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The Economy

Czechoslovakia

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NATIONAL INTELLIGENCE SURVEY

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Czechoslovakia

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This chapter supersedes the economic coverage in the General Survey dated December 1971.

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A. Economic appraisal (C)

Czechoslovakia includes, in Bohemia and Moravia, one of the oldest and most highly developed industrial areas of Europe and, in Slovakia, one of the more backward areas. This contrast is reflected in the disproportionate share of Bohemia and Moravia—the Czech Lands—in the country's economic activity, an advantage that has persisted despite attempts since 1968 to upgrade Slovakia's level of development. With about 62% of the area and 68% of the population, the Czech Lands account for three-fourths of industrial output and two-thirds of agricultural output.

Under the postwar Communist regime, the country embarked on an ambitious policy of extensive economic development, which concentrated on heavy industry at the expense of the traditional consumer-oriented industries and agriculture. The unbalanced economic development which followed led to a period of rapid growth in the late 1950's but then contributed to a period of economic stagnation in the early 1960's. This stagnation reflected serious economic difficulties. In 1965 the regime of Party General Secretary Antonin Novotny reluctantly adopted an economic reform program designed to deemphasize heavy industry and decentralize economic decisionmaking. Progress in implementing reform, however, was only half hearted until January 1968, when the more liberal group of leaders headed by Alexander Dubcek took power. Dubcek, primarily concerned with political reform, enacted some of the economic measures promised by Novotny but in effect set the economy adrift. Gustav Husak, Dubcek's successor, has scrapped the reform program, relying on tight domestic controls, moderate economic goals, and close relations with the U.S.S.R He has made some concessions to the consumer but the Fifth Five Year Plan (1971-75) focuses on heavy industrial development.

1. Size and level of economic activity

In both size and population Czechoslovakia is somewhat smaller than the average for the countries of Communist Eastern Europe. Its total output of goods and services (the gross national product or GNP), estimated at US$36.7 billion for 1972, yields a per capita figure of about $2,540, noticeably larger than that of the U.S.S.R. or the other Eastern European Communist countries except East Germany. The relatively large output per capita is directly related to the high level of industrialization. Industry employs 38% of the labor force and accounts for about one-half of GNP. These shares are close to the proportions for East Germany and well above those for other Communist countries.

Manufacturing is the largest branch of industry. For its size, Czechoslovakia has the most comprehensive machine building industry in the world, developed largely since World War II. Several branches of light industry are traditional, including those engaged in the production of textiles, shoes, glass, and ceramics, but these branches have been much neglected since World War II. Agricultural output covers a large share of domestic food consumption and provides for export of some specialty food products, such as malt, hops, and beet sugar.

Per capita output of heavy industrial products, such as steel, is one of the highest in the world, but the economy is grossly inefficient by Western standards. It was not always so. Czechoslovakia emerged virtually undamaged from World War II with an industrial capacity matching that of West Germany, on a per capita basis. In 1948, the year of the Communist takeover, Czechoslovakia undoubtedly was better off than West Germany. Per capita industrial production 25 years later, however, is less than three-fourths of the West German level.

Investment has received a larger share of GNP in Czechoslovakia than in West European countries, and personal consumption a smaller share. Investment has accounted for more than 40% of GNP in recent years, almost as large a share as personal consumption. Defense expenditures have been estimated at about 5% to 6% of GNP, and government administration and welfare, about 9% to 10%. Because the share of personal consumption is smaller than in Western Europe, Czechoslovakia compares even less favorably with Western Europe in consumption than in output.

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Nevertheless, the Husak regime has made consumer goods more available, and by Eastern European standards the Czechoslovaks live well. Most amenities and luxuries remain scarce and expensive, however.

2. Economic growth and reform

Communist control has been more costly to Czechoslovakia than to other, less-developed economies in Eastern Europe. Since 1950, GNP has increased at an average annual rate of less than 4%, the lowest in Eastern Europe. Throughout the 1950's the regime found it easy to force the development of heavy industry as the chief objective of economic policy, and the results were in a way impressive. From 1950 to 1960, industrial employment increased by 40% and output rose by 92%. The ease of increasing exports to the U.S.S.R., the availability of surplus agricultural labor, and the popular acceptance of a very slow improvement in living conditions made it easy for the regime to expand output. As a result, the leaders were hardly aware of the lag in efficiency—output per unit of input grew by only 1 ½% per year.

In the late 1950's the overconfidence of the Novotny regime led to overambitious planning for the 1960's. What was worse, overconfidence persisted after the danger signals began to appear in 1962—balance-of payments deficits, shortages of materials, and a growing volume of unfinished construction. By the time the regime began cutting back investment and pushing exports, it was too late to avoid a serious recession. In 1963, for one of the few times in the Communist world, the national product declined.

The lag in growth reflected both the one-sided stress on heavy industry and the shift of foreign trade away from the world market and toward the U.S.S.R. and Eastern European Communist countries. These changes, which followed fast on the Communist takeover, led to mismanagement and neglect of the highly specialized firms—especially in light industry for which Czechoslovakia was famous—and the forced development of a new steel industry and broadly diversified engineering industries. The development of these new industries on the basis of Soviet equipment and designs, operating with Soviet materials and for the Soviet market, resulted in the production of high-cost goods generally not competitive on world markets. Moreover, Soviet demand for these products began to wane. At the same time, the failure to expand and modernize the traditional light industries weakened the Czechoslovak position on the world market, although light industry exports—including shoes and glassware—are more competitive than most of Czechoslovakia's machinery and equipment exports. It was against this background that the movement toward economic reform was launched.

The economic reform program adopted in 1965 called for the eventual shift of most decisions about production, employment, investment, and trade from the central authorities to enterprise management. Initially, however, the program left most responsibilities in the hands of the central authorities who continued to set quotas for essential production, investment, and exports, and retained control over prices. Industrial trusts, moreover, were given increased authority over entire branches of industry, and officials afraid of change remained in charge of the party and state apparatus. Accordingly, the reform program had little effect on the running of the economy.

As the rate of economic growth picked up in 1966-67, the leadership began to regain confidence in its ability to resume business as usual, and ambitious plans for growth were adopted for 1966-70. There were those, however, who were highly disillusioned with the old economic and political policies—even within the party. In January 1968 a coalition of Slovaks desiring a fairer distribution of national resources, and liberal economists attempting to reform the system, played a major role in the purge of Novotny. Alexander Dubcek, a Slovak, was elected Party First Secretary.

A principal defect of the economic reform measures was that the financial resources of enterprises increased too rapidly, well above plan. By early 1967 it was clear that the average increase in wholesale prices in industry was much higher than planned—29% instead of 19%. In addition, confused application of the concept of gross revenue (whereby unfinished production and unsold finished products were mistakenly included) was equally to blame for the distortion of financial resources. Beyond these financial defects, however, was a general lack of discipline in the entire market. Normal market functions failed to materialize as administrative controls on the economy were removed and the Dubcek regime in turn was extremely reluctant to fill the void with centralized economic controls. In 1969 the reins were turned over to Gustav Husak who at first was reluctant to take firm action against economic instability. Excessive industrial earnings found their way into wage increases and new investment projects. Buoyant domestic demand coupled with slow industrial growth led to large increases in imports and to strains on export capacity. The result was a significant inflationary trend in the domestic economy. Husak finally moved to end the instability in late 1969 and early 1970 by reinstituting centralized controls. He restricted new investment projects, held the line on government expenditures, and ordered a general price and wage freeze. Labor productivity has remained a serious problem, not merely because of a shortage of labor (employment has only grown at an average annual rate of 1.4% since 1960) but principally because of gross inefficiency in labor management and problems in attracting surplus workers to sectors with job vacancies.

The growth in agriculture has been no less discouraging. It was only in the mid-1960's that output finally recovered to pre-World War II levels and this was only achieved with heavy government investment and high incentive payments for agricultural products. The high costs resulted directly from forced collectivization, which left peasants with less incentive to produce and with far greater opportunities to cheat the state. During the 1960's higher farm prices, improved management, increased supplies of fertilizer, and better seed and breeding stock began to pay off in the growth of output, but agriculture remains a high-cost operation.

Czechoslovakia's strategic supply position is shown in Figure 1. Except for sizable domestic reserves of coal and uranium, the nation is heavily dependent on foreign sources of raw materials. The U.S.S.R. supplies over 40% of all raw material imports, particularly crude oil and ores for the heavy industry sector. The less-developed countries supply raw materials for Czechoslovakia's textile industry—wool and cotton, among others. The government has become increasingly concerned with future raw material supplies and is contracting for future supplies of ores and petroleum from Latin America and the Middle East.

B. Sectors of the economy

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

a. Agriculture

Although Czechoslovakia has a highly diversified agriculture, its development under Communist management has been held back by lack of inputs,

FIGURE 1. Strategic supply position, 1972 (U/OU)
(Thousands of metric tons, unless otherwise indicated)

	PRODUCTION	IMPORTS	EXPORTS	APPARENT CONSUMPTION	PRODUCTION AS A PERCENT OF APPARENT CONSUMPTION
Electric power (million kw.-hr.)	51,402	....	963	....	....
Crude oil	200	12,571	0	12,771	*1.6*
Hard coal	27,822	5,535	3,310	30,047	*92.6*
Brown coal and lignite	85,566	694	1,255	85,005	*100.1*
Iron ore	1,581	13,152	0	14,733	*10.7*
Manganese ore*	48	313	0	361	*13.3*
Chrome ore	0	161	0	161	*0.0*
Lead	18.2	30	0	48.2	*37.8*
Magnesium*	0	1,600	0	1,600	*0.0*
Aluminum**	60	80	0	140	*42.9*
Pig iron	8,360	802	0	9,162	*91.2*
Rolled steel (including pipe)	9,974	....	3,382	....	....
Pyrites concentrates*	352	58	0	410	*85.9*
Phosphorus fertilizer	334	365	0	699	*47.8*
Nitrogen fertilizer	343	70	0	413	*83.1*
Potassium fertilizer	0	611	0	611	*0.0*
Natural rubber	0	50	0	50	*0.0*
Cotton	0	108	0	108	*0.0*
Wheat	4,017	1,094	0	5,111	*78.6*
Barley	2,651	112	0	2,763	*95.9*
Corn	642	....	0	....	....
Meat (includes home slaughter)	723	64	....	....	....

*1971 data.

**Czechoslovakia did not publish an aluminum production figure until 1970. However, Western metal experts dispute the published figure of 35,000 tons and instead placed production in the neighborhood of 60,000 tons.

especially fertilizer, and by forced collectivization. It was not until the mid-1960's that gross agricultural output finally rose above pre-World War II levels. The growth of employment opportunities in the cities has reduced agricultural employment by nearly one-half since 1948. Extensive mechanization has not been sufficient to offset the loss of labor. Moreover, the movement of the young to the cities has left an aging labor force in the villages. Agricultural output covers about 80% of domestic consumption; Czechoslovakia is a major net importer of fruits and vegetables, meat, and—above all—grain. About 2 million metric tons of grain imports are needed annually, mainly wheat for the flour mills but also feed grains. Traditional exports are beet sugar and hops.

(1) *Land and climate*—About 55% of the land area is classified as agricultural, including 41.7% classified as arable and 13.7% as meadows and pastures. Another 34.7% of the land area is taken up with forests. Czechoslovakia had 0.37 hectare (1 hectare=2.471 acres) of arable land per capita in 1973, more than any other industrial country of Europe except Denmark.

The topography is one of the most varied in the Eastern European Communist countries and is characterized by valleys, rolling hills, and low mountains. Generally, the areas with the least variation in topography are found at lower altitudes, where the more productive soil types predominate.

The climate reflects both maritime and continental climatic influences. The country has greater extremes of heat in summer and cold in winter than Western Europe, but it does not have the marked seasonal changes characteristic of the U.S.S.R. or the U.S. Midwest. Within the country the temperature, wind, and rainfall are influenced to a large extent by local topography.

(2) *Crops*—The value of gross agricultural production has been almost evenly divided between crop and livestock production in recent years. Grains are the most important crop, accounting for over 54% of the total cultivated land and 43% of crop production in 1972. In the 1950's the area sown in wheat and rye was reduced in order to expand the area devoted to industrial and fodder crops. The regime counted on higher yields of grain to offset the reduction in sown area. The increase in yields, however, did not meet this expectation, and since the 1960's the regime has been increasing the area sown to the higher yielding grains, wheat and barley (Figure 2). The average production of wheat finally surpassed the pre-World War II level in 1961-65, but total

FIGURE 2. Area, production, and yields of principal crops (U/OU)

	1934-38	1951-55	1956-60	1961-65	1966-70	1972
Sown area (thousand hectares):						
Wheat	882.4	737.4	714.8	758.5	829.6	1,196.8
Rye	983.4	537.6	487.9	429.4	308.1	232.4
Barley	652.7	635.6	677.1	687.2	740.1	854.0
Oats	748.5	537.9	518.4	418.3	400.7	323.1
Corn	105.2	146.9	183.0	199.7	167.4	148.4
Potatoes	714.8	644.3	604.0	492.3	373.9	321.5
Sugar beets	163.2	227.5	233.6	252.1	197.0	193.7
Production (thousand metric tons):						
Wheat	1,513.0	1,437.0	1,513.0	1,779.0	2,869.4	4,017.0
Rye	1,577.0	934.0	959.0	897.0	677.8	634.0
Barley	1,109.0	1,187.0	1,436.0	1,556.0	2,087.2	2,651.0
Oats	1,212.0	913.0	951.0	792.0	865.6	726.0
Corn	225.0	343.0	480.0	474.0	471.6	642.0
Potatoes	9,635.0	8,240.0	7,231.0	5,635.0	5,676.4	5,058.0
Sugar beets	4,664.0	5,461.0	6,324.0	6,772.0	7,195.2	6,834.0
Yields (quintals per hectare):*						
Wheat	17.1	19.5	21.2	24.2	28.9	33.7
Rye	16.0	17.4	19.7	20.9	22.0	27.3
Barley	17.0	18.7	21.2	22.6	28.2	31.2
Oats	16.2	17.0	18.3	19.0	21.6	22.8
Corn	21.4	23.3	26.3	23.7	35.5	44.4
Potatoes	134.8	127.9	120.5	114.5	151.8	158.1
Sugar beets	285.8	240.0	270.7	268.6	365.2	361.1

*Official yields as reported, based on harvested area.

breadgrain production did not approach the prewar level until the bumper crop year of 1966. Much of Czechoslovakia's wheat is used as feed; its use for flour is limited by its low quality and by the inadequacy of storage and transport facilities. Much of the wheat used in bread is imported from the U.S.S.R.

Other major crops include fodder, which accounted for about 30% of the cultivated land in 1972; potatoes, 6%; and industrial crops, primarily sugar beets, 6%. Although less than 0.2% of the total cultivated land is sown in hops, they remain important to the economy because of their export potential and use in the beer industry. Production of vegetables is insufficient to supply domestic needs, and large quantities must be imported, generally from Hungary, Romania, and Bulgaria. Until 1966-67, yields of labor-intensive crops, e.g., sugar beets and potatoes, were below the 1934-38 average; on the other hand, the average yields of the major grain crops have trended upward because of better seed selection and the increased use of fertilizers.

(3) *Livestock*—Livestock production has been the object of an intensive development program since the First Five Year Plan (1951-55). In 1972 livestock production showed an increase of 54% over the value in 1936, while crops produced exceeded the 1936 level by less than 11%. The increase in livestock production is largely the result of an increase in the number of hogs and increasing productivity in other livestock lines. In 1972, hog numbers were approximately 94% higher than prewar numbers (Figure 3). The total number of cattle increased by 4%, but the number of cows decreased by over 20%. Milk yields have increased, however, so that total milk production currently exceeds prewar production. The number of horses also declined considerably during the period as the level of tractor power increased. Paralleling the changes in the composition of the livestock population, the production of pork as a share of an expanding total red meat supply (live weight) increased from less than 40% in 1936 to a peak of 60% in 1965, dropping to 56% by 1970-72.

(4) *Manpower and investment*—Czechoslovak agriculture has suffered in the post-World War II period from pressure for collectivization and lack of economic support. The agricultural labor force fell from 42% of the total labor force in 1948 to approximately 18% in 1972. The movement of the young to urban centers has been very great. As early as 1960, two-thirds of the people working in agriculture were over 47 years of age. Mechanization of agriculture has not progressed fast enough to offset this drain on manpower or to further support large-scale farming operations. By 1967 large-scale mechanized technology was applied in the harvesting of only 87% of the area sown in grain, 34% of that sown in sugar beets, and 47% of that sown in fodder. An even smaller share of livestock operations was mechanized. Until the late 1950's, investment in agriculture was not proportionate to the sector's contribution to GNP. In 1948, when agriculture and forestry accounted for about 22% of GNP, it received only 8% of the

FIGURE 3. Number of livestock and output of livestock products (U/OU)
(Thousands, unless otherwise indicated)

	1933-37 AVERAGE	1955	1960	1965	1970	1972	1972 INDEX (1933-37 = 100)
Number of livestock (end of year):							
Cattle	4,296	4,107	4,387	4,389	4,288	4,466	104
Cows	2,384	2,084	2,047	1,948	1,881	1,906	80
Hogs	3,144	4,285	5,962	5,544	5,530	6,093	194
Sheep	458	1,000	646	614	981	887	194
Horses	656	543	330	188	131	100	15
Poultry	*39,675	42,999	57,841	52,465	39,187	39,170	99
Hens	*15,140	20,365	24,972	21,465	22,681	22,168	146
Output, livestock products:							
Meat, carcass weight** (thousand metric tons)	388	402	483	599	632	701	181
Milk*** (thousand metric tons)	4,500	3,521	3,830	3,924	4,882	5,217	116
Eggs (million units)	†1,899	1,734	2,267	3,007	3,733	4,120	217

*1935-38 average (midyear).
**Data are for beef, veal, pork, and mutton, including home slaughter.
***Includes milk consumed by suckling animals.
†1937.

investment funds. By 1971 the contribution made by agriculture and forestry to GNP had declined to about 11% with investment at 10.7%.

(5) *Organization and policies*—Czechoslovak agriculture was reorganized in the postwar period from an economy of small private farms to one of large socialist farming enterprises (state and collective). These large farms are patterned after the Soviet example and operate under tight central state controls. The drive to socialize agriculture was largely completed by 1960, when over 90% of the arable land was farmed by collective and state farms.

Since 1963 the regime has been experimenting with policies to stimulate agricultural production and reduce the high cost of output brought about by the socialization of agriculture. Policy changes introduced or proposed provide for greater freedom of decisionmaking at the individual farm level and for more direct use of market forces to influence the mix of agricultural output. Measures taken include changes in farm management, regional crop specialization, increases in producer prices, the introduction of pensions for farmers, and a new system of taxation. At the same time there has been an increase in industrial inputs and services made available to the agricultural sector. It is still too soon for the full impact of these measures to be felt, but they have undoubtedly contributed to increase in output since 1965.

The Husak regime has given no indication of any major changes in agricultural policy. The government has stated that no change is contemplated in the organization of state and collective farms or in the role of private plots. The trend of increasing industrial inputs to agriculture and toward large industrial-type farms initiated by the 13th Party Congress in 1966 is expected to continue into the 1976-80 plan.

Since 1 January 1969 two national Ministries of Agriculture and Food have existed, one for the Czech Lands and one for Slovakia. Their work was coordinated by a federal committee, which in December 1970 was upgraded to the federal Ministry of Agriculture and Food.

(6) *Food consumption*—Average food consumption per capita has generally exceeded 3,000 calories per day since 1957. Quantitatively the intake is above average for the Eastern European Communist countries. The quality and variety of the diet has improved as the consumption of meat and dairy products has increased and consumption of cereal and potatoes has declined compared with the mid-1950's. Undesirable imbalances still exist, however, due in part to faulty dietary habits. Grain imports have contributed to the improvement in the diet, both directly and by permitting an increase in numbers of livestock, particularly hogs and poultry. Imports of meat, citrus fruits, and vegetables also have contributed to the improved diet. Shortages of meat, particularly pork, prevailed in 1969 and 1970 despite increased imports. Since then, however, domestic supplies have been adequate by Eastern European standards.

b. Fisheries

Fishing is of minor economic importance in Czechoslovakia and is limited to lakes, rivers, and artificial ponds. The annual fish catch has grown from about 7,800 metric tons during 1956-60 to 15,077 metric tons in 1972.

The per capita consumption of fish during 1972 was about 5.2 kilograms (landed weight). Imports of fish and fish products totaled about 58,000 metric tons, with domestic production providing for the remainder of domestic consumption.

c. Forestry

Next to Austria, Czechoslovakia is the most densely forested country in central Europe, with more than one-third of the total land area in forest (4.5 million hectares) The productive forest area is about 3 million hectares and is composed of conifers (spruce, pine, and fir) at the higher elevations and broadleaf species (beech and oak) at the lower elevations.

The main objective of forestry management is the production of high-grade timber for industrial use. Approximately 90% of the productive forest, therefore, is planted from seed. The remaining 10% produces mainly fuelwood under the coppice system in which the trees originate as sprouts from stumps.

The wealth in forested land notwithstanding, forestry plays a small role in the economy. In 1969 this sector accounted for less than 2% of the country's total employment and for about 1% of the national income (in the Communist concept of that term). Nevertheless, domestic production of sawn lumber—about 83% of which is coniferous—exceeds requirements and allows for substantial exports, largely to Western Europe. On a value basis, about three-fourths of the sawn lumber exports in 1973 went to non-Communist countries. Czechoslovakia also imports sawn lumber, primarily from the U.S.S.R. On balance, however, the country is a net exporter. The country's supply position for sawn lumber in 1972 is shown in the following tabulation (in thousands of cubic meters):

Domestic production	3,524
Imports	153
Exports	688

2. Fuels and power (C)

a. Coal and coke

Coal is Czechoslovakia's most abundant energy resource, accounting for 78% of the total consumption of primary energy in 1972 (Figure 4). With a production of hard coal (anthracite and bituminous) at 38 million metric tons in 1972 (Figure 5), Czechoslovakia was second only to Poland among the Eastern European Communist countries, and on a per capita basis it ranked favorably with Western European producers—ahead of France and West Germany but behind the United Kingdom. Its brown coal and lignite production of 85 million metric tons in 1972 ranked third in Europe, behind East Germany and West Germany. According to Czechoslovak projections, production of hard coal will decline to about 24 million tons annually by the year 2000; production of brown coal and lignite will increase to nearly 100 million tons annually by 1980 and subsequently decline.

Czechoslovakia conducts a substantial amount of foreign trade in coal and coke. The country imports about 5 million tons of hard coal per year from the U.S.S.R. and Poland, largely for electric power plants in eastern Slovakia. About 3 million tons of coking coal are exported to both Communist and non-Communist countries. Czechoslovakia also exports about 1 million tons of brown coal per year to West Germany for use in the glass and ceramics industry and imports a similar amount from East Germany in the form of briquettes for home use.

Recoverable reserves of hard coal are estimated to be 1 to 2 billion tons, sufficient to support mining operations on the present scale until well into the next century. Deposits of hard coal are concentrated largely in the Ostravsko-Karvinska Panev,[1] better known as the Ostrava-Karvina basin, which forms part of the Upper Silesian coalfield. This area, credited with 95% of total hard-coal reserves in Czechoslovakia, accounted for 85% of total production in 1971. Less

[1]For diacritics on place names see the list of names on the apron of the Summary Map and the map itself in the Country Profile chapter.

FIGURE 4. Energy position, 1972 (U/OU)

SOURCE OF ENERGY	PERCENT OF TOTAL*
Production:	
Solid fuels:	
Hard coal	34.4
Brown coal and lignite	62.2
Total	96.6
Petroleum and natural gas:	
Crude oil	0.4
Natural gas	1.5
Total	1.9
Hydroelectric power	1.5
Total production	100.0
Consumption:	
Solid fuels:	
Hard coal	27.9
Brown coal and lignite	46.9
Total	77.9
Petroleum and natural gas:	
Crude oil	20.4
Natural gas	3.7
Total	19.6
Hydroelectric power	1.1
Total consumption	100.0

*Percentages are based on standard fuel equivalents of 7,000 kilocalories per kilogram; excludes fuelwood, peat, and agricultural waste, which compose less than 1% of either production or consumption.

FIGURE 5. Output of major fuels and power (C)
(Millions of metric tons, unless otherwise indicated)

	1950	1955	1960	1965	1967	1970	1971	1972
Hard coal, cleaned	17.4	20.6	26.2	27.6	25.9	28.1	28.7	27.8
Brown coal, cleaned	*26.4	38.4	55.0	68.2	66.6	77.5	80.4	81.1
Lignite	1.1	2.0	2.9	4.2	4.2	3.8	3.7	3.9
Hard coal coke	5.4	7.0	8.5	9.5	9.3	10.3	10.5	10.7
Crude oil (thousand metric tons)	63.0	107.0	137.0	192.0	200.0	203.0	194.0	200.0
Natural gas (million cubic meters)	19.0	173.0	1,294.0	**752.0	1,016.0	900.0	900.0	800.0
Petroleum products*	0.5	1.0	2.6	5.8	7.1	9.2	9.9	10.9
Electric power (billion kw.-hr.)	9.3	15.0	24.4	34.2	38.6	45.2	47.2	51.4

*Gross production.
**Estimated.

significant are the reserves in the Kladno region, which accounted for about 9% of the 1971 production. Hard-coal deposits in the Ostrava-Karvina basin are costly to mine but output will continue because the coal is well suited for coking. The coke industry is the principal user of hard coal, consuming about half of the 1971 production. The second largest consumer is the electric power industry followed by general industrial users for onsite production of heat and steam.

Reserves of recoverable brown coal and lignite—used for home heating as well as in power plants—are estimated at 5 to 8 billion metric tons, of which about 1 billion tons are lignite. The largest source is in the North Bohemian basin, which has reserves of 3 to 4 billion metric tons and accounted for 68% of output in 1971. The government estimates that brown coal from this basin can be mined economically for about 50 years. Although the coal is of above-average quality by Eastern European standards, it requires extensive predrying before gasification.

Czechoslovakia ranks second to Poland among the Eastern European Communist countries in the production and supply of hard-coal coke and is among the world's 10 leading producers. Its metallurgical coke (almost nine-tenths of hard-coal coke production) is the highest quality produced in Eastern Europe but is reported to have too high an ash content by Western standards. Coke exports totaled 2.4 million tons in 1972 and are expected to remain at this level indefinitely.

Output of low-temperature brown-coal coke amounted to 0.5 million tons in 1972, all of which is produced at the Czechoslovak-Soviet Friendship Chemical Plant at Zaluzi. This plant also has used the tars and oils derived from the coking process as the raw material for producing synthetic liquid fuels. Production of low-temperature, brown-coal coke which reached its peak about 1960, is now been phased out along with the production of high-cost synthetic liquid fuels in Czechoslovakia.

b. Petroleum and natural gas

With only meager resources of crude oil and largely depleted reserves of natural gas, Czechoslovakia is almost totally dependent upon imports of oil to meet domestic demands and will become increasingly dependent on imports of natural gas. Proved reserves of crude oil were estimated in 1964 at about 2.5 million metric tons. They are found largely in the Moravian corridor, north of Bratislava. Production in 1972 amounted to about 200,000 metric tons. Although new reserves are being sought, no outstanding results are expected from the intensive exploration which has been underway for more than a decade.

Imports of crude oil—almost entirely from the U.S.S.R.—amounted to 12.6 million metric tons in 1972 or 98% of Czechoslovakia's total supply for the year. Most of the Soviet crude oil enters Czechoslovakia via the Council for Economic Mutual Assistance (CEMA) Friendship Pipeline, which has major terminals in the country at Podunajske Biskupice, near Bratislava, and at Zaluzi. A second pipeline, parallel to the Friendship line, opened in 1969 with a delivery capacity—when all pumping stations are completed—of 8 million tons. The Slovnaft Petrochemical Plant at Podunajske Biskupice—the country's largest and most modern refining complex—is being expanded to process about 10 million metric tons of crude oil in 1975 (up from 7 million tons in 1971) in order to accommodate the oil from the new pipeline. The plant in Zaluzi is the second most important refinery in the country, with a crude oil charge capacity of about 3 million tons per year. The Zaluzi plant, originally built to produce synthetic liquid fuels processes only imported crude oil.

To insure increased supplies of crude oil for future needs, Czechoslovakia granted the U.S.S.R. a long-term credit of US$556 million for the development of the Soviet petroleum industry, in exchange for which Czechoslovakia was to receive above-quota deliveries of crude oil after 1970. By 1975 annual imports of petroleum will increase to 15.5 million metric tons from the U.S.S.R., and to 1.5 million metric tons from other countries. The U.S.S.R., however, has told Czechoslovakia and other CEMA countries to look for other sources to supplement their oil supplies after 1975 because increased Soviet needs and heightened interest in hard currency oil sales will not leave room to satisfy all Eastern Europe's import requirements. Czechoslovakia has concluded contracts for oil from Iran and Iraq. Iran is to supply 20 million tons over 10 to 25 years in repayment for a $260 million loan; Iraq's deliveries will be in partial repayment for the construction of an oil refinery in Iraq to be completed in 1973. No deliveries have yet been made because agreement has not been reached on financing an oil pipeline from the Adriatic through Yugoslavia and Hungary. Czechoslovak exports of petroleum products—all coming from processed imported crude oil—were valued at $25 million in 1972, of which about 86% went to Western countries.

Czechoslovakia's reserves of natural gas were estimated in 1964 at about 15 billion cubic meters.

They are found almost entirely in the Morava-Oder corridor. Annual production has declined steadily since 1960, as existing deposits have been depleted. Amounting to only about 800 million cubic meters in 1972 (62% of 1960 production), output of natural gas was expected to fall to about 500 million cubic meters by 1975. Nevertheless, consumption continues to rise as a result of increased imports from the U.S.S.R., made possible by the completion in 1967 of a natural gas pipeline from the western Ukraine to Zlate Moravce. An agreement between the U.S.S.R. and Czechoslovakia in 1968 called for expanding the pipeline system and for increasing deliveries of natural gas. Another agreement between the two countries in December 1970 provided for a large-diameter pipeline to transport Soviet gas through Czechoslovakia to East Germany, West Germany, Austria, and Italy. With the completion of the line (probably in late 1973), Czechoslovakia will be able to draw up to 1.8 billion cubic meters of gas in transit fees. Total imports of natural gas—all from the U.S.S.R.—rose from 300 million cubic meters in 1967 to 1.9 billion cubic meters in 1972.

c. *Electric power*

Czechoslovakia ranks third among the Eastern European Communist countries in installed capacity and production of electric power, following East Germany and Poland. On a per capita basis Czechoslovak power production in 1972 of 3,525 kilowatt-hours (kw.-hr.) was exceeded only by that of East Germany. During the 1960's, generating capacity nearly doubled, requiring large capital investments that took more than 10% of total industrial investment for a number of years. The fixed assets of the electric power industry make up about 12% of the industrial total, exceeded only by those of the machine building, coal-mining, and metallurgical industries. At the end of 1972, installed capacity totaled 167 million kilowatts (kw.), and production during the year amounted to 51.4 billion kw.-hr.

Despite rapid growth, the amount of electricity produced still falls short of industrial and other requirements, and there still are frequent disruptions in service. Power shortages have been offset to some extent by imports, which come mainly from Romania and the U.S.S.R. and supply about 10% of total consumption. The exchange of power with other countries is significant only for local and regional areas.

In its effort to meet demand, the power industry has suffered from inconsistent management policies and lags in new construction. In a number of instances defective components and poor workmanship have created problems in bringing new capacity to a stage of reliable operation. Moreover, about one-fourth of the capacity is in older plants that are subject to breakdown and cannot be relied upon to cover baseload requirements. Other problems include excessive plant shutdowns for routine maintenance, improper conversions of boilers to utilize a fuel base of lower grade coal and lignite, shortages of fuel, and breakdowns in the transmission network.

Consumption of electric energy is concentrated in the extreme northwestern area and in the vicinities of the large urban areas of Prague, Brno, Plzen, and Ostrava. Industrial consumers, principally the chemical, metallurgical, mining, and manufacturing industries, account for almost three-fourths of total consumption. Almost all households are supplied with electricity, but household consumption amounts to only about 8% of the national consumption. The agricultural, commercial, and transportation sectors of the economy are supplied with enough electricity to meet their basic needs.

Thermal powerplants account for almost 85% of the total installed capacity and provide more than 90% of the total production; hydroelectric facilities contribute the balance. Almost half of the thermal capacity is in the western third of the country, where most of the brown coal is mined. The remainder of the thermal capacity is mainly in the hard-coal region near Ostrava and in the extreme eastern part of the country. Most of the hydroelectric plants are on the Vah and Vltava rivers, which together account for more than three-fourths of the total hydroelectric capacity.

Electric power is transmitted by a well-developed national network that connects all important powerplants and extends to all economically significant areas. The greatest density of transmission facilities is in the northwestern part of the country, where there are large coal mines, industries, and urban areas. The highest voltage transmission lines (400 kv.) are used for joining major consuming and producing centers and importing electricity from the U.S.S.R. The 400-kv. line and 220-kv. connections to East Germany, Hungary, and Poland provide links with the CEMA international power grid.

Plans for the future development of the electric power base call for expanding the present capacity to 14.4 million kw. by the end of 1975 to provide an annual production of 67 billion kw.-hr. The planned increase will be accomplished primarily through construction and expansion of thermal installations, with only minor additions to hydroelectric capacity. Most of the thermal capacity will be installed in the brown-coal area in the northwestern part of the country. Domestically produced generating units of 200,000-kw. capacity (the largest units employed in Czechoslovakia) have been installed in a few thermal powerplants, and this size of unit will be employed in several new powerplants.

The country's first nuclear powerplant, located at Bohunice, began commercial operation in December 1972. Construction of this plant, which uses natural uranium, began in 1958. Most of the equipment was produced domestically, but technical aid and financing were supplied by the Soviet Union. Construction of two nuclear powerplants of the Soviet Voronezh type, designed to use slightly enriched fuel, began in 1973. These powerplants are to have a capacity of 880,000 kw. each and are to be supplied by the Soviet Union.

3. Minerals and metals (S)

Czechoslovakia is not well endowed with minerals and metals. Its most important reserves are of uranium and magnesite. To meet the demands of its ferrous and nonferrous metals industries, the country depends heavily on imports. The U.S.S.R. is the most important supplier. In 1972 the U.S.S.R. supplied 87% of the nation's imports of iron ore and virtually 100% of pig iron.

Until 1965 Czechoslovakia was the leading producer of iron ore in the Eastern European Communist countries. However, the low quality of the ore—only 34% iron content—had forced a cutback in mining operations beginning in 1963. By 1972, all Eastern European Communist countries except Hungary and East Germany ranked ahead of Czechoslovakia. Reserves in 1965 amounted to 112 million metric tons (iron content). The Czech field south of Kladno contains 90% of the reserves, but the high phosphoric content of the ore from this area renders it expensive to concentrate. Consequently, more than half of the country's output comes from the Slovak field, where the phosphoric content is lower. The richest deposit in this field is at the eastern end, near Kosice. (Locations of these deposits are shown in the Basic Resources and Processing inset on the Summary Map in the Country Profile of this General Survey.)

Reserves of manganese ore are small and of low quality. Domestic output is used primarily for the production of pig iron, its low grade precluding its use in ferroalloys. For this latter purpose, imports, largely from the U.S.S.R. and Cuba, are required. In fact, with the exception of silicon ore and the low-grade manganese ore, the country is totally dependent upon imports for alloying materials. The U.S.S.R. supplied 58% of Czechoslovakia's chrome ore in 1972; Turkey, Albania, and Iran supplied most of the rest. The U.S.S.R. is the principal supplier of nickel and cobalt; in the past it has been the supplier of tungsten and molybdenum. Beginning in 1964, Chinese Communist exports of these ores to the U.S.S.R. fell off, and the U.S.S.R. in turn failed to make promised deliveries to Czechoslovakia. Since 1967, however, Communist China has been exporting tungsten directly to Czechoslovakia, and in 1969 and 1972 the Czechoslovaks imported molybdenum from the United States. Czechoslovakia has also attempted to negotiate for Western supplies of tungsten and iron ore.

Small deposits of lead, zinc, and low-grade copper are scattered throughout the country, but production from these mines is inadequate for domestic needs. Deposits of antimony occur primarily in Slovakia; only small imports are needed to supplement output from these mines.

Czechoslovakia's reserves of magnesite are among the largest in the world: they were estimated in 1965 to be about 500 million metric tons. Mining is centered in eastern Slovakia, where production in 1972 amounted to about 628,000 metric tons. In magnesite production, Czechoslovakia ranks second in world output only to the U.S.S.R. The crude ore is refined in eight magnesite calcining plants in eastern Slovakia, three new kilns have been installed in 1967-69. About 82% of the refined product is exported, largely to Communist countries. About two-thirds of domestic consumption is used in the manufacture of basi refractories for metallurgical processes. The magnesite calcining plants that manufacture the refractories are located in Jelsava, Lubenik, and Lovinobana.

Graphite is mined chiefly near Cesky Krumlov and Cerna v Posumavi in southern Bohemia and near Bystrice nad Pernstejnem in Moravia. The size of the mining operations is unknown, but it appears to be sufficient for domestic requirements and provides a small quantity for export. Processing facilities consist of a crystalline graphite processing plant at Netolice in southern Bohemia, an amorphous graphite processing plant at Bystrice nad Pernstejnem, and a plant at Tyn nad Vltavou to manufacture high purity graphite to be used in electrotechnology and atomic energy production.

Pyrites occur in limited quantities. They are mined as manganese pyrite in Bohemia and as antimony, copper, and iron pyrite in Slovakia. Sulfur produced from domestic and imported pyrite furnishes about 40% of the country's supply, while imports of elemental sulfur—primarily from Poland—provide the rest. About three-fourths of the total sulfur available is consumed in the manufacture of sulfuric acid.

Small quantities of mercury as well as gold and silver are produced, all byproducts in the treatment of other ores. Czechoslovakia is the largest producer of mercury among the Eastern European countries; prior to 1969, output of mercury was about 14 tons per year. Czechoslovakia has been dependent on imports mainly from Spain, to meet most of its domestic requirements for mercury. Completion of a new mercury refinery in late 1969 located at Rudnany boosted capacity to about 194 tons. This new capacity should reduce Czechoslovakia's dependence on imports. In recent years gold production, always small, has dropped to a negligible amount. Figure 6 shows production of selected minerals and metals.

a. Ferrous metallurgy

Czechoslovakia has the second largest iron and steel industry in the East European Communist area (excluding the U.S.S.R.) and the 11th largest in the world, ranking slightly behind Poland. In 1972, the industry produced about 8.4 million tons of pig iron, 12.7 million tons of crude steel, and 8.7 million tons of rolled products. With the exception of coking coal, the industry is dependent on imports for most of its raw materials. Measured reserves of iron ore amounted to about 100 million tons in 1971, but the iron content of the ores averages only 34%. The poor quality of the ores prompted a decision in the early 1960's to reduce domestic output in favor of greater reliance on imports. Annual production declined from 3.5 million tons in 1962 to 1.6 million tons during 1968-72 whereas imports of iron ore have been increased from 8.3 million tons in 1962 to about 13 million tons in 1972. The U.S.S.R. is the principal supplier, accounting for more than 80% of total imports. The U.S.S.R. also provides most of Czechoslovakia's large imports of pig iron, which totaled 800,000 tons in 1972. Domestic production of manganese ore has also declined in recent years and reportedly was discontinued in 1972. The U.S.S.R. regularly supplies about two-thirds of the manganese ore imported by Czechoslovakia. Apart from silicon, all the other ore and metals needed for alloying purposes are imported. Although Czechoslovakia produces a wide range of ferroalloys and exports selected types, it relies on imports for considerably more than half of its annual requirements for these materials.

Unlike others in Eastern Europe, the Czechoslovak steel industry has more than justified its dependence on imports. Long established as the leading exporter of finished steel in Eastern Europe, Czechoslovakia has continued to increase its exports in recent years, reaching an annual level of more than 3 million tons in 1972. Net exports in that year amounted to 2.4 million tons or about three-fourths of those of the U.S.S.R. Nearly half of the steel exported by Czechoslovakia in 1972 went to Western Europe, about a third to other Communist countries, and the remainder to a wide variety of other destinations, principally the developing countries. Most of the 680,000 tons of rolled steel imported in 1972 came from other Communist countries, primarily the U.S.S.R. Net exports of finished steel not only cover imports of all the raw materials, machinery, and replacement parts purchased abroad for the steel industry but yield substantial foreign exchange earnings as well.

In 1972, ferrous metallurgy accounted for 10.2% of total industrial production and employed 186,000 workers or 6.8% of the entire industrial labor force. In the period since 1960, ferrous metallurgy has maintained a steady average annual rate of growth of 5%, somewhat less than the 6% rate achieved by industry as a whole—attributable to a lower investment priority since 1966. As a share of total industrial investment, annual outlays for ferrous

FIGURE 6. Production of selected minerals and metals (U/OU)
(Thousands of metric tons, unless otherwise indicated)

	1955	1960	1965	1968	1969	1970	1971	1972
Iron ore	2,490.0	3,120.0	2,446.0	1,573.0	1,568.0	1,606.0	1,609.0	1,580.0
Pig iron	2,982.0	4,696.0	5,868.0	6,920.0	7,009.0	7,548.0	7,961.0	8,360.0
Crude steel	4,474.0	6,768.0	8,599.0	10,555.0	10,802.0	11,480.0	12,064.0	12,757.0
Rolled steel	2,985.0	4,481.0	6,094.0	7,511.0	7,479.0	7,939.0	8,317.0	8,711.0
Metallurgical coke	5,460.0	6,842.0	7,875.0	7,518.0	7,905.0	8,273.0	8,613.0	8,700.0
Aluminum	*na*	*na*	*na*	31,634.0	34,747.0	30,833.0	36,942.0	*na*
Magnesite	150.0	364.0	496.0	571.0	587.0	631.0	619.0	628.0

na Data not available.

metallurgy have declined from 14%-15% in the early 1960's to 7% or 8% during 1968-71. Even in absolute terms, and measured in comparable prices, the amounts invested annually since 1966 have been less than during the early 1960's. The cutback in investment has left its mark on the industry. Czechoslovakia retains its traditional competence and skill in iron and steelmaking but has not kept pace with world trends in blast furnace, oxygen steelmaking, and rolling mill technology.

About 90% of the productive capacity of the iron and steel industry is concentrated in five plants each with a complete production cycle from pig iron to finished steel products. The largest plant is the Klement Gottwald Steelworks in Kuncice nad Ostravici with an annual crude steel output of more than 3 million tons. The newest plant, the East Slovak Ironworks at Kosice, has an annual steel output of 2.5 million tons and is scheduled for expansion to 4 million tons by 1975. The three remaining integrated plants are the Trinec Iron and Steel Works in Trinec, the Vitkovice Iron and Steel Works near Ostrava, and the United Steelworks at Kladno with estimated annual steel outputs, respectively, of about 2.5, 1.5, and 1.0 million tons. The United Steelworks is currently undergoing a major expansion.

Czechoslovakia is the largest producer of alloy steel in Communist Eastern Europe. Although it produces most types in quantities sufficient to meet domestic needs and to allow for exports, it still must import some special-purpose alloy steels (e.g., stainless steel tubes and some high-speed tool steels). Alloy steels are produced primarily at the United Steelworks, the Klement Gottwald plant, the V.I. Lenin Skoda Machine Building Plant at Plzen, and the Sverma Iron works at Podbrezova in Slovakia. Production of ferroalloys has been greatly diversified since 1966 when blast furnace ferromanganese accounted for the bulk of output. Now 85% of output is of electric furnace alloys, including ferrosilicon, ferrochrome, and silicochrome products mostly at the Clatebne Metallurgical Works in Slovakia. In addition, the Sokolov Chemical Plant in western Bohemia produces ferrotungsten and ferromolybdenum.

Czechoslovakia also has a well-developed forging industry, particularly for large items of capital equipment. Principal producers of heavy forgings are the Lenin plant, the Vitkovice plant, the Klement Gottwald plant, and the United Steelworks which also is the largest producer of light forgings and drop forgings.

b. Nonferrous metals

Czechoslovakia is only a minor producer of nonferrous metals, relying on imports for most of its requirements. Nonferrous metallurgy, including ore mining, accounts for only 2%-3% of the value of all domestic industrial output and less than 2% of the total industrial labor force.

Domestic output of aluminum, based entirely on imported ore, is the lowest among the producing countries in Eastern Europe. Czechoslovakia has only one aluminum plant, the integrated alumina-aluminum plant at Ziar nad Hronom. The plant is located about 100 miles from the Hungarian deposits of bauxite which provide the bulk of its supply. Its capacity is estimated at about 140,000 tons of alumina and about 62,000 tons of aluminum per year. In recent years, however, the output of metal has been less than 40,000 tons annually. Imports of aluminum, mostly from the U.S.S.R., furnish about two-thirds of the total supply.

Czechoslovakia has three plants producing copper metal, including a combined smelter and electrolytic refinery at Krompachy in Slovakia and smelters at Povrly in Bohemia and in Ostrava. Production of copper has increased gradually to about 18,000 tons per year, but the country is dependent on imports for about three-fourths of its needs; the U.S.S.R. is the principal supplier.

Lead and zinc ores are processed into concentrates at plants near the mining facilities and lead metal is produced in refineries at Pribram and Banska Stiavnica. Annual output in recent years has been about 18,000 tons. Facilities for the production of zinc are located at Teplice and nearby Chuderice, but most of the zinc concentrates are exported to Poland and West Germany. Only a negligible amount of zinc is produced domestically, amounting to less than 100 tons a year. Imports, mostly from the U.S.S.R., provide about 60% of the supply of lead and virtually all of the supply of zinc.

Czechoslovakia is the largest producer of mercury among the East European countries. Completion of a new mercury refinery in late 1969 located at Rudnany made possible a substantial increase in production from a level of less than 900 flasks (76 pounds per flask) per year to about 5,800 flasks in 1972. As a result imports of mercury, mainly from Spain, have been reduced sharply and at present domestic production is probably adequate to cover all of the country's needs.

The country's only antimony smelter is located near Vajskova in Slovakia. Current output metal is about 1,300 metric tons. The plant uses both domestic ores and imported ores and concentrates, mainly from Turkey.

Uranium mining operations started in Czechoslovakia in 1946. Since that time about 49,000 tons of uranium have been shipped to the U.S.S.R. and the current production is sufficient to provide about 2,800 tons of uranium metal per year. The administration is in Czechoslovak hands, but under Soviet supervision through a Soviet-Czechoslovak Joint Commission. All uranium is sent to the U.S.S.R. either as high grade raw ore or as concentrate. Uranium is mined in more than 12 areas throughout Czechoslovakia with about two-thirds of total output being accounted for by operations in the Pribram area, although the largest reserves are situated in the Hamr district in the northeastern part of the country. The average grade of uranium mined is about 0.4%. High grade ore averaging 1.5% in uranium content is sent directly to the Soviet Union in an unprocessed state.

There are two plants to process low grade ore, one at Mydlovary and one at Dolni Rozinka. The Mydlovary plant was constructed in 1959-63 and has a capacity to process 700,000 tons of raw ore per year. Currently the plant is handling about 600,000 tons of ore per year and produces a 50% to 60% concentrate. The average uranium content of the input is 0.15% to 0.20%. The Dolni Rozinka plant was constructed during 1956 to 1958 as a replacement for an older plant at Nejdek. Through expansion in 1969, the plant now processes about 400,000 tons of uranium ore per year. Most of its input comes from Pribram and contains 0.1% uranium metal.

Czechoslovakia has large reserves of magnesite estimated to be at least 500 million tons. Mining is centered in eastern Slovakia and refining operations are carried out nearby at eight magnesite calcining plants. Production of calcined magnesite amounted to 628,000 tons in 1972. Normally about half of the domestic output of calcined magnesite is exported, mainly to West Germany, Hungary, and Poland. The supply available for domestic consumption is used in the manufacture of basic refractory bricks and other materials for metallurgical furnaces.

c. Construction materials

Czechoslovakia produces a varied assortment of construction materials for both domestic use and export (Figure 7). The 1972 production of slightly more than 8 million metric tons of cement, one of the more important materials, put the Czechoslovaks 16th in world output and fourth among the Eastern European countries. Upon the completion of the Turna nad Bodvou cement plant at the end of 1973, output is expected to increase by 750,000 metric tons and should reduce the dependence on imports, which generally have amounted to approximately 7% of domestic output. Moreover, this additional output may be used to increase exports, especially to Yugoslavia and West Germany.

Czechoslovakia is a major producer and exporter of sheet glass. Nearly 13 million square meters of flat glass or approximately 37% of national production was exported in 1971. Although total exports have been reasonably constant, the pattern of this trade has shifted in the last decade. In the early 1960's the United States took as much as 20% of exports but has all but disappeared as a consumer in the early 1970's. This decline was offset by increased exports to Eastern Europe, especially to East Germany and Hungary which together took 40% of exports in 1971. Italy, the Netherlands, and Canada also are major importers of flat glass.

Sawn timber and wall tiles are the other two major construction materials exported by Czechoslovakia. In 1973, 713 thousand cubic meters of sawn lumber were exported—about three-fourths to Western Europe—while 161 thousand cubic meters were brought in from the Soviet Union. Exports of wall tiles go primarily to the Soviet Union and Hungary, who currently absorb about half of the total.

FIGURE 7. Production of selected construction materials (U/OU)
(Thousands of square meters, unless otherwise indicated)

	1955	1960	1965	1969	1970	1971	1972
Cement (thousands of metric tons)	2,982	5,051	5,713	6,733	7,402	7,956	8,045
Bricks (million units)*	1,668	3,288	2,480	2,959	3,168	3,321	3,174
Drawn sheet glass (million square meters)	21.0	29.1	30.8	35.1	37.7	34.8	38.5
Including:							
Window glass (million square meters)	10.5	15.5	14.9	16.5	22.6	19.9	21.1
Ceramic wall tile	2,912	4,604	5,959	6,873	6,823	7,009	7,298
Clay roofing tile	8,195	9,871	5,946	4,709	4,614	5,085	4,416
Asbestos cement roofing tile**	8,891	24,166	***22,338	24,408	27,354	29,014	29,443

*Contents changed beginning in 1960.
**Thickness equals 0.48 centimeters.
***The entry is really 1966.

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4. Manufacturing and construction (S)

The development of manufacturing has followed the Soviet model, with its concentration on machine building and chemicals and neglect of light industry and food processing. The quality and mix of output likewise have come more and more to resemble those of Soviet manufactures. Famous before World War II for quality engineering and light industrial products, Czechoslovakia has failed to maintain its competitive position in world markets. The manufacturing sector has suffered from insulation from Western markets, a reorientation to the less-demanding markets of other CEMA countries, and development policies that have funneled investment into new projects rather than into the modernization of existing plants. As a result, the industry finds itself at an impasse. The Eastern European market for Czechoslovak manufactures has weakened because the other countries have developed competing product lines and have increased purchases of Western machinery and manufactures. Moreover, Czechoslovak sales to the West cannot increase rapidly. Even the best of the country's goods find limited markets, and sales to the West usually have had to be made at a substantial loss. To improve the situation, costly adjustments in the product mix, increased purchases of Western technology, and drastic improvements in designing and marketing are needed.

a. Machinery and equipment

Czechoslovakia's machine building industry produces a broad range of equipment for all branches of the economy—a variety duplicated in Eastern Europe only by East Germany. The output of machine building enterprises grew by an average annual rate of more than 8% (U.S. estimates of value added) between 1950 and 1960, but the economic slowdown in the 1960's was reflected in an annual rate of growth of only 2.2% between 1961-1965. Since then the average annual growth has been about 9%. Since machinery and equipment account for one-half of total exports, the machine building industry is of key importance to Czechoslovakia's export sector. About 12% of the industry's output is exported, nearly all of it to other Communist countries and the less-developed non-Communist countries. Output of the major types of machinery and equipment is shown in Figure 8.

FIGURE 8. Production of principal types of machinery and equipment (U/OU)

	UNITS	1970	1971	1972
Metalcutting machine tools	Units	35,186.0	39,568.0	36,843.0
Metalforming machine tools	....*do*	9,156.0	7,246.0	7,528.0
Metallurgical equipment	Thousand metric tons	79,680.0	83,208.0	82,109.0
Chemical equipment	....*do*	*na*	*na*	*na*
Food industry machinery	Million korunas	503.0	526.0	553.0
Textile machinery	....*do*	1,197.0	1,301.0	1,565.0
Agricultural machinery	....*do*	1,024.0	1,122.5	1,117.7
Tractors	Thousand units	18.5	21.8	22.3
Roller bearings	Million units	50.9	57.9	62.6
Electric motors	Thousand Kw	3,913.0	4,398.0	4,446.0
Electric generators	....*do*	1,488.0	1,646.0	1,503.0
Turbines	....*do*	2,239.0	1,463.0	1,584.0
Transformers (over 25 kv.-a.)	....*do*	6,071.0	5,670.0	*na*
Electric tubes	Million units	14.6	14.5	**14.4
Diesel mainline locomotives*	Units	351.0	336.0	307.0
Electric mainline locomotives	....*do*	149.0	160.0	117.0
Freight cars	....*do*	4,354.0	4,687.0	5,217.0
Trucks	....*do*	24,462.0	25,087.0	25,631.0
Buses	....*do*	2,602.0	2,644.0	2,894.0
Passenger automobiles	Thousand units	142.9	149.0	154.5
Motorcycles	....*do*	107.7	109.7	113.6
Radios	....*do*	416.4	384.6	249.0
Television sets	....*do*	383.2	351.6	268.0
Sewing machines	....*do*	30.0	33.0	35.1
Household washing machines (electric)	....*do*	290.0	309.0	272.8
Household refrigerators	....*do*	300.0	314.0	327.0

na Data not available.
*Includes only locomotives over 750 horsepower.
**Estimated.

The development policies of the 1950's have left the machine building industry badly in need of modernization. The policy of diversification within the industry has led to the production of many products on too small a scale for economic efficiency. Recently the Czechoslovaks have been outspoken on the need for specialization of machinery production among CEMA members, citing the need to improve product quality and expand the market for machinery exports in the industrial West. At the same time, however, longstanding requirements of CEMA partners for standardized types of heavy machinery have put Czechoslovakia in the business of producing essentially the same machines year after year without making major technical changes. Thus, Czechoslovakia has lost ground in the made-to-order world of Western market economies. In the machine tool industry, however, the country does possess some enterprises that produce competitive equipment, and in recent years the industry has made a determined bid to expand exports to the industrial West, achieving considerable success in West Germany and Italy. In addition, large Skoda-made machine tools have been sold in the United States since 1964.

Czechoslovakia produces enough machine tools, electrical machinery and equipment, mining equipment, and railroad equipment to satisfy most domestic requirements and to allow substantial exports. Although Czechoslovakia produces a wide range of agricultural machinery, there has been a chronic shortage of it on the farms, aggravated by a continuing decrease in the farm labor force. Recognizing finally the seriousness of the shortage, the 14th Party Congress passed a resolution in 1970 which gave priority to the development of comprehensive farm mechanization and placed the agricultural machinery industry among the key industry branches. As a result, production of agricultural machinery reached record levels in 1970-72. In addition, a significant quantity of machinery is imported, primarily from Communist countries, amounting to perhaps as much as 40% to 50% of the annual supply to agriculture. At the same time, despite domestic shortages, Czechoslovakia is one of the major exporters of agricultural machinery among the East European Communist countries, most of it going to these countries.

The machine building industry has not developed the capability to manufacture a wide range of modern and specialized metallurgical equipment. Small domestic requirements for such equipment are met primarily through imports. Czechoslovakia does, however, turn out a large number of heavy standardized rolling mills, many of which are produced for the U.S.S.R. The country also is deficient in the production of modern types of chemical equipment and has made substantial purchases of chemical plants and technology from Japan and Western Europe and the United States since 1960. Despite production problems, Czechoslovakia is a leading supplier of chemical equipment to the other Communist countries. Exports and imports, by value, of major categories of machinery and equipment in 1972 are shown in the following tabulation (in millions of current U.S. dollars):

	Exports	Imports
Metalworking machinery	192.3	104.2
Agricultural machinery	84.4	159.2
Electrical machinery	340.5	197.8
Transport equipment	629.6	270.5

Czechoslovakia's motor vehicle industry, the largest in Eastern Europe, is being expanded during 1971-75 to about double its previous capacity. As planned, the industry will be capable of producing 50,000 trucks and 300,000 passenger cars a year, an output level designed to supply an expanding domestic market, to meet the import needs of other Communist countries, and to sell more cars for hard currency in the West. Moreover, Czechoslovakia is to specialize within CEMA in building heavy cross-country trucks for military and general transport use; the Tatra plant at Koprivnice is being expanded for this purpose.

Passenger cars are of increasing importance in Czechoslovakia's foreign trade program. Because of large commitments to other Communist countries and the need to earn hard currency in the West, Czechoslovakia each year exports more than half of the cars it builds (89,000 in 1972). In turn, it imports large numbers of cars (120,000 in 1972), mainly from other Communist countries, to supply its active retail market and fill other domestic needs for cars.

Czechoslovakia also produces a wide range of military end items, including arms and armaments, fire-control equipment, armored vehicles, aircraft (jet trainers), quartermaster equipment, and military optical, photographic, and telecommunications equipment. Among the most sophisticated facilities are the modern Turcianske Machine Works in Martin (tanks), the Aero Airframe Plant and the Motorlet Engine Plant near Prague (jet trainers), the Detva Heavy Equipment Plant (armored personnel carriers), and the Adamov Armament and Machinery Plant (antitank missiles). In addition to satisfying much of its own needs, the quantity and reputable quality of Czechoslovakia's military production make it an important supplier to other Eastern European

Communist countries. Moreover, military equipment is a important export to the the less-developed countries. Czechoslovakia supplies the equipment on liberal credit terms; repayment usually is in raw materials—particularly oil, ore, and cotton.

b. Chemicals

The chemical industry is one of the fastest growing branches of the economy. According to official data, gross output of the chemical industry (including the production of coke chemicals but excluding rubber products) increased in 1972 to more than seven times the 1955 level. However, the industry started from a small base after World War II so that by 1971 it accounted for only 6% of gross industrial output and 4% of the industrial labor force. The most rapidly growing sectors have been those producing plastics, chemical fibers, synthetic rubber, fertilizers, and closely related intermediate chemicals such as synthetic ammonia and nitric acid (Figure 9). During the Fifth Five Year Plan (1971-75) output of the chemical industry is scheduled to grow by about 60% compared with an increase of about 35% in total industrial production. Output of plastics and synthetic fibers is to double and an 80% increase is dated for synthetic rubber.

Two-thirds of the current output of chemicals is accounted for by plants in the Czech Lands—Bohemia and Moravia. Production in these areas is based to a substantial degree on local deposits of coal. The relative importance of Slovakia, however, is growing along with the increasing use of petroleum and natural gas as chemical raw materials. The largest petrochemical installation in the country is the Slovnaft combine near Bratislava, which produces ethylene and other petrochemicals from Soviet crude oil.

Although Czechoslovakia is an important producer of chemical equipment, a significant portion of petrochemical and other equipment and technology required for the industry has been purchased in Western Europe, Japan, and the United States. Equipment installed at the Slovnaft combine and elsewhere, for the processing of petroleum byproducts into plastics and other items, is largely of western origin. Czechoslovakia also imports most major chemical raw materials and many finished products as well. Petroleum and natural gas are imported from the U.S.S.R., potassium salts from the U.S.S.R. and East Germany, sulfur from the U.S.S.R. and Poland, cellulose from the U.S.S.R. and Scandinavia, phosphates from the U.S.S.R. and North Africa, and soda ash and synthetic rubber from a number of Communist and non-Communist suppliers. However, surpluses of coke chemicals and derivatives such as dyestuffs are available for export, reflecting the fact that Czechoslovakia is one of the major producers of coal and coke in Eastern Europe. At present, Czechoslovakia is a net importer of chemicals but the regime hopes to redress the balance in future years by a rapid increase in exports of plastics and other newer chemical products.

Czechoslovak trade in chemicals is also scheduled to grow as a result of collaboration in chemical production among Eastern Europe countries. Under an agreement signed in 1971, East Germany will ship ethylene and propylene from a plant under construction at Boehlen to Czechoslovak plants being

FIGURE 9. Principal products of the chemical industry (C)
(Thousands of metric tons)

	1950	1955	1960	1965	1970	1971	1972
Sulfuric acid (100%)	252	383	553	933	1,110	1,163	1,189
Synthetic ammonia (as N)*	*na*	55	130	226	329	336	344
Nitric acid**	54	114	322	507	737	753	771
Caustic soda (100%)	49	82	115	158	189	202	210
Hydrochloric acid (as 32% acid)	***26	69	76	106	134	139	*na*
Nitrogen fertilizer (as N)	35	60	140	220	324	336	344
Phosphorus fertilizer (as P_2O_5)	61	98	147	258	322	331	334
Cellulosic fibers (rayon)	26	48	59	69	69	70	**70
Synthetic fibers	*Insig*	1	3	10	31	39	47
Plastics and synthetic resins	11	31	64	126	245	265	*na*
Synthetic rubber**	*na*	1	1	23	48	48	51

na Data not available.
*Expressed in terms of nitrogen content.
**Estimated.
***Data for 1948.

built at Zaluzi and Neratovice. There the basic petrochemicals will be processed into polyethylene and polypropylene for consumption by both countries. The ethylene will be shipped via a 220-kilometer pipeline, construction of which was begun in mid-1973. The object of this program is to take advantage of the economies of scale with minimum capital investment by each country.

c. *Light industry*

Light industry is the second largest branch of manufacturing and includes the production of nonfood consumer goods, including textiles, clothing, footwear, wood products, rubber products, paper, glass, and ceramics. In 1971 this branch accounted for about 32% of industrial output and employed about 16% of all skilled workers in Czechoslovakia.

Production of consumer goods has continued to expand since World War II (Figure 10). Neglect of this branch of industry, however, in the drive to expand heavy industry has led to a steady deterioration of physical plant. New products are few, and capacity is insufficient to meet the demands of foreign and domestic markets. Moreover, the failure to keep pace with changes in design and tastes has destroyed the formerly good reputation of many products. Czechoslovakia remains a net exporter of most light industrial products, but other Communist countries and the less-developed countries have displaced Western buyers as the main importers. During 1970-72 manufactured consumer goods (excluding raw materials) made up almost 18% of total exports and 8% of total imports.

Light industry typically is labor intensive, embracing many craft, custom, and small shop operations. The value of capital per worker is much less than in the chemical, food processing, and machine building industries and output per worker is lower. Similarly, output per worker in light industry has increased more slowly than in the chemical and food industries—except in the wood products industry, where total output and output per worker have increased rapidly.

Except for the production of wood and paper products, glass, and ceramics, light industry depends heavily on imports of raw materials. Exports usually are sufficient to pay for the imports of raw materials for the industry. Value figures for 1972 imports and exports of the more important categories of light industry products (excluding raw materials) are shown in the following tabulation (in millions of current U.S. dollars):

	Exports	Imports
Textiles and clothing	312	154
Wood and paper products (excluding furniture)	60	69
Leather, leather products, and footwear	209	21
Glass, glassware, and pottery	69	6
Total	650	250

d. *Agricultural processing*

Since 1960 agricultural processing has had one of the lowest rates of yearly growth within the industrial sector—averaging just over 4% per year. In 1971, agricultural processing employed 7.8% of the industrial labor force (154,000 workers) compared with 8.3% in 1960. Agricultural processing accounted for about 16% of industrial output in 1971.

The agricultural processing industry satisfies most domestic requirements for foods and related products (Figure 11) but depends upon imports for a relatively large share of its raw materials. Only two of the industry's branches—sugar production, and brewing and malt—produce a surplus for export. The most important imports of agricultural products include milling-quality wheat, feed supplements, oilseeds, tobacco, meat, and raw cane sugar. Other Communist countries, especially the U.S.S.R., continue to be the major suppliers except in bad agricultural years such as 1972 when cutbacks in Soviet deliveries of grain forced the Czechoslovaks to buy from the West.

FIGURE 10. Output of selected products of light industry (U/OU)

	UNITS	1950	1955	1960	1965	1970	1971	1972
Cotton fabrics	Million linear meters	356	356	446	478	501	524	536
Woolen fabrics	....*do*	48	39	46	44	49	53	55
Silk fabrics, natural and synthetic	....*do*	38	51	67	73	88	92	101
Linen and part-linen fabrics	....*do*	47	55	67	67	71	74	76
Footwear	Million pairs	*64	63	96	99	117	121	124
Paper, all types	Thousand tons	291	345	443	519	602	614	627

*Data for 1948.

FIGURE 11. Output of selected products of the agricultural processing industry (U/OU)
(Thousands of metric tons, unless otherwise indicated)

	1950	1955	1960	1965	1970	1971	1972
Meat (carcass weight)	272	345	440	560	630	684	724
Meat products (excluding canned meat)	140	140	191	210	*na*	*na*	*na*
Fresh milk (million liters)	878	861	1,001	1,229	1,017	1,036	1,059
Butter	34	43	58	84	87	92	101
Edible oils and fats	63	91	104	111	133	136	139
Sugar (refined)	701	659	881	804	875	827	816
Beer (million hectoliters)	11	10	14	19	21	22	22

na Data not available.

Exports of processed agricultural commodities represent only a small share of the overall output of the industry and consist mostly of sugar, malt, and beer.

Plans call for reducing the food industry's dependence on imported raw materials and bringing about a structural change in product mix by increasing the relative importance of meat, milk and dairy products, and fruits and vegetables at the expense of fats and flour. Government officials, however, admit that these goals will be difficult to achieve without a large infusion of investment funds. The industry is characterized by a large number of small facilities with obsolescent, inefficient equipment. It has neither the flexibility to cope with annual and seasonal fluctuations in agricultural production nor the capacity—especially cold storage—to take advantage of particularly good harvests of agricultural products. Deficiencies in the transportation system and distribution network also have contributed to delays and losses in the procurement of raw materials and in the distribution of processed commodities.

e. Construction

The construction sector accounts for 11.9% of national income and employs 639,000 workers (10.5% of the nonagricultural labor force). Since 1956 growth rates have fluctuated greatly:

YEARS	AVERAGE ANNUAL GROWTH RATES (*Percent*)
1956-1960	*10.7*
1961-1965	*1.4*
1966-1969	*10.1*
1970-1972	*9.0*

Total construction for 1972 was valued at 87.6 billion korunas.

During recent years the construction industry has continued to encounter many problems, some of which are similar to those encountered by other major sectors of the economy. It is poorly managed, and too many projects are started without adequate resources for their completion. The industry has suffered from shortages of labor—particularly shortages of special skills—and from a large turnover of laborers, averaging one-third of production workers annually. Yet, despite these problems, the industry, when compared with its counterparts in other East European countries, is relatively efficient. Together with East Germany, Czechoslovakia in the early 1960's led the other East European countries in the level of labor productivity in construction. The Czechoslovak industry does not, however, compare favorably with similar industries in Western Europe, where average labor productivity in construction is 20% to 30% higher.

Czechoslovak construction has been characterized by building methods which rely primarily on manual labor and on traditional building materials. Ordinary clay brick has been used for a large share of the masonry construction, even though the use of concrete has increased in recent years. Because of the outmoded structure of the building materials industry, a significant share of output is not sold to construction firms, and stocks of unsold materials expand rapidly. Moreover, the assortment of building materials—estimated at 20,000 items—is one-fifteenth that available in Western Europe, and is generally of much poorer quality. It is estimated, for example, that the inferior quality of thermal insulation available in Czechoslovakia increases by 30% the fuel requirement for heating houses. Another factor affecting the quality of construction is the small proportion—compared with Western Europe—of workers engaged in repair and modernization of existing structures.

Methods have been developed to use prefabricated, prestressed concrete components for apartment buildings and the foundations of industrial plants. A number of factories for the production of concrete modules were purchased from Denmark in 1972. Production was to begin in late 1973. The share of prefabricated parts in total building materials in use is to rise to 18% by 1980, compared with a share of 12% in 1965. In 1972, over 80% of housing construction involved some prefabrication.

Recent years have also witnessed an aggravation of the housing shortage. Available housing has barely kept up with population growth and movements to urban centers. Only one-fifth of the nation's housing units have been built since 1960. In Czechoslovakia as a whole there is an estimated shortage of 200,000 apartments. Government planners are committed to begin the expansion of apartment construction during 1971-75. The supply of housing barely increased over the 20-year period 1950-70, and there are acute shortages in the cities. If the construction sector receives in the 1971-75 period the 100% increase in machinery investments proposed over the previous 5-year plan period, housing construction should be speeded up (although the increase is also intended to reduce the long construction times in all sectors and to lower the stock of unfinished construction). The planners hope to attain an annual construction rate of 110,000 new dwellings (this was approximately the rate proposed for 1969 but it fell short by about 20,000 dwellings), sufficient to increase the housing supply slightly faster than the population. In order to do so, the construction industry will probably turn increasingly to the use of prefabricated structures, in which Czechoslovakia has lagged behind other Communist countries. Through 1972 the plan was being fulfilled.

C. Government finance and economic policy

1. National economic planning and policy (C)

As a result of the 1968 Soviet-led invasion, economic policy has been dominated by a "normalization" theme; stability, not change, has been the doctrine. After coping with the initial inflation of 1969 through a series of administrative price increases, controls on wages, and curtailment of new investment projects, Husak focused on political affairs. As a result, the Fifth Five Year Plan (1971-75) was late in being announced, contained only modest goals, and the priorities strongly resembled the Novotny years—a stress on heavy industry and closer ties to CEMA. The only departure from this pattern has been a conscious effort by the leadership to improve the consumer's standard of living. Central control has not solved the old problems of excessive production costs, unfinished construction projects, and lagging worker productivity.

Czechoslovakia's current economic troubles can be traced to the decision to push growth in the 1960's at the high rates of the late 1950's, and a reluctance to take action when that decision proved unwise. Even by U.S. estimates, which somewhat discount the Czechoslovak official indexes, GNP rose at an average rate of nearly 7% in 1955-59, after several years of slow growth. The Novotny regime expected continued growth at about these rates through 1965 and beyond. The rate of increase in industrial output, which had been averaging 10% per year, was to decline only slightly—to 9%. The growth of agriculture was to be somewhat faster; that of construction somewhat slower.

Much to the surprise of the regime, an abrupt drop in growth occurred in the early 1960's, and in 1962-64 there was no net increase in overall output. Output actually went down in 1963. The immediate causes of the slowdown were export shortfalls in 1961 and exceptionally bad crops in 1962, which led to shortages of materials for industry and in turn to further shortfalls in output and exports by the light machine building industries. The foreign trade squeeze was tightened by a sharp drop in 1961-62 in Czechoslovakia's lucrative trade with Communist China after that country's break in relations with the Soviet Union. The effect of these developments was aggravated by already existing bottlenecks in supply and capacity, resulting from the high-pressure growth of the late 1950's.

If the regime had recognized the early symptoms, the crisis could have been avoided by changes in the plan in 1961. Exports could have been expanded and industrial growth somewhat curtailed. Instead, the regime continued to give priority to investment and domestic consumption until late in 1962, when the disorder throughout the economy and the 1962 crop failure forced abrupt retrenchment. The regime then announced a revised, and obviously extemporized, plan for 1963, in which industrial output was barely to increase. An overriding priority was given to increasing exports and eliminating major bottlenecks in the economy, at the high price of widespread underutilization of labor and capital through 1963 and 1964.

During the "recession" of 1962-64, solid opposition to the Novotny regime developed on economic issues. Many party officials for the first time began to question the regime's insistence on forcing economic growth and maintaining tight controls over economic activity. The leading critics such as Ota Sik argued that Novotny's policies, following the Soviet model, promoted the inefficient production of unsalable goods through too much investment in heavy industry (Figure 12). Critics gained enough political support to force a public debate on economic policy in 1964 and to push through a comprehensive reform program in early 1965, setting up what was called a New System of Management.

The reform program, to be sure, was two-faced. On the one side, it called for the eventual shift of decisionmaking to enterprises and replacement of most central controls by the "discipline of the market." On the other, the program did almost nothing to reduce existing controls over output, allocations, prices, and exports. As the crisis eased in 1965 and 1966 it became clear that Novotny intended to maintain these controls and return to business as usual. As his position hardened, criticism mounted. Finally, opposition to Novotny on both political and economic grounds led in early 1968 to his replacement by Alexander Dubcek as head of the party.

The Dubcek regime, before the Soviet-led invasion of Czechoslovakia in August 1968, had struggled against both internal and external threats to its survival and consequently had put off dealing with economic problems. The week before the invasion, however, it had published the economic directives for 1969 that addressed some of these problems. It is uncertain—particularly in the light of the invasion—how far the regime might have gone to meet the longstanding demands of Sik and others that the state should leave most economic decisions to enterprises, introduce the sales-profit motive for managers, allow more of a role for labor, and use government fiscal and financial controls to maintain and direct economic growth. But Sik himself had recognized that the economy would go into shock if his reform program had been put into effect at once. Twenty years of producing by command for protected markets had left their marks—obsolete plant and equipment, management by petty bureaucrats, low standards of workmanship, and ignorance of customers' needs and desires. A dent could hardly have been made in these problems without causing unemployment and major strikes, dislocations in the domestic market, and a balance-of-payments crisis.

FIGURE 12. Structure of investment* (U/OU)
(Billion korunas)

	TOTAL	INVESTMENT IN CONSTRUCTION	INVESTMENT IN MACHINERY
1948	12,197	9,170	3,027
1950	19,186	13,192	5,994
1955	30,378	22,137	8,241
1960	56,626	38,060	18,566
1961	60,519	40,048	20,471
1962	58,803	38,468	20,335
1963	52,252	33,814	18,438
1964	58,162	36,575	21,587
1965	62,595	38,458	24,137
1966	68,610	41,373	27,237
1967	70,446	44,550	25,896
1968	76,207	47,892	28,315
1969	83,573	51,683	31,890
1970	88,475	54,194	34,281
1971	93,484	57,795	35,689
1972	101,641	64,203	37,438

*In terms of 1967 prices.

Dubcek's reluctance to jeopardize his popular support by enacting strong controls, coupled with an inadequately prepared reform program, allowed more freedom than the economic system was prepared to handle. Average monthly wages jumped from a less than 2% per year increase for the 1960-66 period to 5.4% in 1967, 8.2% in 1968, and 7.4% in 1969. Reflecting consumer demand, retail trade increased 14% in 1968 and 12% in 1969, whereas between 1960-1967 retail trade only rose 3% to 4% per year. Moreover, Dubcek's policies inhibited the ability of the economy to supply the demanded goods. The workweek was reduced from 6 to 5 days. Workers' Councils were given a voice in enterprise decisions, disrupting some wage and production schedules. Even with a large consumer demand and retarded supply, retail prices were increased only about 1% in 1968.

The Soviet-led invasion created a number of additional economic problems. Production was disrupted for a short period, but partially made up for by volunteer production shifts called "Dubcek shifts." A consumer buying panic placed more pressure on supplies. A decline in tourism—4 million people below 1967—imposed strains on the balance of payments. Disrupted transportation and the burden of military supplies created a backlog of goods unable to be loaded or distributed, contributing to a fuel shortage that winter.

At first, Gustav Husak demonstrated a "Dubcekian" reluctance to offend the populace by hesitating to impose necessary economic controls. Continued inflationary pressure, however, forced his hand. Throughout the last half of 1969 and into 1970 new investment projects were curtailed, retail prices were increased and then frozen, and various measures were enacted to reestablish controls over enterprises. Planned wage increases were halted—wages rose only 3% in 1970 as opposed to 7.4% in 1969. At first Husak placated the trade unions, strong supporters of Dubcek, by placing the union leader Karl Polacek on the Presidium, but within a year any meaningful voice they had in economic decisions had disappeared.

The Fifth Five Year Plan reflects the political realities set forth by the Husak regime. Growth goals are the most conservative in Eastern Europe, clearly understated to give the economy an air of progress. The 1971 and 1972 plans were fulfilled with a minimum of difficulty and a great deal of publicity. Industrial production remains the top priority; plans call for a 5% to 6% per year growth, fueled by 37% of total investment capital. There appears to be no significant change in the variety of industrial products although the emphasis has shifted towards more chemical and petrochemical production (Figure 13).

Even before the Five Year Plan was announced, consumerism emerged as the dominant economic policy of the Husak regime. The supply of consumer durables has been increased. Czechoslovakia is the only East European nation where automobiles are generally available without a long waiting list. Imports of consumer goods have doubled since 1967—imports from the West have tripled. Minor retail price increases have been enacted, but the regime has been careful to point out that most consumer goods are excluded. The diet, already one of the best in Eastern Europe, is improving; previously scarce fruits and vegetables are more available and domestic procurement of meat is increasing.

Although the regime undoubtedly is watching the Hungarian reform experiment with interest, Husak is not about to introduce any changes that could jeopardize growth—still one of the key measuring sticks of political security. For the time being, Husak has turned his back on the longer term economic problems of inefficiency, lack of strong worker-manager incentives, and export difficulties. The 5% to 6% growth rate promised to the populace through 1975 will continue to be achieved by pumping investment into heavy industry, similar to Novotny's policies. Construction projects will continue to be faced with long lead times and chronic cost overruns. Major investment projects, from planning to completion, take an average of 8 years—twice the average time in other developed nations and costs have averaged as much as 22% above plan. Enterprises often resort to overtime work to meet production targets; as a result, labor costs continue to increase and fulfillment figures are distorted. Technology continues to lag behind comparable Western industries. Even their comparative advantage in CEMA, based on the Westernized prewar economy, has evaporated. The U.S.S.R., the leading purchaser of Czech products, within the 1971-1973 period reneged on purchasing some machinery, arguing that the equipment did not meet their needs and in any case more advanced technology was available in the West.

2. Government finance (U/OU)

The function of the financial system is to provide the supplies of cash and credit necessary to carry out the National Economic Plan. The Ministry of Finance

FIGURE 13. Investments by branch of the economy* (U/OU)
(Percent of total)

	1950	1955	1960	1965	1967	1968	1969	1970	1971	1972
Productive branches:										
Industry	45.1	34.3	40.1	42.8	40.2	36.0	38.2	37.9	37.6	35.5
Construction	2.2	2.0	3.3	2.9	3.3	3.8	3.7	3.6	3.5	3.8
Agriculture and forestry	8.0	14.1	16.9	14.0	11.0	12.9	11.3	10.7	10.7	15.8
Transportation and communications	13.5	10.5	9.4	11.3	14.8	16.3	15.0	12.4	13.8	14.7
Trade and procurement	2.2	3.0	3.1	5.5	5.7	5.6	4.9	3.5	3.1	2.9
Other productive branches	0.1	0	0.2	0.1	0.1	0.1	0.2	1.7	1.6	1.6
Nonproductive branches:										
Science and research	0.4	0.8	0.8	1.2	1.3	1.5	1.7	1.3	1.2	1.2
Municipal services	1.1	1.4	3.0	2.0	2.4	2.8	2.6	2.4	2.4	3.0
Housing	16.9	24.0	15.3	14.7	13.5	13.6	14.3	17.9	17.7	17.7
Health and social services	2.7	1.5	1.5	1.5	1.7	1.8	1.8	2.1	2.0	1.8
Education and culture	3.4	4.0	4.6	4.2	4.3	3.9	3.9	4.0	4.3	4.7
Administration	4.6	4.3	1.7	1.6	1.6	1.8	1.8	2.4	2.0	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE—Figures may not add to totals shown because of rounding.
*Calculated in prices of 1 January 1967.

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and the State Bank of Czechoslovakia share responsibility for financial planning, but the financial authorities in practice merely execute political decisions made at a higher level and have no policymaking functions. Since 1965 there has been much experimentation with the operations of the financial system, culminating in a reorganization of the banking system in 1969. The system now rests on three independent banks—a federal bank of issue (State Bank) and two national banks, one for the Czech Lands and one for Slovakia.

a. *Financial organization*

Control of the banking system is centered in the State Bank, whose functions are much broader in scope than those of central banks in Western countries. The State Bank controls the issue of currency, collects taxes, and has a near monopoly over the extension of both long-term and short-term credits. The State Bank also has operating control over both general credit and currency policy relating to foreign transactions and tourist currency exchanges. Since all transactions must be cleared through accounts in one of its branches, the State Bank has the power to monitor and control the current operations of the economy. The State Bank is directly subordinate to the Council of Ministers, although they work closely with the Ministry of Finance.

The new system of banking introduced in 1969 gave the State Bank overall control of monetary policy by transferring sole responsibility for drafting the foreign exchange plan, previously handled by the Ministry of Finance. The State Bank, however, delegated some of its authority to the Czech and Slovak national banks, which took over the day-to-day domestic banking operations such as the extention of long-term and short-term credits, and also were allowed to engage in foreign banking transactions.

The other Czechoslovak banks are subordinate to the Ministry of Finance but coordinate their work closely with the State Bank. On 1 January 1965 the Commercial Bank of Czechoslovakia was established as a joint stock company, with shares held by foreign trade, financial, and cooperative enterprises. It took over the State Bank's responsibilities for payment and credit transactions with foreign countries, accounts for internal clearing of foreign trade transactions, and the buying and selling of foreign currencies and gold. It has three representative offices abroad—New Delhi, Djakarta, and Beirut. A Trade Bank, with a branch in London, has additional minor responsibility for foreign trade, particularly with foreign countries; its activities seem to be confined largely to transactions involving private individuals and nonprofit organizations. The new system of banking introduced no significant changes in the structure or activities of these two banks specializing in foreign commercial transactions. Notwithstanding the transfer of investment financing to the State Bank in 1959, the Investment Bank was not liquidated; it is used as a safe-deposit facility for securities and other valuables and is responsible for the selling of state bonds. The National Savings Banks administer the savings deposits of individuals and provide consumer credit and long-term mortgage loans for home construction and repair.

Personal and property insurance, excluding social security, is issued by the State Insurance Organization, under the Ministry of Finance. Collective farms must insure their crops, livestock, and property, and private automobiles must be covered by personal liability insurance. Foreign trade insurance and reinsurance also are available.

b. *Currency*

The monetary unit in Czechoslovakia is the koruna (*koruna ceskoslovenska*—kcs). It is used exclusively for internal transactions. There is one rate used exclusively for foreign trade transactions and another for tourists. The foreign trade rate is generally tied to the ruble-dollar exchange rate. Exchange rates to the U.S. dollar are listed below:

	Foreign trade transactions	Tourist and non-commercial rates
1971	7.2	14.36
1972	6.63	15.0
1973	5.68	10.72

Tourists from "capitalist" countries, Cuba, and Yugoslavia may purchase korunas at a slightly more preferential rate. In terms of domestic purchasing power the value of the koruna is somewhat higher than tourist rates.

c. *Financial planning*

The financial plan on the national level projects the flow of funds within the economy according to the production and consumption goals of the National Economic Plan. The key element in planning is the 5-year plan, but the annual plan continues to provide the operational basis. All regional levels of government and all state enterprises have financial plans, which are incorporated into and coordinated with the state plan. Projections are made for the incomes and expenditures of the population and for decentralized financial transactions not directly controlled by the central authorities. The main components of the financial plan are the cash plan, the credit plan, and the budget.

The cash plan is drawn up by the State Bank to balance the currency flows within the economy. Since most cash payments between enterprises are prohibited, the cash plan is largely restricted to balancing the incomes of the population—wages, pensions, social security benefits, payments for the sale of agricultural products, etc.—against the available supply of consumer goods and services. Through the cash plan the government attempts to identify and control the inflationary pressures built into an economy in which not enough consumer goods are available to satisfy the demand generated by steadily rising incomes.

The credit plan—covering long-term and short-term credits, as well as the consumer and mortgage loans made by the National Savings Banks—attempts to identify all sources of loanable funds and to allocate them among economic enterprises and institutions. This plan is drawn up by the State Bank. Short-term credits are used to finance inventories and accounts receivable. Beginning in 1970, as part of an overall restrictive credit policy, this general type of credit was cut back in favor of short-term loans granted on a special-purposes basis. By reverting to this policy, closer supervision of enterprise plans was possible. In 1970 the volume of long-term noninvestment credit was curtailed and the grounds for granting such loans was limited -primarily to putting a new plant into operation or increasing production in a given plant by more than 15% during the year. Priority was also given to loans for production of consumer goods by enterprises not previously engaged in that activity. In addition, long-term operational loans previously granted were subjected to possible early repayment, while new loans were made more difficult to get and were subjected to a higher interest rate—6% to 10%. Total credit in the 1971-1975 plan is to be reduced from 14.5 billion korunas—the 1966-1970 yearly average—to 9.5 billion yearly. Loans are being channeled primarily to the key branches: fuel and power, chemicals, construction, and housing construction.

Despite the importance of the credit plan, the heart of the financial plan remains the budget which is the chief financial instrument for promoting the regime's economic policies. The budget collects funds from the wage tax and other direct taxes, from the excess profits of enterprises and concentrates them in the hands of the state. The state, through the budget, uses these funds to implement its policies of economic development, defense, and political and social control. Since May 1969 the state (CSSR) budget has been a combination of three budgets: a Federation budget, a Czech Socialist Republic (CSR) budget, and a Slovak Socialist Republic (SSR) budget. The Federation budget accounts for about one-third of the state budget and finances most defense, federal administration, and major development projects. The two national budgets finance—in addition to the expenses of their respective national administrations—those activities not covered by the Federation budget but included in a normal statewide budget, such as welfare expenditures and economic subsidies. Figure 14 outlines the 1971-1972 budget.

The level of control the state budget maintains over enterprises has been a reliable measure of central control in the past. Until 1970, enterprises were allowed to retain a large share of their earnings to finance operating expenses and, increasingly, investment. In some cases they could even lend their surplus revenues to other enterprises. The share of budget revenues derived from the socialized sector therefore fell slightly during 1966-69, while the share of budget allocations devoted to financing the national economy declined significantly. In addition, the regional authorities were given (and still retain) greater independence in handling their finances. Local revenues exceeding the planned levels may be spent at the discretion of the regional authorities, and any surpluses remaining at the end of the year (fiscal year=calendar year) may be carried over to the next year—that is, they do not have to be returned to the central government.

The bulk of budgetary revenues—82% in 1972—is derived from the socialized sector. As a result of government attempts to provide greater incentives for enterprise efficiency, the turnover tax is declining as a source of revenue, replaced by a variety of enterprise production and property taxes. In 1965 the tax yielded 45% of total revenue; by 1972, however, the yield had fallen to 25%. From 1965 through most of 1969 the state revenue system was designed to give enterprises more freedom of decision. Revenues from taxes other than the turnover tax fluctuated greatly during this period resulting from experiments in profit tax rates, wholesale prices, and preferential tax rates in priority sectors such as the consumer and food industries.

In January 1970, a new tax system was introduced for industrial and construction enterprises and foreign trade organizations. The purpose of this revised tax system was clearly to increase the regulatory and "stabilizing" power of the state in an effort to curb inflationary pressures. Thus, the profits tax was

FIGURE 14. Czechoslovak state budget (U/OU)
(Millions of korunas)

	1971				1972			
	Federation	CSR	SSR	CSSR	Federation	CSR	SSR	CSSR
Receipts:								
Revenues from socialized sector	115.3	33.8	12.2	161.3	114.9	35.2	12.7	162.8
Taxes, rates, and fees by populace	*Insig*	18.6	6.4	25.1	*Insig*	19.6	6.9	26.5
Other revenues	1.0	1.1	0.6	2.8	0.9	1.6	0.7	2.7
Grants and subsidies from federal budget	−64.5	35.3	29.2	...	−71.0	39.2	31.8	...
Grants and subsidies to national committees	...	−25.7	−11.9	−37.6	...	−31.4	−14.9	−46.4
Total revenues	51.8	63.2	36.6	151.6	44.8	63.8	37.1	145.7
Expenditures:								
Economy	33.6	26.9	20.2	80.9	26.2	25.3	20.3	71.9
Culture and social welfare	1.0	33.1	15.0	49.1	1.0	34.9	15.2	51.2
Defense and security	13.0	2.1	0.8	15.9	13.2	2.6	1.0	16.8
Administration	0.9	0.5	0.3	1.8	1.1	0.5	0.4	2.0
Courts, prosecutors, arbitration	*Insig*	0.2	0.1	0.4	*Insig*	0.3	0.1	0.4
Total expenditures	48.5	63.0	36.5	148.0	41.5	63.7	37.1	142.3
Net balance	3.3	0.2	*Insig*	3.6	3.3	*Insig*	*Insig*	3.4

.. Not pertinent.

increased to 65%, with the intention of draining off more money than enterprises could otherwise use for new investments and wage increases. In addition, an economy-wide flat-rate tax of 25% was imposed on the total volume of wages paid by enterprises; this measure was considered to be more effective in controlling wage increases than the previous progressive tax on wage increases. Enterprises were also required to pay a contribution to the state budget for health insurance and social security. Lastly, a property tax of 4% was imposed on total net assets of an enterprise; this rate could be slightly raised if new equipment (except that being acquired on credit) were added.

In January 1972 several new measures were enacted, designed to control enterprise expenditure without impeding production. Profit replaced gross income as a measurement of enterprise effectiveness. The system of enterprise taxes was replaced in favor of individual repayments to state revenue. These levies on enterprises produce about 66% of all revenue. The level of repayment—ranging between 65% and 75% of net profit—is set in conjunction with the economic plan so that high growth industries are allowed larger reserves for investment and wage funds. A few select enterprises are allowed to loan funds up to 5% of their net profit.

The state budget for 1971 and 1972 (Figure 14) reflects the power of the Federation in collection and distribution. The Federation collects over 60% of the tax and repayment revenue; 40% of Czech expendable revenues come from the Federation, 60% in Slovakia. The Czech and Slovak National Committees allocate their expenditures to economic (32%) and social (64%) development within their respective areas. National defense represents 8% to 9% of total expenditures of the Czechoslovak and National Committees. Little change has been recorded in the share allocated to defense throughout the past decade.

3. Economic institutions (U/OU)

As in all Communist-type economies, nearly all economic activity in Czechoslovakia is controlled by the state. The private sector accounts for less than 5% of national income, mostly through earnings of private plots in agricultural cooperatives. State control has long been a feature of the economy. Even at the time of the Communist takeover in 1948 only about one-third of the national income originated in the private sector. A new wave of nationalization in 1948 lowered this share to 20% in 1950. By 1969 the private sector was reduced to its present level. Private enterprise outside agriculture is insignificant, consisting only of some 2,000 full-time artisans and service workers. In 1965 an additional 7,000 persons permanently employed in other areas were allowed to supplement their incomes by working "on their own account," and by 1969 this number had grown to 15,000. The government granted this limited concession to private enterprise as the only way, given the tight labor supply, to increase sorely needed local services and to provide services for the rapidly rising number of tourists.

The basic production unit within the socialized sector is the enterprise, which consists of one or more plants producing related products. In April 1958 many enterprises were merged into larger units called "productive economic units" (*Vyrobni hospodarske jednotky*, or v.h.j.'s); Branch Directorates governed the v.h.j.'s along the lines of a board of directors. The new units were assigned some of the planning functions formerly exercised by the ministries, allowing the ministries to devote more time to long-range developmental problems. Two types of v.h.j.'s were established, one along vertical lines, involving stages of production ranging from the raw material to the finished product, as in the steel industry, and the second along horizontal lines. Those along horizontal lines were established when an industrial branch consisted of many small producers scattered over the country. In 1965 the v.h.j.'s were enlarged, their number was reduced from about 250 to 100, and their managerial functions were expanded. Under Dubcek, enterprises that preferred to operate on their own could separate from the v.h.j.'s, a policy that has weakened the authority of the remaining v.h.j.'s. After the Soviet intervention in August 1968 put an end to such experimentation, the autonomy of the enterprise was curtailed; decisionmaking power was centralized in the Branch Directorate.

D. Trade

1. Domestic (U/OU)

Improving the living standard has been a top priority of the Dubcek and Husak regimes, a sharp reversal of the consumer's low priority during the Novotny years. Among the many shortcomings of the system have been the following: The monopolistic position of the supplier and the resulting poor quality and assortment of consumer goods, the low level of investment in consumer goods production and trade, the relatively small number of employees in trade and their low wages, insufficient room for entrepreneurship, and strict controls on imports of consumer goods. Reformers under the Dubcek regime proposed using the "market mechanism" to make producers more responsive to demand, with increased reliance on economic incentives for managers and workers. They also wanted to give the trade organizations more freedom to import goods as a means of inducing domestic producers to become more competitive. The Husak formula has been to combine a fairly low investment priority for domestic trade with a conspicuous increase both in imports of consumer goods and in domestic procurement of meat to improve the diet.

Domestic trade is planned and controlled by the state; no private retail outlets have been licensed by the state since 1960. The free market—where products are sold to the population by farmers and by private craftsmen and enterprises—is small. Private and cooperative peasants are permitted to sell on the free farmers' market only the produce that remains after all obligations for deliveries to the state have been met. Because of the tight controls exerted over procurement of agricultural products, the role of the farmers' market remains insignificant.

Producer goods are distributed to industrial enterprises partly by the wholesale trading enterprises of the various economic ministries and partly by producing enterprises. Products of the local and cooperative economy are distributed under the supervision of national committees. Consumer goods are distributed through the socialized wholesale and retail trade networks operated by the Czech and Slovak Ministries of Trade and the Central Union of Consumer Cooperatives. With the territorial reorganization of 1960, certain wholesale and retail enterprises were merged into larger units at the regional level, and the role of national committees in administering domestic retail trade was increased. Most state retail shops are controlled by the Czech and Slovak Ministeries of Trade through Regional Trade Associations. The cooperative sales outlets—which operate primarily in rural areas—are under the Regional Trade Associations. The cooperative sales outlets—which operate primarily in rural areas—are under the Regional Unions of Consumer Cooperatives, which in turn are responsible to the Central Union of Consumer Cooperatives. Procurement of agricultural products is centrally planned by the Czech and Slovak Ministries of Agriculture and Food and coordinated by the Federal Ministry of Agriculture and Food. The authority for procurement is widely distributed among a number of ministries and other organizations, such as the Ministries of Internal Trade, the consumer cooperatives, and the national committees.

The retail trade network still is inadequate, although there has been substantial modernization, accompanied by a decline of about one-third since 1950 in the number of retail trade outlets. The number of department stores has been growing rapidly, but most stores still are small and fairly specialized. At the end of 1971 there were 67,798 retail outlets employing

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almost 200,000 salespeople. In addition, there were 35,572 eating places, including 8,463 cafeterias and canteens in factories and offices. Employment is on the increase after declining throughout most of the 1960's.

According to official figures, retail sales (in constant prices) increased at an average annual rate of about 5.5% during 1971-72 compared with 10% during 1968-69 and 1.2% in 1970. The sharp controls invoked by Husak resulted in the low growth in 1970. Sales of nonfood commodities have increased only slightly faster than sales of food since 1960. In 1969 food accounted for 47% of total retail sales, manufactured goods for 50%, and public eating places for most of the remainder. Textiles, clothing, and footwear constituted 36% of the manufactured goods sold. Official statistics exclude sales on the farmers' market, above-plan sales by producing enterprises, and sales by private craftsmen and other private enterprises made directly to the public.

Retail prices rose sharply between 1949 and 1953 and then declined steadily through 1960, when they were 16% higher than in 1949. There was little increase in retail prices during 1961-67 but a price reform put into effect on 1 January 1967 led to a 29% rise in wholesale prices during the year. Retail prices rose by 5.5% during 1968-69 reflecting inadequate efforts by both Dubcek and Husak to curb a wild buying spree by consumers. In July 1969, Husak's regime resorted to a general price freeze, which remained in effect until the end of 1973. During the general freeze some prices were allowed to fluctuate, mostly in the service sector, but Husak has been careful to exclude consumer goods, particularly food.

Producer prices since 1966 have fallen into these classes of regulation: Prices set by the state, those that can range within certain limits set by the state, and those set freely by producers. In 1966 the share of goods sold to the trading organizations at free prices represented 20% of retail turnover. After Husak's price freeze in 1969, the free list was reduced to 2% of wholesale prices. A new wholesale pricing system is in planning; January 1976 is the target date.

2. Foreign

As a small, highly industrialized country deficient in most minerals and metals, Czechoslovakia depends heavily on foreign trade. In 1972 imports equaled about 7.5% of estimated GNP. Czechoslovakia's total trade and trade balances with major areas are shown in Figure 15. The country is a net importer of all major raw materials except coal, wood, and uranium. It is almost entirely dependent on imports for supplies of crude oil and also requires large imports of metal ores, nonferrous metals, nonmetallic minerals, textile fibers, and rubber. Although domestic agricultural production covers a large part of domestic requirements, foodstuffs, especially grain, also have to be imported. And since Husak assumed power, imports of consumer manufactures have risen sharply. (C)

Czechoslovakia exports mainly machinery and equipment, consumer goods, and other manufactures. These products in general, however, can be sold only with difficulty on the Western market, and at substantial discounts; for the most part they must be sold in barter trade with other Communist countries or less-developed non-Communist countries. In these markets Czechoslovakia must often in turn accept machinery, other manufactures, and even some raw materials that are of inferior quality. Husak's regime thus far has not been able to improve the situation. (C)

a. Organization (C)

Following the Communist takeover in Czechoslovakia in 1948, foreign trade became a government monopoly, as in all Communist countries. All foreign trade activity is under the supervision of the Ministry of Foreign Trade, which coordinates the activities of the separate Czech and Slovak Ministries of Trade. The Ministry prepares long-term plans, negotiates trade agreements, and maintains statistical records on trade activity and on foreign exchange receipts, expenditures, and profitability. Actual foreign exchange transactions, however, are handled by the Commercial Bank of Czechoslovakia. The Ministry also establishes—and, if necessary, dissolves—the foreign trade organizations which are responsible for the actual conduct of trade operations. By the end of 1973, 46 organizations had been authorized to engage in trade and an additional 11 firms were allowed to act as sales agents in Czechoslovakia for Western firms. The trade organizations operate as independent entities; they receive directives from the Ministry but are not under its direct supervision. Most foreign trade corporations are responsible for specific goods, openly listed, but some—Omnipol, for example—conduct covert trade in armaments.

Trade with other Communist countries, and with many less-developed non-Communist countries, is conducted on the basis of bilateral clearing agreements. In trade with Communist partners, 5-year agreements specify key deliveries and the general magnitude and broad composition of trade. Annual agreements specify the exchange of goods in greater detail and often modify the 5-year agreements. Finally, contracts covering amounts and specifica-

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FIGURE 15. Total trade and trade balances with major trade areas (U/OU)
(Millions of U.S. dollars)

	EXPORTS			IMPORTS			TURNOVER			BALANCE		
	To Communist countries	To non-Communist countries	Total	From Communist countries	From non-Communist countries	Total	With Communist countries	With non-Communist countries	Total	With Communist countries	With non-Communist countries	Total
1948......	298.5	454.6	753.1	270.7	410.7	681.4	569.2	865.3	1,434.5	27.8	43.9	71.7
1955......	809.9	366.1	1,176.1	754.6	298.1	1,052.7	1,564.5	664.2	2,228.7	55.3	68.0	123.4
1960......	1,394.7	534.9	1,929.6	1,294.0	521.7	1,815.7	2,688.7	1,056.6	3,745.3	100.7	13.2	113.9
1965......	1,965.6	723.1	2,688.7	1,961.3	711.4	2,672.7	3,926.9	1,434.5	5,361.4	4.3	11.7	16.0
1966......	1,928.3	816.9	2,745.2	1,923.3	812.8	2,736.2	3,851.6	1,629.7	5,481.3	5.0	4.1	9.0
1967......	2,051.1	813.1	2,864.2	1,929.2	750.8	2,680.0	3,980.3	1,563.9	5,544.2	121.9	62.3	184.2
1968......	2,130.8	874.4	3,005.3	2,219.0	858.1	3,077.1	4,349.9	1,732.5	6,082.4	−88.2	16.3	−71.8
1969......	2,293.2	1,026.2	3,319.4	2,373.5	920.7	3,294.2	4,666.7	1,946.9	6,613.6	−80.3	105.5	25.2
1970......	2,678.9	1,113.5	3,792.4	2,564.1	1,131.0	3,695.1	5,243.0	2,244.4	7,487.5	114.8	−17.5	97.3
1971......	2,931.9	1,247.9	4,179.9	2,787.6	1,222.1	4,009.7	5,719.5	2,470.0	8,189.6	144.3	25.8	170.2
1972......	3,533.0	1,382.2	4,915.2	3,296.5	1,365.9	4,662.4	6,829.6	2,748.1	9,577.7	236.4	16.3	252.8

NOTE—Figures may not add to totals shown because of rounding.

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tions, prices, and delivery terms are drawn up between appropriate foreign trade organizations of the partner countries. In spite of the establishment in 1964 of an International Bank for Economic Cooperation (IBEC) to clear trade accounts among members of CEMA on a multilateral basis, multilateral trading among the members is almost nonexistent. Trade with Communist partners still has to be balanced out almost entirely on a bilateral basis.

b. *Growth and Direction* (C)

Trade has been growing more rapidly than GNP. At current prices, since 1960 trade turnover has risen 7.4% annually while GNP has been averaging about 5.9%. Communist countries have accounted for most of the growth. From less than one-sixth of trade before World War II, these countries by 1950 made up well over half of the total, and since 1958 their share has been 70% to 75%. Trade with the U.S.S.R., which accounts for nearly half of the Communist trade, has increased the most in absolute terms, but the rate of growth of trade with East Germany has been the most rapid and East Germany now is by far the largest of Czechoslovakia's East European trade partners.

Trade with the industrial West has stayed at a constant 20% of turnover since 1965. West Germany alone accounts for about 25% of this trade—by far the largest partner—followed by Austria and the United Kingdom. The share with the United States is on the increase, but still is less than 1% of turnover. Trade with major partners is shown in Figure 16.

c. *Commodity structure* (C)

With Communist countries and the less developed areas, Czechoslovakia's overall trade pattern is that of a small industrialized country importing large amounts of raw and semifinished materials and exporting principally machinery and manufactured goods. With the industrial West, Czechoslovakia sells mainly raw materials, semifinished steel and consumer goods and imports machinery and other manufactures. The overall commodity structure of trade is shown in Figure 17.

The composition of Czechoslovakia's trade has changed radically since World War II. Imports of foodstuffs, nonmetallic minerals, iron ore and scrap, petroleum, chemicals, and iron and steel products have increased greatly. Imports of raw materials for light industrial production have remained at about the prewar levels and therefore have dropped sharply as a share of imports. Exports of machinery and equipment have increased enormously. In constant prices they are more than 20 times the prewar level.

The Communist countries supply most of Czechoslovakia's imports of petroleum and petroleum products, foodstuffs, beverages, tobacco, and ores and nonmetallic minerals. The U.S.S.R. is the largest single supplier of raw materials, furnishing more than 40% of gross and almost 70% of net raw materials imports; for example, the U.S.S.R. supplies 95% of Czechoslovakia's imported crude oil, 87% of the iron ore, and 87% of the wheat. Less-developed countries furnish furs, hides and skins, oilseeds, textile fibers, crude rubber, tropical foods, and tobacco, as well as chrome

FIGURE 16. Volume of trade with major trade partners 1960–1972 (U/OU)
(Millions of U.S. dollars)

	1951-55	1956-60	1961-65	1966-69	1970-72
Imports:					
Manufactured consumer goods	2.6	3.3	4.3	6.8	8.0
Agricultural and food products	29.6	23.3	18.6	16.0	14.8
Fuel, raw materials, and semimanufactures	55.4	53.9	50.2	45.7	44.3
Machinery and equipment	12.4	19.5	26.9	31.5	33.4
Total	100.0	100.0	100.0	100.0	100.0
Exports:					
Manufactured consumer goods	14.3	18.6	18.1	17.3	17.7
Agricultural and food products	9.4	6.5	5.5	4.5	4.1
Fuel, raw materials, and semimanufactures	38.5	31.9	29.2	28.5	28.4
Machinery and equipment	37.8	43.0	47.2	49.7	49.7
Total	100.0	100.0	100.0	100.0	100.0

NOTE—Figures may not add to totals shown because of rounding.

FIGURE 17. Commodity structure of foreign trade (U/OU)
(Percent)

	1960		1970		1972	
	Imports	Exports	Imports	Exports	Imports	Exports
Communist:						
U.S.S.R.	630.4	658.6	1,208.7	1,221.5	1,548.4	1,668.3
Bulgaria	57.1	61.5	90.9	96.1	126.8	161.5
East Germany	198.2	195.5	445.5	456.2	586.9	535.7
Hungary	93.8	111.6	182.3	199.7	265.3	261.2
Poland	110.5	128.3	269.7	305.0	355.6	455.3
Romania	64.3	63.6	135.5	155.8	153.4	176.3
Industrial West:						
Austria	37.6	27.0	102.1	75.4	111.3	108.6
France	17.1	12.5	60.9	51.3	60.9	60.5
Italy	18.0	23.1	79.5	70.1	89.3	86.4
Netherlands	18.3	19.3	56.1	40.4	66.8	48.8
United Kingdom	54.1	38.1	92.9	79.9	104.7	99.4
United States	5.5	12.4	27.2	23.5	62.9	26.2
West Germany	59.4	67.9	210.1	208.4	259.6	254.7
Developing nations:						
Egypt	22.5	20.1	38.7	77.6	56.1	88.5
Brazil	16.9	19.0	14.7	8.5	21.1	21.7
India	12.1	19.4	36.4	37.5	58.9	52.6
Pakistan	1.4	3.0	3.7	20.1	3.1	12.4
Syria	7.2	4.0	4.2	26.5	6.5	30.0

and manganese ores, pyrites, and phosphates. The industrial countries also supply some textile fibers and foodstuffs. Canada and the United States have sold Czechoslovakia sizable amounts of wheat and corn in some years, and the Scandinavian countries and Japan provide fish. The main imports from the industrial nations, however, are machinery (28% of purchases) and dyes, fertilizers, plastics, and other chemical products (14%). Czechoslovakia also imports some types of sheet steel and nonferrous metals from industrial nations.

Czechoslovakia exports coal and coke to other Eastern European Communist countries and uranium to the U.S.S.R., but its main exports to Communist partners are manufactured goods. Nearly all of Czechoslovakia's exports to less-developed countries also are manufactured goods. Almost three-fifths of the manufactured goods going to both these groups of countries are machinery and equipment. Other manufactures exported by Czechoslovakia include rolled steel, pharmaceuticals, glass and ceramics, textiles and clothing, shoes, furniture, and musical instruments. Exports to developed countries include raw materials, such as malt and hops, other foodstuffs, coal, wood, and a variety of manufactured goods. Sales of machinery amounted to only 17% of exports to these countries in 1972.

d. *Problems* (C)

Czechoslovakia's strong ties to the intra-CEMA barter trade system has eliminated most incentives for producers to gear output specifically for the export market and to adapt quality and product mix to changes in demand. As a result, Czechoslovakia trades with hard currency partners on extremely unfavorable terms, paying high prices for imports and receiving low prices for exports, relative to average world market prices. The Czechoslovaks have estimated that they export, on the average, at prices averaging not much more than half those received by competitors and pay for imports nearly twice as much as some other purchasers of similar products. The several trade fairs sponsored by the Ministry of Foreign Trade are only modest attempts to expose managers to outside technology and to promote Czechoslovak machinery and products. The Husak regime has done little to improve the situation; if anything, the political atmosphere has forced the country into closer economic ties with CEMA.

Czechoslovakia faces fewer problems in trade with less-developed non-Communist countries, much of which is conducted through barter arrangements. Czechoslovak exports still must compete with those of Western suppliers but most of the developing nations have less exacting demands than developed countries.

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Moreover, among the East European countries, Czechoslovakia has the largest assistance program for the less-developed countries and generally is willing to take raw materials not in wide demand on the world market as repayment for credits. Nevertheless, Czechoslovakia has begun having difficulty marketing its products in these countries and even in the other Communist countries. These countries have been broadening their own range of products and also prefer, when they can afford it, to buy superior Western products.

The Czechoslovaks, in fact, have done less than most East European countries to try to sharpen their competitive position in the West. They have lagged in cooperative ventures, licenses, and even outright purchases of advanced plant and equipment. And they have not tried to restore the old traditional export industries—such as glassware—that still might have considerable appeal in the West. Plans for 1974 include a sharp increase in trade with West perhaps indicating that Prague is beginning to come out of the shell.

*e. **Balance of payments** (S)*

In all but 5 years of Communist rule, Czechoslovakia has had a generally sizable export surplus. Czechoslovakia's hard currency trade account, however, has accumulated a deficit of about US$850 million during 1960-72. The growth of hard currency indebtedness was temporarily curtailed in 1967-69 by a decline in imports in 1967 and good export gains in 1969. The Czechoslovaks were forced into emergency short-term borrowing when exports to the West fell in August 1968 as a result of the Soviet occupation. A deficit for the year as a whole, however, was forestalled by an unusually large surplus in Czechoslovakia's small hard currency trade with less-developed countries. Small hard currency deficits were recorded in 1970-72, but high-priced agricultural purchases created a record deficit in 1973.

Czechoslovakia has maintained one of the lowest debt servicing burdens relative to hard currency exports in Eastern Europe (about 25%). Hard currency deficits have been financed largely by medium- and short-term credits; the leaders, including Husak so far, have generally shied away from large long-term credits from the West. Indeed, as of the end of 1973, the last major credit from non-Communist sources was a $40 million line extended by Japan. Czechoslovakia also has received at least two small gold loans from the U.S.S.R.—one for $25 million in 1948 and another for 13.5 million in 1957.

In its trade with other Communist countries, Czechoslovakia customarily runs a surplus, accumulating an estimated balance in 1970-72 roughly equivalent to $500 million. This surplus does not include credits granted to the U.S.S.R., Poland, and East Germany—valued at over $1.5 billion—for development of raw materials in those countries. These credits included $556 million to the U.S.S.R. in 1966 for investment in the Soviet petroleum industry, a credit to Poland in 1967 for the development of the copper industry, and another $44 million to the U.S.S.R. in September 1968 for the construction of a natural gas pipeline on Soviet territory. In return, Czechoslovakia has been guaranteed long-term supplies of the related commodities.

In its bilateral clearing trade with less-developed countries, Czechoslovakia continues to accumulate a clearing surplus—in excess of US $800 million during 1960-1972. As in the past, the Czechoslovaks probably will find it necessary to offer long-term, l... rate credits to facilitate sales of its machinery and equipment to these clearing customers.

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