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Hungary

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NATIONAL INTELLIGENCE SURVEY

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This chapter was prepared for the NIS by the Central Intelligence Agency. Research was substantially completed by October 1972.



HUNGARY

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The Economy

A. Basic trends and problems (U/OU)

As in other Communist states, Hungary's postwar economic strategy involved rapid industrialization under a rigid system of central planning. Prior to World War II, Hungary, a small landlocked country lacking most of the raw materials necessary to support an industrialized economy, was predominantly agrarian. In the postwar period, however, the structure of the economy was transformed. According to official Hungarian data, industry grew by more than 500% during 1950-71. U.S. estimates indicate a lower growth rate but show a sharp increase, nevertheless, particularly in comparison with the estimates of growth for the gross national product (GNP) and agriculture (Figures 1 and 2).

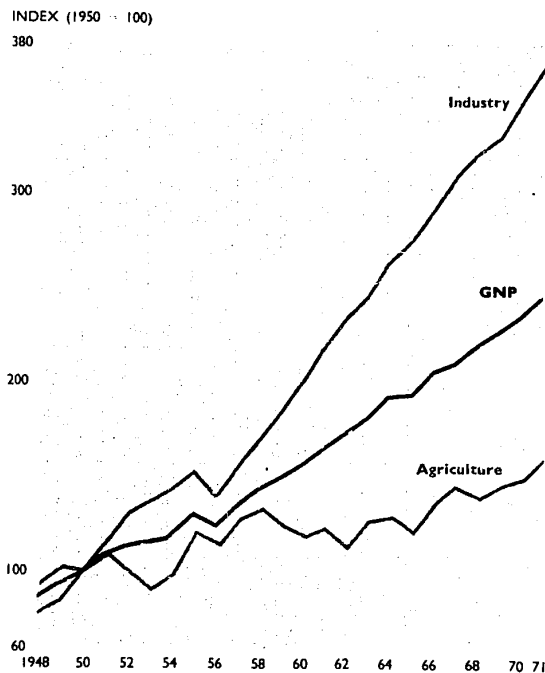


FIGURE 1. Indexes of GNP, industry, and agriculture, based on U.S. estimates (U/OU)

Although Hungary is generally self-sufficient in agricultural products, which also provide a significant share of exports, particularly to the West, the country must import most of the iron ore, coke, petroleum, and timber, in addition to a wide range of nonferrous metals and minerals, used by the economy (Figure 3). Natural resources for industry are limited largely to natural gas, coal, and bauxite, the chief metal resource, from which alumina is produced. Because of electric power shortages, however, Hungary ships most of the alumina to the U.S.S.R. for processing into aluminum.

The per capita GNP, which was about US\$1,600 in 1971, ranks close to the East European average—higher than in Bulgaria, Poland, and Romania, but considerably lower than in East Germany and Czechoslovakia. In addition, the Hungarian GNP has grown at about the average rate for Eastern Europe. Severe imbalances in the economy, however, had developed by the 1960's. In focusing on heavy industry, the planners neglected agriculture, consumer manufactures, and supporting industries—notably transportation and construction. Moreover, neglect of

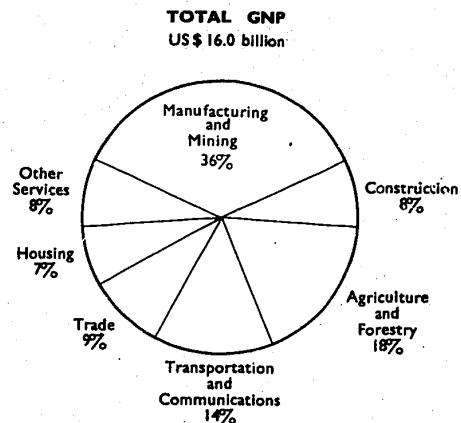


FIGURE 2. GNP by sectors of origin, 1970 (U/OU)

FIGURE 3. Strategic supply position in selected materials, 1970 (U/OU)
(*in thousand metric tons, unless otherwise noted*)

COMMODITY	PRODUCTION	IMPORTS	EXPORTS	APIARENT CONSUMPTION	PRODUCTION AS A PERCENT OF CONSUMPTION
Coal.....	27,830	1,986	91	29,725	93.6
Hard coal coke.....	1,166	1,254	0	2,420	48.2
Crude petroleum.....	1,937	4,349	0	6,286	30.8
Natural gas (<i>million cu. m.</i>).....	3,469	200	0	3,669	94.5
Electric power (<i>million kw.-hr.</i>).....	14,542	*3,395	na	17,937	81.1
Iron ore.....	629	3,119	0	3,748	16.8
Bauxite.....	2,022	0	660	1,362	148.5
Rolled steel.....	2,038	483	632	1,889	107.9
Primary aluminum.....	66	82	53	95	69.5
Cement.....	2,771	1,239	37	3,973	69.7
Nitrogen fertilizer.....	1,709	404	54	2,059	83.0
Phosphorous fertilizer.....	900	371	0	1,271	70.8
Potassium fertilizer.....	0	605	0	605	0.0
Corn.....	4,013	1	209	3,805	105.5
Wheat.....	2,718	62	467	2,323	117.5
Potatoes.....	1,430	15	86	1,359	105.2
Sugar.....	280	82	21	341	82.1

na Data not available.

*Net imports.

export industries was adversely affecting Hungary's trade position. Continued high growth rates required a redirection of efforts toward newer industries like aluminum, chemicals, and electronics, which, in turn, required large imports of advanced Western equipment and high-quality Western industrial materials. Hungarian sales of agricultural products—and the small Western market for most of Hungary's industrial goods—were not enough to cover the needed imports.

In an attempt to deal with these problems, Hungary introduced a far-reaching reform program in 1968—the New Economic Mechanism (NEM). The NEM—the only viable reform among CEMA members at the beginning of the 1970's—provides for considerable decentralization of decisionmaking, putting much of the burden for development on a combination of market forces and financial regulators and cutting down the role of plan directives. Enterprises have been granted authority to determine their own product mix, customers, and much of their investment, and they operate under a more relaxed system of price controls. Market forces are held in check by controls on enterprise wage policies, on investment credits, and on imports. Prices and profits are still distorted by an extensive system of subsidies.

The first full-scale test of the NEM came in 1970-71. Aided by subsidies and taking advantage of their new freedom to invest, local enterprises invested

heavily. Imports, considerably liberalized after a year of large trade surpluses in 1969, rose rapidly in response to the investment boom, and, in late 1971, the Hungarian planning authorities were forced to intervene and apply administrative measures to brake the overheated economy. The trade liberalization following the large surplus in 1969 was apparently the result of the planners' overestimation of the role of the NEM in creating that surplus.

The measures taken by the authorities in 1971 succeeded in reducing imports from the West in the first 6 months of 1972, and the rate of growth in investments was slowed. As of late 1972, the Hungarian authorities were reevaluating the role of NEM in permitting and even encouraging these investment and trade excesses. Further major experiments with decentralization are likely to be undertaken more slowly.

B. Sectors of the economy

Industry was heavily favored by Communist planners until 1968, receiving a far larger percentage share of investment than its contribution to national income. In 1950, for example, industry accounted for 26% of national income and received 38% of investment, while agriculture provided about half of national income, yet received less than 10% of investment. Moreover, investment was selectively

channeled into heavy industry, especially machine building and metallurgy; the development of light industry and construction was neglected. Through the NEM, Hungary has tried to correct existing imbalances by diverting more investment into agriculture, construction, and light industry. (U/OU)

Although its relative importance in the economy has been declining, agriculture (and forestry) still provided about 18% of GNP in 1970 and more than one-third of exports to the West. Under the NEM, there has been a strenuous effort to extend agricultural mechanization, to increase the availability of fertilizers and pesticides, and to strengthen the livestock sector. (U/OU)

In 1970, industry (manufacturing, mining, metallurgy) contributed 36% of GNP (Figure 2) and accounted for about 36% of total employment. The largest branch of industry is the engineering industry, which produces 29% of industrial output and is the largest source of industrial exports, the bulk of which goes to other Communist countries. About half of the engineering industry's output is accounted for by transportation equipment (mainly buses) and machinery, but the fastest growing component is the vacuum technology and telecommunications equipment branch. Mining and metallurgy have both been declining as industrial sectors, accounting for 12% and 9% of total industrial output, respectively, in 1971. A rapid rise in natural gas production has not offset the declining coal output and the fairly constant—and small—production of petroleum. Increasing fuel needs will require increasing imports of petroleum. In metallurgy, the Hungarians are putting more emphasis on the aluminum industry, which is based on domestic raw materials, and less on the steel industry, which operates on an inadequate raw materials base. (U/OU)

The chemical industry has been the most dynamic, increasing its output at an average rate of 12% annually between 1966 and 1971 and accounting for about 10% of industrial output in 1971. Major programs include shifting the industry to a petrochemical base, and expanding the output of plastics and synthetic fibers. Pharmaceuticals are the most important category of chemical exports. (U/OU)

Output of light industry, a sector burdened with obsolete equipment, declined from 21% of industrial output in 1960 to 18% by 1971. The largest component is the textile industry, which is scheduled for major reconstruction. The food industry accounts for about 8% of socialized industry output but close to 20% of exports to the West. Figure 4 summarizes data on the structure of the state industry sector in terms of employment, production, and fixed assets. (U/OU)

1. Agriculture, fishing, and forestry (U/OU)

a. Climate and soils

Because of a wide range of climate and soils, conditions are generally favorable for a diversified agricultural economy in Hungary. An unusually large part of the total land—74%—is classified as agricultural land (Figure 5). Arable land, including gardens, orchards, and vineyards, accounts for 81% of the agricultural land. Most of this land is level or slightly rolling, with a relatively wide range of soil types. Forest- and steppe-type soils predominate, accounting for 41% and 26% of the total area, respectively. Alluvial soil and sandy loam together account for another 25%.

Climatic conditions vary considerably, both from area to area and from year to year. Mean annual precipitation exceeds 30 inches in the mountains and 20 inches elsewhere. Because of the inadequacy or uncertainty of precipitation during the summer growing season in some of the major farming areas, especially in parts of the Great Alfold (Great Plain) of southeastern Hungary, irrigation has been emphasized. Although the area under irrigation has increased rapidly, the area irrigated during the 1966-70 period averaged only about 212,000 hectares annually, or less than 3% of total agricultural land.

The frost-free period generally lasts from mid-April to the beginning of October, although late frosts in May often cause some damage to fruits, vegetables, and other crops. The relatively long frost-free period and hot summers combined with a large amount of sunshine—between 1,700 and 2,100 hours per year—permit the raising of a wide variety of crops, including sunflower, tobacco, and rice, that are not usually grown at such northerly latitudes.

Annual variations in climate occur because Hungary lies at the convergence of three climatic zones: the oceanic to the northwest, the Mediterranean to the south, and the continental to the east. The intensity of their influence varies from year to year, so that Hungary's climate sometimes is temperate like that of northern Europe, sometimes resembles that of the Mediterranean countries with hot dry summers and wet autumns, and sometimes displays the extremes of temperature more characteristic of the continental zone to the east.

b. Agricultural production and consumption

Hungary ranks second among all European countries in the percentage of total land devoted to agricultural production (Figure 6). The principal crops

FIGURE 4. Distribution of employment, production, and fixed assets in socialist industry, 1971 (U/OU)

	EMPLOYMENT <i>Thousands</i>	PERCENTAGE DISTRIBUTION		
		Employment	Production	Fixed assets
Heavy industry:				
Mining.....	141.1	8.2	12.1	12.4
Electric power.....	34.9	2.0	5.9	14.4
Metallurgy.....	101.9	5.9	8.6	12.7
Machine building, total.....	534.5	31.0	29.4	18.0
Machinery*.....	150.9	8.8	6.7	4.9
Transportation equipment.....	107.5	6.2	8.0	5.7
Electrical equipment.....	55.2	3.2	3.1	2.0
Communications and electronic equipment.....	84.7	4.9	4.6	2.1
Precision instruments.....	53.6	3.1	3.2	1.0
Metal products.....	82.6	4.8	3.8	2.3
Building materials.....	81.9	4.7	4.3	5.4
Chemicals and rubber.....	11.2	6.5	10.3	13.1
Total heavy industry.....	1,005.5	58.3	70.6	76.0
Light industry:				
Wood.....	53.0	3.1	2.9	1.2
Paper.....	16.5	1.0	.9	1.6
Printing.....	21.1	1.2	1.0	.8
Textiles.....	143.2	8.3	5.7	6.3
Leather, furs, and footwear.....	67.8	3.9	2.7	1.1
Clothing.....	77.4	4.5	2.4	.5
Handicrafts.....	87.6	5.1	2.1	.1
Total light industry.....	466.6	27.1	17.7	11.6
Food, beverages, and tobacco.....	181.1	10.5	8.4	11.2
Others.....	71.4	4.1	3.3	1.2
Grand total.....	1,724.6	100.0	100.0	100.0

*Machine tools, agricultural machinery, and general machinery.

grown are corn, wheat, sugar beets, oilseeds, and legumes, accounting for about 80% of the total sown area in 1971. Hungary also produces substantial amounts of vegetables and fruits, including grapes for wine, and small quantities of industrial crops, such as hemp and tobacco.

Of a total labor force of slightly more than 5 million, about 1.2 million, or 23%, are employed in the agricultural sector. Of these, over 900,000 were employed in the cooperative sector (1971), while the state sector and private farms accounted for about 200,000 and 100,000, respectively.

The gross value of agricultural production has risen slowly since regaining the pre-World War II levels in the mid-1950's. By 1971, gross agricultural production had increased approximately 62% over the pre-World War II level, or less than 2% a year. Official reports indicate that, in 1971, crops contributed 54% to the

gross value of agricultural production, while livestock products have gradually risen from a 42% share in 1960 to 46% in 1971.

Agricultural output has shown a gradual upward trend since the late 1960's. Annual average output in the period 1966-70 was about 16% above the average annual output in 1961-65; crop production rose more, on average, than did production of livestock products. There were particularly sharp upswings in production of wheat, corn, tomatoes, and fruits (Figure 7). Output of barley, oats, potatoes, sunflower seed, and hemp declined during the same period, while output of sugar beets stagnated. Yields per hectare of virtually all crops registered gains during 1966-70, with yields of wheat, corn, potatoes, onions, and tomatoes increasing between 30% and 35%. The number of cattle, hogs, horses, and sheep decreased between 1965 and 1970, while the number of poultry increased

(Figure 8). Productivity of livestock improved since 1960, but the increase in milk yields was not sufficient to offset the decline in the number of cows, and the 1971 production of milk was 10% below the 1960 level; output of some livestock products such as meat and eggs continued to rise through 1971.

Unfavorable weather and heavy flooding resulted in poor harvests in 1970, but output rebounded in 1971, in some cases reaching record levels. Supported by both favorable weather and higher farm prices, the overall value of farm output rose 9% over that of 1970 and set a new alltime record. Wheat production rose 44% in volume, oats output rose 49%, and corn output rose 16%; but output of sugar beets, fodder, fruit, and certain vegetables lagged. The number of hogs increased to 7,510,000 by March 1971, an increase of 26% over March 1970, while the number of cattle declined by 16,000. Agricultural producers consumed a smaller share of their own products and thus were able to increase sales by 18% in 1971. Among the most important products, 50% more wheat and cattle for slaughter were sold, while sugar beet sales decreased 8% and egg sales 4%.

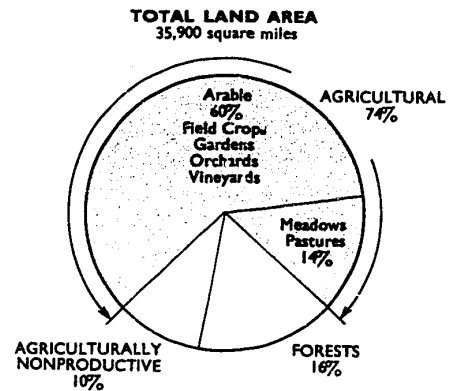


FIGURE 6. Land use, 1971 (U/OU)

FIGURE 5. Major agricultural zones (U/OU)

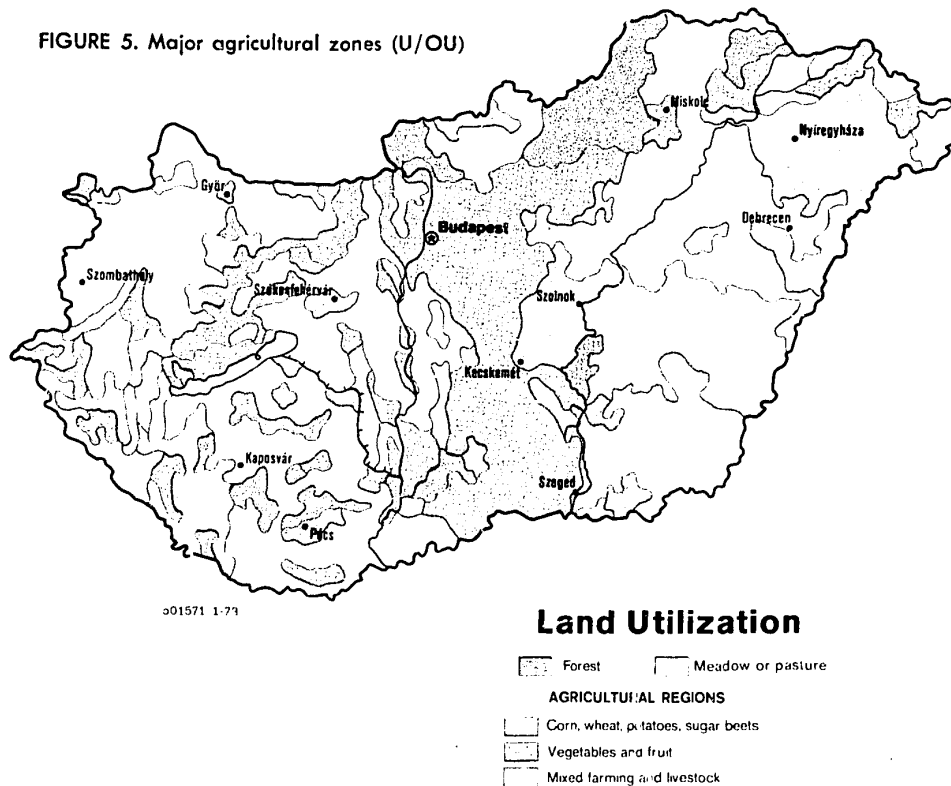


FIGURE 7. Production of selected crops (U/OU)
(Thousand metric tons)

	AVERAGE 1961-65	AVERAGE 1966-70	1965	1969	1970	1971
Wheat.....	2,009	2,996	2,358	3,585	2,718	3,915
Rye.....	259	219	299	239	155	180
Barley.....	966	843	1,016	909	552	782
Oats.....	96	73	73	86	57	85
Corn.....	3,316	3,992	3,608	4,820	4,013	4,674
Rice.....	35	42	21	50	45	67
Potatoes.....	1,731	1,659	1,762	2,013	1,430	1,488
Sugar beets.....	3,090	3,174	3,452	3,303	2,174	2,023
Sunflower seed.....	115	100	78	119	96	na
Tobacco.....	22	23	18	27	18	na
Hemp.....	115	108	138	106	81	74

na Data not available.

FIGURE 8. Livestock numbers and output of livestock products (U/OU)

	1935	1950	1960	1965	1969	1970	1971	1972
Number of livestock* (thousands):								
Cattle.....	1,911	2,222	1,971	1,964	2,006	1,933	1,917	1,901
Of which:								
Cows.....	961	1,063	879	798	749	738	735	730
Hogs.....	4,674	5,542	5,356	6,963	5,334	5,970	7,510	7,353
Sheep.....	1,450	1,049	2,381	3,400	3,277	3,024	2,657	2,271
Horses.....	886	712	628	321	249	231	219	204
Poultry (breeding stock).....	21,919	13,000	27,066	29,996	28,120	33,484	36,518	na
Output of livestock products (thousand metric tons):								
Meat**.....	***350	388	538	633	723	738	852	na
Cow's milk.....	†1,571	1,445	1,957	1,762	1,886	1,861	1,751	na
Eggs (millions).....	†844	995	1,848	2,393	2,714	3,280	3,300	na
Wool (grease basis).....	†6.2	4.4	8.2	10.1	10.8	9.8	8.8	na

na Data not available.

*As of February for 1935 and 1950; probably March for other years.

**Trimmed carcass weight; includes beef, veal, pork, mutton, horsemeat, poultry, and exports of live animals.

***Average of 1934-38.

†Data for 1938.

Hungary is normally self-sufficient in most major agricultural products, and considerable quantities of some products—meat and live animals, fresh fruits and vegetables, dairy products, and processed foodstuffs—are exported. In recent years, exports of agricultural products have accounted for more than one-fifth of total exports and close to two-fifths of exports to the West. Half of all agricultural exports is sold to non-Communist countries. In 1970, West Germany was the largest customer for Hungarian salami, the United Kingdom for butter, and Italy for live cattle and calves.

Hungary's position in the international grain trade has shifted from that of a net exporter prior to World War II to that of a net importer since the mid-1950's.

Following a disastrous crop in 1963, net imports in fiscal years 1963 and 1964 totaled 1.2 million tons (mostly wheat). The inability of the domestic agricultural sector to produce enough fodder to support an ambitious livestock program has resulted in increasing imports of feedgrains since the late 1960's, and in 1971 feedgrain imports reached 648,000 tons.

The average daily per capita food consumption in calories—3,140 in 1970—is comparable with that of the United States and Western Europe, but it includes a smaller share of animal products and a larger share of starchy foods. Although there has been a general improvement in the quality of the Hungarian diet, consumer demand for meat, dairy products, and fruits and vegetables remains unsatisfied.

c. Agricultural problems and policies

The poor performance of the agricultural sector has traditionally been a major disappointment to the regime, and a revitalization of the sector has been one of the objectives of the economic reforms embodied in the NEM. The 15% growth rate in gross agricultural output between 1966 and 1970 exceeded the planned target but was a shallow victory for the planners, since they had deliberately set the goal at only 10%. Moreover, net agricultural output (i.e., excluding costs of inputs) rose by only 8%. In 1961-65, gross output rose 16%, substantially below a more ambitious growth target of 22% to 23%.

The level of resources devoted to agriculture remained low until the 1960's, when the regime raised the priority of agriculture and accelerated investment to support collectivization. Investment in agriculture rose more rapidly than that of any other sector except construction between 1960 and 1971, and its share of total investment increased from 17.4% in 1961-65 to 21.1% in 1971. The investment in agriculture in 1970 alone was more than seven times that of 1955 and more than half of the total invested in agriculture in the 5-year period 1961-65.

The increase in resources allocated to agriculture and to industries supplying agriculture resulted in increased availability of fertilizers, pesticides, and machinery. Chemical fertilizer consumption in 1971 was nearly 20 times the annual average amount consumed between 1951 and 1955 and more than five times the amount consumed in 1960. Fertilizer applied per hectare has increased from 29 kg. in 1960 to 166 kg. in 1971, and the share of fertilizers in chemical production has grown from 8.7% in 1960 to 11.3% in 1969. Nevertheless, the use of fertilizers per hectare remains not only below that of Western Europe but also below that of East Germany, which applies 2.5 times as much per hectare, and Czechoslovakia, which applies 1.3 times as much. The use of pesticides in Hungary rose over 400% between 1960 and 1970. Mechanization of agriculture also has increased, and the stock of tractors rose more than 70% between 1960 and 1971, to 70,000 units, while the inventory of grain combines rose from 4,167 units in 1960 to 12,900 units in 1971. The degree of mechanization is very uneven, however, ranging from nearly 95% in wheat harvesting to 72% in sugar beet harvesting, 24% for potatoes, and less than 25% for corn. Frequent breakdowns of machinery, shortages of spare parts, and lack of trained operators have been constant problems.

Collectivization has changed the structure of agricultural landownership and management. As of 31

May 1957, collectives farmed only about 11% of the area; auxiliary farms, 9%; and state farms, an additional 14%. The remainder was farmed privately. By 1959, many peasants had been forced to join collectives, and private farms had lost their predominant position. The pressure to collectivize continued, and by May 1962 more than 97% of total agricultural land had been "socialized." In 1970, the state sector accounted for 15% of the agricultural land area, and collective farms (called agricultural producer cooperatives) comprised another 78%, including private plots of cooperative farm members. The remaining 7% of the agricultural land was accounted for by auxiliary farms and private farms.

For many years, state policies concerning the procurement of agricultural products seriously interfered with the growth of agricultural production. Compulsory deliveries of agricultural products at very low prices set by the state were discontinued only after the revolt of 1956. A contract system designed to permit more realistic planning of production by cooperative and private farms was then introduced. In practice, however, the production plans set by the government largely determined the production plans of the socialist farms, leaving little room for decisionmaking at the farm level.

In the mid-1960's, the regime began testing the NEM in the agricultural sector before applying it to the entire economy in 1968. The measures enacted for agriculture were designed to boost output, reduce costs, and improve the level of living of agricultural workers. The basic principles involved an increased acceptance of profits as a criterion of success, a greater reliance on market forces, and decentralization of responsibility for planning and management. Regional organizations lost their authority to dictate instructions, and instead were to rely on recommendations and appeals. The Ministries of Food and Agriculture were amalgamated and downgraded in authority.

In 1965-66, agricultural cooperatives, with the exception of grain producers, were allowed to draw up their own production plans and were required to create their own depreciation funds for capital investment. In late 1966, the government also revalued the fixed assets of the cooperatives and canceled approximately 60% of the cooperative farm debt. The cooperatives were also granted the right to sell directly to consumers and trade enterprises, as well as to state procurement agencies. Another measure treats labor engaged in livestock maintenance on private plots as cooperative labor for the purpose of pensions and other social insurance benefits.

In January 1968, cooperatives were granted the right to engage in industrial activities related to agriculture, but they soon began to extend their activities into nonagricultural areas. In 1970, 13% of cooperative income was derived from these ancillary activities, but industrial opposition resulted in the restriction in 1969 and 1971 of ancillary activities by cooperatives. In December 1971, cooperatives were prohibited from engaging in the production of engineering, light industry, and chemical products except when a contract existed with a nationalized enterprise.

The regime employs a variety of financial mechanisms to assist cooperative farms and to steer their production in the desired direction. Poorer farms are subsidized, machinery costs are often underwritten by government loans, and procurement prices for some agricultural products have been boosted almost annually. For example, the sugar beet industry has been unable to supply domestic needs since 1965, and 150,000 tons of sugar had to be imported in 1971. The government helped the industry in 1972 by offering a 70% state subsidy for the purchase of sugar beet harvesting machinery and boosting the procurement price for sugar beets approximately 30%. In other instances, however, increases in procurement prices have been offset by increased costs of machinery, construction, and insurance. Machinery prices have increased 8% over the last few years, and fodder prices were to be raised 7% in October 1972.

During 1971-75, the government plans a slightly higher growth rate in livestock raising (3.0% to 3.2% annual growth) than in crop production (2.8% to 3%). A 22% boost in investment expenditures over the previous 5 years is scheduled; part of this is to be allocated to the purchase of 20,000 Soviet tractors and 5,000 high-capacity combines. Problems which must be faced by agriculture over the next 5 years include the rising demand for high-protein fodder, the imbalance between processing and storage capacities, and the stagnation of cattle numbers.

d. Fishing and forestry

Fishing is necessarily confined to inland lakes, rivers, and manmade ponds stocked by the government. The fish catch amounted to only 18,000 tons in 1970, and imports are necessary to maintain even the low per capita consumption of fish. Pollution of inland waters poses a major threat to the future of the small fishing industry. In addition, the output of at least one-third of the fish breeding ponds is reportedly very low because of out-of-date equipment and postponed projects.

Timber resources are inadequate to supply the country's requirements for wood and wood products. Forests cover 1.5 million hectares, or 16% of the total land area. In 1970, 6 million cubic meters of wood were imported to meet domestic demand; imports of wood and wood products include sawn timber, round timber, pulpwood, paper, newsprint, cardboard, and cellulose. In 1972, Hungary agreed to assist in financing a cellulose plant in the U.S.S.R. in return for guaranteed cellulose imports.

The 1971-75 plan calls for an annual harvesting increase of 700,000 cubic meters of timber, but domestic needs are expected to grow more rapidly. It is estimated that timber imports alone will surpass 5 million cubic meters per year by 1975.

2. Fuels and power

Hungary does not produce sufficient fuel to cover its requirements. It has to import coal, coke, crude petroleum, natural gas, and electric power to supplement domestic production. Small quantities of gas oil and fuel oil are exported. The principal domestic source of energy is coal, deposits of which constitute an estimated 84% of probable energy reserves; about two-thirds of the tonnage and half of the calorific value of these reserves consist of brown coal and lignite. Because of the low quality of domestic coal and the high cost of mining it, petroleum and natural gas are becoming increasingly important as sources of energy (Figure 9). Both production and imports of these fuels are being increased. By 1975 the share of coal in the total production of energy is expected to drop to 38%, and by 1980, to 26% to 27%. Waterpower is of negligible importance. Figure 10 shows the production of fuels and power, minerals, and metals. (U/OU)

a. Coal (U/OU)

Coal is found in several areas. Hard coal is mined in the vicinity of Pecs¹ and Komlo, in the Mecsek mountains in southwestern Hungary. The better quality brown coal deposits extend over a distance of some 80 miles along the Bakony, Vertes, and Pilis mountains in Dunantul, in the northwestern and north-central parts of the country. Poorer quality brown coal is mined in the Borsod-Abauj-Zemlen and Nograd districts in northern Hungary. Lignite mining is concentrated in two regions: around Varpalota, in Dunantul, and south of the Matra and

¹For diacritics on place names see the list of names at the end of the chapter.

FIGURE 9. Fuel production and consumption (U/OJ)
(Percentages of total)*

	PRODUCTION			CONSUMPTION		
	1960	1965	1970	1960	1965	1970
Coal.....	82.7	76.8	62.9	74.0	68.0	51.1
Crude petroleum.....	11.4	13.8	13.4	19.6	23.1	31.1
Natural gas.....	3.0	7.5	20.9	3.4	6.3	15.9
Firewood.....	2.9	2.4	2.8	3.0	2.6	1.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

*Computed on the basis of heat equivalents.

FIGURE 10. Production of fuels, power, minerals, and metals (U/OU)
(Thousands of metric tons, unless otherwise noted)

	1955	1960	1965	1969	1970	1971
Hard coal.....	2,692	2,847	4,362	4,133	4,151	3,941
Brown coal and lignite.....	19,624	23,677	27,075	22,365	23,679	23,483
Natural gas (million cubic meters).....	545	342	1,108	3,235	3,469	3,713
Crude petroleum.....	1,601	1,217	1,803	1,754	1,637	1,955
Gasoline.....	187	312	427	837	990	1,038
Diesel fuel.....	351	697	963	1,517	1,721	2,114
Residual fuel oil.....	653	988	1,725	2,075	2,276	2,344
Electric power (million kw.-hr.).....	5,428	7,617	11,177	14,069	14,542	14,990
Iron ore.....	353	516	762	681	629	687
Oven coke.....	30	199	642	512	657	625
Pig iron.....	868	1,244	1,577	1,753	1,822	1,970
Crude steel.....	1,629	1,887	2,520	3,033	3,108	3,111
Rolled steel.....	na	1,187	1,696	2,012	2,038	2,064
Bauxite.....	1,241	1,190	1,477	1,934	2,022	2,090
Alumina.....	154	218	267	408	441	467
Primary aluminum.....	37	50	58	64	66	67

na Data not available.

Bukk mountains, in northern Hungary. At current rates of extraction, Hungary's coal reserves are adequate for at least 100 years.

Coal production developed rapidly after World War II, nearly doubling between 1950 and 1964. Since 1964, output has generally declined, dropping to 27.4 million tons in 1971, about 13% below the 1964 level. The coal produced, mainly brown coal, is relatively low in calorific value. One kilocalorie derived from coal reportedly costs 50% to 70% more than one kilocalorie derived from oil or natural gas. Coal production apparently is scheduled to remain at about the 1971 level through 1975, although one Hungarian official recently stated that output would decline by 2 million to 2.5 million tons.

In 1971, more than 80% of coal mining was done underground. Except for a few lignite deposits, Hungarian coal is not suitable for strip mining. The most important strip mine is located at Visonta; its

output is to be increased from 3 million tons in 1971 to 7 million tons in 1975. Between 1972 and 1975 some of the less efficient underground mines are to be closed.

b. Petroleum and natural gas (U/OU)

Hungary has been striving to expand the production and use of hydrocarbons. Domestic reserves of petroleum are limited, however, and imports will have to supply a larger share of total consumption.

The first major oil discovery in Hungary was at Nagylengyel in 1951. Additional deposits, the most important of which are at Hajduszoboszlo and near Szeged, were subsequently discovered, and now more than 60 oil and natural gas deposits are under development. A major project was launched at Szeged in 1967, and the oilfield there is expected to produce 1 million tons of crude petroleum a year, or 50% of domestic production, by 1976.

More than 1.5 billion forints are spent annually for exploration, and small new oil fields are constantly being developed. For example, in the first 6 months of 1972, prospecting work was conducted in 16 areas, and 24 wells were drilled, eight of which were described as productive. New oil fields were found at Eperjehegyhat and Szilvagy. In addition, secondary recovery operations are being employed in older fields to maintain production.

Despite strenuous efforts to discover new reserves, domestic output of petroleum has been rather stable and is not expected to increase significantly. Production reached 1.6 million tons in 1955, dropped to about half that amount in 1958—mainly because of water encroachment in the Nagylengyel oilfields—and did not regain the 1955 level until 1962. It was slightly less than 2 million tons in 1971, increasing by less than 1% over 1970 and about 8% over 1965 (Figure 10).

About 70% of the total supply of petroleum is imported. Crude petroleum imports were about 4.3 million tons in 1970 and 4.9 million tons in 1971. In 1970, nearly 4.0 million tons, or more than 90% of all imported petroleum, came from the U.S.S.R. which has agreed to supply 5.5 million tons in 1972. Hungary has revised upward its original forecast of 6.5 million tons to be imported in 1975 and now expects 6.5 million tons from the U.S.S.R. alone and perhaps some 3 million to 5 million tons from the Middle East. Petroleum import agreements have already been reached with both Iran and Iraq; Egypt has also supplied petroleum to Hungary.

Partly because of Soviet reluctance to continue as the virtual sole supplier of Hungarian crude petroleum imports, Hungary signed an agreement in 1971 with Czechoslovakia and Yugoslavia covering the construction of a pipeline from the Adriatic to refineries in Hungary and Czechoslovakia. The pipeline is to carry some 17 million to 22 million tons of Iraqi crude per year, of which Hungary will receive about 5 million tons. Work is scheduled to begin in 1973 and to be completed by 1975.

Hungary has an oil pipeline network totaling 1,120 kilometers, of which 800 kilometers are for crude and 320 kilometers for refined products. The CEMA Friendship I pipeline, which branches off at Sahy in Czechoslovakia, has a capacity of 4.5 million tons per annum and was completed in 1962. The "Friendship II" pipeline, completed in November 1972, is to attain its final capacity of 10 million tons a year in 1980. Another pipeline was completed in 1971 to carry domestic petroleum from the Algyo fields to the refinery at Szazhalombatta.

The largest petroleum refinery in Hungary is the Danube Petroleum Industry Enterprise at Szazhalombatta. Four new processing units were added to that complex in 1971, raising its primary distillation capacity to 3.5 million tons per year. Further additions are scheduled to boost its primary capacity to 6.5 million tons by 1975. The other major petroleum processing enterprise is the Komarom Petroleum Industry Enterprise. Its largest unit, inaugurated at Szony in February 1972, has a throughput capacity of 2 million tons of crude petroleum annually, or over one-fourth of Hungary's total refining capacity. Other Hungarian refineries are small, their combined capacity totaling less than 2 million tons per year. Products of petroleum processing include gasoline, diesel oil, fuel oil, lubricants, and asphalt.

Production of natural gas, unlike that of coal or petroleum, has been increasing rapidly—from 342 million cubic meters in 1960 to 3.5 billion cubic meters in 1970 and 3.7 billion cubic meters in 1971. The rapid expansion in production resulted mainly from the development of new production sites, including those at Hajduszoboszlo in eastern Hungary and those near Nagykanizsa and Szeged. The site at Szeged is expected to produce 2 billion cubic meters per year by 1976. Current proven reserves, which are being augmented by new discoveries, are placed at about 100 billion cubic meters.

Despite the rapid rise in domestic production, Hungary plans to increase annual imports from Romania from 200 million cubic meters to about 1 billion cubic meters in 1975. By then, total natural gas usage is scheduled to reach 6.5 billion cubic meters. To facilitate the importation of natural gas, an agreement was signed with the U.S.S.R. in 1971 for the building of a natural gas pipeline, to be completed in the second half of 1974. The line will exit the U.S.S.R. at Beregovo and run to Leninvaros, carrying 1 billion cubic meters of gas in 1975. Existing natural gas pipelines in Hungary total 2,415 kilometers.

Natural gas consumption has soared in nearly all sectors of the economy. Direct usage by industry increased from 139 million cubic meters in 1960 to 1.5 billion cubic meters in 1970, or 43% of the gas produced. Electric energy production consumes another 25% of the natural gas output; its consumption rose from 67 million cubic meters in 1960 to 884 million cubic meters in 1970. About 1.3 million households use bottled propane gas for cooking.

c. Electric power (C)

In installed capacity, production, and per capita consumption of electric power, Hungary exceeds only

Albania among the Communist countries of Eastern Europe. At the end of 1971, installed capacity was estimated to be 3,130,000 kilowatts (kw.). Production during 1971 amounted to 15.0 billion kilowatt-hours (kw.-hr.) and was supplemented by imports of about 4 billion kw.-hr. Although generating capacity has almost doubled since 1960, the amount of electricity available is still inadequate to meet all needs of expanding industry and other users. Development has required a large capital investment, amounting to more than 14% of total industrial investment outlays in recent years. The industry has over 14% of the fixed assets of all state industry (Figure 4). Hungary is a net importer in the East European electric power network; net imports—mainly from the U.S.S.R.—provided 23% of the electric power consumed in 1970. Hungary also exchanges power with Austria and Yugoslavia, but the trade tends to balance and is significant only for local border areas.

The transmission network connects all important powerplants and import sources, and provides service to all economically significant areas. Consumption of electric energy is concentrated in the metallurgical plants in the northwest and in the urban areas of Budapest, Gyor, Miskolc, and Pecs, where most of the manufacturing, mining, and steel industries are located. Industry uses almost 70% of the total output, and almost 30% of this is used in metallurgy, largely in the production of aluminum. The chemical industry accounts for 20% of industrial consumption, and machine building and mining each account for about 12%. Almost all households are supplied with electricity, but more than half of the total household consumption occurs in the Budapest area. The agricultural, commercial, public utility, and transportation sectors are supplied with enough electricity to meet their basic needs.

Thermal powerplants comprise almost the entire generating capacity; hydroelectric facilities contribute only about 1% of the total. Thermal powerplants are fueled primarily with brown coal or lignite, although one large plant, accounting for 20% of the total capacity, uses oil, and another plant is fueled by natural gas. The electric power generating capacity is primarily concentrated in the northern half of the country, particularly in the central region near Budapest and in the northeast near Miskolc. The Szazhalombatta Thermal Powerplant, south of Budapest, is the country's largest, with a capacity of 615,000 kw.

Plans for the future development of the electric power base call for expanding the capacity by 1.5 million kw. to provide an annual production of 21.7

billion kw.-hr. by the end of 1975. Most of the enlargement will be in existing plants. The plans include addition of 800 megawatts at Gyongyos and adding 645 megawatts at the existing plant at Szazhalombatta. Construction of an 800-megawatt nuclear plant at Paks on the Danube has been postponed, and the first section of the plant is not expected to start operation until 1980. The U.S.S.R. designed the plant and will supply part of the equipment as well as the nuclear fuel. Meeting these expansion goals will require considerable improvement in meeting delivery and installation schedules. Hungary is also planning further increases in imports; transmission lines are under construction from Czechoslovakia and Romania for this purpose.

3. Minerals and metals (U/OU)

a. Ferrous metals

The iron and steel industry in Hungary is the smallest among Eastern European CEMA members with the exception of Bulgaria. In 1970, Hungarian production of crude steel was only 7.8% and rolled steel 7.4% of East European CEMA production. The industry—operating on an inadequate domestic raw material base—produces at high cost. The Hungarians are stressing modernization and improvements in quality and assortment rather than expansion of capacity.

Hungarian production of steel nearly tripled between 1949 and 1965, but it has increased only 23% since then. In 1971, crude steel production remained at the 1970 level (Figure 10), while output of rolled steel products increased only 1%. Profits declined in the metallurgical industry in 1971, and the Csepel Iron and Metal Works was reorganized in January 1972, after suffering a financial deficit in 1971.

The iron and steel industry requires extensive imports of raw materials. Domestic iron ore, mined only at Rudabanya in northern Hungary, is low in iron content (about 25%) and covers only about 10% of the domestic iron ore requirements. The remainder of the supply is imported, 95% of the imported ore comes from the U.S.S.R., and India supplies most of the remaining 5%. Hungary also imports a large part of its supply of coke. Manganese ore output in 1970 totaled 167,000 tons, of which about 20,000 tons were exported. Small quantities of better grade manganese ore are imported from the U.S.S.R. for use in the production of high-quality ferromanganese. Other ferroalloys are imported.

The principal enterprises of the iron and steel industry are located in northeastern Hungary (at

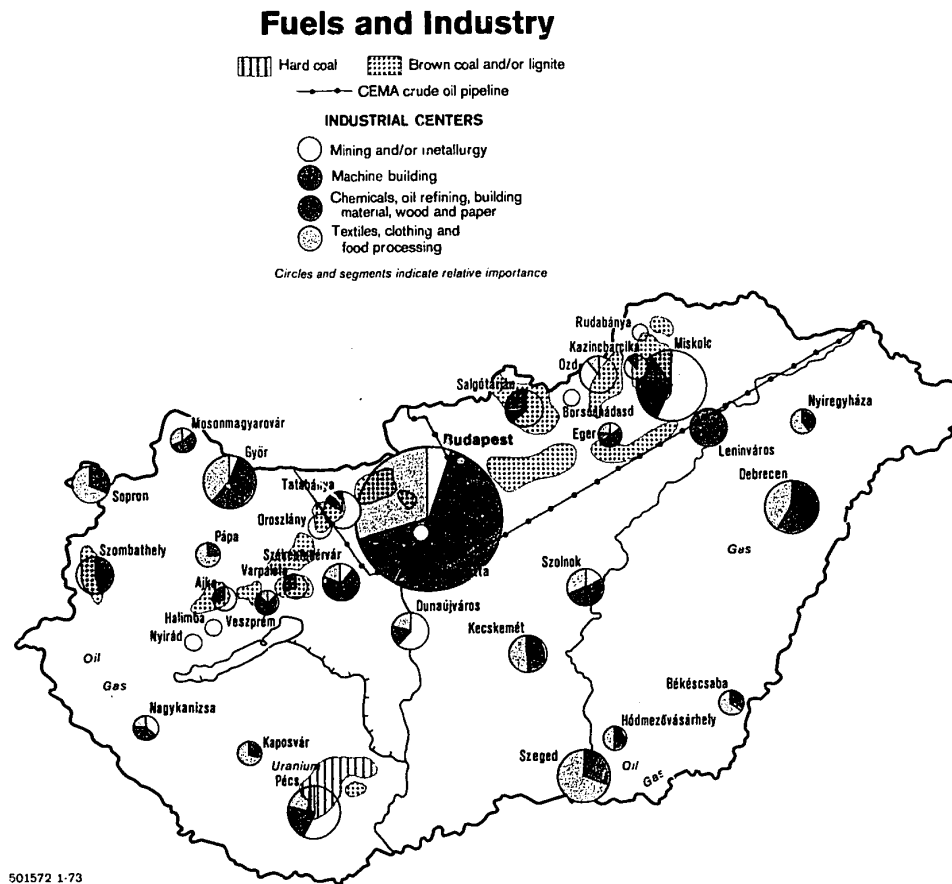


FIGURE 11. Major mining and industrial centers (U/OU)

Salgotarjan, Borsodnadasd, Diosgyor (Miskolc), and Ozd) and on the Danube River (at Csepel, outside Budapest, and at Dunaujvaros) (Figure 11). The largest plant, the Lenin plant at Diosgyor, produces the bulk of alloyed steels used in Hungarian industry. The Ozd Metallurgical Works produces one-third of all Hungarian rolled steel and 55% of the rods and shapes. The Danube Iron and Steel Works produces 80% of the steel plate utilized by Hungarian industry and also provides large-diameter pipe for the "Friendship II" oil pipeline.

Hungary is a net exporter of rolled steel, but its imports have been rising faster than exports. In 1971, exports of rolled steel totaled 658,000 tons, and imports were 574,000 tons. About two-thirds of the Hungarian steel exports are sold in the West, especially to West Germany, while over four-fifths of Hungarian rolled steel imports are from Communist countries.

Between 1971 and 1975, Hungary plans to increase its production of crude steel by 28%, steel tubes by 37%, and steel sheets by 23%. A high-alloy steel rolling mill has been purchased by the Lenin Works from the East German Ernst Thaelmann Works. The new mill is to be in operation by 1974 and to have a capacity of 220,000 tons annually. At the Ozd Metallurgical Works, construction of two new units, a 325,000-ton-capacity continuous steel casting unit and a 300,000-ton bar- and wire-drawing mill, was begun in 1971. Equipment for the Ozd plants is being provided by West Germany and Czechoslovakia, and West Germany is also supplying licenses and know-how.

b. Nonferrous metals and minerals

Hungary's most important natural resource is bauxite—the country ranks ninth in world production and second only to the U.S.S.R. among Communist

countries. Total bauxite reserves are estimated at about 250 million tons, of which about 80 million tons are presently suitable for commercial exploitation. Production more than doubled between 1949 and 1960 and increased more than 75% between 1960 and 1971, exceeding 2 million tons in 1971. Other nonferrous metal resources are not significant.

Bauxite deposits are concentrated in the mountainous western part of the country. Mines are located in the Bakony mountains at Nyirad and Halimba, and in the Vertes mountains at Iskaszentgyorgy and Gant. The richest deposits are found around Halimba and Fenyofu. A major new mine, Halimba III, is expected ultimately to reach an annual production of 600,000 tons; its initial production in 1972 is to be 400,000 tons. Two other mines, Izamajor II and Rakhegy II, are near completion, and a mine at Deakpuszta is scheduled to open in 1975. In all, bauxite production is expected to increase to 3 million tons annually by 1975.

Hungary is the second-largest exporter of bauxite among Communist countries, being exceeded only by Yugoslavia. More than two-fifths of Hungarian bauxite was exported in 1960, but the proportion exported dropped to about one-third in 1970-71. Formerly, the bulk of bauxite exports went to the U.S.S.R., but after 1955 Hungarian exports of bauxite to the U.S.S.R. ceased. Czechoslovakia is now the major purchaser, but Poland, East Germany, and West Germany are also important markets.

The bauxite remaining in Hungary is processed into alumina (aluminum oxide) in four plants. The largest plant, at Almasfuzito, produced 280,000 tons of alumina in 1971, or 60% of domestic output. The other major plant, at Ajka, 100 miles southwest of Budapest, is scheduled to produce 240,000 tons of alumina annually by 1974. Total alumina production increased about 75% between 1965 and 1971. Of the 467,000 tons of alumina produced in 1971, over 90% was exported, mainly to the U.S.S.R. and Poland.

Since Hungary is short of power, a 1962 agreement with the U.S.S.R. arranged for the shipment of alumina to Volgograd for reduction to aluminum and reimport of the primary aluminum by Hungary. The agreement called for the Hungarian delivery of 2.6 million tons of alumina to the U.S.S.R. between 1967 and 1980 and the return to Hungary of 1.3 million tons of primary aluminum over the same period. The U.S.S.R. apparently is lagging in its deliveries. For example, in 1970, Hungary shipped over 200,000 tons of alumina to the U.S.S.R. but received only 69,000 tons of primary aluminum (the agreement had specified a 2 to 1 ratio of alumina exports to aluminum

imports). Hungary also has contracted to ship 80,000 tons of alumina annually to Poland in exchange for 35,000 tons of primary aluminum. Hungary has three aluminum reduction plants of its own, at Inota, Ajka, and Tatabanya, and domestic production of primary aluminum averaged about 66,000 tons per year in 1969-71. There are no plans for a major increase in aluminum capacity.

The major thrust of the Hungarian aluminum industry during 1971-75 will be in the production of semifinished products in order to earn more hard currency by exporting items of higher value. Output of semifinished aluminum products more than doubled between 1960 and 1970, reaching 82,000 tons, and plans call for output to double again between 1971 and 1975. Principal investment projects include an expansion of the Szekesfehervar Light Metal Works, the Libanya Aluminum Foil Plant, and the Budapest Cable Plant. Hungary also secured a US\$15 million loan from a Western banking consortium in 1969 to purchase equipment for the aluminum industry.

Domestic end users of aluminum include the machine building, vehicle, chemical, and food industries. In 1970, only 4% of Hungarian aluminum output was used for construction, compared with about 15% in Western Europe and more than 20% in the United States.

Hungary has very small and low-quality deposits of copper ore and is dependent on imports to meet its domestic requirements for copper. In 1971, 60,000 tons of copper and copper products were imported, about one-fourth from the U.S.S.R. and one-eighth from the United Kingdom. Hungary signed an agreement in 1972 for the annual importation of 4,000 tons of Chilean copper for US\$4 million a year and has a concession for copper mining in Cyprus until 1984. The first large copper casting plant was established in 1967 at the Csepel Iron and Steel Works, with a capacity estimated at 40,000 tons annually.

Magnesium is produced on a small scale, and small quantities of silver and gold are obtained as byproducts of other metal processing. Small deposits of lead and zinc are located in the Gyongyosoroszi mines of the Matra mountains, but most lead and zinc, as well as all tin, must be imported.

Uranium has been mined since 1952. The only known deposit being exploited is in the Mecsek mountain area in southwestern Hungary. Output, which is controlled by the U.S.S.R., is estimated to be between 600 and 700 tons of uranium a year. Titanium and germanium have been produced experimentally, and gallium is recovered as a byproduct of aluminum production. Essential

minerals that must be imported include chrome ore, burnt magnesite, asbestos, phosphate rock, cryolite, salt, various clays, and sulfur. Poland has agreed to supply Hungary between 100,000 and 150,000 tons of sulfur annually between 1971 and 1975. The U.S.S.R. provides the remainder of Hungary's sulfur needs.

4. Manufacturing and construction (U/OU)

a. Machine building

Developed mainly since World War II, machine building is by far the largest industry in Hungary. In 1971 the industry provided 26% of all exports and accounted for 31% of total employment in socialized (state and cooperative) industry and about 20% of the value of socialized industry output. Products of the industry include transportation equipment (trucks, buses, electric and diesel locomotives, railroad passenger cars, and small ships); agricultural machinery; machine tools; food-processing equipment, including installations for complete factories; electrical equipment; electronic and telecommunications equipment; medical and hospital equipment; and precision and measuring instruments. One of the largest producers of machine tools in Hungary is the Csepel Machine Tool Factory (Figure 12). Production of the principal types of machinery, equipment, and consumer durables is shown in Figure 13.

According to official indexes, output of the machine building industry was 8.5 times as large in 1971 as in 1950 and more than twice as large as in 1960. The rate of growth of this sector was considerably greater than that of industry as a whole. The largest increases took

place during the early post-World War II years under the policy of indiscriminate expansion of nearly all machinery lines. In recent years Hungary has stressed particular lines, especially those which are labor intensive and require small inputs of imported raw materials. The electronics and telecommunications and the precision and measuring instruments sectors both meet these criteria and are the fastest growing branches of the machine building industry. Together with other CEMA members, Hungary signed a specialization agreement in January 1971 for machine tools and automatic lathes; presumably, this agreement will reduce the number of production lines.

The largest branch of the machine building sector is the transportation equipment industry, which accounts for about 20% of employment and 27% of the value of output of all machine building. Hungary has decided to concentrate on the production of buses in the future and to deemphasize other lines, particularly trucks and rolling stock. Domestic production of automobiles is not planned; instead, Hungary produces components in cooperative ventures with other socialist countries and with the West. Bus production is to expand from 6,360 units in 1971 to 11,000-12,000 units in 1975, with development being partially financed by a 20.5 million ruble loan from the International Investment Bank, the CEMA bank for long-term loans.

Foreign trade in machinery is conducted primarily with Communist countries because the quality of Hungarian machinery is generally below world standards and there is little demand for it in the industrialized West. Except for a few sales to West Germany, lathes and milling machines are predomi-

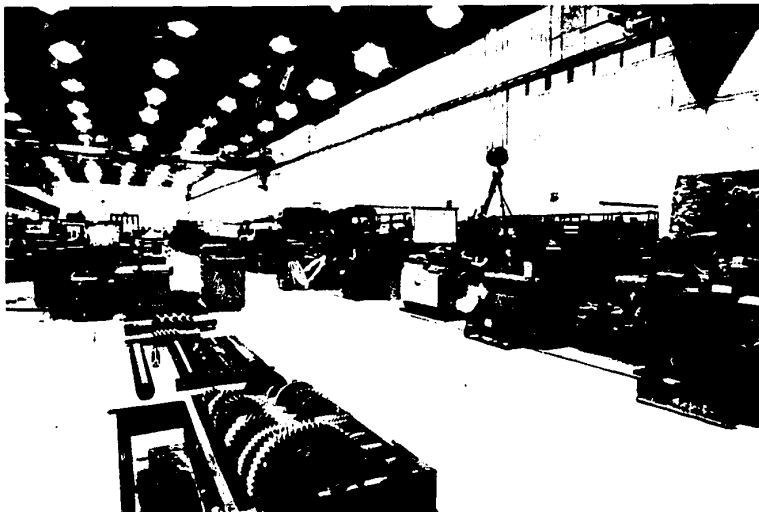


FIGURE 12. High-precision climatized workshop of Csepel Machine Tool Factory. Gears produced in the workshop are shown in the foreground. (U/OU)

FIGURE 13. Production of selected machinery, equipment, and consumer durables (U/OU)

	UNIT	1955	1960	1965	1969	1970	1971
Metalcutting tools:							
Center lathes	Units	1,645	2,577	2,492	2,829	2,996	2,987
Milling machines	do	775	1,176	1,083	995	985	791
Drill presses	do	2,523	3,054	5,128	4,029	4,834	5,660
Diesel motors	1,000 hp	77	152	252	266	221	193
Tractors	Units	4,659	2,649	2,961	2,064	1,930	1,611
Tractor-plows	do	4,556	424	3,178	961	2,096	na
Combines	do	1,535	1,858	1,381	520	1,004	na
Diesel locomotives*	do	4	113	128	122	98	50
Railroad passenger cars	do	296	454	377	610	584	308
Trucks	do	3,664	2,570	3,617	3,973	3,815	3,975
Buses	do	1,348	1,877	2,688	4,790	5,983	6,360
Motorcycles	1,000 units	16	58	45	36	35	37
Bicycles	do	230	256	257	283	275	255
Radio receivers	do	377	212	228	234	206	215
Television receivers	do	insig.	139	267	345	338	37
Telephones	do	5	37	126	101	60	97
Electric meters	do	388	461	296	323	347	366
Electric light bulbs	Million units	42	65	90	132	149	177
Electric washing machines, household	1,000 units	13	144	182	158	165	162
Electric spin dryers, household	do	na	insig.	66	95	113	102
Electric refrigerators	do	na	9	103	214	242	278
Vacuum cleaners	do	na	23	51	75	87	85
Passenger car tires	do	67	86	199	195	225	215
Truck and bus tires	do	178	250	382	396	373	450

na Data not available.

*Not including narrow gage.

nantly sold to other Communist countries. Poland and East Germany purchased 86% of the exports of Hungarian tractors during 1966-70, Bulgaria and Poland bought 74% of exported diesel locomotives, and Czechoslovakia and the U.S.S.R. took 95% of the railroad passenger cars. The U.S.S.R. imported 3,000 Ikarus buses, nearly 50% of Hungarian bus production, in 1971 and plans to purchase 3,600 in 1972. Hungary imports heavy, standard types of equipment, such as railroad cars, lathes, and tractors, from other Communist countries, but turns to Western markets for more sophisticated and technically advanced equipment.

Plans call for streamlining the machine building sector by stepping up production of computer equipment and machine tools and closing down uneconomical lines of production. Hungary also will continue to arrange license agreements and to push for new cooperative arrangements with both the West and the East. In 1970, only 1% of Hungarian finished machinery products were produced under international cooperation agreements, and most of it involved finished automobile components for shipment to the U.S.S.R. for Zhiguli automobiles.

b. Chemical industry

The chemical industry has been one of the fastest growing Hungarian industries (Figure 14) and will continue to be if the ambitious expansion plans are met. The industry grew 15-fold between 1950 and 1970 and increased its share of industrial output from 5.6% in 1955 to 10.3% in 1971. Investment in the industry rose from 10% of total industrial outlays during 1950-60 to 16% during 1961-70, making possible an annual average growth rate of 14% from 1961 to 1965 and 12% from 1966 to 1970, compared with overall industrial growth rates of 8.0% and 6.2%, respectively. Employment in the industry reached 111,000 in 1971, or 6.4% of industrial employment.

The most dynamic component of the chemical industry is the pharmaceutical branch, whose share of total chemical production increased from 3.7% in 1950 to 19.7% in 1970. The Hungarian pharmaceutical industry is very well developed and ranks 12th in world production and second only to Switzerland in per capita exports. Its main products are antibiotics, vitamins, alkaloids, sulfa drugs, and barbiturates. Production and exports are scheduled to double during 1971-75. Hungary has signed a cooperative agreement

FIGURE 14. Production of principal chemicals and pharmaceuticals (U/OU)

PRODUCT	UNIT	1955	1960	1965	1968	1969	1970	1971
Nitrogenous fertilizer.....	1,000 tons (as N).....	13	57	148	245	300	350	377
Phosphatic fertilizer.....	1,000 tons (as P ₂ O ₅).....	28	45	117	156	170	167	174
Sulfuric acid.....	1,000 tons.....	144	164	378	446	467	471	479
Caustic soda (97.5%).....	do.....	12	17	50	52	49	63	66
Penicillin.....	Billion international units.....	6,235	12,416	38,856	45,398	55,315	59,436	na
Chloromycetin.....	1,000 kg.....	2	39	202	226	307	323	na
Vitamin B ₁₂	Kg.....	1	9	185	254	380	508	na
Crude morphine.....	1,000 kg.....	7	8	9	15	12	9	na
Phenolic molding powder.....	Tons.....	1,869	2,845	3,718	4,592	4,173	4,319	na
Polyvinyl chloride and copoly- mers.....	do.....	0	193	6,554	6,934	8,002	14,087	20,683
Caprolactam.....	do.....	0	300	431	4,777	5,064	5,823	na

na Data not available.

with Ciba and Geigy of Switzerland covering the sale of licenses and the marketing of pharmaceutical products.

Pharmaceuticals alone account for about 5% to 6% of total exports, 40% of all chemical exports to the West, and 71% of all chemical exports to the Communist countries. From 1968 to 1970, 63% of all pharmaceutical output was exported, with West Germany, Switzerland, the United States, the Netherlands, and France among the most important Western customers. In 1970, pharmaceuticals constituted 11% of U.S. imports from Hungary, amounting to slightly more than US\$1 million.

A major expansion program has been slated, in which Hungary will develop a petrochemical industry. As part of the program, a new olefin plant with a capacity of 250,000 tons of ethylene, 125,000 tons of propylene, and unstated quantities of pyrolysis gasoline and other petroleum products will be constructed by 1975 at the Tisza Chemical Combine in Leninvaros. Hungary has agreed to deliver, between 1975 and 1984, 130,000 tons of ethylene and 50,000 tons of propylene yearly to the U.S.S.R. via a 280-kilometer pipeline to Kalush in West Ukraine, where the U.S.S.R. will build large vinyl chloride and polyvinyl chloride facilities. In exchange, the U.S.S.R. will ship plastics materials and other chemicals to Hungary. Part of the remaining ethylene (about 40,000 tons) will be used by the Hungarian chemical industry to produce vinyl chloride/polyvinyl chloride at Borsod, and the remainder of the ethylene and propylene will be used to produce polyethylene, vinyl chloride/polyvinyl chloride, and synthetic rubber in other plants to be built in Leninvaros. Until these plants are completed, however, Hungary will have about 70,000 tons of ethylene and 75,000 tons of propylene available for export.

To supply the input requirements of the new olefins plant and meet the additional domestic requirements for petroleum products, the oil processing capacity will be expanded from 6 million tons in 1970 to about 11 million tons in 1975, and plans call for an additional increase of 60% during each succeeding 5-year period until 1985. These expansions, in addition to the production of motor fuels, heating oils, aromatics, and other products, will provide sufficient naphtha to supply the requirements of the naphtha cracker of the new olefins plant. The major part of the 1971-85 program consists of the expansion of the Danube Petroleum Enterprise from its current capacity of 3 million tons a year to 9 million tons annually, including a distillation plant with a capacity of 3 million tons per year and 15 processing plants to be built during 1971-75 at a cost of 5.9 billion forints.

Production of fertilizers, in terms of plant nutrient content, more than doubled between 1965 and 1971, reaching 551,795 tons in 1971. Despite the increase in output of both nitrogenous and phosphatic fertilizers, Hungary imported an average of 73.5% of the fertilizers it consumed in 1970 and 1971, including all potassic fertilizer, as shown by the following tabulation of apparent consumption, in tons of plant nutrient:

	1970	1971
Production		
N.....	350,286	377,439
P ₂ O ₅	167,219	174,356
Total production.....	517,505	551,795
Imports		
N.....	381,357	243,704
P ₂ O ₅	365,000	301,320
K ₂ O.....	604,761	739,095
Total imports.....	1,351,118	1,284,119

	1970	1971
Exports		
N	33,801	74,100
P ₂ O ₅	5,982	5,341
Total exports	39,783	79,441
Apparent consumption		
N	697,842	547,043
P ₂ O ₅	526,237	470,335
K ₂ O	604,761	739,095
Total consumption	1,828,840	1,756,473

Domestic output is expected to rise to 1.1 million tons of nutrients by 1975, consisting of 698,000 tons of N, 282,000 tons of P₂O₅ and 120,000 tons of K₂O. The increase in output will be derived from new plants to be built at the Pet Nitrogen Works, including a 300,000-ton Kellogg ammonia unit, a 200,000-ton urea plant, and a 280,000-ton N-P-K compound fertilizer plant, which will be obtained from GEXA of France. The estimated cost of 8.5 billion forints is about 5% of the total industrial investment forecast for the 1971-75 period.

Hungary is not an important producer of synthetic rubber, plastics, or manmade fibers. In 1971, nearly two-thirds of its manmade fiber supply and nearly half of its plastics were imported. Synthetic rubber is produced only on a laboratory scale. There are plans for the expansion of output of these products, but Hungary will continue to depend heavily on imports.

Chemical production increased rapidly during the 1960's, averaging about 12% annually during 1966-70. Imports also rose rapidly, especially from the industrialized West (an average rate of more than 15% per year in 1966-70). Exports to the West have also increased sharply, but the deficit in trade in chemical products with the West rose from US\$59 million in 1965 to \$102 million in 1970. As Hungary's demand for chemical products grew and became more diversified, a larger proportion of the chemical imports (particularly synthetic materials) came from the West.

Hungary still relies on Communist countries for many of the raw materials needed for the chemical industry. For example, ammonia used for the production of nitrogenous fertilizers is manufactured from waste gases obtained in the refining of imported crude petroleum from the U.S.S.R., and the U.S.S.R. also supplies phosphate rock for the production of phosphatic fertilizer. Trade in chemicals with the Communist countries, although growing more slowly than that with the industrialized West, is also characterized by a widening Hungarian deficit.

c. Light industry

Light industry, which includes the textile, clothing, leather, wood, paper, printing, and miscellaneous industries, reportedly expanded at about the same rate as industry as a whole during the early post-World War II years. Part of this reported early growth, however, resulted from the industrialization of former handicraft activities; it did not constitute a net increase in production. Since the early 1950's, light industry has been one of the poorest performing sectors of industry, primarily because of the failure of planning authorities to provide for investment in the industry's much needed modernization. Production in light industry grew only 75% during 1960-71, compared with the 121% growth in total industrial output. During 1961-65, light industry accounted for 19.2% of total industrial production, yet it received only 9.4% of investment funds. During 1965-71, the share of industrial output produced by light industry declined to 17.7%, while its share of industrial employment dropped to 27%. Labor productivity is extremely low in light industry, especially in the paper, leather, fur, and shoe industries, and the average monthly earnings of its workers are 18% below the industrial average. Production of the principal products of light industry is shown in Figure 15.

The neglect of light industry by the economic planners resulted in a deterioration in the quality and style of its products. One of the targets of the NEM was to revitalize the industry by an ambitious program centering on the textile, printing, and furniture industries. During the 1971-75 period, 24 billion to 25 billion forints were scheduled to be invested in the ailing sector; some of these funds were earmarked for imports of new equipment—including textile machinery from Communist countries and Japan and printing machines from East Germany. By 1975, output of clothing and footwear was to increase by over 40% and that of furniture by 100%.

In 1971, an automatic cotton mill was completed in Budapest, and other cotton mills were built in Tolna and Bodajk. Investment in light industry rose to 13.4% of total industrial outlays in 1971, and output was planned to increase 8%, compared with a target for all industry of 7%. However, light industrial output increased by only 3.7% in 1971.

The investment cutbacks required to cool the overheated economy in 1971 will have some negative impact on the 1971-75 reconstruction plans in light industry. In October 1971, Premier Fock announced that the furniture industry would merely be renovated rather than expanded, and that planned new building

FIGURE 15. Principal products of light industry (U/OU)

PRODUCT	UNIT	1955	1960	1965	1968	1969	1970
Cotton and cotton-type fabrics.....	Million sq. meters.....	na	247	323	330	317	304
Woolen fabrics.....	do.....	26	28	36	40	35	39
Artificial fabrics resembling wool.....	do.....	3	4				
Silk fabrics (natural, artificial, and synthetic).....	do.....	20	28	36	46	54	57
Linen and hemp fabrics.....	do.....	22	31	41	na	na	na
Knit goods.....	1,000 tons.....	5	8	11	12	12	13
Leather footwear.....	Million pairs.....	14	21	26	33	33	36
Paper and cardboard.....	1,000 tons.....	105	138	174	258	251	259
Parquet flooring.....	1,000 sq. meters.....	530	1,131	2,366	2,798	2,640	2,827

na Data not available.

in the industry would be postponed. The government also postponed projects involving expansion of the Polyester Silk Works and a board factory at Kisterenye. Government spokesmen still insist, however, that the goal of modernizing the light industrial sector has not been abandoned¹.

Light industry depends on imports for such raw materials as hides and skins, timber, cellulose, cotton, and jute, as well as for hemp, flax, and artificial and synthetic fibers. During 1966-70 the U.S.S.R. provided more than one-third of the imported synthetic fibers, more than half of the cotton, newsprint, and cellulose, and close to nine-tenths of the lumber imports. Argentina provided most of the imported rawhides, Pakistan supplied most of the jute, and Western Europe was the source of most synthetic fibers. Hungary also imported a growing volume of finished light industrial goods to fill gaps in output, especially of luxury items. Considerable quantities of light industrial products are also exported. Exports of clothing and household textiles made up 10% of all exports in 1970 and were about five times as large as imports in the same category. Communist countries and underdeveloped countries are the principal purchasers, because poor design and workmanship make many products unacceptable in the more demanding Western markets. In 1967, however, Hungary began exporting cotton textiles to the United States, a highly competitive market.

d. Food processing industry

The principal branches of the food industry (which includes the tobacco and beverage industries) are meat and poultry processing, fish and vegetable canning, milling, baking, sugar refining, confectionery manufacture, and the production of dairy products. Output of the food industry as a whole has been growing less rapidly than total industrial output and less rapidly than the output of light industry.

Branches in which growth has been greatest are poultry processing, canned fruit and vegetables, frozen foods, and alcoholic beverages, while growth has lagged in baking, milling, and sugar products. In 1971, output of the food industry was about 84% greater than in 1960 and accounted for about 12% of employment and 8% of production in socialized industry.

Most raw materials used in food processing are of domestic origin. In some years grain imports are needed and vegetable oils and sugar also are imported, although a program was launched in 1971 to achieve self-sufficiency in sugar production. In general, the food industry covers domestic food requirements—except for a few specialty foods and tropical products—and provides a surplus for export.

Exports consist mainly of quality food products and luxury items. Hungary exports to Western Europe, the U.S.S.R., and other Communist countries such products as wine, salami, sausages, gooseliver pate, paprika, canned fruits and vegetables, tomato paste, butter, cheese (Figure 16), and poultry. Food products accounted for 14.4% of total exports and only 7.1% of total imports in 1971. Nearly two-fifths of the exports, including 70% of the meat products, are purchased by non-Communist countries, making the food industry a major hard currency earner. In recent years, Italy has been the chief customer for Hungarian beef, Austria for pork, and the United Kingdom for butter and cheese.

Because of increasing attention to consumer demand at home and because meat products are important earners of hard currency, efforts are being made to expand the capacity of meat processing plants and storage facilities. Four new abattoirs are to be built during 1971-75, as well as a meat combine at Miskolc and a salami factory at Debrecen. Additional refrigerating plants will also be built to expand further the rapidly growing production of frozen foods.

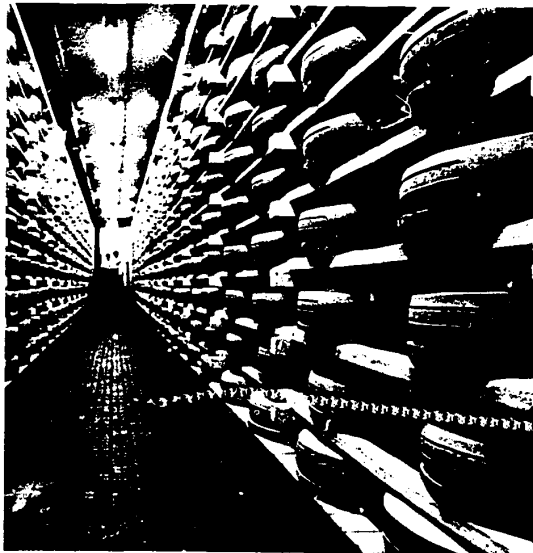


FIGURE 16. Maturing room for Emmentaler cheese. The Zala plant (Zalaegerszeg), which produces 70% of the Emmentaler cheese that is exported, has 24 maturing rooms with total shelf space of 12 kilometers. (U/OU)

Frozen fruit production has increased from 4,000 tons in 1960 to 15,000 tons in 1970, while frozen vegetable output has increased from 6,000 to 25,000 tons over the same period.

e. Construction

According to official indexes, construction has made rapid progress since 1965, after lagging well behind the industrial rate of growth during most of the post-World War II period. According to official data, which substantially overstate the industry's growth in the early 1950's, the value of construction work in 1971 was 490% of that done in 1950 and 230% of that done in 1960; in the same periods industrial output, again, according to official data, grew 540% and 210%, respectively. Growth of only 3% to 4% is planned for 1972, with emphasis on completing projects already underway; construction work grew by 12% in 1970 and 8% in 1971.

About half of all construction work is done by state construction enterprises. The most dynamic elements, however, are building cooperatives—which account for a small but growing share of construction work—and industrial and other enterprises, which build for their own account. Building cooperatives concentrate on housing, especially privately financed housing, although they also do some industrial and agricultural

construction work. In 1971-75, cooperatives are expected to construct about 55,000 to 60,000 apartments. Nonconstruction enterprises accounted for 28% of the value of construction in 1971. A considerable amount of construction work is done by individuals, both artisans working for hire and householders building for themselves.

Housing construction accounts for the largest share of construction work performed—a little less than 29% in recent years. Industrial building and agricultural building comprise the next largest shares, 11% and 10%, respectively. Roadbuilding has been increasing as a share—now over 9%—while railroad construction has slipped to under 3% of the total. Other large categories are power lines (9%), trade and storage buildings (6%), and administrative buildings (4%).

The construction industry has traditionally been neglected by economic planners in Hungary. During 1961-70, the construction sector produced 10% to 11% of national income, but received only 2.1% to 2.3% of total investment, a lower share of investment than in any other East European country.

In spite of the relatively low level of investments in the construction industry, it has usually met the construction goals established for it by the planning authorities. Productivity growth in the industry has been impressive—with a 240% increase in employment between 1950 and 1971, the industry achieved a 490% increase in output. In the state sector of the industry, employment in 1971 was only 23% above that of 1950. Employment in the industry rose at an annual average rate of 8.4% between 1966 and 1970, following a period of virtually no increase between 1961 and 1965. The increase in the more recent period was attributed largely to increases in wages, which exceeded the increases in other industries and brought construction workers into second place, after miners, in terms of wage levels.

Despite increases of 12% and 8%, respectively, in the value of work completed in 1970 and 1971, the construction industry was unable to cope with the onslaught of building orders from enterprises exercising their new freedom to invest. From January to August 1971, the number of unfinished building projects rose from 5,139 to 6,058. Furthermore, because of hasty preparation by the enterprises, more than 90% of construction projects required revisions while underway. Despite controls on prices, rising demand for building materials in the face of stagnating production in 1970-71 forced their prices to rise at an annual rate of 3% to 4%. As a result of the bottleneck that developed, planners restricted new

starts in 1972 and are focusing construction activity on the completion of existing projects.

The building materials industry was a major source of the construction bottleneck in 1970-71. While construction output increased 27% between 1968 and 1971, the building materials industry stagnated—producing less brick, cement, lime, asbestos cement roofing shingles, and reinforced concrete beams in 1971 than in 1968. Imports exceeded 25% of domestic production in 1970, and required US\$40 million in hard currency in 1971. In an attempt to revive the building materials industry, Hungary plans to boost investment in it by 80% from 1971 to 1975, increasing the share of the building materials industry from 2.9% to 3.9% of total investments. In addition, preferential treatment has been given to the industry, including nearly 50% nonrepayable state grants for investment projects and authorization for 100% use of depreciation funds (other industries can only use 60% of depreciation funds for investment). Projects in the building materials industry have been scheduled for earlier completion; the Beremend Cement Factory, for example, which was planned to begin operation in 1973, was rushed into operation by mid-1972. Prices of materials have also been raised—32% for brick and tile, 15% for castings, and 10% for cement—in an effort to stimulate domestic production and discourage waste.

Despite the measures taken to revive the building materials industry, plans required an increase in imports of 3.3% in 1972. Hungary has completed a series of agreements with Communist nations to supply building materials formerly purchased in the West for hard currency. The U.S.S.R. has agreed to increase exports of asbestos cement boards and sheets, thus cutting hard currency imports of those items by 50% and 17%, respectively. East Germany has contracted to deliver prefabricated dwellings otherwise purchased in the West, and Poland, Romania, and Bulgaria will provide inputs for glass and cement production. By diverting trade to Communist countries, Hungary expected to reduce imports of building materials from the West by 15% in 1972.

5. Domestic trade (U/OU)

Domestic trade is largely controlled by the state. All wholesale establishments are state enterprises, and state and cooperative enterprises predominate in retail trade. In 1971, state enterprises accounted for nearly 65% of domestic sales and cooperatives accounted for 34%. Private retail establishments are permitted to

operate under license, and individual peasants are allowed to sell their own agricultural products on the open market, but private trade accounted for less than 1% of the total sales in 1971. Fruits and vegetables, however, are predominantly sold on the free market.

The Ministry of Internal Trade exercises control over nearly all retail trade. Trade outlets generally are supervised by the local councils in urban areas and by the National Association of Cooperatives in rural areas.

Under the NEM, retail trade outlets may order goods directly from producers, from wholesalers, or from foreign trade enterprises. A few restrictions remain, including purchasing quotas for products in short supply, quotas for consumer goods imported from the industrialized West, and marketing controls on meat and meat products. In 1970, lard, flour, and sugar were removed from compulsory marketing channels. Direct purchases by retail outlets (that is, bypassing wholesale distributors) amounted to 7% of all consumer goods sold in 1970 and 26% of clothing items.

Domestically produced foods for the urban population and for industrial and export requirements are obtained from state and collective farms by state procurement agencies. Compulsory deliveries were abolished in 1956; since then, deliveries have been made on the basis of contracts concluded between the farms and the procurement agencies. Before 1965, the local councils played a significant role in the signing of these contracts making arbitrary production assignments to farms in their area, based on target figures passed down from the central government, and directing the farms to sign contracts with the procurement agencies. In 1965, a new system was introduced which permits collective farms to negotiate directly with the procurement agencies and to sign contracts for the amounts and products they feel will be most profitable for them. The procurement agencies also purchase additional supplies on the free market.

At the end of 1971 there were 33,795 state and cooperative stores (including drug stores), 14,242 eating places, and 3,062 factory canteens. In addition, there were some 10,500 private stores and some 400 private eating places. Most of the shops are small. In 1971, only the 139 department stores, the 302 supermarkets, and the 1,427 drug stores averaged more than six employees each. Most stores—even food stores—are specialized, so that customers have to go several different places to make purchases, often having to wait in line at each shop to be served. Some progress has been made toward establishing the kind

of multiple-commodity self-service shops or shopping centers that are common in the United States and increasing in Western Europe.

Retail trade increased 41% between 1966 and 1970 (compared with 1961-65) and is scheduled to grow by an additional 38% to 40% during the 1971-75 period. Sales of foodstuffs and tobacco make up about half of total retail sales, but they have declined as a share of total sales since 1965. The share of clothing sales in the total has declined even more rapidly—from 25% in 1960 to 17% in 1971. The most rapid increase in sales has been in consumer durables, which increased from 6.3% of total retail sales in 1960 to 9.9% in 1971.

Retail prices have been increasing by about 1.5% annually since the price reform in 1968. Prices of seasonal commodities, mainly vegetables and fruit, have risen much more rapidly—by 12% in 1971. In early 1972, the prices of many consumer goods imports (which made up 17% of all consumer sales in 1971) were raised along with those of building materials, beer, and several other products. The consumer price level was expected to rise by 3% in 1972, partly because of a substantial increase in rents.

In general, the quality and assortment of consumer goods have improved, and consumer credit has become increasingly available—purchases of durable goods on credit, for example, covered 37% of all durable goods sold in 1971. Outside of Budapest, the retail network remains inadequate, and shortages and low-quality goods are chronic problems. Since the introduction of the NEM, the government has relaxed the requirements for licensing private shops and granted special tax privileges to private shops and artisans in small towns and rural areas. For example, artisans in villages of less than 5,000 can receive a license without an examination, are exempt from taxation for the first 2 years, and have reduced tax liability after 2 years. These incentives have not yet paid off, mainly because of the poorer profit opportunities in sparsely populated areas.

Reluctance, and at times opposition, on the part of labor councils to the establishment of alternative retail outlets that would compete with outlets operated by the councils themselves has slowed down the development of the retail marketing system, especially outside Budapest.

C. Economic policy, performance, and government finance (U/OU)

1. Economic policy

a. Prereform period

Prior to the institution of the New Economic Mechanism (NEM) in 1968, the Hungarian economy under Communist rule adhered closely to the basic

Soviet economic model. Rapid industrialization with a strong emphasis on heavy industry and extension of the state's control over almost the entire range of economic activities were the major economic priorities of the regime after its accession to power in 1949. Foreign trade was made a government monopoly, the larger industrial enterprises were nationalized, and land and currency reforms were carried out. Prices were set by the state and only coincidentally reflected costs. The allocation of investment funds, labor, and material inputs was all done by the state. Collectivization of agricultural land was the exception; a comprehensive and harsh collectivization program was not conducted until 1959.

During the prereform period, economic objectives were incorporated in medium-term plans (usually 5 years), which outlined broad goals, and in annual plans. Annual plans, drawn up by the National Planning Office, established detailed instructions for enterprises, including quantitative and qualitative norms, material allocations, number of employees, and wages. The local or enterprise level had little say in the early stages of formulating the plan and were relegated to bargaining for the reduction of established goals.

In addition to the inherent difficulties associated with central allocation of resources, the Hungarian economy was repeatedly jarred by changes in policies as strains and imbalances developed. The basic goal of planning authorities was to develop industry, even at the expense of other sectors and in spite of declining living standards. However, as untenable strains and imbalances developed, policies became more moderate. In 1951, the already ambitious plan for heavy industry was revised upward to a goal of nearly tripling the 1949 output of heavy industry by 1954. Shortages of consumer goods and a lagging agricultural sector forced the abandonment of these plans in 1953 in favor of the so-called New Course, under which resources were partially redirected toward the improvement of living conditions. In turn, the more balanced policy of the New Course was discarded in 1955, and the "industrialization at any cost" policy was resumed. Economic uncertainty and instability, together with complaints about living conditions, helped bring on the revolt in October 1956 that led to a change in leadership.

After the 1956 revolt, the government set up a team of experts under economist Istvan Varga to examine the existing economic system and to make suggestions for economic reform. Varga's report castigated the concept of planning from above and proposed a new system based on decentralized decisionmaking and guided by indirect controls, but the new leadership

under Kadar was more impressed by the need to reconstruct the revolt-torn economy and by the stiffening Soviet attitude toward revisionism. The Varga report was rejected.

The need for some economic reform was accepted, however, and a number of limited, piecemeal measures were instituted after 1957. Industrial enterprises were merged into trusts, which were granted the authority, subject to ministerial veto, of assigning production targets, controlling certain investments, and determining the size of wage funds. A profit-sharing plan for workers was also introduced, and the number of compulsory targets for firms was reduced, with several firms being granted the authority to conduct foreign trade independently. In 1959, the wholesale price structure was revised to reflect somewhat better the product scarcities, and in 1964 a capital use rate of 5% of total assets was levied on enterprises.

These limited measures did little to relieve basic problems, and the economy began to falter in 1964-65. The price reform had been based on the cost structure of 1956 and thus froze existing disproportions. The profit-sharing plan proved ineffective, and the new trusts became unwieldy, noncompetitive concentrations of industry. In late 1964, discussions of more sweeping economic changes were begun, and by November 1965 the Central Committee announced its full support for a basic restructuring of the economic system. The next 2 years before implementation of the NEM on 1 January 1968 were devoted to careful preparation—educating enterprise officials, workers, and consumers and revising prices.

The mid-1960's proved to be a more propitious period for economic reform than the period immediately following the revolt. Kadar had consolidated his position by the mid-1960's, and the political atmosphere had improved—the necessity for economic reform had even been acknowledged by the U.S.S.R. Economists throughout the Communist countries were studying, discussing, and, to a lesser extent, implementing economic reforms. Moreover, Hungary was not acting in desperation—despite a slowdown in 1964-65, the economy was not in a state of crisis, as it had been in 1957. Thus, rather than a short-term corrective measure, the NEM represented a philosophical acceptance of the need for a basic restructuring of the controlling mechanisms of the economy.

b. The New Economic Mechanism (NEM)

The major features of the reform introduced on 1 January 1968 were a decentralization of operational

decisionmaking, providing for some competition and play of market forces in determining economic activity, and a shift from administrative toward economic methods of exercising government control over economic development. Ministries were stripped of much of their authority, and most of the trusts were disbanded. Central planning continues, but it now concentrates on the main directions of economic development. Emphasis is shifted from the annual plans to the medium- and long-term plans, and the fulfillment of these plans will depend largely on economic controls rather than administrative orders.

The most important change in the decisionmaking process is the increased responsibility given to the enterprises. Except when national defense or foreign trade obligations are involved, the enterprise has the right to draw up its own plans, take measures for technological improvement, change its product pattern, and, within limits, conduct its own investment program. Except for a few remaining centrally allocated materials, the enterprise is also free to buy and sell where its own advantage is greatest, and many enterprises also have independent foreign trade rights. Enterprises have considerable freedom over wages, but the state still controls aggregate wages through its tax policies and, if need be, through wage ceilings. The state also retains the power, through the ministries, to establish or liquidate enterprises, hire and fire managers, and reorganize enterprises.

Under the NEM, profits have become the major criterion of success, and enterprises are expected to base investment and salary decisions on profit maximization (within socially acceptable limits as defined by the state). Profits are divided into a development fund for self-initiated investment and a sharing fund to supplement wages according to a formula set by the state and varying among industries according to the level of assets. A reserve fund must be maintained and built up to a level equal to 8% of the annual wage costs and 1.5% of total assets of an enterprise. The reserve fund may be used to cover losses or to repay credits otherwise not repayable.

Enterprise development funds may be used to replace scrapped equipment, modernize existing plants, or expand capacity. Three-fifths of depreciation funds may also be used for these purposes. Application may also be made to state banks for additional funds for investment, with the proviso that 30% of investment funds must be self-generated. The banks ration credit according to national interests, the profitability of the project, and the size of the development fund of the enterprise. The largest investments, outlays involving infrastructure, or

planned increases in enterprise capacity beyond 25% to 30% remain in state hands. Enterprises and cooperatives accounted for 56% of investment in 1971.

To insure that adequate attention would be given to technological innovation and research and development, a major objective of the NEM, the designers of the NEM decided to require that enterprises include a fee for technological development in their product prices. This fee varies among products from 0.1% to 25% of the product price, and the funds collected are to be used to create a tax-free technological fund, which would be the minimum amount to be spent for research and development. Technological funds, as of October 1972, were equal to about 1.2% of gross industrial income and ranged as high as 1.9% of income in the chemical industry and 2.7% in the engineering industry. Preliminary surveys show that product development expenditures increased as a share of total research and development expenditures from 32% in 1967 to 49% in 1969, but most of the expenditures were devoted to widening product assortment rather than raising the technological level of products.

In order for profits and indirect economic controls to operate satisfactorily, it was necessary to reform the old price structure. Because of the importance of preventing a decline in living standards or other dislocations in the economy, a mixed price structure was instituted. Prices of some items, chiefly consumer goods and vital raw materials, continue to be fixed, but their number has declined from 20% of all prices in 1960 to 12% in 1971. The remaining prices are flexible, but most are subject to ceilings. The state must be notified in advance of intended increases in prices of certain consumer goods and may disapprove these increases. The price structure allows considerable profits in some industrial sectors but requires heavy subsidies for agriculture.

In foreign trade Hungary is attempting to replace the previous unsuccessful import-substitution policy of reducing imports with a policy of promoting exports by providing added export incentives. The NEM uses a two-pronged approach of injecting competition and market forces into foreign trade while retaining ultimate state control: Direct contacts between Hungarian enterprises and foreign customers are to be increased, chiefly at the expense of specialized foreign trade enterprises; and domestic producers are subjected to foreign price and cost competition indirectly through the operation of multipliers. A multiplier was established for dollar trade and one for ruble trade, and multipliers for trade with other countries were determined from the relationship

between the ruble or dollar and the "third" currency involved. The values of the dollar and ruble multipliers, which are strictly domestic financial devices distinct from the established rates of exchange, are based on the average domestic cost of producing goods that are exported to obtain foreign exchange. The prices received by exporters are actual export prices converted to forints at the multiplier rate, and importers pay the actual foreign exchange costs plus tariffs (for hard-currency trade) or import sales tax (for soft-currency trade), computed at the multiplier rate. The multiplier for dollar trade is set at 60 forints per dollar, and that for the ruble trade is 40 forints per ruble.

Since the multipliers were constructed at "average" costs of producing goods, exporters who produced at above average costs would be undercompensated when paid at rates based on the multiplier, and a substantial part of their trade would thereby be uneconomical. To cushion the economy against the possible disruptions of this trade, which comprised a significant portion of total trade, an extensive but gradually declining subsidy system was instituted. An estimated 60% of exports required subsidies in 1972 to prevent losses. In addition to multipliers and subsidies, the government employs a variety of trade controls, including customs duties, import licenses, and quotas, to prevent unwieldy trade deficits and to maintain a politically acceptable balance between the dollar and ruble trade.

Another feature of the reform was an increase in "factory democracy"—worker participation in management decisions. Trade unions have become more important because of their authority under the Labor Code of 1967 to negotiate collective agreements with enterprises concerning local working conditions. The labor code grants trade unions the power to veto decisions of enterprise managers. Although such vetoes have been used on occasion, enterprise management generally still treats trade unions in a supercilious and perfunctory manner, offering little information on enterprise plans at trade union meetings and often ignoring trade union resolutions.

This increase in factory democracy does not, however, vitiate a fundamental precept of the NEM: Individual responsibility and individual reward. The NEM places great reliance on enterprise managers, who are held individually accountable for their enterprises' performance. Managers may be punished for poor performance by reductions in wages and, ultimately, by dismissal by the state. The NEM does not provide for worker councils. Whether unions will develop into effective representatives of workers'

interests, through the use of their veto, for example, remains unclear.

The successful introduction of the NEM on 1 January 1968 encouraged the regime to relax some of the temporary economic controls which had been designed to ease the transition. Curbs on new investment by enterprises were lifted, prices were progressively shifted into categories allowing freer fluctuation, and export subsidies were reduced. As of January 1971, the rights of enterprises were further expanded to permit them to combine with other enterprises in "simple" or "common" associations. (Simple associations are based on cooperative working agreements in areas such as advertising, purchasing, or selling, while common associations are legal entities in which transfer of funds between enterprises is permitted.) Other measures passed in 1971 included the establishment of uniform export subsidies by the industrial sector, thereby rewarding the most efficient firms within a sector, and measures to bolster labor productivity.

2. Development

a. Plans and results

At the beginning of the First Five Year Plan (1950-54), industrial production already exceeded the prewar level. Forced expansion of industrial output—the huge growth of 155% during 1950-54 was even less than planned—coupled with only a 12% increase in agricultural output, led to substantial imbalances in the economy. Moreover, workers' real incomes in 1954 had not risen from the 1949 level. No improvements took place in the next few years in spite of the planners' redrafting of plans, and the revolt of 1956 ensued.

The revolt caused severe losses for the economy—estimated at more than 25% of the national income in 1956, in addition to heavy losses of skilled labor and technicians through emigration. Nevertheless, recovery was rapid. The regime obtained credits from many Communist countries, especially the U.S.S.R., and thus was able to raise imports sharply. Credit-financed imports permitted industrial production to regain previous levels quickly, while personal consumption also rose. By the fourth quarter of 1957, industrial output was greater than before the revolt.

For the remainder of the 1950's, the economy performed satisfactorily. Virtually all the targets in the 1958-60 3-year plan were exceeded; the pattern of industrial production was modified to deemphasize the production of material-consuming items like heavy machinery and to stress specialized labor-

intensive production like telecommunications equipment; and agricultural production grew 10% during the period despite a slowdown in its rate of growth after the collectivization campaign that began in 1959.

The plan for 1961-65 emphasized increased efficiency and improved quality of products, but no apparent steps were taken to achieve those goals. Rather, the plan amounted to a slightly subdued version of rapid industrialization at the expense of other sectors. None of the production goals for that period were met, although industrial production came close to its goal, rising by 47%. The increase in agricultural production (16%) was far below the plan, partly because of unfavorable weather, but mostly because of peasant resistance to collectivization. National income rose only 24% during the 5 years, compared with the 36% planned.

The Third Five Year Plan (1966-70) deliberately set modest goals as a precaution against any unsettling effects that might be caused by the introduction of the NEM in 1968. In fact, in the initial years of the reform there were no major disruptions in the economy (with the possible exception of a stagnation in labor productivity in 1968-69), and thus the overall goals of the Five Year Plan were easily achieved.

During 1966-70, national income grew by 31% (19% to 21% planned). Industrial output rose by 35%, raising its contribution to national income from an average of 40% in 1961-65 to an average of 42% in 1966-70. The chemical industry and the instrument manufacturing industry led the growth in the industrial sector by increasing their output 75% and 74%, respectively. Agricultural output achieved a 15% growth over the previous period, despite unsatisfactory results in the production of sugar beets, tobacco, vegetables, and beef. Personal consumption was 32% greater in 1970 than in 1965.

Rapid growth—especially in investments—during 1968-70 led to problems in 1971. Using their new freedom to invest, enterprise managers invested heavily in 1969-70. Enterprise development funds were 50% larger than the government had expected—firms had been underreporting their profits to obtain larger subsidies. In fact, the subsidy system was so extensive that all enterprises, even uneconomical ones, had accumulated funds to invest. Moreover, firms with favorable growth prospects were granted additional funds by the state, further fueling the rate of investment. Several enterprises used reserve funds and circulating capital for investment; others began investment without any financial backing and then appealed to the state for assistance. Meanwhile the

banks, which had been expected to play a major role in rationing credit, were simply sidestepped by the enterprises. Excess investment by enterprises was estimated at 3.2 billion forints in 1969 and more than 10 billion forints in 1971.

By 1971, overinvestment had created an untenable situation in the foreign trade and domestic construction sectors. Huge above-plan imports of raw and semifinished materials and machinery and equipment were needed to supply the investment boom, resulting in an unprecedented US\$555 million trade deficit (\$270 million with the West) during the first three quarters of 1971. Meanwhile, the investment volume was overwhelming the construction industry—the stock of unfinished construction in 1971 amounted to more than 75 billion forints and nearly equaled the entire investment outlay in 1970.

In the fall of 1971 the government postponed several major projects, banned certain types of enterprise investment, introduced a system of sanctions on uncovered investment, and limited bank credit. Import quotas were tightened, especially in trade with non-Communist countries, and price subsidies were increased 7% for exports and reduced 10% for imports. Exports to the Communist countries, originally planned to increase by 13% to 14%, were revised in the spring of 1972 to increase 18%; exports to the West were to be increased by 13%. Imports from the Communist countries were also revised, to increase 2% over 1971, while imports from the West were to grow by 5% to 6%. Moreover, a policy was announced of reducing the growth rate by 1% to 2% per year until the economy righted itself. National income and industrial output were expected to grow by 5% to 6%, investment by 6%, and agriculture by 2% to 3%.

The corrective measures have apparently been successful—exports were up 21% and imports were down 9% during the first 7 months of 1972. During the same period, investment expenditures were only 7% over those of 1971, and the major output goals were being met. The regime has been sobered by the experience, however, especially since it had to resort to administrative measures rather than indirect economic regulators to correct the imbalance. As a result, a number of commissions have been created to reexamine the NEM in an effort to correct its weaknesses.

For the time being at least, Hungary is back on the schedule of its Fourth Five Year Plan (1971-75). It is the first medium-term plan to call for an equal growth rate of consumption and investment (maintaining the ratio of 76% to 24% between the two). Also, the major

development goals selected by the regime are not in the area of heavy industry, as in the past, but they focus on correcting imbalances in the economy by reconstruction of the textile industry, expansion of the housing program, and modernization of the construction industry. There is also an attempt to strengthen the energy base by depending to a greater extent on petroleum fuels and by an ambitious natural gas development program. Another major goal is the further development of the aluminum industry.

National income is to rise 30% to 32% between 1971 and 1975, more slowly than during the 1966-70 period. Industry is to grow only slightly faster—by 32% to 34%. Between 85% and 90% of the increase in national income is to result from increased labor productivity. The target for agriculture has been set at 15% to 16% growth in the 5-year period, with heavy emphasis on livestock production.

Investment expenditures are forecast at 500 billion forints during the 5-year period but will likely exceed this figure. Nonproductive investment is to increase from the 16% share of investment in the 1966-70 period to a 19% share, led by a rise in housing investments to 12.5% (housing accounted for 8% of investment during 1968-70). The 1971-75 trade plan, which will apparently be exceeded, calls for trade with the Communist countries to grow by average annual rates of 7% to 7.5% in exports and 8% to 8.5% in imports and for trade with the West to grow by 6% to 6.5% in exports and 5% to 6% in imports.

b. Consumption and investment

Consumers did not benefit proportionately from the rise in total output in the early postwar period. Per capita consumption recovered slowly after the war and did not regain the prewar level until 1956. Fairly substantial gains were made during 1957-60, and, since then, total consumption has remained fairly constant at about three-fourths of national income.

Prior to World War II the gap between urban and rural consumption levels was wide, but it narrowed considerably in the early postwar years. Since 1960, however, the rate of increase in the real value of per capita consumption among the peasantry has approximately equaled the rate of increase in household incomes of workers and employees, and the disparity in consumption levels has remained virtually unchanged. At any rate, living standards of the peasantry are officially acknowledged to be well below those of the urban population. The trends in real household incomes of workers and real per capita

consumption of peasants are shown in the following indexes (1960=100):

	WORKERS' HOUSEHOLD REAL INCOMES	PEASANTS' PER CAPITA REAL CONSUMPTION
1961	101	99
1962	104	104
1963	112	108
1964	119	114
1965	119	117
1966	124	123
1967	130	130
1968	138	140
1969	146	147
1970	155	159
1971	163	170

Since 1956 the Hungarian diet has improved considerably; foodstuffs have been available in adequate quantities and varieties. The share of total consumption expenditures accounted for by foods has declined from 41% in 1960 to 34% in 1970. Alcoholic beverages account for about 10% of total consumption expenditures.

The other principal categories of consumer expenditures include clothing (11%), education, culture, and sports (7%), household goods (7%), health and hygiene (4%), and transportation (3%). Rents, kept artificially low through subsidies, accounted for less than 5% of the total, and utilities, for another 3%. In an effort to make rents correspond more closely to costs, rents were raised in 1971, but the government will provide assistance to tenants for a few years.

Although rents are cheap, housing is one of the principal sources of consumer dissatisfaction in Hungary. Accommodations are poor and badly overcrowded. Housing conditions are being improved only slowly, because new construction barely suffices to cover new demand and replacements. The average number of inhabitants per room decreased from 2.5 on 1 January 1960 to 2.0 on 1 January 1970, and 1.9 on 1 January 1972. A total of 373,000 housing units (new units less retirements) were added to the housing stock between 1949 and 1960. During 1961-70 about 609,000 new units were added, with retirements amounting to about 140,000 units. The Fourth Five Year Plan (1971-75) calls for construction of 80,000 apartments per year. Examples of recently built high-density housing in the Budapest area are shown in Figure 17.

The size of new housing units has been increasing. In 1971, 64% of all new units had 2 "living" rooms (i.e., excluding kitchens, bathrooms, and other service areas), compared with 57% in 1960, and 26% had three or more "living" rooms, compared with only 7% in 1960. Nearly four-fifths of the units built in 1971



FIGURE 17. Housing construction in the Budapest area. The Kelenfold housing estate in the 11th District, a newly built project housing 6,987 families in 1.5-, 2-, and 3-bedroom apartments. (U/OU)

had bathrooms, and 99% had electricity, but only 73% had running water. In recent years more than half of the new dwellings have been financed by bank credits granted to individuals.

Total investments increased from 41 billion forints in 1961 to 110 billion forints in 1971, and now account for about 30% of GNP, on the basis of Hungarian data. Besides the big increase in volume of investments, there have been significant changes in the pattern of investments. The socialist sector (state and cooperative) accounts for more than 90% of total investments, while investments in the private sector, which received 20% of total investments in 1950, now accounts for less than 10% of the total. Prior to the introduction of the NEM in January 1968, industry received between 40% and 45% of investment in the socialist sector; since then, its share has declined to 37% to 38%, in favor of increased investments in agriculture and construction (Figure 18). In absolute terms, however, there was a very large increase in the level of investments in industry.

The most striking shift in investments after the advent of the NEM was the increased outlays in the agricultural sector. Agriculture received only 17% of investments in the socialist sector in the 5-year period 1961-65, but, since the NEM, the share of agriculture has risen to 21% to 22%. Investment in the construction industry *per se* has risen from 2.3% of investment in the socialist sector in 1961-65 to 3.2% of the total in 1971; investment in the construction function, however, has been substantially higher, with the investment in housing construction alone rising from its 7% share (annual average) in 1961-70 to

FIGURE 18. Investments in the socialized sector (U/OU)

	1958-60	1965	1966	1967	1968	1969	1970	1971
Total investments (billion forints).....	91	44	48	58	55	75	88	100
Percentage distribution:*								
Industry**.....	41.8	na	43.2	43.8	40.8	39.5	37.4	38.4
Construction industry***.....	2.0	na	2.4	2.9	2.0	2.2	2.9	3.2
Agriculture.....	17.8	na	16.3	16.0	20.4	20.7	22.1	21.1
Transportation.....	12.0	14.6	14.3	14.0	14.7	12.1	12.7	11.9
Trade.....	3.6	3.5	3.4	3.5	2.9	4.0	3.4	4.0
Communal (housing, health, cultural, etc.) administrative and other services.....	22.9	20.7	20.4	19.8	19.2	21.5	21.5	21.4

na Data not available.

*Percentage entries are rounded.

**Manufacturing, mining, construction, and electric power.

***As distinguished from the construction function.

12.5% in 1971-75. More than 20% of total investments has been allocated to purposes which do not contribute directly to the country's material product growth; among these are housing, municipal services, trade, culture, and health services. Except for housing, these commercial and service functions have remained relatively stable as investment sectors.

Total investment outlays have fluctuated widely (Figure 18), largely because of the interaction of foreign trade and investments. Rapid increases in investments have led to sharply increasing imports of machinery and raw and semifinished materials and to declining exports, leaving large deficits in foreign merchandise trade. Efforts to restore the balance in the foreign trade account typically led to cutbacks in investment expenditures. This was illustrated by the rapid increase in investments and imports after 1968 and the resulting clampdown on investments since late 1971.

The effectiveness of investments has declined because of the inability of the construction industry to complete projects on schedule. The Hungarian construction industry is admittedly much less efficient than those of advanced Western countries, and it was not able to cope with the unprecedented increase in construction orders resulting from the investment "splurge" following the introduction of the NEM in 1968. Its performance in the post-1968 period was diminished by shortages of building materials resulting from a relative stagnation in the building materials sector, and by frequent changes in specifications by enterprises after projects were started. As of August 1971, a total of 6,058 building projects were in various stages of completion, compared with 5,139 in January of that year. Of the 13 large building projects completed in 1971, 10 were originally scheduled for completion in earlier years, and, of the

30 large projects underway that year, 17 were already well behind schedule. Furthermore, 70% of the large projects under construction in 1971 were running an average of 14% above planned cost. Overall, the backlog of construction orders at the end of 1970 was equal to 80% of the value of construction work completed that year.

Under the NEM, authority to make investment decisions was decentralized, and enterprises were given greater freedom to develop their own investment programs. As a result, enterprise investments accounted for 56% of total investments in 1971, compared with only 17% in 1966; whereas state-directed investments, which had accounted for 83% of total investments in 1966, declined to 44% of the total in 1971. Bank credit to enterprises for investment since the NEM began has not been as important as expected, since most enterprises were able to accumulate funds internally for investment. In 1972, bank credit and enterprise development funds were restricted, and enterprise investment is expected to decline to 54% of total investments.

3. Government finance

a. The state budget

Hungary's budget, like those of other Communist countries, is an instrument for exercising financial control over the economy, as well as a means of financing normal government operations. The budget encompasses all income and expenditure of so-called budgetary units—administrative organs of the government—and part of the income and expenditures of "productive units" or enterprises. Because of the inclusion of the latter, budgets of Communist countries are much larger relative to GNP than budgets of non-Communist countries. Hungarian

FIGURE 19. Budget revenues and expenditures (U/OU)
(Billion forints and percentages of totals)

	VALUES		PERCENTAGES	
	1970	1971	1970	1971
Revenues:				
Taxes and payments by state enterprises.....	159.8	173.4	82.8	81.5
Taxes and payments by cooperatives.....	4.7	5.6	2.4	2.6
Taxes on individuals.....	10.5	11.7	5.4	5.5
Other.....	18.1	22.0	9.4	10.4
Total.....	193.1	212.7	100.0	100.0
Expenditures:				
Investments.....	41.8	47.4	21.4	22.0
Subsidies, support to agricultural cooperatives....	53.0	55.9	27.2	25.9
Debt repayment, reserves, etc.....	22.2	26.5	11.4	12.3
Welfare (education, health, research, etc.).....	46.2	51.7	23.7	24.0
Defense.....	9.4	9.7	4.8	4.5
Law enforcement.....	5.7	5.8	2.9	2.7
Administration.....	14.0	15.4	7.2	7.1
Other.....	2.8	3.2	1.4	1.5
Total.....	195.2	215.8	100.0	100.0
Deficit.....	-2.1	-3.1

NOTE—Components may not add to totals because of rounding.
... Not pertinent.

budget revenues and expenditures in 1971 and 1972 are summarized in Figure 19.

Hungary employed a Soviet-type budget during 1950-67. In 1968, the budget structure was revised to reflect the price revisions and the self-financing of investments by enterprises. Turnover taxes have been downgraded from their former key role as a revenue-producing device and are now applied at a fixed rate rather than as a tax on price differences. Turnover tax collection has been shifted from producing enterprises to wholesale trade distributors, and the number of tax rates has been reduced from 2,500 to 1,000, with a further reduction to 350 to 400 envisioned.

The major revenue source since 1968 has been taxes on enterprise funds. The enterprise development funds are taxed at fixed rates—usually 60%, but varying among industries (e.g., 70% for trade and 45% for agriculture). A fixed rate was chosen for each industry in order to reward enterprises with above-average profits and penalize inefficient enterprises, although, in practice, differential subsidies have had a leveling effect on the size of development funds. Depreciation funds are taxed at 40%, but troubled industries such as the building materials industry are exempt. The enterprises' profit-sharing funds are progressively taxed at rates from 40% to 70%. These tax rates were deliberately set high to compel the enterprises to seek additional investment funds at banks, thus

strengthening the state's influence over investment allocation.

Enterprises and cooperatives must also pay a 5% tax on the gross value of their fixed and liquid assets. This tax, imposed in 1964 and continued under the NEM, is designed to produce a minimum return on capital. In 1968, the capital-use charge was extended to credit-financed assets. Other enterprise taxes include an 8% wage tax and a 17% (of total wage bill) social insurance contribution, customs tariffs, and a production tax which attempts to tax away unearned profits resulting from such things as location or price advantages.

The major change in budget expenditures since the NEM is the drop in investment allocations. The share of investments in total budgetary expenditures dropped from about half in 1967 to approximately one-fifth during 1968-72. Another change involves the recording of subsidies. Formerly, receipts from the profit tax were net of enterprise subsidies and turnover tax was net of price subsidies; subsidies were not entered as an expenditure item. Subsidies are now included in the budget, and their size has been increasing, although their percentage share of total budget expenditures has been declining. The budget expenditure for welfare remains large, amounting in 1972 to 12% for social security, pensions, and family

allowances, 5% for education, and 4% for public health. Budgetary deficits have been permitted since 1968.

b. Banking and currency

The banking system, which was nationalized in 1947, serves mainly to implement the financial aspects of the economic plans. The system includes the Hungarian National Bank, the State Development Bank (until 1971 called the Investment Bank), the Hungarian Foreign Trade Bank, the National Savings Bank, the Central Corporation of Banking Companies, the General Bank for Trust and Trade, the Mutual Benefit Savings Bank, and the State Insurance Company.

The National Bank performs the functions of a state central bank. It issues currency, handles the funds of the state budget, holds deposits of other banks, administers the national reserves of gold and foreign exchange, and handles international payments. It also maintains the accounts of state enterprises, effects payments among them, and grants credits to enterprises and cooperatives. Most interfirm transactions handled by the bank are on a noncash basis; cash is largely confined to payments between individuals.

The National Bank is a joint-stock company administered by a president and a board of directors under the supervision of the Minister of Finance. Shares are held mainly by the Treasury; shares formerly held by foreigners were bought back by the bank between 1969 and 1971. The main office of the bank in Budapest includes special directorates for industry and trade, economic planning, foreign exchange, and administration. The bank has country directorates and also branch offices both in Budapest and elsewhere.

As the result of a banking reorganization in 1971, the Hungarian Investment Bank was renamed the State Development Bank, and several of its functions were transferred to the Hungarian National Bank. The provision of working capital for the building industry and the responsibility held by the State Development Bank for financing enterprise investments were both shifted to the National Bank, thus giving the National Bank authority for financing fixed and working capital for all enterprises and cooperatives. Meanwhile, the National Bank yielded the accounts of local councils to the National Savings Bank. As a result of this reorganization, the State Development Bank is now responsible only for state investments and for channeling state financing from the central budget to centrally approved development projects. With

regard to these investments, it is expected to examine development plans, provide working capital, keep accounts, set up controls, and supervise investment outlays. It also has the right to initiate the creation of new enterprises and to supervise the establishment of economic associations.

The Foreign Trade Bank carries out foreign exchange transactions in cooperation with the National Bank. It buys and sells foreign currencies, handles tourist exchanges, and contributes to the execution of some foreign trade transactions. It specializes in complicated deals involving switch dealing, barter, multicountry trades, and innovative arrangements, particularly those involving "cooperation" and other arrangements which result in increased Western presence in Hungary. The bank is under the joint supervision of the Ministers of Finance and Foreign Trade. The shareholders are the Hungarian foreign trade companies. The bank has no branch offices; operations are conducted through correspondent banks in other countries.

The National Savings Bank performs a variety of functions on behalf of individuals. It handles personal savings accounts and personal checking accounts; grants credits to individuals for building houses, for purchasing consumer durables, and for operating artisans' enterprises and private gardens; it also sells real estate to individuals. In 1971, an increase in deposits of 6.3 billion forints raised total deposits in the National Savings Bank to 50 billion forints. Loans outstanding in 1971 amounted to 30 billion forints, 25 billion of which was in the form of long-term credit for construction of 13,000 dwellings, and 5 billion forints in short- and medium-term loans for consumer durables and nondurables.

The National Savings Bank also manages the state lotteries, TOTO and LOTTO, the youth savings contracts, the school savings stamp program, and the IKKA gift service, which handles gifts to Hungarians paid for in hard currencies. It controls the operation of the Mutual Benefit Savings Bank, which collects savings from factory workers and extends to them short-term loans. It is also building two recreational establishments, one of which, at Balaton-Szabadi-Sosto, is being built in cooperation with Czechoslovakia.

In rural areas, savings cooperatives operating under the auspices of the National Savings Bank exist in more than 2,500 of Hungary's 3,178 towns and villages. The initial capital for a savings cooperative is obtained by issuing stocks; shareholders are part-owners of the cooperative and theoretically have an influence on loan and interest rate policy. Profits from

loans, which may not exceed a 7% return on capital, are distributed to shareholders. Interest rates on loans extended for home construction, purchase of consumer durables, or personal needs have a ceiling of 12%. Savings cooperatives also serve as advance agents for the State Insurance Company and IBUSz (Touring, Money Changing, Traveling and Shipping Company). On 30 June 1971, savings deposits in savings cooperatives were 4.2 billion forints, a 93% increase over December 1968.

The Central Corporation of Banking Companies and the General Bank for Trust and Trade handle foreign financial claims of individuals and administer real estate owned abroad by Hungarians. The State Insurance Company handles both personal and property insurance. The company places part of its funds at the disposal of the state in the form of long-term loans.

The national currency of Hungary is the forint, which replaced the pengo in August 1946. The forint is nominally based on gold, and its exchange rate has been set arbitrarily at 10.81 forints to US\$1.00. This rate is entirely unrelated to the actual value of the forint and is used only in foreign trade accounting. The tourist rate of exchange, applicable to most noncommercial transactions, was changed on 23 December 1971 from 30 forints to US\$1.00 to 27.63 forints to US\$1.00. Foreign exchange multipliers, which differ according to the particular foreign currency involved, are used to calculate the forint equivalents to be paid or received by enterprises buying or selling on foreign markets. Under these rates, 60 forints equal US\$1.00 and 40 forints equal 1 ruble. Exchange rates for other currencies are proportional to their values in terms of dollars or rubles.

A Credit Policy Council was established in 1968 to formulate annual credit policy guidelines under the medium-term and long-term economic plans. The council is attached to the National Bank, and its president is the president of the bank. The members of the council are first deputy ministers and leaders of national institutions concerned with national planning, such as the National Planning Office and the National Material and Price Office. The guidelines worked out by the council are subject to government approval.

All credit in Hungary is granted by banks, although as of 1971 enterprises that joined in common associations were allowed to shift funds among themselves. Before the introduction of the NEM, investment credit, except for construction loans to

individuals, was not important in Hungary. The National Bank had broad authority to check on the production activities of enterprises and to take financial action to assure compliance with national production plans, but it granted only commercial credits to enterprises and had no responsibility for influencing the development of the economy. Investments were financed from the budget or from the enterprises' own funds, not by credit. Under the NEM the bank was expected to have considerable scope for determining the direction of economic development, and the authority to grant or withhold credit was to become its main instrument of control. This power proved illusory in 1970-71, however, in part because enterprises had accumulated substantial funds for investment. The bank no longer has complete access to information concerning the internal operations of enterprises, although it is expected to determine the credit worthiness of enterprises to which it extends credit and the profitability and usefulness of the projects for which the credit is granted.

The Hungarians were disappointed in their expectation that the banks and interest rate policies would act as effective rationing devices for credit allocation. In their drive for investment funds, enterprises appeared undaunted by repeated raisings of interest rates for loans and also of interest return on deposits, in part, because they possessed their own funds for investment. As a result, the planning authorities were forced to impose more direct controls on investments, including the imposition of temporary bans on certain projects. In the first 6 months of 1972, credit for new investment was granted only for purposes specified by the government, such as export expansion, vehicle production, and aluminum production.

General credit guidelines by banks require that projects have anticipated profit rates of 15% in industry and construction, 10% in the food industry and trade, and 7% in the building materials industry. Interest rates are set at 8% for long-term loans, which are repayable in 8 years; medium-term loans carry an interest rate of 9% and are repayable in 5 years if they are extended to meet government targets and 2 years if extended for other purposes. Projects in preferred sectors such as expansion of hard-currency exports may receive preferred rates of 6% interest with 12-year repayment. The interest paid on deposits by enterprises ranges from 3% for 6-month certificates to 8% for 2-year certificates.

D. Foreign trade

1. Volume and direction (U/OU)

Foreign trade turnover in 1971 reached a level equivalent to US\$5.5 billion, nearly nine times the 1950 level and about three times the 1960 level. Although Hungary ranks ahead of only Bulgaria and Romania among East European CEMA members in terms of total trade turnover, its foreign trade per capita is high, amounting to the equivalent of US\$530 in 1971.

The distribution of Hungary's foreign trade among the U.S.S.R., other Communist countries, and non-Communist countries is roughly equal. The U.S.S.R. accounted for 34% of Hungarian imports in 1971 and 35% of exports. East Germany, Poland, and Czechoslovakia together accounted for about 25% of total trade in 1971, and other Communist countries for about 8%. Trade with China is insignificant, barely surpassing US\$31 million in 1971. The remainder of the trade was with non-Communist countries.

West Germany, accounting for about 6% of total trade, is Hungary's most important non-Communist trade partner, followed by Italy, Austria, the United Kingdom, Switzerland, and France, which together account for 15% of the total turnover. Trade with the United States was slightly more than 1% of Hungarian trade in 1971. Less developed non-Communist countries accounted for only 5% of total Hungarian trade and only 15% of its total trade with the non-Communist area in 1971. The chief trade partners among the less developed countries are India, Turkey, Egypt, and Iran. The geographic distribution of Hungarian foreign trade is shown in Figure 20, and trade trends during 1950-71 are shown in Figure 21.

2. Commodity composition (U/OU)

Machinery exports as a percentage of total exports have registered a slight downward trend since 1960, averaging 30% of all exports between 1961 and 1965, and 26% between 1966 and 1971 (Figure 22). Foodstuffs, which comprised more than 40% of exports in 1949, dropped to an average of 22% of the total during 1960-71. The other two main categories of exports—raw materials and industrial consumer goods—together accounted for about half of total exports in 1971. The most important items in these two groups are rolled steel, bauxite, alumina, drugs, footwear, textiles, and clothing.

Because of its limited natural resources, Hungary imports a wide variety of raw and semifinished materials and parts, chiefly from the U.S.S.R. These

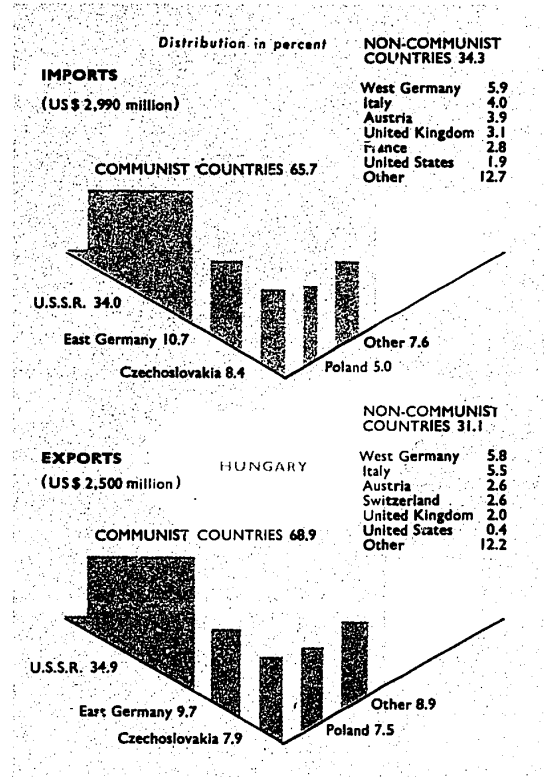


FIGURE 20. Geographic distribution of foreign trade, 1971 (U/OU)

products—including metals, chemicals, textile fibers, and lumber—make up about half of total imports, and fuels and electric power imports usually account for another 7% to 9%. The share of foodstuffs in total imports has averaged 11% since 1965. Imports of machinery and equipment—most of it from Communist countries—have accounted for nearly one-fourth of all imports. Imports of consumer goods rose after the institution of the NEM, ranging between 9% and 12% of total imports since 1968, compared with an average of 6% during 1961-65.

Except for the trade in agricultural products, Hungary's commodity trade is dominated by Communist countries. In 1971, Communist countries purchased 91% of Hungary's exports of machinery and equipment, 75% of industrial consumer goods, 61% of fuels and power, 59% of raw materials, and 61% of processed food products, but only 43% of unprocessed food products and live animals. They supplied 93% of fuels and power, 79% of machinery and equipment, 77% of industrial consumer goods, 60% of raw and semifinished materials, and 40% of foods and food products.

FIGURE 21. Foreign trade summary (U/OU)
(Millions of equivalent U.S. dollars)

	WITH COMMUNIST COUNTRIES			WITH NON-COMMUNIST COUNTRIES			TOTAL TRADE		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1950.....	216.7	178.8	+ 38.0	111.8	136.9	- 25.1	328.5	315.7	+ 12.8
1955.....	404.0	302.4	+ 101.6	197.0	251.8	- 54.8	601.0	554.2	+ 46.8
1960.....	623.4	687.3	- 63.9	250.5	288.4	- 37.9	873.9	975.8	- 101.8
1965.....	1,057.8	1,018.2	+ 39.5	451.7	502.1	- 50.4	1,509.5	1,520.3	- 10.8
1966.....	1,088.9	1,015.7	+ 73.2	504.4	549.8	- 45.4	1,593.3	1,565.5	+ 27.8
1967.....	1,166.8	1,183.0	- 16.3	534.3	592.2	- 57.9	1,701.1	1,775.2	- 74.1
1968.....	1,285.6	1,234.7	+ 50.9	503.5	567.9	- 64.4	1,789.1	1,802.6	- 13.5
1969.....	1,417.6	1,305.9	+ 111.7	666.1	621.8	+ 44.3	2,083.7	1,927.7	+ 156.0
1970.....	1,519.5	1,617.1	- 97.5	797.1	888.1	- 91.0	2,316.6	2,505.1	- 188.5
1971.....	1,723.0	1,963.5	- 240.5	777.1	1,026.1	- 249.0	2,500.4	2,989.6	- 489.2

NOTE—Components may not add to totals because of rounding.

FIGURE 22. Foreign trade, by commodity groups (U/OU)
(Percentages of respective totals)*

	1971						
	1960	1965	1969	1970	Communist	Non-Communist	Total
Imports:							
Power and fuels.....	8	10	8	7	10	2	7
Raw materials, semimanufactures, and parts.....	54	52	53	50	43	57	48
Machinery and equipment.....	22	21	20	22	30	16	26
Manufactured consumer goods.....	6	6	8	10	10	6	9
Foodstuffs and food industry raw materials.....	10	12	11	11	7	20	11
Total.....	100	100	100	100	100	100	100
Exports:							
Power and fuels.....	2	1	2	1	1	1	1
Raw materials, semimanufactures, and parts.....	24	27	28	29	23	37	27
Machinery and equipment.....	34	27	25	26	33	8	26
Manufactured consumer goods.....	18	21	22	21	25	19	23
Foodstuffs and food industry raw materials.....	22	23	23	23	18	36	24
Total.....	100	100	100	100	100	100	100

*Components may not add to totals because of rounding.

The principal products purchased from the industrial West are specialized machinery and other manufactures and agricultural products not readily available from Communist sources. The less developed countries supply mainly raw materials and tropical agricultural products. In addition to meat, live animals, and other agricultural products, Hungary has found growing markets in the non-Communist area for semimanufactures such as steel and nonferrous metals, and also for light industrial products.

3. Balance of payments (C)

Since 1957, when the U.S.S.R. bailed Hungary out of a serious hard-currency debt situation, Hungary has

been very cautious in its trade relations with the West. During the 1960's, the hard-currency debt was held at a fairly stable ratio to exports, being permitted to rise generally in line with rising exports. By the end of 1969, the debt was only US\$375 million, probably the lowest in all of Eastern Europe, and equal to approximately 73% of annual hard-currency exports. In 1969, however, Hungary experienced its largest trade surplus with the West in recent history. In trade with both the East and the West, exports rose more rapidly than did imports, yielding large surpluses in trade with both areas. To a large extent the rapid rise in exports in 1969 was due to the rapid growth in the economies of Western European countries. The

Hungarian authorities, however, erroneously attributed the surge in exports in large part to the operation of the NEM, and they proceeded to relax controls on imports. As a result, imports in 1970 rose more rapidly than did exports (in response to the investment boom under way in Hungary), and Hungary experienced another large deficit on its trade account, including a substantial deficit in its hard-currency account. In 1971, as the boom in Western Europe faded, exports to that area declined while imports continued to rise, and Hungary sustained record deficits in its hard-currency trade. By 1972, the Hungarian hard-currency debt stood between \$500 million and \$600 million, and the government imposed more restrictive quotas and other import controls and placed controls on the rate of economic growth to control the deteriorating debt situation.

Much of the debt is financed by medium-term supplier credits and short-term Eurodollar loans, but Hungary has been the most innovative in Eastern Europe at seeking new sources of hard currency. From 1968 to 1971, Hungary borrowed US\$120 million from Western banking consortia, and in 1971 it was the first East European country to float a Eurodollar bond issue. The bond—\$25 million—was favorably received and in September 1972 the Hungarians offered an additional \$50 million Eurodollar issue at 8½% interest.

Hungary generally had a favorable trade balance with Communist countries until the large Soviet hard-currency loan in 1957. During 1958-70 Hungary ran a cumulative surplus on current account with Communist countries of about US\$130 million. The 1971-75 plan called for imports from Communist countries to grow faster than exports, and in 1971 the current account deficit with the Communist countries amounted to \$240 million. Trade with the Communist countries for the first 7 months of 1972 was in approximate balance.

Net invisible earnings have not provided a significant offset to Hungary's trade deficits. For example, estimates of Hungary's hard-currency balance of payments show total net cumulative earnings from invisibles during 1959-69 of US\$45.5 million—only \$4 million a year—compared with a cumulative hard-currency commodity trade deficit of \$423 million, or \$38 million a year on the average. Net earnings from transportation and tourism—the main plus items—have in effect been canceled in the invisibles account by net interest payments on outstanding debt. Tourism, however, has begun to rise sharply, and earnings from that source (although

netting only \$18 million in 1971) probably will be a significant factor in the balance of payments later in the 1970's.

4. Policy and organization (U/OU)

The NEM included a set of trade reforms designed to combat the familiar problems of noncompetitive and low-quality finished goods, artificial prices or costs which prevented rational output and export decisions, and the large gap between domestic output and foreign demand. Under the NEM, prices were reformed; a "multiplier" system, reflecting the average cost of obtaining foreign exchange through exporting, was created to bridge the gap between domestic prices and dollar and ruble prices; and many producing enterprises were given the right to engage directly in trade, instead of having to go through specialized trade firms.

The trade system was not completely overhauled. Most trade continued to be conducted at fixed prices with Communist countries on the basis of 5-year and annual plans. Political considerations, as well as the chronic danger of large trade deficits, prompted close control of trade with the West by means of licenses, quotas, fairly high tariffs, and at times steep import deposits. In addition, an extensive subsidy system was established to cushion the impact of the multipliers which, by covering only average costs, would have made many exports unprofitable. These subsidies cover 60% of exports to the Communist countries and 70% of exports to the West.

Although trade in effect is still a government monopoly, enterprises are far less insulated now than before the NEM. The number of producing firms able to buy and sell directly in foreign markets has been expanded from only eight in 1967 to 91 in January 1972. In addition, enterprises can also contract with foreign trade firms on a commission basis or join other firms in joint-stock companies to promote sales. Two examples are GEOMINCO, formed by 10 mining companies, with net profits divided among them in proportion to their shares, and BUDAVOX Ltd., founded by the five largest enterprises of the telecommunication industry. Thus far, the most common method of enterprise sales has been on a commission basis with the foreign trade enterprises.

There are 10 Hungarian enterprises which act as agents for 250-300 foreign firms. These are the Agentura Ltd., the Eurocom Corporation, Hungagent Corporation, Import Trade Ltd., the Industria Corporation, Interag Corporation, Mercator Ltd., Universal Ltd., Hunicoop Intercooperation, Ltd., and Zenit Ltd. These agencies transacted US\$100 million

in sales to Hungary in 1971 and also handled a number of cooperative arrangements with Western firms. The Hungarian Government has been pressuring these enterprises to promote Hungarian exports also, but so far they have apparently resisted the pressure successfully.

5. Cooperative arrangements (U/OU)

a. Western countries

Hungary has been actively promoting cooperative agreements with Western firms. Of the 220 such agreements existing with Western firms in 1972, over 50 were reached in 1971. These agreements often cover joint development, production, and marketing of industrial goods, and several of them allow Hungary to pay for imported technology with goods or with the proceeds from sales in third countries. The Hungarians also purchased 142 licenses during 1968-71, compared with 63 in the previous 20 years.

Cooperative industrial agreements include an arrangement between the Austrian firm Steyr-Puch and the Hungarian firm Gyor Agricultural Machinery Works, signed in 1971, under which the Austrian firm supplies a prototype tractor and some components and the Hungarian firm produces the chassis and assembles the final product. A similar agreement between the French firm Ratier-Forest and Technoimport of Hungary involves machine tool production. The French firm provides components, for which they are paid with complete machines. In an agreement with Seidl of Austria, Hungary received a license to produce faucet hardware, Austria and Hungary agreed to exchange components, and Hungary was granted unlimited rights to market the hardware in certain countries. Among several nonindustrial cooperative agreements are the electric power exchange with Austria, an agreement with Shell to build service stations in Hungary, and an agreement between a U.S. firm and the Babolona State Farm concerning corn cultivation throughout Hungary and extending into Czechoslovakia, the U.S.S.R., and Yugoslavia.

Hungary has also formed joint companies with Western firms, but, as of late 1972, they have all been headquartered outside Hungary. A joint U.S.-Hungarian enterprise, EuroAmerican Techno Corporation, was established in May 1972 and is registered in Amsterdam and Curacao. The new enterprise—50% Hungarian-owned—is concerned with market research and sales of a Hungarian tissue substitute called "fibrin bioplast." Other joint companies include two in London—Medicharge,

created to manufacture and sell batteries, rechargeable cells, and associated electrical equipment in the United Kingdom, and Medibase, to sell know-how; one in France (Technotrans) to promote sales of Hungarian machine tools; and one in Italy devoted to the sale of Hungarian textile products. In the fall of 1972 the government was preparing new regulations to allow for the first time the establishment of jointly owned enterprises within Hungary.

Hungary has also indicated interest in a number of international organizations and has an application pending to join the General Agreement on Trade and Tariffs (GATT). Prominent Hungarian spokesmen have pointedly remarked on the importance for Hungary of eventually joining other organizations such as the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD).

b. Communist countries

The most important Hungarian cooperative arrangements with Communist states involve raw materials, such as that with the U.S.S.R. in which Hungary is to provide equipment on credit between 1971 and 1973 to develop Soviet production of asbestos, cardboard, phosphorous raw materials, and chemical fertilizers, and will be repaid in deliveries of these materials between 1976 and 1990. In another agreement, announced at the 26th CEMA Council Session in 1972, Hungary and other CEMA members will assist in the construction of a cellulose plant in the U.S.S.R. The plant is to be in production by 1975, and credits will be repaid in cellulose deliveries until 1990. Other agreements of this type are in force for Bulgarian soda and Polish sulfur.

Hungary also has processing agreements with Communist countries. Hungary is building a petrochemical complex with capacity beyond its present needs and has agreed to ship 130,000 tons of ethylene and 50,000 tons of propylene annually to the U.S.S.R. until 1984. The U.S.S.R. will deliver polyethylene and synthetic products in payment. The other significant example of a processing agreement is the shipment of Hungarian alumina to the Soviet Union, where it is processed into aluminum ingots and returned to Hungary.

Despite existing raw materials agreements, Hungary has complained openly about the reluctance of the U.S.S.R. to make long-term commitments for raw material deliveries. Presumably the chief concern of Hungary is to assure a high volume of petroleum deliveries beyond 1975.

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Only a few jointly owned enterprises have been set up with Communist countries. One is the Haldex Company, a joint Polish-Hungarian enterprise engaged in coal extraction. There are also two enterprises jointly owned by Bulgaria and Hungary—Intransmash, which designs and sells small transport equipment, and Agromash (later joined by the U.S.S.R.), which is concerned with vegetable and fruit production. Hungary has not shown much enthusiasm for joint enterprise because of the lack of enterprise autonomy and the cumbersome bureaucracy in other East European states.

c. Council for Economic Mutual Assistance

Hungary is a full member of the Council for Economic Mutual Assistance (CEMA), the economic coordinating body of the East European Communist countries, and its multilateral organizations. Within CEMA, Hungary has been the strongest advocate for reform of prices and movement toward currency convertibility. At least partly to assuage Hungary, the Comprehensive Program for Integration issued at the CEMA session in July 1971 established a timetable for exchange rate adjustments and currency convertibility. In 1971, initial steps were taken to create

realistic exchange rates against the transferable ruble, but there is no indication of further progress.

Hungary also has criticized the low degree of specialization within CEMA in the production of machinery and component parts. (One major exception is the production by Hungary of component parts for the Soviet Zhiguli automobile). In addition, Hungary has had difficulty in selling to other member countries the products it has produced under specialization agreements or in buying from them the products it has agreed to stop producing.

The International Investment Bank (IIB), founded in January 1971, has granted loans for several Hungarian projects, including 20.5 million rubles for the expansion of the Ikarus Bus Works, 12.7 million rubles for the electrification of railroads, and 14.4 million rubles for a cotton processing plant. The International Bank for Economic Cooperation (IBEC), established in 1964, has somewhat facilitated multilateral clearing of accounts among the Communist countries but has not contributed much to multilateral balancing of trade. IBEC has been an active borrower in West European money markets in 1972, but it is not known whether any of the hard currency obtained has been reloaned to Hungary.

Places and features referred to in this chapter (U/OU)

	COORDINATES			COORDINATES	
	° 'N.	° 'E.		° 'N.	° 'E.
Ajka.....	47 06	17 34	Iza-major (<i>farm</i>).....	46 57	17 25
Algyő.....	46 20	20 13	Kalush, U.S.S.R.....	49 01	24 22
Almásfüzitő.....	47 43	18 16	Kisterenye.....	48 01	19 50
Babolna.....	47 38	17 59	Komló.....	46 12	18 16
Bakony (<i>mts</i>).....	47 15	17 50	Leninváros.....	46 22	16 52
Beregovo (U.S.S.R.).....	48 13	22 39	Mátra (<i>mts</i>).....	47 53	19 57
Bodaik.....	47 19	18 14	Mecsek (<i>mts</i>).....	46 10	18 18
Borsod (<i>sec of Miskolc</i>).....	48 19	20 45	Miskolc.....	48 06	20 47
Borsodnádasd.....	48 07	20 15	Nagykanizsa.....	46 27	16 59
Budapest.....	47 30	19 05	Nagylenygel.....	46 47	16 46
Bükk (<i>mts</i>).....	48 05	20 30	Nyírad.....	47 00	17 27
Csepel.....	47 25	19 05	Ózd.....	48 13	20 18
Danube River (<i>strm</i>).....	45 20	29 40	Paks.....	46 38	18 52
Deákpuszta.....	46 59	17 24	Pécs.....	46 05	18 14
Debrecen.....	47 32	21 38	Pilis (<i>mts</i>).....	47 42	18 57
Diósgyőr (<i>sec of Miskolc</i>).....	48 06	20 41	Rakhegy (<i>mine</i>).....	47 17	18 16
Dunántúl (<i>region</i>).....	47 00	18 00	Rudabánya.....	48 23	20 38
Dunaújváros.....	46 59	18 56	Šahy, Czechoslovakia.....	48 04	18 58
Eperjes-hegyhát.....	46 37	16 44	Salgótarján.....	48 07	19 49
Fenyőfő.....	47 21	17 46	Százhalombatta.....	47 20	18 56
Gánt.....	47 23	18 24	Szeged.....	46 15	20 10
Great Alföld (<i>plain</i>).....	47 00	20 00	Szöny.....	47 44	18 10
Gyöngyös.....	47 47	19 56	Tatabánya.....	47 34	18 25
Gyöngyösoroszi.....	47 50	19 54	Tolna.....	46 26	18 47
Győr.....	47 41	17 38	Várpalota.....	47 12	18 08
Hajdúszoboszló.....	47 27	21 24	Vértés (<i>hills</i>).....	47 25	18 20
Halimba.....	47 02	17 32	Visonta.....	47 47	20 20
Inota (<i>sec of Várpalota</i>).....	47 12	18 11	Volgograd, U.S.S.R.....	48 45	44 25
Iskaszentgyörgy.....	47 14	18 18	Zalaegerszeg.....	46 50	16 51

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