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EASTERN EUROPE'S LIVESTOCK ECONOMIES
PART III: THE IMPACT OF PRICE
AND TRADE POLICIES ON HUNGARY'S
LIVESTOCK ECONOMY

by
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In Part II of this report we examined the farm-level aspects of inefficiency in Hungary's livestock sector. In this section we analyze the livestock economy from a more macro-economic perspective, the effects of price and trade policies, and how meat prices are set in accordance with the goals of the meat pricing authorities. We then discuss the international markets for Hungary's meat products, and show how dependent is Hungary's meat trade on the Soviet Union.

A. Price Policies for Meat and Livestock

Economic reforms in Hungary have been widely publicized, but these reforms of the pricing and distribution systems have had only a limited impact on meat prices, and animal products are still largely subject to an administered pricing system. A review of the price reforms since 1968 shows the extent to which meat pricing has lagged behind other price reforms in Hungary. Before 1968, prices played only a limited role in the economy. They were mainly a device for recording transactions, rather than a reflection of relative scarcities of goods and services. One of the major goals of the 1968 reforms was to make prices more accurately reflect actual market demands and scarcities, but even after 1968 about 70 percent of consumer goods' and 30 percent of producer goods' prices remained tightly controlled.¹

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In the mid-1970's a recentralization movement halted further price reforms, but by 1979-1980 there was a renewal of the reform movement. To promote efficiency in input usage, producer prices were linked more closely to international prices, and greater emphasis was placed on profitability as a performance indicator. By 1980 the proportion of so-called "freely established" producer and consumer prices had increased to 67 percent and 55 percent respectively.² Much of the extensive literature on Hungary's price reform refers to these so-called "free prices". It is important to note, however, that these are not freely changing prices subject to the discretion of the enterprise and what the market will bear. In most cases, before these "free prices" can be changed, the proposed changes must be reviewed by the relevant ministry and the prices office. This process can take months and may not, in the end, even be successful.

The reform also included breaking up the trusts, monopoly organizations that centralize the control of all enterprises (firms), in particular industries. A trust directs the financial, economic and legal activities of all its subordinate enterprises under the direction of a ministry. The trust also organizes the supply of inputs to its member enterprises and takes care of all their domestic marketing and foreign trade³. In most cases the trust follows the practice of pooling and redistributing the profits of its member enterprises.

One reason for the elimination of the trusts was that this "levelling" of profits, aimed at helping those enterprises with lower productivity, was detrimental to enterprise efficiency and initiative⁴.

From 1980-1984 all but three of the original 10 trusts in the food industry were eliminated. The seven eliminated were in poultry, canned food, sugar, tobacco, and in beer, wine, and spirits. The three trusts that remain are the grain milling, dairy, and meat industries.

The Livestock and Meat Trust

The livestock and meat trust is, and was, the largest of the food industry trusts⁵. It now has 19 member enterprises, employing 36,000 people in its slaughterhouses and processing plants. Ninety percent of the beef and 57 percent of the pork produced in Hungary is processed and marketed by the trust. The remaining pork is either home-slaughtered (20 percent), slaughtered by the large-scale farms (20 percent), or processed

by a joint enterprise that is controlled by the trust (3 percent). Since the trust also buys for further processing about one third of the total slaughter of the large-scale farms, and since the bulk of home-slaughtered pork is also consumed at home, the trust actually controls much more than 57 percent of the pork moving through marketing channels -- the proportion is closer to 80 percent.

The operations of the meat trust illustrate just how little impact the recent price reforms have had on the meat and livestock sector. Livestock and meat prices are still strictly set by the government. The government sets the prices at which the enterprises belonging to the trust can contract to buy cattle, pigs, or raw pork for processing. Other contract prices are forbidden⁶. The enterprises may buy cattle and pigs without contracts, as for example when supplies are short, but they are still constrained to pay a certain minimum price set by the government, although both parties may agree on a price higher than the minimum. Theoretically too, the enterprises may buy their animals for slaughter from any source, but effectively their purchasing area is limited to the farms in the surrounding region with which they have contracts.

Political as well as economic considerations determine the level of meat and livestock prices. Each year representatives of the Ministry of Agriculture, the Finance Ministry, the Planning Office, the Office of Prices, the Interior Ministry and the Foreign Ministry meet to set price levels (i.e. increases) for the following year. Once the general price increase for beef, pork and so forth has been set, the prices for specific quality grades are worked out later at lower levels. Although the meat trust does not participate directly in the price negotiations, it is very active in providing recommendations along with representatives of the large-scale farms and consumer cooperatives⁷.

In these negotiations, producer organizations try to protect producer incomes and insure that prices are sufficient to cover average production costs and allow for some profit. Since the large-scale farms effectively represent all producers in making price recommendations, the average production costs of large-scale farms are the most important factor taken into consideration in setting prices. This means that farms that are more efficient, with lower production costs than those prevailing on the average large-scale farm, benefit from this pricing system. In particular, the small-scale producers, with their lower capital and labour costs, are able to capture higher-than-average profits⁸. For this reason, small-scale livestock production is flourishing.

Small-scale pig producers have done particularly well under this system. Currently (1984) the basic producer price for pigs is 35 forints per kilo of live weight (average for a 95 to 105-kilo pig) and because large-scale farms produce higher quality pigs with less fat, they get a quality premium of 3 forints per kilo, as well as a quantity premium of 1 forint. If small-scale farms sell their pigs to a large-scale farm rather than on the open market, they also get the 1 forint volume premium, plus by long-term contracting, they can get an additional 1.5 to 2.5 forints per kilo as a contract premium⁹. Thus as of 1984 there was little difference between the producer prices paid to large- and small-scale farms for pigs, and the system was relatively favorable to low-cost, small-scale producers.

Planned changes in the pricing system, however, may eliminate some of these advantages that small-scale producers have enjoyed. According to a director of the meat trust, the price system will change next year and will discount more heavily the lower quality, fatter meat. This is part of a plan to bring Hungarian pork up to hard-currency export standards. One effect of this change will be to favor the large-scale producers.

Although the meat trust is not unsympathetic to the goal of protecting producer incomes, its primary goals are to guarantee an adequate domestic supply of meat and earn as much foreign exchange as possible from exports. It also has a unique function in the economy, in that it is responsible for stabilizing the market for meat. It does so by guaranteeing, through its member enterprises, to buy all the cattle and pigs the producers offer for sale at the officially fixed prices. The trust thus absorbs the risk of marketing for Hungarian livestock producers. Establishing a guaranteed market at fixed prices has eliminated, at least in pork production, the cyclical swings in production that are normally encountered in market economies.

The trust markets its live animals, meat and meat products through three major channels: (1) sales to retail food stores and institutional kitchens, (2) sales to domestic meat processing industries outside the trust, and (3) export sales, which account for 40 percent of the trust's total volume. Thus 60 percent of the trust's sales are on the domestic market, through the first two channels. Like the prices the trust pays to producers, the prices at which it can sell meat to consumers on the domestic market are also fixed by the state. Consumer meat prices are set by the same cabinet-level committee that

establishes producer prices. The objectives then of the consumer price regulation are to protect consumer budgets and maintain acquiescence with the existing economic system and political order.

By assuming the marketing and sales responsibility for most of the meat in Hungary within this price regulation system, the trust incurs certain risks. Neither producer nor consumer prices automatically adjust to bring domestic meat supply and demand into equilibrium, so bringing the market into equilibrium is the task of the meat trust. When farmers produce and sell to the trust too much meat at the fixed producer prices, relative to the amount that can be sold on the domestic market at the fixed consumer prices, the trust must find external markets to dispose of its excess stocks. The trust therefore absorbs for producers the risks of price instability and price declines on the world market. Without recourse to the state budget, the trust would not be able to absorb these risks.

The trust maintains its own risk fund, usually amounting to three percent of its total annual turnover, or about 10-20 percent of its total export turnover. This fund is built up by contributions from the member enterprises of the trust in years of rising international meat prices and drawn down in years of falling prices. The real insurance against international price risk, however, comes from the state, through a so-called "intervention fund".

Since 1981, the export prices for Hungary's livestock, meat, and meat products have declined sharply. According to the economic director of the meat trust, although approximately 40 percent of the decline was compensated by changes in the exchange rate, most of the price drop had to be covered by the trust. Because the trust's own risk fund was depleted after the first year of the price decline, since 1982 the trust has had to tap heavily the state's intervention fund. However, since the trust has to compete with other enterprises for intervention funds, the trust was reluctant to give us any information on the amounts it obtained from the state.

Effects of Price Policies on Consumption

Meat pricing and distribution in Hungary thus continues to be highly centralized. Under such a centralized system, the effects of price policies on production, consumption and trade are a

good indication of the implicit goals of policy makers. In many cases, these effects are a better guide than officially published statements about policy would be.

Consumer price policy has been aimed primarily at keeping meat prices low enough to allow consumption to increase at a fairly steady rate. Undoubtedly this is politically motivated, since consumers in Hungary, as in other East European countries, tend to judge their economic well-being by the amount of meat and animal products they consume. Table 1 shows that the state kept retail meat and milk prices low and stable throughout the 1970's (in 1983, for example, 42 forints = 1 US dollar). Only in the latter part of the decade were the prices increased, and since then, the state has tried to keep the prices stable at their new higher level. Milk prices have hardly changed since 1975.

Consumers responded by greatly increasing their consumption of meat (see Table 2) - from 57.6 kilograms per capita in 1970 to 75.6 kilograms in 1983 - a 31.3 percent increase. The largest part of this increase was due to the 45 percent growth in per capita pork consumption. Poultry and milk consumption also increased substantially, especially milk consumption, which went up by 45 percent. Beef consumption, however, decreased, falling by 17.8 percent.

Because it fixes consumer prices for most meats, milk and milk products below actual costs, the state is only able to maintain these low price levels by heavy consumer price subsidies¹⁰. State consumer price subsidies on beef and pork in 1982 amounted to 34 percent and 22 percent, respectively. Processed meat products received subsidies ranging from 23 percent to 33 percent of the price. The highest consumer price subsidies, however, go to milk and milk products, ranging from 33 percent to 96 percent of the price. In 1982, the state spent 15 billion forints subsidizing the prices of these and other foodstuffs.¹¹ This means about 3 percent of the state's total budget is spent on consumer food subsidies, or to put it another way, it is about 2 billion forints more than the amount spent on the police and court systems combined.¹²

Effects of Price Policies on Production

Most other socialist countries that maintain artificially low food prices also experience chronic meat and milk shortages. But in Hungary, such shortages are rare. This is because the

Table 1:

Consumer Prices of Principal Animal Products

| | Pork Spare Rib (Fts/kg) | Pork Leg with- out bone (Fts/kg) | Beef Roast Meat (Fts/kg) | Chicken Drawn, Pre-cooled (Fts/kg) | Milk 2.8 % fat (Fts/liter) |
|------|-------------------------------|---|--------------------------------|---|----------------------------------|
| 1970 | 34 | 39 | 30 | 37 | 3.6 |
| 1975 | 34 | 39 | 30 | 37 | 5.0 |
| 1980 | 60 | 78 | 56 | 45 | 6.0 |
| 1981 | 68 | 90 | 62 | 50 | 6.0 |
| 1982 | 68 | 90 | 62 | 50 | 6.0 |
| 1983 | 68 | 90 | 62 | 49.9 | 6.0 |

Source: Statistical Pocket Book of Hungary, Statistical Publishing House, Budapest, various years.

Table 2:

Per Capita Consumption of Animal Products

| | <u>1970</u> | <u>1975</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Meats, total (kg) | 57.6 | 70.5 | 71.7 | 72.0 | 74.5 | 75.6 |
| Pork (kg) | 29.8 | 41.4 | 40.2 | 40.1 | 40.8 | 43.2 |
| Beef (kg) | 10.1 | 7.4 | 9.6 | 9.4 | 9.3 | 8.3 |
| Poultry (kg) | 14.2 | 15.2 | 18.0 | 18.7 | 20.2 | 19.8 |
| Milk and milk products (liters) | 109.6 | 125.0 | 166.1 | 172.0 | 174.4 | 180.9 |

Source: Varga, Gyula, M. Némethi, and T. Újhelyi, "Policies of Animal Husbandry and Meat Production in Hungary", Agrárgazdasági Kutató Intézet, Bulletin No. 52, p. 124, and Statisztikai Évkönyv, Központi Statisztikai Hivatal, Budapest, various years.

state's producer prices for meat and milk offer adequate incentives to producers. (The consumer price subsidy covers the difference between the higher price the state pays the producer and the lower price at which it sells to consumers.) Since producer prices are the result of policy initiative rather than the result of market equilibrium, the policy goals of the state are directly reflected by production trends. And there is little doubt that the state has encouraged pig production more than cattle production.

Table 3 shows the production of cattle, pigs for slaughter, and milk from 1975 to 1980-83. Pig production increased substantially since 1975-- by 28 percent, while slaughter cattle production declined by 15 percent. Part of the reason for this divergence is apparent in Table 4, which shows the trend in the average prices paid to producers. The state raised the price paid to pig producers from 24.34 forints per kilogram in 1975 to 37.85 forints per kilogram in 1983, a 55 percent increase. Prices for slaughter cattle, however, went up by only 33 percent.

Both large- and small-scale producers of pigs benefitted from these relatively high prices. Small-scale producers, with low fixed labor and capital costs, covered their production expenses and made a profit. By using their own part-time labor and already available animal housing, small-scale farmers could produce pigs more efficiently than many of the large-scale farms. The resulting increase in the domestic supply of pork required relatively few scarce resources (i.e. labor and capital on the small-scale farms) and so was beneficial to both domestic consumers and the state as an exporter.

Large-scale farms also benefitted from these prices. With assured prices, they were able to introduce new feeding and keeping technologies that allowed mass production of pigs. Although production costs on the large-scale farms remain higher than on the small-scale farms, total large-scale pig production has increased at the same rate as on the small-scale farms. The proportion of total pigs raised by the large-scale farms has remained constant since 1975. The effect, therefore, of the state's producer price policies has been scale-neutral in pig production, i.e. the effect of these policies has been equally favorable for both large- and small-scale farms.

In the beef-cattle and dairy sectors, however, prices explain only part of the trends. Beef cattle prices have increased less rapidly than have pig prices, and this has contributed to stag-

Table 3:

Production over Time of Cattle, Pigs, and Milk

| | <u>Slaughter Cattle</u> (1,000 tons) | <u>Slaughter Pigs</u> (1,000 tons) | <u>Milk</u> (1,000 liters) |
|------|---|---------------------------------------|-------------------------------|
| 1975 | 378,6 | 1,072.1 | 1,820.3 |
| 1980 | 328.8 | 1,177.8 | 2,544.6 |
| 1981 | 318.3 | 1,183.1 | 2,677.7 |
| 1982 | 335.7 | 1,219.7 | 2,738.7 |
| 1983 | 322.9 | 1,368.1 | 2,806.5 |

Source: Mezőgazdasági Statisztikai Évkönyv, Központi
Statisztikai Hivatal, Budapest, various years.

Table 4:

Average State Producer Prices

| | <u>Cattle for Slaughter (Fts/kg)</u> | <u>Pigs for Slaughter (Fts/kg)</u> | <u>Cow's Milk (Fts/liter)</u> |
|------|--|--|-----------------------------------|
| 1975 | 31.94 | 24.34 | 5.51 |
| 1980 | 38.07 | 33.27 | 6.21 |
| 1981 | 40.88 | 36.20 | 6.18 |
| 1982 | 41.43 | 36.46 | 6.17 |
| 1983 | 42.52 | 37.85 | 6.67 |

Source: Statisztikai Évkönyv, Központi Statisztikai Hivatal,
Budapest, various years.

nation in beef cattle production. However, the 15 percent production decline since 1975, shown in Table 3, is due to other production policies apart from prices. The key factor was the dairy herd breed improvement program initiated by the state in the early 1970's. This program, which included heavy investment, input, and production subsidies, encouraged large-scale farms to shift from a mixed meat/milk cattle breed to a specialized dairy breed that is ill-suited to beef production. It is to this shift in technology that much of the stagnation and decline in beef cattle production can be attributed.

The positive consequence of this technology shift was that despite a relatively modest increase of 21 percent in producer milk prices, milk production from 1975-1983 increased dramatically - by 54 percent. Because of the steady increases in yields that could be obtained with a specialized dairy breed, large-scale dairy farms were able to increase their incomes by raising yields rather than relying solely on higher prices.

Effects of Price Policies on Exportable Surplus

A major effect of Hungary's meat price policies since 1975 has been the achievement of a meat and livestock surplus that could be exported for hard currency. This was true primarily for live pig and pork exports, rather than for beef. Since the outlook for cattle exports appeared limited, and the prospect for exports of pork for dollars to the Soviet Union looked promising, raising producer prices to increase the output of pork made the most sense.

Table 5 shows the increases in total exports of animals for slaughter, and for carcass beef and pork meat. Clearly, total exports of both pigs and pork have increased dramatically. Even more significant however is that the proportion of the total production going for export has been increasing. This can be calculated by converting exports of slaughtered pork to live weight equivalent and adding that to the total exports of pigs for slaughter. The results show that, while only 9 percent of the production was exported in 1975, 23 percent was exported in 1983. Producer price incentives have thus added more to the surplus available for export than to the supply available for domestic consumption. A similar calculation shows that beef and cattle exports, as a percentage of total production, remained the same from 1975 to 1983 - slightly less than one half of production was exported throughout this period. It is obvious that, while beef remains an important export product, it has been increasingly supplanted by pork.

Table 5:

Exports of Livestock and Meat over Time

| | <u>Slaughter Cattle (1,000 tons)</u> | <u>Slaughter Pigs (1,000 tons)</u> | <u>Beef and Veal (1,000 tons)</u> | <u>Pork (1,000 tons)</u> |
|------|--|--|---|------------------------------|
| 1975 | 105.0 | 19.8 | 57 | 39 |
| 1980 | 64.6 | 56.1 | 49 | 92 |
| 1981 | 73.7 | 59.7 | 49 | 83 |
| 1982 | 93.1 | 69.0 | 50 | 118 |
| 1983 | 99.8 | 62.7 | 45 | 130 |

Sources: - For slaughter cattle and pig exports: Mezőgazdasági Statisztikai Évkönyv, Központi Statisztikai Hivatal, Budapest, various years.

- For carcass weight beef, veal and pork meat exports: Statisztikai Évkönyv, Központi Statisztikai Hivatal, Budapest, various years.

Summary of Price Policy Effects

The effects of meat and milk price policies on production, consumption, and exportable surpluses show that price policy has had several goals. Chief among these was to secure an adequate supply of meat and milk products for consumers. This was achieved by providing adequate price incentives to producers and giving them an assured market with no risk of falling prices. A secondary goal was to maximize foreign exchange earnings from meat exports, and encouraging pig production rather than cattle production was the easiest means to achieve this goal during the past decade. Expanding pig production was the least expensive option, allowing the state to tap the potential of small-scale producers and make use of the well-known and easily available modern technology of large-scale pig production. Once the farms had converted to a breed of dairy cattle that was unsuitable for quality beef production, expansion of beef cattle did not have a strong case, especially given the limited markets for beef cattle exports during the past decade.

An implicit goal of meat price policies was to make use of resources that had limited alternative uses. One of these resources was the rural labor force, and a key goal was maximizing rural employment possibilities. Livestock production, especially pig production, can create a strong demand for labor on small-scale farms without disturbing the dominant position in agriculture of the large-scale farms. This provided a useful mechanism for maintaining a high level of rural employment. Livestock production also made use of another key resource - the substantial grain surplus Hungary achieved during the past two decades. Utilizing this excess grain as the fodder basis for expanding livestock production was another major goal of these price policies. This, however, is not the only possible use of the grain surplus. Understanding the trade-offs between grain and meat production, and the use of this grain surplus, is fundamental to understanding Hungary's trade policy.

B. Trade Policies for Meat and Livestock

Hungary's geographical conditions provide relatively good conditions for grain production, especially for wheat and corn, and 62-63 percent of the arable land is devoted to grain production. In 1983, Hungary produced 13.5 million tons of grain-- 5.96 million tons of wheat and 6.22 million tons of corn.¹³ According to the "scientific norms" established by the Council for Mutual Economic Assistance (CMEA) for its member countries, which establish a self-sufficiency goal of one ton of grain per

person per year, fed to animals or consumed directly, Hungary needs only 10 million tons of grain to be self-sufficient in its basic food supply. Any remaining surplus, which was 3.5 million tons in 1983 and 5 million tons in 1984, thus can either be exported directly as grain or fed to animals to produce meat exports.

The Grain versus Meat Controversy

The issue of whether to export grain versus meat emerged in the discussions on the formation of the 6th 5-year Plan covering the period 1981-1985. There were three options: (1) to export the surplus grain (especially under long-term agreements with other CMEA countries, in exchange for industrial raw materials, machinery, chemicals, and equipment); (2) to use most of the surplus grain crop for animal production, expanding Hungary's capacity to produce animals that use grain efficiently, such as pigs and poultry, and to export the meat supplies that exceed domestic demand; (3) to expand both livestock production and food processing capacities, and export less raw meat and livestock and more processed and preserved meat products, e.g. salami and sausage.¹⁴

With each step, from selling grain directly, to selling animals fed on grain and finally to selling processed meat, the value added to the product before it leaves Hungary increases. So does the amount of foreign exchange that can be earned from exports. However, investment costs also increase with each step and in the early 1980's investment funds were extremely limited. The state was particularly reluctant at that time to invest heavily in expanding meat processing capacity. Doing so would not only have required significant imports of processing technology but perhaps would also have required a decentralization of the meat industry to make it possible to produce many different types of meat products. As a result of the lack of investment in food processing, the third option is no more feasible today than it was in the early 1980's, even though expansion of meat processing capabilities remains a long-range goal.

It is clear that Hungary chose the second option for the 6th 5-year Plan.¹⁵ State farms and cooperatives enlarged their animal production capacities, encouraged by state subsidies for building barns, acquiring breeding stock, and by favorable producer prices guaranteed by the state. By 1983, livestock production had increased 30 percent over its 1975 level, in contrast with a 10 percent increase in crop production over that

same period (although 1983 crop results were affected by a drought). In 1983, of the slightly less than 3.5 million tons of grain that were available for export, only 1.4 million tons were exported directly, while 1.8 million tons were fed to animals that were fattened for export.¹⁶

There are good reasons for Hungary to export meat, rather than grain or processed meat products, but the cost effectiveness of this approach can be criticized.

It is more expensive to produce a dollar's worth of meat exports than it is to produce a dollar's worth of grain exports.¹⁷ For example, the cost of producing live pigs on large-scale farms in 1983 was 78 percent of the export value, while the on-farm cost of producing corn was only 37 percent of the export value.¹⁸ Thus, looking solely at production costs on large-scale farms growing corn is a more cost-effective way of earning foreign exchange than raising pigs.

Furthermore, although Hungary earns 700-800 million dollars per year from meat and livestock exports, it has to spend 200-220 million dollars on imported high-protein feed, especially soybean meal, for the production of livestock. It seems unlikely that Hungary can decrease this feed protein import cost by much. Some analysts argue they could use existing grain stocks more effectively and curtail protein imports by increasing beef cattle and sheep, rather than pigs and poultry that require more high-protein feed concentrates. But this alternative has limited potential, because Hungary is not endowed with sufficiently good pasture land for low-cost expansion of the production of ruminants, and the cost of improving its pasture would be high.¹⁹ The possibility of investing in improved pastures continues to be favorably mentioned by official sources.²⁰

Despite the apparently high costs of producing livestock and meat for export, exporting the grain directly rather than feeding it to animals is not necessarily a better alternative. If Hungary had directly exported the 1.8 million tons of grain that it instead fed to animals for export in 1983, Hungary would have realized less than 300 million dollars in foreign exchange. This is in contrast to the 900 million dollars it actually earned from livestock and meat exports in that year. Thus considering only the foreign exchange value and ignoring costs of production, Hungary is better off using its surplus grain to feed animals rather than exporting it directly. If production costs are considered, the situation becomes less

clear. On the one hand, labor and capital costs are relatively high in livestock production; including these costs makes grain exports look more favorable.²¹ On the other hand, land costs are higher in grain production, so including land costs again tips the scale towards livestock and meat exports.

Unfortunately, it is impossible to get a meaningful measure of land costs in Hungary based on its alternative use-value, since there is no market for farmland. But clearly, ignoring the cost of such an important factor of production biases the cost comparison of crops and livestock in favor of crops. Some idea of this can be seen from Table 6. When calculated on a per-hectare basis, the net foreign exchange earnings of corn and wheat are considerably lower than the net foreign exchange earnings of most animal products.

Hungary's geographic situation and its available transportation and storage capacity impose other constraints on expanding grain exports. Because Hungary is landlocked, it is at a competitive disadvantage with exporters that can ship by sea. This is the main reason why Hungary exports most of its grain to its immediate neighbors, particularly the Soviet Union. Any significant increase in grain exports would require substantial investments in new storage facilities and railcars. These investments may eventually be made, as within the past two years Hungary has succeeded in securing World Bank financing for a fairly large-scale storage program, but until then exporting surplus grain is not as economically feasible as is exporting meat and livestock.

The Importance of the Soviet Market to Hungary's Livestock Economy

A major factor in Hungary's decision to export meat and livestock rather than grain has been the Soviet market. The sheer size and geographical proximity of the Soviet Union, with its chronic short-falls in meat production, provides Hungary with a natural market. Since 1980, more than half of Hungary's meat and livestock exports went to other socialist countries, and most of that was to the Soviet Union (see Table 7). In 1983, of Hungary's total exports of all types of meat and livestock, including not only beef and pork but also poultry, rabbits, etc., the Soviet Union took 44 percent.

For some key products, the Soviet Union is by far the most important market. The Soviet Union in 1983 took 88 percent of the slaughter pigs and 93 percent of the beef exported from

Table 6:

Net Foreign Exchange Earnings of Competing
Branches of Animal Husbandry, and of Corn
and Wheat (in dollars/hectare)

| | <u>1980</u> | <u>1981</u> |
|------------------------------------|-------------|-------------|
| Slaughter cattle for meat sales | 477.5 | 522.6 |
| Live lamb | 1,037.8 | 1,050.8 |
| Skinned half pig | 928.4 | 1,010.4 |
| Broiler-size chicken | 1,187.6 | 1,303.7 |
| Corn | 688.5 | 774.9 |
| Wheat | 861.0 | 745.9 |

Source: György Raskó, Pál Szajkó, "Competitiveness of the
Beef Branch", Agricultural Research Institute
Bulletin No. 52, Budapest, 1983, p. 108.

Table 7:

Hungary's Meat Exports to Socialist Countries
(in million Forints)

| | <u>1976</u> | <u>1977</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| Total exports of meat and live animals | 19,215.1 | 27,129.3 | 31,890.5 | 37,520.0 | 39,995.5 | 42,468.2 |
| Exports to the Socialist Countries (including Soviet Union) | 6,457.9 | 11,458.1 | 13,582.4 | 19,713.9 | 22,523.2 | 22,900.5 |
| Exports to the Soviet Union | 4,426.4 | 8,076.4 | 11,040.7 | 16,438.8 | 19,590.1 | 18,649.8 |

Source: Külkereskedelmi Statisztikai Évkönyv, Központi Statisztikai
Évkönyv, Budapest, various issues.

Hungary, and for raw pork and slaughter cattle the Soviet share was substantially larger than its 44 percent share of Hungary's total meat and livestock exports (Table 8).

These meat and livestock exports to the Soviet Union have increased rapidly, especially since 1974. One of the reasons is that in 1974 the EEC restricted imports of live animals from non-member countries, shutting Hungary out of some lucrative dollar export markets for live cattle and pigs. Thus in order to maintain its export market for these products, it began re-directing them to the Soviet Union. Hungary has now become the largest single supplier of meat and livestock to the Soviet Union. In 1982, Hungary sold more than three times as much of these products to the Soviet Union as did its next largest competitor, Romania.²²

The Soviet Union became a particularly valuable alternative market for Hungarian meat and livestock exports in 1976, because in that year a ten-year agreement went into effect allowing Hungary to export these products for dollars rather than rubles. Before 1976 there were some meat and livestock exports for dollars, but this trade expanded considerably after 1976, because the ten-year agreement set up a framework for hard-currency exchanges of Hungarian meat and livestock (as well as grain) for Soviet oil and gas.²³ The effect of this shift on Hungary's dollar earnings can be seen in Table 8, which shows the share of Hungary's export accounts settled in dollars for four individual meat and livestock products.

This increase in hard-currency exports was especially marked for pork and for slaughter pigs, which Hungary now exports almost exclusively to the Soviet Union. By 1983, 93 percent of Hungary's meat and livestock exports to the Soviet Union were for dollars rather than rubles.²⁴ Undoubtedly, Hungary's ability to sell meat to the Soviet Union for dollars has helped policy makers rationalize the decision to emphasize meat production. Although they could also have sold grain to the Soviet Union for dollars, increasing grain exports would not have met domestic policy goals, such as maintaining rural employment, and would not have earned as much foreign exchange.

Hungary also benefits from selling to the Soviet Union because the Soviets place fewer quality demands on Hungarian producers and exporters than do Western countries. Hungary fattens pigs to a heavier weight than Western importers prefer -- Hungarian slaughter weight is 110-125 kilograms, as compared with 80-90 kilograms in Western Europe. The major factors accounting

Table 8: Hungary's Exports of Meat and Live Animals,
Exports to the Soviet Union, and the Share of
Accounts Settled in Hard Currency

| | <u>1976</u> | <u>1977</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <u>Slaughter Cattle</u> | | | | | | |
| Total Exports (t) | 88,977 | 90,417 | 64,557 | 73,735 | 93,119 | 99,830 |
| Exports to S.U. (t) | 56,807 | 53,158 | 28,748 | 34,886 | 56,880 | 53,020 |
| Share of Accounts in \$ (%) | 100 % | 100 % | 100 % | 100 % | 100 % | - |
| <u>Slaughter Pigs</u> | | | | | | |
| Total Exports (t) | 3,230 | 38,484 | 56,088 | 59,669 | 69,026 | 62,650 |
| Exports to S.U. (t) | 0 | 16,567 | 49,503 | 56,036 | 67,192 | 54,906 |
| Share of Accounts in \$ (%) | 59 % | 83.1 % | 100 % | 95.7 % | 100 % | - |
| <u>Beef</u> | | | | | | |
| Total Exports (t) | 36,492 | 38,822 | 48,770 | 48,729 | 50,237 | 45,323 |
| Exports to S.U. (t) | 21,511 | 22,876 | 26,965 | 35,892 | 42,754 | 42,116 |
| Share of Accounts in \$ (%) | 91.9 % | 94.9 % | 96.5 % | 96.1 % | 95.6 % | - |
| <u>Pork</u> | | | | | | |
| Total Exports (t) | 16,068 | 72,856 | 91,785 | 83,072 | 118,124 | 130,010 |
| Exports to S.U. (t) | 1,827 | 37,760 | 58,096 | 46,998 | 82,142 | 67,210 |
| Share of Accounts in \$ (%) | 65.6 % | 74.5 % | 90.7 % | 91.2 % | 94.6 % | - |

Sources: - Total Exports, and Exports to Soviet Union from: Külkereskedelmi Statisztikai Evkönyv, various years.

- 1980-82 Share of Accounts in \$ from: "Preliminary Calculations of the NPC, EPC, and DRC Index of the Main Animal Products", Agricultural Research Institute, Budapest, May, 1984, Table 2, p. 13.

- 1976 Share of Accounts in \$ from: Deák, I., S. Hozadi, and J. Nemeth, "Meat Production and Consumption in Hungary", Acta Oeconomica, Vol. 25, 1980, p. 391.

for this high slaughter weight are the breeds raised, the production methods used on the small farms producing much of the pork in Hungary, and the state price policies that do not discount enough for lower quality. The Soviet Union is, however, willing to buy heavier pigs, not only because they use large quantities of fat in making borscht, but also because their butchering and processing techniques do not include trimming out the fat. Hungarian specialists report that a prevalent Soviet practice is simply to chop from one end of the pig to the other, without selecting the choice parts from the carcass. Before Hungary could sell its fatty pigs and raw pork in western markets, it would have to butcher much more carefully, and discard much of the fat.²⁵

A by-product of Hungary's success in increasing milk production has been a substantial increase in Holstein-Friesian cull calves that have poor meat quality. The Soviet Union is also willing to buy this lower-quality beef and live cattle that Hungary has trouble selling in western markets. Here too, the Soviet market provides an export outlet for sales of this lower quality meat.

Long-Run Prospects

The long-run prospects for Hungary's meat and livestock exports to the Soviet Union, however, may not be as favorable as they have been in most recent years. The Soviets have recently begun setting stiffer quality requirements for horticultural products, especially apples, and it is likely that they will do the same for meat. It is questionable how fast Hungary's food processors can adapt to trimming for leaner meat and how fast the livestock production structure can change to produce higher quality animals.

The most serious problem, though, is Hungary's future prospect for earning dollars from the Soviet Union. The ten-year agreement that began in 1976 expires this year, and it is already clear that the next agreement will provide less favorable terms of trade for Hungarian meat and livestock exports. In part, this is because the outcome of the last agreement was more favorable to Hungary than was originally anticipated. When the agreement was signed, both parties thought that the barter exchange of "hard products", i.e. meat and grain for oil and gas, would roughly balance and that there would be few sales for cash. But it has turned out that about 60 percent of Hungary's meat and livestock sales to the Soviet Union for convertible currency have in fact been for cash. Only 40 percent of Hungary's meat and livestock sales to the Soviet Union were balanced

by reciprocal sales of oil and gas. In the future, the Soviets will try to minimize these cash sales.

In the next five years, Hungarians are aiming to sell one million tons of meat to the Soviet Union. Four methods of sale are presently being negotiated. These are (1) sales for transferable rubles (the common intra-CMEA method of payment), (2) sales tied to Hungarian investments in new Soviet natural gas facilities, (3) continuation of barter trade (on a dollar basis), that is, the so-called convertible-currency barter trade of meat and grain for oil and gas, and finally (4) sales for dollars in cash. The negotiations, expected to be resolved by September, 1985, will establish agreement around some combination of these four methods of sale.

Presently, the Soviet Union is trying to increase the barter component of its convertible-currency meat and livestock trade with Hungary. That is, the Soviets would like to pay for 80 percent rather than 40 percent of the meat they buy from Hungary with oil and gas. But under these terms, in order to maintain its meat export goal of 200,000 tons a year to the Soviet Union, Hungary will have to accept more oil and gas than it can use domestically. The excess will have to be resold on the spot market. Some economists estimate that Hungary will lose 13-20 percent of the value of the oil, if they have to resell it on the spot market.²⁶ Under these terms, the Soviet Union will no longer be such a lucrative hard-currency market for meat and livestock exports. A radical worsening of the terms of trade for these exports would force Hungarian policy makers to re-evaluate their decision to emphasize meat and livestock production and export.

Finally, there is a risk that the Soviet Union will finally achieve its goal of domestic self-sufficiency in food supply, and stop importing meat. Hungarians tend to discount this possibility, but many American economists perceive it as a real possibility. But regardless of whether the Soviet Union becomes self sufficient in food, in relying so heavily on the Soviet market for its meat exports, Hungary has become increasingly vulnerable to the possibility that the Soviet Union will unilaterally decide to cut its imports. There seems to be little recognition of this risk in Hungary. Those involved in the meat trade, especially, continue to view the Soviet Union as the single most important market in the foreseeable future.

Notes to Part III

1. Knight, Peter T., Economic Reform in Socialist Countries, World Bank Staff Working Papers, No. 579, The World Bank, Washington D.C., p. 70.
2. Ibid., p. 13.
3. Personal communication from Sándor Bálogh, Feb. 27, 1984.
4. Csizmádia, E., "Hungarian Food Economy at the Beginning of the 1980's", Acta Oeconomica, Vol. 24 (3-4), 1980, pp. 314-315.
5. The following information on the meat trust was provided by Otto Stiller, Economic Director of the Hungarian meat trust, Dec. 10, 1984.
6. Varga, G., M. Némethi, & T. Újhelyi, "Policies of Animal Husbandry and Meat Production in Hungary", Research Institute for Agricultural Economics, Bulletin No. 52, Budapest, 1983.
7. Personal communication from Otto Stiller, Dec. 10, 1984.
8. See Part II of this report on eastern Europe's livestock economies.
9. From: Az Állatforgalmi és Húsipari Tröszt Arjegyzéke, Budapest, 1984, Jan. 1, pp. 7-10.
10. Varga, G. et al., op. cit., p. 117.
11. Varga, G., "Certain Income Redistribution Problems in Hungarian Agricultural Production and in the Turnover of Agricultural Products at Home and Abroad Between 1970 and 1982", Research Institute for Agricultural Economics, Bulletin No. 56, Budapest, 1984, p. 149.
12. From: Statistical Pocket Book of Hungary, 1982, p. 100.
13. Ibid., 1983, pp. 147-148.

14. Csendes, Béla and Béla Pálovics, "The Principal Questions on the Progress and Further Development of Hungarian Agriculture", in: I. Friss (editor), Essays on Economic Policy and Planning in Hungary, Corvina Kiadó, Budapest, p. 217.
15. Márton, János, et al., "Economic and Organizational Problems of Developing the Grain and Meat Verticums Research Institute for Agricultural Economics, Bulletin No. 46, Budapest, 1980, p. 49.
16. Figures calculated by authors from Statisztikai Évkönyv, 1983, and Külkereskedelmi Statisztikai Évkönyv, 1983, based on feed conversion ratios given in Part II of this report on eastern Europe's livestock economies, and by converting all figures to carcass weight.
17. Marrese, Michael, "Hungarian Agriculture: Moving in the Right Direction", forthcoming in Joint Economic Committee of the U.S. Congress, East European Economies, Washington, D.C., p. 10.
18. Figures calculated by authors from Külkereskedelmi Statisztikai Évkönyv, 1983, and from A Termelési Rendszerek Főbb Ágazatainak Költség és Jövedelemviszonyai 1982 - Ben, Statisztikai és Gazdaságelemző Központ, Budapest, 1983.
19. Raskó, György and Pál Szajkó, "Competitiveness of the Beefer", Research Institute for Agricultural Economics, Bulletin No. 52, Budapest, 1983.
20. Népszabadság, "Allattenyésztésünk rangja", December 19, 1984, p. 3
21. Marrese, loc. cit.
22. Figures provided by Kálman Pécsi from official CMEA statistics.
23. For a discussion of the importance of Hungary's agricultural trade for dollars with the Soviet Union, and the mechanism by which much of this trade is conducted, see Richter, S., "Hungary's Foreign Trade with CMEA Partners in Convertible Currency", Acta Oeconomica, Vol. 25, No. 3-4, pp. 323-336, 1980.

24. Figure calculated using Külkereskedelmi Statisztikai Évkönyv, könyv, 1983, total CMEA and Soviet Union meat imports from Hungary, and assuming that Hungarian meat and live-stock sales to CMEA countries other than the Soviet Union are for rubles only.
25. Personal communication from Sándor Bálogh, Feb. 27, 1984.
26. Personal communication from Kálman Pécsi, Dec. 20, 1984.

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