of finished industrial products. Prices
within CMEA, in the post-1975 period were no longer to be kept
stable for several years, but they were to be readjusted
annually according to a five-year moving average of the
preceding world market prices. In addition, the growth rate
of the raw material and primary energy deliveries of the

CMEA countries slowed down and the practice became established
that only a buyer granting credit in for form of investment
contributions for the development of raw material extracting
capacities may, within limits, increase its purchase.

The effects coming from two directions affect the
Hungarian economy in combination and it is difficult to
analyse them independently of one another. Nevertheless,
to keep this study within manageable proportions, attention
will be mainly concentrated on the direct effects on Hungary
of world market stagflation, emanating from market-type
economics (MTES).

The effects of world market changes are discussed in
the study in three parts.

First the direct effects of inflation and economic
recession are reviewed, passing then to the exploration of
their consequences in the national economy. Finally the
reaction of the economic control agencies to the external
changes, that is, the established practice of Hungarian
economic policy for protection against the world market
changes are surveyed.

II. THE IMMEDIATE EFFECTS OF WESTERN STAGFLATION ON THE
HUNGARIAN ECONOMY: CHANNELS OF IMPACT

Global stagflation has caused perhaps greater concern in Hungary than in most other countries. Before starting to discuss the steps taken by Hungarian control and management agencies, in order to ward off the effects of inflation on external markets, a few words need be said about the basic properties of the "New Economic Mechanism" (NEM) introduced in 1968. Given the limitation of this paper, there is no way to discuss in detail the formal and informal policy developments.

In 1968, as well known, Hungary abandoned the economic control mechanisms used in traditional centrally planned economies (CPEs), and abolished the regulation of enterprises through directive plan-instructions. Simultaneously, the separation of the domestic producer price system from external prices was also abandoned. The newly established system (also called indirect controls) intended to attain a double aim from the viewpoint of adaptation to inflation abroad: on the one hand, the stimulation of profit-motivated enterprises conforming to the plan through the general regulation by the center and, on the other hand, continuous adaptation to the changes in external markets. The emerging practice of control, which assured that the free, the officially regulated, and the fixed producer prices should fluctuate but slightly around the price center established on the basis of average production costs, and in which the commercial rate

of exchange had to correspond to the average cost of exports.
This system was based on a quiet world market situation
and on a prognosis of minor changes in relative world market
prices. In this case, namely, with relatively stable financial
regulators (commercial rates of exchange, state refunds, and
official price regulation), the enterprise profits could
guide the firms so that they should operate basically in
harmony with the objectives of the central plan.

Thus, the formal organization of the Hungarian NEM gave
particularly strong emphasis to a more efficient participa-
tion in international trade. Along with other CMEA countries,
Hungary also accepted the need to turn from an extensive to
an intensive strategy of economic development. To implement
these objectives, the new economic system decided to use
market instruments and to link domestic with foreign markets.
As a result, the decisionmaking structure became much more
decentralized; the information structure was improved by a
comprehensive reform of the domestic prices and foreign
exchange rates; and the motivational structure was reorganized,
tying incentives for earned income to profitability rather
than to gross output. To maintain an equitable distribution
of income, the structure of earned income was modified more
by explicit social dividends than by implicit grants.
Theoretically, this would have meant a complete restructuring
of the consumer prices, based on factor cost and demand
considerations, apart from divergences between private and
social costs (and benefits). This was envisioned as a very

gradual process. In practice, not much progress was made in the adjustment of consumer prices according to scarcity relations even before the impact of external disturbances in the 1970s.

In terms of the impact model, full implementation of the NEM would have meant a removal of the "first insulation layer," restoring the nexus between world market prices and domestic producer prices of tradable goods. In fact, the theoretical model of NEM would have also implied the removal of the "second insulation layer," setting consumer retail prices according to producer prices (unless the market signals would be misleading because of, say, externalities). Thus, the pure theoretical model of the NEM would have shifted the full burden of containment to the "third insulation layer," using monetary and fiscal tools to avoid a spillover of the consumer price changes into the labor (and other input) markets, as well as the feedback effect, which would generate a cumulative price-wage spiral.

In reality, no pure model of NEM could be introduced in the short run. It was accepted that in the beginning the economy would have to rely heavily on different kinds and custom-made subsidies and taxes, as well as other controls (ceilings, floors, quotas, permits, licenses, etc.). It was, however, anticipated that over time reliance on special subsidies, taxes, and quantitative or administrative controls could be gradually reduced. This did not occur for a variety

of reasons. Even before the explosions of worldwide inflation in 1973, there were numerous complaints about the rising burden on the state budget of increasing net subsidies (much of it connected with foreign trade). Another major source of complaint was the lack of coordination between foreign trade and efficient allocation of domestic investment.

Two types of constructive criticisms appeared. Some complaints were relatively minor, and the critics of the system usually proposed specific improvements, not necessarily a major overhaul. Other critics raised questions of involving more fundamental changes. It was, however, generally acknowledged, as stated by one of the authors of this study that "in spite of certain inconsistent points... the changes of the system of economic control in 1968 have led to positive results in economic management. The ability of enterprises to adapt themselves to the market conditions has perceptably improved." (M. Tardos, "Impacts of World Economic Changes on the Hungarian Economy, Acta Oeconomica, Vol. 15 (3-4), pp. 277-291 (dated 1975, but actually appeared in 1977).)

As for the drastic shocks in world markets after 1972, no economic system could be prepared. Actually, given Hungary's resource endowment and extremely heavy dependence of foreign trade, specialists in comparative systems and foreign trade might argue that the Hungarian economy appeared to perform relatively well under the modified NEM, given the

serious nature of external disturbances in world markets.
The external impact on Hungary could have been catastrophic;
yet, according to domestic indicators, the economy's
performance was no worse than in other countries with better
domestic resource endowment and less adverse effects on their
foreign trade.

To be sure, the performance of the Hungarian economy
during the turbulent years of the 1970s has been mixed. On
the positive side, the country was able to keep full employ-
ment and some insulation against erratic world market price
fluctuations. It has also been able to retain the framework
of the NEM, and the country remained a modified CPE. In the
decisionmaking, information, and motivation structures
there is no sign that the economy might once again embrace
the rigid features of the traditional CPE. The option is
kept open for gradual systemic flexibility in the future. On
the negative side of the ledger, however, we should note that
there have been questionable trade-offs between some of these
achievements (e.g., relative domestic price stability) and
the costs of these results, particularly in the future. The
overall assessment must be a mixed one. The containment
measures were not even second-best solutions but often
contradictory, inefficient compromises that developed in a
gradual, evolutionary way and not according to a deliberately
considered unified plan of action. The incentives at the
present favor ad hoc bargaining which may promote compromises
among special interests but leaving all participants more or

less dissatisfied. The question for the future is how to design better containment policies.

Changes in MTEs since 1970 caused grave concern for the Hungarian economy in several ways:

(1) General increase of prices and changes in relative prices which adversely affected the Hungarian terms of trade and trade balance;

(2) Relative price changes within Hungarian imports and exports, affecting the level, composition, and direction of trade;

(3) Stagnation in the MTEs and downward shift of demand for Hungarian exports, particularly, growing agricultural protectionism in the EEC (trade in food products);

(4) Erosion of the competitive position of the Hungarian export sector.

To some extent, these adverse developments were counteracted by certain mitigating circumstances, exogenous to the Hungarian economy, especially:

- Availability of western credits (since some of the larger foreign trade earnings were rapidly channelled back into world trade);

- Lagged responses due to existing Hungarian trade agreements, and more gradual price increases in Hungary's CMEA trade.

1. Inflation, Terms of Trade, and External Trade Balance

As a result of inflation in world trade, Hungarian nonruble import prices increased at an annual rate of 11.5 percent during the 1970s, and the price level was 138 percent higher in 1977 than in 1970. The most dramatic rise of western import prices occurred during 1973-74, when the price

rises were over 34 percent and 43 percent, respectively.
During the same period, there was also an increase of
Hungarian nonruble export prices, but the export price index
rose less, about 90 percent until 1977. Consequently,
the term of trade declined, particularly from 1972 to 1975.
During these three years, the deterioration of the terms of
trade was nearly 23 percent. The extent of deterioration was
greatest in 1975, but after a transitory improvement in
1976, the nonruble terms of trade again approximated the
bottom in 1977. The deterioration of the terms of trade
led to substantial deficits in the Hungarian external trade
balance during the 1970s. These losses due to the worsening
of the terms of trade ranged from over 20 billion forints in
1974, to nearly twice as much in 1977. More than half of
these losses in 1976, and over 90 percent in 1974, were directly
attributable to nonruble trade. During the same period,
the trade balance (commodities and services) showed a corres-
pondingly dramatic rise; it rose from over 20 billion forints
in 1974 to over 36 billion in 1975, and it was still over
26 billion in 1977. These trade deficits had to be covered
by external credit.

2. Relative Price Changes and the Structure of Trade

The deterioration in the Hungarian terms of trade and
the external trade deficit were not caused simply by the
drastic jump of fuel and other raw material prices relative

to manufactured products. In fact, in the early 1970s, Hungary was not even net importer of oil and other energy sources in the nonruble trade. In addition to the rise in the world market prices of primary energy and raw materials, the unfavorable changes were caused by the fact that Hungary was compelled to import a growing part of her raw material supplies for dollars and other convertible currencies.

Hungarian fuel and energy trade on nonruble markets had a slight surplus in 1972, but imports exceeded exports by 3.6 billion forints by 1977. (This represented over 14 percent of the 1977 Hungarian external trade deficit in commodities and services.)

While the volume of Hungarian imports increased somewhat more from the ruble than from the nonruble area (61.8 percent vs. 52.7 percent), there are considerable differences within the aggregates. The small share of fuels and energy imports from the nonruble area increased 4.9 times, while from the ruble area it rose by 50 percent.

3. Downward Shift of Export Demand: Trade in Food Products

An attempt to analyse econometrically that various categories of the Hungarian export demand to the West experienced a downward shift would be beyond the scope of this paper. This could be a study in itself, but probably a thankless exercise. It would be much more appealing to criticize the results of such an undertaking (e.g., on grounds of the

identification problem) than to design the experiment,
gather the necessary data, and perform the calculations.

There is no need, however, to contemplate a questionable
econometric analysis if we confine our remarks to the
exports of "raw materials for food industry, live animals,
and food products," a category that has traditionally been a
chief source of Hungarian convertible currency receipts.
The share of these exports to non-socialist countries was
.37.4 percent of total Hungarian exports in this direction,
of which live animals represented 18.2 percent (and slaughter
cattle and calves 11.8 percent). After 1973, Hungarian
foreign trade was confronted with the effects of a European
excess supply on the market of slaughter animals and meat,
as well as with a sudden rise in the price of animal food-
stuffs.

Up to 1973, the share of foodstuffs in Hungary's exports
to the nonruble area fluctuated between 25 - 40 percent.
The export of slaughter cattle to Italy and West Germany
played a leading role, which amounted to 11 - 12 percent of
total exports. It was, therefore, a serious shock for Hungarian
foreign trade that, as a result of the 1974 draught, there
was a sudden rise of slaughtering in the EEC countries which
led to an overproduction crisis of meat. Thus, contrary to
the general inflationary trend, the price of slaughter
cattle sharply declined. In order to protect themselves,
EEC countries imposed an import prohibition on slaughter
cattle from outside markets.

Consequently, Hungary was confronted not only with declining prices for one of the economy's most significant export commodities but also with vanishing markets. On short notice, Hungarian exporters had to seek new demand in a buyer's market within an already disrupted world economy. Finally, some of this displaced export was marketed mostly in Arab countries and in the U.S.S.R. for dollars.

As a result of these developments, the share of food exports declined in 1976 to 30.4 percent of nonruble exports (it was still only 31.2 percent in 1977), and that of slaughtered cattle to only 3 percent. Even more dramatic was the change in trade with non-socialist countries, where between 1972 and 1976, the export share of foodstuffs fell from 37.4 to 25.1 percent; of live animals, from 18.2 to 6.2 percent, and of slaughter cattle from 11.8 to 1.6 percent.

The profitability of live animal and meat export production was affected not only by the deterioration in the terms of marketing but also by the fast rise in the prices of import of both animal and vegetable foodstuff. Generally, foreign trade price movements in the category of foodstuffs were particularly disadvantageous for Hungary. In nonruble trade (calculated in dollar terms), export prices approximately doubled between 1970 and 1977, while the import price index rose over three-fold. Therefore, the terms of trade for foodstuffs declined to 66.0, which was a substantially greater deterioration than for foreign trade overall.

(As discussed above, the terms of trade in the nonruble accounts
declined to 79.9 between 1970 and 1977.)

We may conclude that the impact of world inflation was
magnified for the Hungarian economy by an adverse shift in
the foreign demand for an important export category.
Although this dual impact originated in 1973-74, the result
was a lasting repercussion, which might have affected Hungary's
long-term comparative advantage.

4. Erosion of the Hungarian Foreign Trade Competitive Positions

Another set of unfavorable changes is constituted by the
movements in the prices of industrial finished articles
processed to different degrees. According to our observations,
in the majority of cases the rise in import prices has
exceeded that of export prices.

The unfavorable deviation is, allegedly, explained by
the fact that while inflation in the leading industrial
countries gave a freer reign to the rise in prices of better
quality products characteristic in Hungarian imports, the
situation was not favorable for raising the prices of
Hungarian export products. Further, according to this assump-
tion, the rise in the prices of clothing, belonging to an
inferior group of industrial production, necessarily had to
lag behind other branches of manufacturing, above all engineering.

This assumption appears questionable if we observe, for
instance, trends in the import prices of the German Federal

Republic. Within West German imports, the prices of industrial
intermediate products have been rising faster than those of
finished products, and within finished products those of
consumer goods faster than those of investment goods. As
for textiles and clothing, the rise in prices was indeed
slower than the average of imports, but the difference was
insignificant.

These empirical observations, based on the West German
foreign trade price statistics, which is contrary to the
Hungarian foreign trade experience, may also be supported
by economic logic. The 1973-74 price explosion was mainly
concentrated on energy resources and other key primary products.
Therefore, one would expect that those finished industrial
products which contain a relatively larger share of raw
materials and energy costs would experience a more significant
rise in prices than less resource-intensive manufactured
products. Thus, after the special price explosion experienced,
we have no reason to expect that the cost-raising effect of
highly qualified labor input should be more important that
the rise in raw material prices.

These considerations suggest that in the deterioration
of the Hungarian terms of trade in nonruble accounts the
erosion of Hungary's competitive positions might also have
played an important role. The weakening of Hungarian com-
petitive position progressed during the years of worldwide
stagflation as a result of three factors.

First, in the competition evolving on the market of

less complicated industrial products, the export-oriented
developing countries, purusing a policy of rapid industriali-
zation, demanded a growing role for themselves. Frequently,
their products could successfully compete with those of
Hungary, since their wage level is lower not only than in
the industrialized countries but also than in Hungary, while
they produce many products with an up-to-date technology and,
finally, they enjoy more advantages, first of all tariff
reductions, in the advanced industrial countries than does
Hungary.

Second, Hungarian international competitive position
has been also impaired by new suppliers of mass produced
items who have been increasingly stimulated by the slack demand
in 1975 and its slow revival in 1976. In this sharp competi-
tive situation the producers of those goods and service in
Hungary who could not readily adapt themselves to demand
requirements found themselves in a particularly unfavorable
situation. More than during the years before, the world
markets by the mid-1970s, especially in marketing certain
industrial manufactures, became a Darwinian survival-of-the-
most-flexible environment. Suppliers who could not satisfy
world market requirements in terms of range of assortment,
quality requirements, and observance of terms of delivery
were left behind. Those who were novices in this keen
competition of buyers' markets were particularly handicapped.
In addition, home producers in developed MTEs have found it

expedient to cry wolf (i.e., dumping, cutthroat, or unfair
competition, etc.) every time when their markets were depressed
and exporters wanted appeased.

Finally, there was also another factor which appreciably
contributed to the observed widening of price differences
and reduced nonruble earnings by Hungarian exporters. (This
point will only be mentioned here but will be discussed
in more detail below.) Namely, the Hungarian enterprises
were not under the type of vital pressures at home as their
competitors either in the acquisition of markets or in price
bargaining. The incentives were better than in the tradi-
tional CPEs, but still very feeble under the NEM, to increase
per unit export receipts and save import costs.

III. EFFECTS OF THE DETERIORATION IN THE TERMS OF TRADE ON THE HUNGARIAN ECONOMIC PERFORMANCE

(A) TRANSFORMATION

The shock appearing as a result of the deterioration in the terms of trade and in the absorptive capacity of external markets slow down the growth of the resources available to the country, if the productive capacities of the country are not suited for transforming the pattern and direction of export sales significantly, if the economic regulation does not mediate the changes in external market conditions adequately or both. The tensions thus emerging may be increased also if export sales cannot keep pace even with the moderated import demands. The lagging of exports behind import needs does not cause immediate troubles in the economy only if there is a way for bridging the difference by raising credits. Credits may also prevent domestic utilization from falling in consequence of the external shock.

After these general statements let us have a closer look at what really happened in the Hungarian economy under the effect of external shocks after 1973. For judging the situation, let us start with the assumption that if the external shocks had not occurred domestic absorption would have grown as smoothly as it did from 1973 to 1977, judging by the trend observed in the preceding five years, and the

elasticity of production with respect to import demand and to export supply. More specifically, foreign trade would have been determined by the exports of other CMEA economies, that is, by Hungary's purchasing possibilities, and in western trade by the Hungarian export capacity. In this case, in order to maintain an unchanged growth rate of domestic uses, national income should have been increased at a rate faster than in the preceding five years by a minimum of 15 to 16 percent.* (The methodology used to derive this estimate and some others below is discussed in a forthcoming book by M. Tardos (tentative title: External Disturbances in the Hungarian Economy.))

A precondition for accelerating the rate of economic growth would have been to remove two bottlenecks of development related to foreign trade. On the one hand, import from CMEA countries of goods conforming to Hungarian demand, mainly of raw materials, should have been doubled between 1972 and 1977. On the other hand, the volume of exports to western markets should have been raised two-and-a-half-fold in five years in order to cover the import needs on a continuous basis. In fact, however, both of these pre-conditions were quite unrealistic.

The economy was not able to improve its performance capacity sufficiently to overcome the effects of the drastic external shocks. Hungary has not succeeded in accelerating the growth rate of the national income; nor did the country

reduce domestic absorption; the gap between national income
and absorption was covered by increasing foreign indebtedness.
On the positive side, however, in spite of external shocks,
the country has succeeded in securing full employment,
relative stability of producer and consumer prices, as well as
continuous economic growth without any important, measurable
deterioration in efficiency. This is demonstrated by way
of the following calculations, which show that the contribu-
tion of total factor productivity to the growth of national
income did not significantly change between the two five-
year periods: 1967-72 and 1972-77. These calculations,
which provide, in fact, a divizia-type index, are according
to a methodology endorsed by the Hungarian State Planning
Office. (For details, see table below, p. 21.)

Some Indicators of Development Between 1967 and 1977

(growth in percentages)

	1967-1972	1972-1977
National income	33.7	33.5
Industrial output	31.0	35.5
Agricultural output	13.7	18.7
Increase of national income computed by the worktime of those employed in the productive branches	35.3	37.0
National economic efficiency[*]	23.3	22.3
Contribution of improvement in efficiency to the growth of national income	69.1	66.9

[*]National economic efficiency has been computed according to the methodology approved by the State Planning Office. The formula is:

$$\text{National economic efficiency} = \frac{(N_1/N_0)}{(M_1/M_0)\ s+(A_1/A_0)\ r+(K_1/K_0)\ p}$$

where N_1 and N_0 = national income in the plan and the base years

M_1 and M_0 = man-hours of those engaged in material production

A_1 and A_0 = fixed assets engaged in material production

K_1 and K_2 = inventories engaged in material production

s, r and p weights, their sum being unity

s = wages and personal incomes /0,75/

r = depreciation and charges on fixed assets, excl. exemptions /0,21/

p = charges on working capital excl. exemptions /0.04/

Sources: Statistical Yearbooks 1967 to 1977 (KSH, Budapest)

(B) PROPAGATION

Deficiencies in adjustment were evident in respect to
two factors. First, adaptation of the economy to the
external market conditions was slow and could thus only
slightly mitigate the deterioration in the terms of trade;
second, responsiveness to satisfy demand did not continue to
improve, and the number and role of shortage articles started
to grow again. Were the increasing shortages a sign of
repressed inflation or of greater inefficiencies in the
supply system? They were probably caused by a combination of
both, but it would be difficult to identify to what extent
the system transformed external disturbances into these
two related domestic effects.

In any case, serious foreign trade bottlenecks developed;
these maladjustments were transofrmed through the domestic
economy; although, in the propagation and containment stages,
the economy managed to avoid escalating crises. This was
not easy since the volume of imports to be bought for rubles
increased by only 43 percent, which was less than half of
the rise that would have been necessary for smooth develop-
ment. At the same time, exports in nonruble trade could be
increased by only 31.5 percent, one-third of the amount
needed for undisturbed development. Thus, foreign trade
bottlenecks were so tight that they could have led to a
catastrophe if the economy had not been able to rely on
favorable propagation and containment mechanisms.

We may distinguish four types of responses, three of which were used to adapt the Hungarian economy to the external disturbances:

(1) Reduction of import elasticity;
(2) Agreement to settle part of the trade with CMEA countries in dollars (or other convertible currencies);
(3) Increasing reliance on external credit;
(4) Potential reduction of domestic absorption (not used).

1. Import Elasticity

As shown in the calculations below, the income elasticity of Hungarian imports declined considerable, from 1.85 (during 1967-72) to 1.23 (during 1973-77). Thus, in the period before the impact of external disturbances, each one percent rise of Hungarian national income was associated with 1.85 percent rise of imports; subsequently, however, imports increased by 1.23 percent for each one percent rise in national income. The change has been even more pronounced in Hungary's non-socialist trade, where import elasticity declined from 2.05 to 1.23.

Moderation of the import elasticity in relation to non-socialist countries was not even. In 1974, in spite of the rising prices on account of the price explosion, the import elasticity was 3, as a consequence of state subsidies. Then, in 1975, the volume of imports fell, followed in 1976-77 by a sharp increase again.

Categories of Absorption as Proportion of Total Absorption

	1972	1973	1974	1975	1976	1977
			at constant prices			
Total consumption	77.5	78.8	74.3	73.6	74.2	73.0
of which: Private consumption	67.8	69.1	65.0	64.1	64.4	63.4
Net fixed capital formation	20.4	21.1	17.7	23.2	20.1	18.2
Changes in unfinished investment projects	1.9	1.4	4.6	0.6	2.3	6.0
Changes in inventories	0.2	-0.9	2.9	2.6	3.4	2.8

Source: Main Economic Indicators in 1977 (KSH, Budapest, 1978),
pp.....

2. Partial Dollar Payments in CMEA Trade

The second type of response was designed to provide some relief for Hungary's acute convertible currency deficit. It was introduced as a sign of recognition that needed expansion of nonruble imports in Hungary required more convertible currency that it could be acquired by way of exports to western markets. This was a reasonable solution, particularly since some formerly significant hard-currency exports of Hungary (such as live animals and meat) were shifted to CMEA markets. Also, as a result of this agreement, Hungary was able to obtain products from western markets which were not readily available in CMEA trade, or it provided the opportunity for Hungary to purchase needed imports at more favorable term of trade. The trade transacted with

Hungary's socialist trading partners (including Yugoslavia
and Cuba), and settled in convertible currencies, by 1977
reached 18.7 percent of exports and 12.2 percent of imports.
Even in the narrower inter-CMEA trade (excluding Yugoslavia
and Cuba), Hungary was able to earn a convertible currency
surplus that covered 13 percent of the balance of trade defi-
cit with the West in 1977.

3. Foreign Credit Expansion

The third response mechanism was the acquisition of
needed imports through foreign loans. Hungary's external
borrowing became a crucial trade instrument since the trade
balance (adjusted for transport costs), which had been
positive in 1972-73, became consistently negative after
1973. The overall deficit of the trade (and transport cost)
balance reached a peak in 1975, when it was 9 percent of
national income, but it remained more than 5 percent also
in 1976-77.

Credit was used to cover losses from deterioration of
the terms of trade. There was sufficient foreign borrowing
to cover all losses until 1975. However, during the last
two years the losses were only partially covered by credits.
The calculations are shown in the following table.

National Income and Absorption
(in billion forints)

	1972	1973	1974	1975	1976	1977
National Income	325.3	360.3	376.4	394.0	432.3	475.0
Absorption	321.1	343.1	397.8	429.6	454.8	501.1
Balance of trade and services	+4.2	+17.2	−21.4	−35.6	−22.5	−26.1
Losses due to deterioration in the terms of trade		2.1	−20.6	−33.6	−27.0	−39.0
of which non ruble trade		−3.9	−18.6	−20.9	−14.0	
Difference between losses and the balance of trade deficit			−0.8	−2.0	4.5	12.9

Source: Main Economic Indications in 1977, op. cit., pp. ....

4. Potential Reduction of Domestic Absorption

An obvious, although unpleasant, response to the large
negative trade balance would have been a reduction of
domestic absorption, but this did not occur in the 1970s.
In fact, the volume of absorption increased by 31.2 percent,
that is by a 5.5 percent annual average, which, if to a
moderate extent, still exceeded the average of the preceding
period. At the same time, the available own resources
increased by only 22.5 percent. (See Appendix Tables.)

It happened only in two years, 1973 and 1976, that
domestic absorption increased more slowly than the available
resources. In all other years, the expansion of domestic
absorption exceeded the expansion of resources. The difference
was greatest in 1974, when the resources available fell,
while absorption exceeded the average growth rate of earlier
years more than two-times, attaining 12.7 percent. In 1975,
when losses owing to deterioration in the terms of trade
culminated, disposable national income hardly increased,
but domestic absorption, if not to the extent of the preceding
year, increased faster than the long-term average (by 6.4
percent).

If we take a closer look at the components of domestic
absorption, a surprising pattern of response emerges. The
main component is, of course, consumption. Given the commit-
ment of the NEM, it is understandable that consumption
continued to rise in spite of the economy's exogenous

shocks. One would expect, however, at least a moderation
in the rate of growth. But remarkably, there was not a
slowdown but an acceleration in the rate of growth in 1974,
when western inflation, as well as its effect on the
Hungarian terms of trade, was most critical. Hungarian
nonruble terms of trade plunged nearly 15 percent in 1974;
yet, the growth rate of consumption (private, as well as
total) became much higher than either before or after the
crest of the price explosion during the 1970s. The growth
rate of consumption was 3-4 percent in 1972-73, but it rose
to 6-7 percent in 1974. Even in 1975, the growth rate of
consumption was 4-5 percent, above the rate registered until
1973. Only in 1976, the sole year after 1972 when the nonruble
terms of trade improved, was there a sharp deceleration in
the growth rate of consumption. Finally, in 1977, there was
again an inverse relationship between the terms of trade
(which declined) and the growth rate of consumption (which
accelerated). Whether this perverse cycle was a propagation
phenomenon or a containment failure is difficult to tell.
Let us then turn to investment.

The year-to-year acceleration and decleration of the
growth of total domestic investment paralled the perverse
cycle of consumption growth. In fact, the cycle was greatly
magnified in the case of domestic investment.

The item where a future social gain might be expected
from the use of foreign resources (including foreign

borrowing) is net fixed capital formation. Perhaps it was
this consideration that encouraged the growth of fixed
capital formation to increase twice as fast as consumption
from 1960 to the mid-1970s. This trend broke in 1974.

Thus, in 1974, total domestic investment skyrocketed,
increasing at 34.2 percent, while net fixed capital formation
declined by 11.2 percent. As these divergent movements imply,
the accumulation of inventories attained a peak in 1974.
After the world market price explosion, Hungarian enterprises
started to accumulate stocks with government support and have
been increasing their raw material stocks ever since then,
at a rate faster than production. Also, the increase in the
stock of unfinished investment projects considerably exceeded
the resources available. The value of this item was
particularly high in 1974 and in 1976, owing to the slack in
investment activity.

The growth of inventories and unfinished investment
projects was so large between 1973 and 1977 that their combined
sum approached 60 percent of the aggregate foreign trade
deficit. (As to be discussed below, the main reason for
this was the declining efficiency the central control system
and management.) -

IV. Changes in Economic Regulation: Containment Efforts

The task of economic regulation cannot be simple in
any country where the shocks originating in external markets
have released such profound economic effects as in Hungary.
The task was complicated by the fact that adaptation to the
external shocks frequently conflicted with other, equally
important objectives of economic policy. The boosting of
exports, a rational saving on imports as objectives demanded
by the price explosion, might everywhere disturb the policy
aimed at price stability and full employment as well
as the transformation of the economic structure of the
country.

For an evaluation of the regulation developed in the
Hungarian economy after the price explosion, a few specific
features of the management and control of the economy
should be clarified.

First of all, prior to the price explosion, though
the economy of the country had been developing under improving
equilibrium conditions, it was still struggling with certain
internal tensions. The main source of the tension was
that in respect to the development of economic structure
(and, especially, concerning technologically advanced
industries) there existed two, to some extent contradictory,
objectives. According to the first one, the development
of technologically progressive industries (with concentrated
investments relying on central decisions) should be implemented

in harmony with the target-oriented programs within the
CMEA. According to the second one, what was important was
a gradual evolution of the economy, relying on the decisions
of enterprises, and aiming at the continual improvement of
efficiency and profitability. A harmonization of the
two objectives was not successful. The government committed
itself in these two directions to highly ambitious tasks
and the tensions created by conflicting objectives were
increased by programs to raise living standards and develop
the infrastructure. Thus, instead of smooth and balanced
growth we were witnesses to sporadic increases in investment,
followed by periods of sudden restraints. The price explosion
occurred just after a period when investments were restrained
and a new upswing was in preparation.

Secondly, the external shock afflicted the country
when the new system of control and management, introduced
in 1968, was not yet strong enough and not sufficiently
consolidated, in spite of five years of rather successful
operation. Recentralizing efforts were emerging, which
caused uncertainty as to the expectable development of the
economic control methods.

Thirdly, the government was dedicated to the proposition
that the external shocks should only with a lag, if at all,
influence economic development and, particularly the
real incomes of the population. Further, they wanted to
avoid spontaneous initiatives in investment and employment
policies.

Finally, regarding the containment of external shocks it was important that in the Hungarian system of indirect economic control the central regulation of the profit-motivated enterprises occurs, in principle, on the basis of average costs. This aspect of the regulations implies that a continous operation of the enterprises is possible only with a steady growth of enterprise profits. If there is an appreciable fall in profits, or if an enterprise incurs losses, these gaps can be only covered by means of interference, i.e., subsidies or tax remissions. This feature led to government control of wages, allowed nominal wages to rise only in those enterprises where profits were increasing; therefore, in case of inflation wage increases were unadvisable.

These four, closely interrelated features, which are difficult to change, did not allow that the main instrument of protection against external shocks could be the exchange rate policy.

In a "small" market economy the movement of exchange rates might maintain equilibrium in the balance of payments, even under deteriorating market conditions. But the changes involved do not correspond to the spirit of the Hungarian economic control system, or any socialist planned economy, since they would require considerable shifts in relative incomes even if the process of adaptation were otherwise smooth and undisturbed. If, in addition, the adaptation

process is slow and inconsistent, as is shown by a few
examples of market economies in the leading industrial
countries, then it is highly likely that adaptation to the
external shocks would entail accelerating inflation, chronic
unemployment, or both. The difficulties were enhanced
since the alternative of restoring the economic control
methods through plan-instructions was discarded, but no
decision was taken either as to the development of the
control system$_\wedge$ in the direction of enterprise autonomy.

It thus becomes understandable that the Hungarian
economic leadership intended to react to the external shocks
in a way that not only shifts in income relations, accelera-
tion of inflation, unemployment, and a spontaneous labour
dislocation should be prevented, but also the incomes of
the enterprises should be kept in a framework corresponding
to the regulatory system.

In order to attain these objectives, a wide range of
economic levers was applied. Also, the hierarchical frame-
work of the socialist economy was employed to communicate
emphatically the expectations of the system's directors.
The central authorities remained ready systematically to
alter the behaviour of the enterprises, regardless of the
declared guiding principle of the profit motive.

Let us first see what happened to the financial
levers of the economy. The commercial exchange rates
(until January 1976, the so-called "price coefficients")

were regularly changed. The forint has been repeatedly revalued against the leading western currencies.

Another important channel of adaptation to the world market situation was the revision from time to time of the officially fixed or regulated prices. Producer prices were adapted to world market conditions in three steps, on January 1st 1975, 1976, and 1977. The first revision of prices resulted in a 12.2 percent rise in the price level; the second in a 7.2 percent rise; and the third in a 0.3 percent rise for the socialist industry. (Industrial producer Prices on 1st January, 1977, Central Statistical Office, Budapest, 1977.)

The implementation of the commerical rates of exchange and of the official price changes was characterized by two main features. The first was that the activities of the authorities in determining the rates of exchange and prices were not shaped by uniform standards but by ad hoc considerations. The second was that efforts were made to level out, almost completely, the consequences of changes in prices and exchange rates on enterprise management with the aid of taxes and subsidies.

It is characteristic of the internal inconsistencies of the measures that in the course of setting the commercial rates of exchange, up to 1974 the nominal revaluation of the forint was lagging behind the increase in the costs of earning a unit of foreign exchange destined for convertible-

currency markets. Owing to the moderation of the rise in
world market prices and to the faster-than-earlier rise of
domestic forint prices, already in course for two years, a
renewed revaluation of the forint has$_\wedge$raised considerably
above the commercial rate of exchange. It seems that
the drastic revaluation of the forint in 1976 was not
successful in improving the balance of trade.

In setting the officially regulated producer prices,
the growth of world market prices and the shifts in relative
prices were not followed according to uniform points of view.
The rise in the domestic prices of particular products was
generally smaller than the rise on the world market, but the
decisive role in how much smaller the rise should be was
played by particular viewpoints to be discussed later and
not by the actual demand and supply conditions.

Perhaps the most important result of the frequently
adjusted commercial rate of exchange and of official price
changes has been that the state budget reduced the dispension
among enterprise incomes. The purpose of this policy was
to keep enterprise profits within acceptable limits, and
that per unit profits of exports to the West should exceed
profits derived from domestic sales, trying to stimulate
the enterprises to increase western exports.

According to the rules of the 1968 reform, enterprise
profit differentials were to be reduced. To accomplish
this, state refunds were applied on a wide scale ; also, to

a smaller extent, production taxes were levied on exports.
We may trace the results on the state budget of this policy
to limit profit differences, and also note that the
modification in the commercial rates of exchange up to
1974 - 75 reduced the extent and ratio of state refunds;
after 1976, however refunds began to increase sharply.

To sum up, in 1974 the subsidies intended to relieve
the pressure of rising import prices increased to about
tenfold of the level prior to the price explosion and attained
about 30 percent of the total value of the trade transacted
in currencies other than the ruble. Since then, under the
effect of changes in producer prices, this kind of subsidy
fell to one third of its level in 1974, but it remains quite
substantial.

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The practice of regulation reviewed above successfully
implements the policy of full employment and relative price
stability. In this connection, the central regulation of the
outflow of wages and the containment of inflationary pressure
seems particularly successful.

At the same time, the method of regulations applied in
Hungary does not seem flexible enough in regard to adaptation

when there are substantial disturbances. The signs of favorable performances (which are difficult to judge objectively): the rather fast growth of manufacturing exports (and, within it, of engineering products) to the non-socialist markets, and the moderation of import elasticity, are probably not mainly the results of the containment mechanisms. Saving on imports was practically not promoted (except during a short period in 1975) either by rigid administrative restrictions or by adequate increases of import costs. The falling import elasticity (during the year of 1970) may thus be explained mainly by the fact that the economic units accepted moral suasion by central authorities anxious to restrict imports. Similarly, the results attained in increasing exports are mainly the consequences of the same methods, which have been complemented only by the export premia for executives.

It is not unreasonable to assume that, if the profit-levelling effect of the budget had prevailed in enterprise management to a lesser extent, if the enterprises had been better exposed to the pressure of market effects, efforts both at boosting exports and at import substitution would have become more efficient. In addition, also the requirement of saving on investment and on intermediate inputs might have been successful. Hungary would have avoided the big and unjustified increase in incomplete investment projects and inventories. It should be understood, however, that with the

significant changes in the external market conditions the economic leadership could have exposed the enterprises to a strong market pressure only if it had improved the essential elements of the economic-financial regulatory system. The enterprises might have become capable of a better adaptation to the changes in the conditions of management only if they had been able to tolerate fluctuation in profits and even transitorily deficits, without interference on part of the central regulatory system. For this, however, some essential elements of the control system, the regulation of wages and development funds should have been considerably modified and the autonomy of the enterprises substantially expanded.

Main Macro-Economic Indicators

annual % changes in constant prices

	1971	1972	1973	1974	1975	1976	1977	1977 Billion Forint
National Income*	5.9	6.2	7.0	5.9	6.1	3.0	7.8	475.0
Absorption	11.3	-3.7	2.0	12.7	6.4	1.2	6.0	501.1
Total Consumption	5.4	3.1	3.7	6.9	4.7	2.1	4.2	353.3
of this private	5.0	3.4	3.9	6.1	4.9	1.6	4.3	306.8
Total Net Investment of this:	30.4	-21.4	-3.8	34.2	11.5	-1.4	11.0	147.8
Net Fixed Capital Formation	1.6	8.9	5.7	-5.6	39.7	-12.7	-3.7	99.0
Changes in unfinished investment								
Changes in inventories								
Gross Investment*	10.5	-0.8	4.0	8.9	13.2	-0.1	12.6	201.2
Real income per capita	4.2	3.3	4.7	6.2	4.4	0.8	4.5	
Nominal wages per workers	4.6	5.1	6.3	7.4	7.7	5.1	7.5	40280**
Real wages per workers	2.3	2.2	2.8	5.6	3.8	0.1	3.5	
Prices								
Producer Prices			2.0	1.2	10.7	6.6	1.4	
Consumer Prices	2.2	2.8	3.4	1.7	3.8	5.0	3.9	

Note: * According to the Hungarian definitions.
**Annual average wage in Forint.

Source: 3. pp. 55, 56, 64, 151, 152; 4. p.

Hungarian Foreign Trade

(in million dollars)

	1971	1972	1973	1974	1975	1976	1977
Total Trade							
Export	2532.2	3596.4	4458.9	5041.2	5730.2	6401.4	7533.6
Import	2933.6	3329.3	3845.2	5336.6	6577.9	7118.2	8283.0
Balance of Trade	-401.4	267.1	613.7	-295.4	-847.7	-716.8	-749.4
Ruble Amount							
Export	1620.0	2439.1	2684.8	2814.2	3431.0	3910.4	4639.4
Import	1824.8	2169.9	2247.1	2635.9	3863.8	4202.3	4769.3
Balance of Trade	-204.8	269.2	437.7	178.3	-432.8	-291.9	-129.9
Non Ruble Trade							
Export	912.2	1157.3	1774.1	2227.0	2299.2	2491.0	2894.2
Import	1108.8	1159.4	1598.1	2700.7	2714.1	2915.9	3513.7
Balance of Trade	-196.6	-2.1	176.0	-473.7	-414.9	-424.9	-619.5

Note: The data were calculated by linking two exchange notes; for details see below.

	1971	1972	1973	1974	1975	1976	1977
Valuta forint or forint/dollars	11.74	10.81	9.391	9.15	8.59	41.57	40.92
Valuta forint or forint/Ruble	13.044	13.044	13.044	13.044	13.044	35.0	35.0
Ruble/dollar	0.9	0.829	0.74	0.74	0.74	0.74	0.74

Source: 1.) p. 10; 2.) p. 257; 3.) p. 83.

Changes in Hungarian Foreign Trade

prices and in the terms of trade in dollar terms
(Non Ruble account)

	1971	1972	1973	1974	1975	1976	1977
1970=100							
Export Prices (E)	101.4	114.0	149.1	181.9	180.9	180.6	190.4
Import Prices (I)	102.2	113.4	152.0	217.6	232.5	217.6	238.4
Terms of Trade (T=E/I)	49.2	100.6	98.1	83.6	77.8	83.0	79.9
Previous year = 100							
Export Prices (E)	101.4	112.5	130.7	122.0	99.4	99.9	105.2
Import Prices (I)	102.2	111.0	134.1	143.2	106.9	93.7	109.4
Terms of Trade (T=E/I)	99.2	101.4	97.5	85.2	93.0	106.5	96.2

Source: 1. pp. 408.

Foreign Trade: Import

	Volume index 1970 = 100 (annual % changes)							1977	
	1971	1972	1973	1974	1975	1976	1977	in billion forints	% of total
Total	117.3	111.3	114.5	134.5	142.1	147.6	160.2	267.3	100.0
	(117.3)	(94.8)	(102.9)	(117.5)	(105.6)	(103.8)	(108.6)		
Fuels, Electric Energy	114.6	120.6	128.9	138.0	164.1	168.0	169.4	29.9	11.2
	(114.6)	(105.3)	(106.8)	(107.0)	(118.8)	(102.4)	(100.9)		
Raw Materials, Semi Finished Products, Spare Parts	112.2	109.4	117.1	131.0	131.6	138.6	151.3	129.8	48.6
	(112.2)	(97.7)	(107.0)	(111.9)	(100.4)	(105.3)	(109.1)		
Machinery, Transport Equipment, Other Capital Goods	139.1	125.0	116.0	153.5	184.5	181.9	204.5	56.4	21.1
	(139.1)	(89.9)	(92.7)	(132.4)	(120.1)	(98.6)	(112.4)		
Industrial Consumer Goods	106.6	99.9	122.9	140.3	159.2	163.0	186.7	21.4	8.0
	(106.6)	(93.7)	(122.9)	(114.1)	(113.4)	(102.4)	(114.6)		
Raw Materials for the Food Industry, Live Animals, Food Products	109.8	96.7	84.6	106.9	92.2	103.3	104.3	29.8	11.1
	(109.8)	(88.1)	(87.5)	(126.4)	(86.2)	(112.0)	(101.0)		

Source: 1, pp. 28, 31.

Foreign Trade: Export

	Volume index 1970 = 100 (annual % changes)							1977	
	1971	1972	1973	1974	1975	1976	1977	in billion forints	% of total
Total	107.6 (107.6)	128.4 (119.3)	144.5 (112.3)	149.6 (103.6)	156.8 (104.8)	169.6 (108.1)	191.0 (112.7)	238.6	100.0
Fuels, Electric Energy	74.6 (74.6)	130.7 (175.2)	96.7 (74.0)	62.2 (64.3)	119.2 (191.5)	147.4 (123.6)	153.9 (104.4)	5.8	2.4
Raw Materials, Semi Finished Products, Spare Parts	98.9 (98.9)	121.1 (122.4)	140.2 (115.6)	131.1 (93.4)	131.3 (100.1)	160.6 (122.3)	185.0 (115.2)	71.6	30.0
Machinery, Transport Equipment, Other Capital Goods	108.2 (108.2)	136.8 (126.4)	161.4 (117.8)	180.9 (112.0)	203.8 (112.6)	211.7 (103.8)	234.0 (110.6)	63.7	26.7
Industrial Consumer Goods	119.9 (119.9)	142.8 (119.1)	150.9 (105.7)	152.8 (101.2)	155.9 (102.0)	167.9 (107.6)	188.9 (112.4)	42.5	17.9
Raw Materials for the Food Industry, Live Animals, Food Products	108.6 (108.6)	117.6 (107.7)	129.6 (110.7)	140.9 (108.7)	140.0 (99.3)	136.4 (97.4)	153.2 (112.4)	54.9	23.0

Source: 1, pp. 34, 37.

Foreign Trade: Import

Accounting Ruble

	Volume index 1970 = 100 (annual % changes)							1977	
	1971	1972	1973	1974	1975	1976	1977	in billion forints	% of total
Total	117.8	112.7	116.2	135.3	157.5	151.6	161.8	123.5	100.0
	(117.8)	(95.6)	(103.1)	(116.4)	(116.4)	(96.2)	(106.7)		
Fuels, Electric Energy	110.4	116.4	118.4	122.7	129.6	140.5	150.0	21.1	17.1
	(110.4)	(105.5)	(101.5)	(103.7)	(105.5)	(108.3)	(106.8)		
Raw Materials, Semi Finished Products, Spare Parts	112.9	114.7	117.0	126.1	143.4	135.4	141.5	49.4	0.0
	(112.9)	(101.5)	(102.1)	(107.6)	(113.7)	(94.4)	(104.5)		
Machinery, Transport Equipment, Other Capital Goods	135.3	115.8	111.9	152.4	189.1	177.4	193.8	36.0	29.1
	(135.3)	(85.5)	(96.7)	(136.1)	(124.1)	(93.8)	(109.2)		
Industrial Consumer Goods	105.3	102.3	128.8	150.4	179.6	168.7	184.7	13.8	11.2
	(105.3)	(97.1)	(125.9)	(116.7)	(119.4)	(93.9)	(109.6)		
Raw Materials for the Food Industry, Live Animals, Food Products	107.7	86.2	89.8	107.3	117.8	119.3	121.0	3.2	2.4
	(107.7)	(80.0)	(104.2)	(119.6)	(109.7)	(101.3)	(101.4)		

Source: 1, pp. 29, 32.

Foreign Trade: Export

Accounting Ruble

| | Volume index 1970 = 100 (annual % changes) | | | | | | | 1977 | |
	1971	1972	1973	1974	1975	1976	1977	in billion forints	% of total
Total	112.6 (112.6)	138.6 (123.1)	151.8 (109.6)	157.2 (103.4)	167.0 (106.3)	173.5 (103.8)	195.4 (114.9)	120.2	100.0
Fuels, Electric Energy	135.8 (135.8)	139.3 (102.6)	95.6 (68.6)	99.3 (103.9)	72.3 (72.8)	66.6 (92.1)	78.3 (117.6)	0.6	0.5
Raw Materials, Semi Finished Products, Spare Parts	106.6 (106.6)	135.9 (127.4)	152.0 (111.9)	146.1 (96.1)	162.8 (111.3)	174.0 (106.8)	215.1 (123.5)	28.8	24.0
Machinery, Transport Equipment, Other Capital Goods	108.5 (108.5)	136.5 (125.8)	163.7 (119.5)	178.6 (109.1)	193.6 (108.4)	202.5 (104.3)	228.6 (112.9)	50.6	42.0
Industrial Consumer Goods	125.2 (125.2)	151.8 (121.4)	155.5 (102.2)	153.4 (98.6)	160.1 (104.4)	161.5 (100.9)	184.0 (113.9)	22.2	18.5
Raw Materials for the Food Industry, Live Animals, Food Products	111.3 (111.3)	128.8 (115.8)	124.0 (96.3)	132.8 (107.1)	128.1 (96.4)	131.1 (102.4)	(109.2)	18.0	15.0

Source: 1, pp. 32, 35.

Foreign Trade: Non Ruble Import

	Volume index 1970 = 100 (annual % changes)							1977	
	1971	1972	1973	1974	1975	1976	1977	in billion forints	% of total
Total	115.8 (115.8)	109.1 (94.1)	111.8 (102.5)	131.4 (117.6)	123.9 (94.2)	138.6 (111.8)	152.7 (110.1)	143.8	100.0
Fuels, Electric Energy	195.2 (195.2)	206.3 (105.7)	301.3 (146.0)	331.6 (110.1)	575.5 (173.7)	531.9 (92.4)	490.1 (92.1)	8.8	6.1
Raw Materials, Semi Finished Products, Spare Parts	112.0 (112.0)	104.5 (93.4)	118.6 (113.5)	135.7 (114.5)	122.3 (90.1)	139.0 (113.6)	156.0 (112.2)	80.4	55.9
Machinery, Transport Equipment, Other Capital Goods	145.7 (145.7)	152.5 (104.7)	124.8 (81.8)	151.8 (121.7)	163.7 (107.8)	178.7 (109.2)	212.2 (118.7)	20.4	14.2
Industrial Consumer Goods	108.9 (108.9)	91.2 (83.8)	105.2 (115.3)	111.0 (105.6)	104.6 (94.2)	130.8 (124.9)	163.6 (125.2)	7.6	5.3
Raw Materials for the Food Industry, Live Animals, Food Products	109.4 (109.4)	100.4 (91.8)	83.6 (83.3)	106.8 (127.6)	87.6 (81.9)	99.6 (113.8)	100.4 (100.7)	26.6	18.5

Source: 1, pp. 27, 30.

Foreign Trade: Non-Ruble Export

	Volume index 1970 = 100 (annual % changes)							1977	
	1971	1972	1973	1974	1975	1976	1977	in billion forints	% of total
Total	99.4 (99.4)	111.9 (112.5)	131.8 (117.9)	136.0 (103.1)	140.4 (103.3)	158.3 (112.8)	174.8 (110.4)	118.4	100.0
Fuels, Electric Energy	44.4 (44.4)	125.4 (281.9)	91.3 (72.8)	48.1 (52.6)	130.0 (270.4)	165.3 (127.1)	173.2 (104.7)	5.2	4.4
Raw Materials, Semi Finished Products, Spare Parts	94.2 (94.2)	111.8 (118.7)	132.3 (118.3)	118.1 (89.2)	109.1 (92.4)	145.8 (133.6)	161.0 (110.4)	42.8	36.2
Machinery, Transport Equipment, Other Capital Goods	103.2 (103.2)	129.9 (126.0)	135.5 (104.3)	189.9 (140.1)	271.1 (142.7)	275.5 (101.6)	281.3 (102.1)	13.2	11.1
Industrial Consumer Goods	107.5 (107.5)	122.0 (113.4)	138.7 (113.8)	148.2 (106.9)	144.1 (97.2)	168.3 (116.8)	186.7 (111.0)	20.3	17.1
Raw Materials for the Food Industry, Live Animals, Food Products	105.7 (105.7)	106.6 (100.9)	132.7 (124.5)	145.5 (109.6)	147.6 (101.4)	140.5 (95.2)	160.3 (114.1)	36.9	31.2

Source: 1, p. 33, 36.

Foreign Trade Price Indices: Import
(In forint terms)

1970=100   (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	101.7 (101.7)	104.1 (102.4)	110.7 (106.3)	128.9 (116.7)	147.2 (114.2)	137.3 (93.3)	147.0 (107.0)
Fuels, electric energy	103.6 (103.6)	105.9 (102.3)	109.7 (103.6)	128.3 (117.0)	206.9 (161.3)	197.0 (95.2)	227.0 (115.6)
Raw materials, semi-finished products, spare parts	100.9 (100.9)	104.8 (103.8)	109.8 (104.8)	136.6 (124.4)	155.3 (113.7)	139.8 (90.0)	145.5 (104.1)
Machinery, transport equipment, other capital goods	101.0 (101.0)	102.2 (101.2)	104.6 (102.4)	108.4 (103.6)	114.8 (106.0)	117.8 (102.6)	123.3 (104.7)
Industrial consumer goods	100.6 (100.6)	101.7 (101.1)	104.1 (102.4)	108.8 (104.6)	114.8 (105.5)	112.3 (97.8)	114.8 (102.2)
Raw materials for the food industry, live animals, food products	106.7 (106.7)	106.4 (99.7)	140.8 (132.3)	166.7 (118.4)	177.8 (106.7)	152.9 (86.0)	188.8 (123.5)

Source: 1. pp. 28, 31

Foreign Trade Price Indices Export

(In forint terms)

	1971	1972	1973	1974	1975	1976	1977
Total	100.3	101.9	107.0	115.3	122.3	116.6	120.6
	(100.3)	(101.6)	(105.0)	(107.7)	(106.1)	(95.4)	(103.4)
Fuels, electric energy	111.6	103.9	127.6	215.6	271.7	257.3	283.6
	(111.6)	(93.1)	(122.8)	(169.0)	(126.0)	(94.7)	(110.1)
Raw materials, semi-finished products, spare parts	99.4	97.0	102.0	122.8	125.4	117.0	120.4
	(99.4)	(97.6)	(105.4)	(120.2)	(102.2)	(93.3)	(102.9)
Machinery, transport equipment, other capital goods	99.4	100.7	101.6	102.8	112.9	112.2	115.8
	(99.4)	(101.3)	(101.0)	(101.2)	(109.8)	(99.4)	(103.2)
Industrial consumer goods	98.9	98.0	99.4	105.6	114.6	103.8	108.3
	(98.9)	(99.1)	(101.4)	(106.3)	(108.3)	(90.6)	(104.4)
Raw materials for the food industry, live animals, food products	103.3	112.7	126.8	130.8	135.9	131.6	136.0
	(103.3)	(109.1)	(112.5)	(103.2)	(103.9)	(96.9)	(103.3)

Source: 1. pp. 34, 37

Foreign Price Indices, Export in Accounting Ruble

(In forint terms)

1970=100 (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	101.8 (101.8)	104.0 (102.2)	104.2 (100.2)	105.2 (100.9)	132.2 (125.7)	129.8 (98.2)	138.1 (106.4)
Fuels, electric energy	102.0 (102.0)	104.5 (102.5)	103.5 (99.1)	103.3 (99.8)	201.1 (194.7)	190.5 (94.8)	225.2 (118.2)
Raw materials, semi-finished products, spare parts	102.2 (102.2)	106.4 (104.1)	106.2 (99.8)	107.2 (101.0)	142.1 (132.5)	135.3 (95.2)	141.8 (104.8)
Machinery, transport equipment, other capital goods	101.3 (101.3)	101.5 (100.2)	102.5 (101.0)	103.5 (101.0)	109.6 (105.9)	114.0 (104.0)	119.2 (104.6)
Industrial consumer goods	101.0 (101.0)	101.4 (100.4)	102.4 (101.0)	103.9 (101.5)	109.6 (105.5)	110.8 (101.1)	113.3 (102.2)
Raw materials for the food industry, live animals, food products	102.4 (102.4)	104.7 (102.3)	104.6 (99.9)	106.7 (102.0)	127.2 (119.2)	117.7 (92.5)	118.7 (100.9)

Source: 1. pp. 26, 29.

Foreign Trade Price Indices: Non Ruble Import

(In forint terms)

1970=100   (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	102.2 (102.2)	104.4 (102.2)	121.6 (116.5)	169.6 (139.5)	170.2 (100.4)	150.9 (88.7)	162.5 (107.7)
Fuels, electric energy	120.8 (120.8)	118.2 (97.8)	166.6 (141.0)	342.4 (205.5)	320.3 (93.5)	308.4 (96.3)	330.0 (107.0)
Raw materials, semi-finished products, spare parts	98.7 (98.7)	101.5 (102.8)	112.7 (111.0)	170.4 (151.2)	167.7 (98.4)	145.0 (86.5)	150.2 (103.6)
Machinery, transport equipment, other capital goods	105.4 (105.4)	110.6 (104.9)	117.9 (106.6)	132.2 (112.1)	140.1 (106.0)	139.9 (99.8)	146.7 (104.9)
Industrial consumer goods	100.7 (100.7)	104.6 (103.8)	110.6 (105.7)	128.2 (115.9)	135.2 (105.5)	122.2 (90.4)	124.8 (102.1)
Raw materials for the food industry, live animals, food products	109.0 (109.0)	106.2 (97.4)	151.1 (142.3)	184.1 (121.9)	192.0 (104.3)	163.2 (85.0)	207.5 (127.2)

Source: 1. pp. 37, 30.

Foreign Trade Price Indices, Import in Accounting Ruble
(In forint terms)

1970=100 (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	99.6 (99.6)	100.2 (100.6)	100.7 (100.5)	102.0 (101.3)	117.0 (114.7)	112.4 (96.1)	116.0 (103.2)
Fuels, electric energy	98.8 (98.8)	98.1 (99.2)	98.4 (100.3)	98.1 (99.7)	205.7 (209.7)	191.9 (93.3)	234.7 (122.3)
Raw materials, semi-finished products, spare parts	101.1 (101.1)	101.0 (99.0)	101.3 (100.3)	102.5 (101.2)	120.2 (117.3)	112.8 (93.9)	117.8 (104.5)
Machinery, transport equipment, other capital goods	99.5 (99.5)	101.3 (101.8)	102.0 (100.7)	102.6 (100.6)	113.8 (110.9)	113.4 (99.7)	116.6 (102.8)
Industrial consumer goods	97.0 (97.0)	94.7 (97.6)	94.8 (100.2)	96.8 (102.2)	109.8 (113.4)	96.2 (87.6)	97.7 (101.6)
Raw materials for the food industry live animals, food products	102.1 (102.1)	105.3 (103.1)	106.0 (100.7)	107.9 (101.8)	133.1 (123.4)	135.3 (101.6)	141.1 (104.3)

Source: 1, pp. 32, 35.

Foreign Trade Price Indices: Non Ruble Export

(In forint terms)

1970=100 (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	101.4	105.0	119.3	141.8	132.5	125.3	129.8
	(101.4)	(103.6)	(113.6)	(118.9)	(93.4)	(94.5)	(103.6)
Fuels, electric energy	121.7	107.8	153.6	322.6	325.8	309.8	332.6
	(121.7)	(88.6)	(142.5)	(210.1)	(101.0)	(95.1)	(107.4)
Raw materials, semi-finished products, spare parts	95.9	90.1	101.4	144.4	126.8	117.7	119.8
	(95.9)	(94.0)	(112.6)	(142.4)	(87.8)	(92.9)	(101.8)
Machinery, transport equipment, other capital goods	101.4	102.9	103.8	109.2	112.7	111.0	116.1
	(101.4)	(101.5)	(100.9)	(105.2)	(103.2)	(98.5)	(104.6)
Industrial consumer goods	103.8	106.6	112.8	130.4	129.0	121.9	131.2
	(103.8)	(102.6)	(105.8)	(115.6)	(98.9)	(94.5)	(107.6)
Raw materials for the food industry, live animals, food products	105.1	120.7	145.6	151.5	140.6	133.2	137.0
	(105.1)	(114.8)	(120.6)	(104.1)	(92.8)	(94.7)	(102.8)

Source: 1. pp. 33, 36.

Foreign Trade Price Indices: Non Ruble Export

(In dollar terms)

1970=100 (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	101.4	114.0	149.1	181.9	181.0	180.4	190.4
	(101.4)	(112.5)	(130.8)	(122.0)	(99.5)	(99.9)	(105.2)
Fuels, electric energy	121.7	117.1	192.0	413.9	445.0	445.1	488.0
	(121.7)	(96.2)	(164.0)	(215.6)	(106.0)	(100.5)	(109.1)
Raw materials, semi-finished products, spare parts	95.9	97.8	125.8	185.3	173.2	169.5	175.8
	(95.9)	(102.1)	(129.6)	(146.1)	(93.5)	(98.2)	(103.4)
Machinery, transport equipment, other capital goods	101.4	111.7	129.8	140.1	153.9	159.8	170.3
	(101.4)	(110.2)	(116.1)	(108.0	(109.9)	(104.1)	(106.3)
Industrial consumer goods	103.8	115.8	141.0	167.3	176.2	175.5	192.5
	(103.8)	(111.4)	(121.8)	(118.6)	(105.3)	(99.9)	(109.3)
Raw materials for the food industry, live animals, food products	105.1	131.1	182.0	104.3	192.1	191.8	201.0
	(105.1)	(124.7)	(138.8)	(106.8)	(98.9)	(100.1)	(104.4)

Source:

Foreign Trade Price Indices, Non Ruble Import

(In dollar terms)

1970=100 (annual % changes)

	1971	1972	1973	1974	1975	1976	1977
Total	102.2 (102.2)	113.4 (111.0)	152.0 (134.1)	217.6 (143.2)	232.5 (106.9)	217.3 (93.7)	238.4 (109.4)
Fuels, electric energy	120.8 (120.8)	128.4 (106.2)	208.2 (162.3)	439.3 (210.9)	437.5 (99.6)	444.1 (101.8)	484.2 (108.7)
Raw materials, semi-finished products, spare parts	98.7 (98.7)	110.2 (111.6)	140.9 (127.8)	218.6 (155.2)	229.1 (104.8)	208.8 (91.4)	220.4 (105.2)
Machinery, transport equipment, other capital goods	105.4 (105.4)	120.1 (113.9)	147.4 (122.7)	169.6 (115.0)	191.4 (112.9)	201.5 (105.5)	215.2 (106.6)
Industrial consumer goods	100.7 (100.7)	113.6 (112.7)	139.3 (121.7)	164.5 (118.0)	184.7 (112.4)	176.0 (95.5)	183.1 (103.7)
Raw materials for the food industry, live animals, food products	109.0 (109.0)	115.3 (105.8)	188.9 (163.8)	236.2 (107.0)	262.3 (111.1)	235.0 (89.8)	304.4 (129.2)

Source:

Sources

1. Foreign Trade Statistical Yearbook 1977. KSM.
    Budapest. 1978

2. Statistical Yearbook 1975. KSM. Budapest. 1976.

3. Hungarian Statistical Pocketbook 1978. KSM.
    Budapest.1978.

4. Main Economic Indicator 1977. KSM. Budapest 1978.