

SECRET
13A/GS/E

The Economy

East Germany

August 1973

NATIONAL INTELLIGENCE SURVEY

SECRET

WARNING

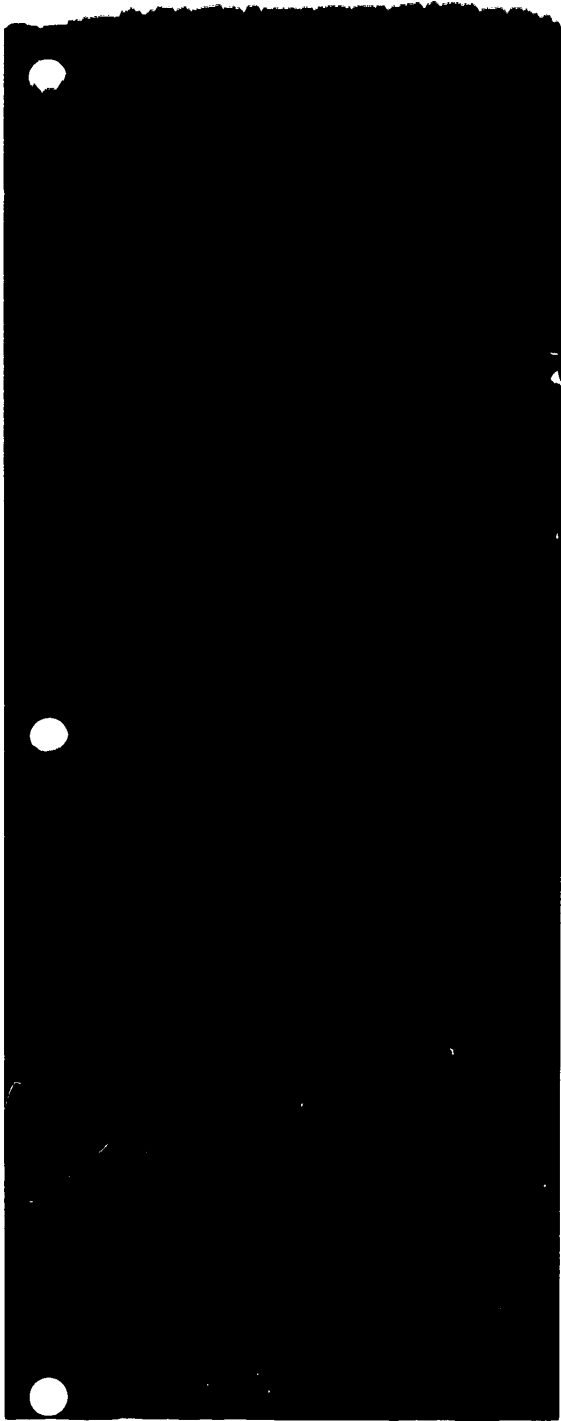
The NIS is National Intelligence and may not be released or shown to representatives of any foreign government or international body except by specific authorization of the Director of Central Intelligence in accordance with the provisions of National Security Council Intelligence Directive No. 1.

For NIS containing unclassified material, however, the portions so marked may be made available for official purposes to foreign nationals and nongovernment personnel provided no attribution is made to National Intelligence or the National Intelligence Survey.

Subsections and graphics are individually classified according to content. Classification/control designations are:

(U/OU) Unclassified/For Official Use Only
(C) Confidential
(S) Secret

This chapter was prepared for the NIS by the Central Intelligence Agency. Research was substantially completed by May 1973.



East GERMANY

CONTENTS

*This chapter supersedes the economic coverage
in the General Survey dated February 1970.*

- A. Economic appraisal 1
- B. Sectors of the economy 3
 - 1. Agriculture, fisheries, and forestry 3
 - a. Climate and soils 3
 - b. Production and consumption 4
 - c. Problems and policies 6
 - d. Fisheries and forestry 8
 - 2. Fuels and power 9
 - a. Coal and coke 9
 - b. Petroleum and natural gas 10
 - c. Electric power 10

SECRET

	<i>Page</i>		<i>Page</i>
3. Metals and minerals	12	C. Policy and development	24
a. Ferrous metals	13	1. Policy	24
b. Nonferrous metals	14	2. Development	25
4. Manufacturing and construction	15	3. Government finance	26
a. Metal products	17	D. International economic relations	28
b. Chemicals	18	1. Foreign trade	28
c. Light industry (including textiles) ..	19	a. Policy	28
d. Agricultural processing	19	b. Volume and direction	30
e. Construction	20	c. Commodity composition	31
5. Domestic trade	21	2. Balance of payments	31
		Glossary	33

FIGURES

	<i>Page</i>		<i>Page</i>
Fig. 1 Growth of GNP and industrial and agricultural production (<i>chart</i>) ..	2	Fig. 17 Distribution of industrial production (<i>table</i>)	15
Fig. 2 Gross fixed capital investment (<i>chart</i>) ..	2	Fig. 18 Distribution of industrial employment (<i>table</i>)	16
Fig. 3 GNP, by sector of origin (<i>chart</i>) ..	3	Fig. 19 Output of machinery and equipment (<i>table</i>)	17
Fig. 4 Supply position of basic materials (<i>table</i>)	4	Fig. 20 Shipbuilding (<i>photo</i>)	18
Fig. 5 Grain harvesting (<i>photo</i>)	5	Fig. 21 Tractor plant (<i>photo</i>)	18
Fig. 6 Land use (<i>chart</i>)	5	Fig. 22 Output of chemicals and rubber (<i>table</i>)	19
Fig. 7 Land use pattern (<i>map</i>)	6	Fig. 23 Output of light industry products (<i>table</i>)	20
Fig. 8 Principal agricultural and animal products (<i>table</i>)	7	Fig. 24 Large-unit construction (<i>photo</i>)	21
Fig. 9 Livestock numbers (<i>table</i>)	7	Fig. 25 Growth of retail sales (<i>table</i>)	22
Fig. 10 Agricultural collectivization (<i>table</i>) ..	8	Fig. 26 Retail trade in commodity groups (<i>table</i>)	23
Fig. 11 Industrial concentrations (<i>map</i>)	8	Fig. 27 Composition of retail sales (<i>table</i>) ..	23
Fig. 12 Fuels and electric power (<i>table</i>) ..	9	Fig. 28 Consolidated state budgets (<i>table</i>) ..	28
Fig. 13 Electric power consumption (<i>table</i>) ..	11	Fig. 29 Value of foreign trade (<i>table</i>)	30
Fig. 14 Luebbenau powerplants (<i>photo</i>) ..	12	Fig. 30 Geographic distribution of foreign trade (<i>chart</i>)	30
Fig. 15 Saalfeld Hohenwarte powerplant (<i>photo</i>)	12	Fig. 31 Commodity composition of imports and exports (<i>table</i>)	31
Fig. 16 Output of metals, minerals, and construction materials (<i>table</i>) ..	13		



The Economy

Petrochemical plant, Leuna II (U. O. U.)

A. Economic appraisal (C)

Despite a population level that has been stable at about 17 million since 1960 and a labor force that has actually declined slightly, the gross national product of the German Democratic Republic (GDR) has risen at a respectable 4% per year rate since the economic slowdown of the early 1960's (Figure 1). In 1972, the

country's GNP was estimated at about \$45.1 million (1971 prices) or \$2,650 per capita. On a per capita basis, East German GNP has risen at about the same rate as that of West Germany, and has remained at a level slightly less than three-fourths that of West Germany. The East German personal consumption level is relatively even lower, however, than that of West Germany, since investment takes a larger share

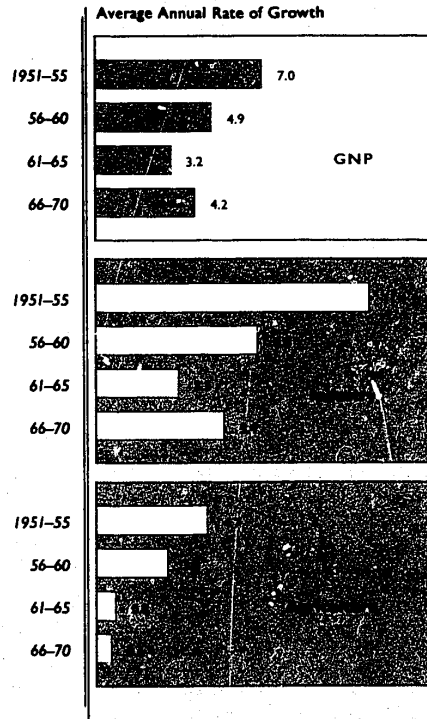


FIGURE 1. Estimated growth rates of GNP and industrial and agricultural production (U/OU)

of GNP than it does in West Germany. Investments have risen rapidly, especially since 1963 (Figure 2).

The GDR is the most highly industrialized country in Eastern Europe; the industrial sector accounts for more than one-half of its net output of goods and services (Figure 3). The share of GNP produced by the industrial sector has risen steadily in the postwar period, chiefly at the expense of agriculture, while communications (including transportation) and trade have each accounted for a relatively stable share of the total. Although agriculture and forestry have declined in relative importance, the agricultural sector still supplies the bulk of the domestic food requirements.

East Germany is deficient in many of the key natural resources required by modern industry. It has only small reserves of iron ore (low-grade) and small reserves of hard coal and crude oil. Its main resources are brown coal, uranium ore, nonmetallic minerals

(including salt, sulfur, potash, and fluorspar), and recently discovered and developed natural gas deposits of still uncertain size. Before World War II the eastern German area depended mainly on the western area for hard coal and ferrous metals. There was also a large, complex intra-German trade in manufactures. Since the war, the U.S.S.R. has been the main supplier of materials to the GDR, although in recent years the regime has turned to the West, especially to West Germany, for materials, such as chemicals and nonferrous metals, as well as for industrial plant and equipment. The country's overall supply position in several basic materials is shown in Figure 4.

The economy still bears the scars of being abruptly cut off from West Germany and other Western markets at the end of World War II. The Communist countries, with which the GDR has conducted about three-fourths of its foreign trade, could not replace either the materials or the industrial cooperation formerly supplied by West Germany, nor offer a comparable market for specialized East German industries. The GDR was forced to build up new high-cost industries to meet Soviet requirements and to help replace West German deliveries. These new industries—chiefly mining, ferrous metallurgy,

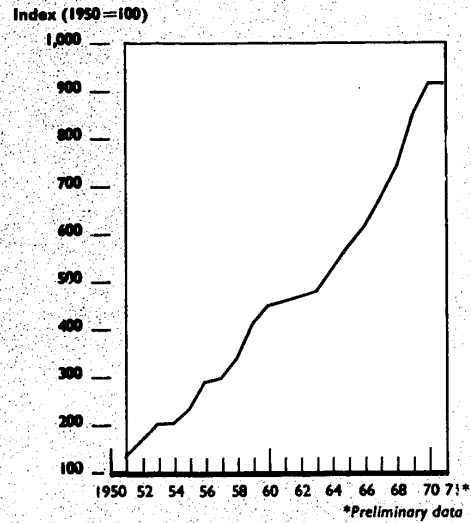


FIGURE 2. Index of gross fixed capital investment (U/OU)

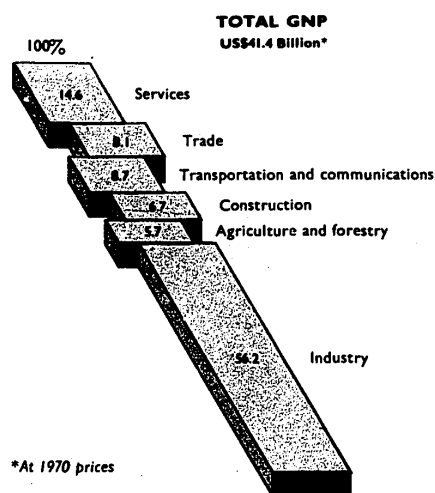


FIGURE 3. GNP, by sector of origin, 1971 (U/OU)

shipbuilding, and heavy engineering—provided the main sources of economic growth until the early 1960's. East Germany's traditional export industries, producing consumer goods and light machinery, lagged for lack of supplies, markets, and modernization.

The GDR economy has been undergoing partial modernization since the early 1960's, as a result of the availability of large amounts of Soviet crude oil, other changes in supply and demand in the Soviet-East European market, and increased purchases of Western machinery on credit. In the late 1960's, the Ulbricht regime tried to accelerate this transformation by pushing output and investment in industries producing goods and services to meet consumer demand, but this lopsided, overambitious program bogged down in 1970 in the wake of two hard winters and poor harvests. In the fall of 1970 the Politburo overruled Ulbricht and reversed priorities in order to ease widespread shortages, especially of fuels, power, and machinery components, and to reduce mounting trade deficits. Investment growth was curtailed and investment expenditures were diverted to the coal and power industries. These decisions formed the basis of the Honecker regime's policies in 1971-72.

Indications of another policy shift appeared at the end of 1971 when the regime acknowledged the importance of increasing the domestic supply of

industrial consumer goods. Implementation of the policy change began in 1972 and has been reflected in the economic plan for 1973. Attempts to appease the population with more goods has parallels elsewhere in Eastern Europe; everywhere expectations have risen faster than supply. The East Germans are also determined to offset the general disappointment of the populace over continued, reinforced isolation from West Germany. This emphasis on increasing consumption has its cost—a large foreign trade deficit with the West in 1972 and another large deficit expected in 1973.

B. Sectors of the economy

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

a. Climate and soils

The East German terrain is a nearly flat to rolling plain, bordered in the southwest and south by a narrow belt of hills. The plain is extensively cultivated (Figure 5), although the soils, except for one small area, are low in fertility, requiring large amounts of fertilizer and good management. Forests are scattered over most of the area, but timber production is concentrated in the southern highlands.

The climate is generally favorable for agricultural production. It is subject to both oceanic and continental influences, but the continental influences from the east usually predominate. Temperatures are less severe than those at comparable latitudes in North America. Summer temperatures generally rise to between 70° (F.) and 75° during the day, while minimum temperatures at night range between 50° and 55°. Greater temperature variations occur in the winter. Precipitation is not abundant, averaging between 20 and 30 inches annually (20 and 24 inches over most of the agricultural areas), but it is distributed fairly evenly throughout the year. The frequent precipitation and a low rate of evapotranspiration, resulting from the relatively cool temperatures and the small number of sunny days, insure sufficient moisture for the cultivation of most crops.

About 58% of the land of East Germany is suitable for agriculture (43% arable and 15% in meadows and pastures), 27% is in forests, and 15% is agriculturally nonproductive (Figure 6). Grain is sown on 50.2% of the cropland, well below the prewar figure. Principal grain crops are rye and wheat, but barley and oats are also grown. Potatoes, also a major crop and used both as a staple for human consumption and as feed, are planted on 14.2% of the cropland. The use of land for

FIGURE 4. Supply position of selected basic materials, 1970 (U/OU)
(Thousand metric tons except as indicated)

	PRODUCTION	IMPORTS	EXPORTS	APPARENT CONSUMPTION	IMPORTS AS PERCENT OF APPARENT CONSUMPTION
Crude oil.....	150	10,315	0	10,465	99
Hard coal (bituminous and anthracite).....	1,000	7,927	0	8,927	89
Hard coal coke*.....	2,572	3,123	<i>Insig</i>	5,695	55
Brown coal.....	260,582	0	0	260,582	0
Iron ore (Fe content).....	105	1,490	0	1,595	98
Rolled steel.....	3,406	3,494	396	6,504	54
Phosphate fertilizers (P ₂ O ₅).....	**430	24	0	454	6
Grains.....	6,500	3,421	326	9,595	25
Wool (grease basis).....	7	20	0	27	71
Cotton.....	0	106	0	106	100
Lumber (1,000 m ³).....	7,404	1,042	96	8,350	12
Aluminum (ingot).....	63	94	0	157	60
Copper, refined.....	38	<i>na</i>	0	<i>na</i>	<i>na</i>
Manganese ore (Mn content).....	0	68	0	68	100
Chrome ore (Cr ₂ O ₃ content).....	0	42	50	42	100
Pig iron.....	1,994	812	0	2,806	29
Synthetic rubber.....	118	0	55	63	<i>U</i>
Electric power (million kw.-hr.)....	67,650	886	780	67,756	1

na Data not available.

*Most of the domestic output is not suitable for metallurgical coke, but most of the imports are.

**All production is from imported phosphate rock.

forage (11.7%) and industrial crops (7.5%) has increased significantly since the war, largely by diversion of land formerly under grain. Areas of most intensive cultivation generally coincide with the wheat, sugar beet, and corn growing areas, primarily in the southwest quarter of the country (Figure 7).

b. Production and consumption

Agricultural production was just recovering its prewar levels when the regime forcibly completed collectivization in the spring of 1960. The disruptive effects of this policy combined with bad weather to reduce output in 1961 and 1962. In 1963 and, to a lesser extent, in 1964, mediocre harvests and unusually poor crops in the Soviet Union (usually the principal source of East German grain imports) forced East Germany into the world grain market for the first time. In the late 1960's production rose as a result of great increases in inputs (fertilizers, pesticides, etc.) and the introduction of improved grain varieties. In 1970 and 1971, however, serious weather difficulties—a long cold winter in 1970 and drought in 1971—again reduced output. Production of grain was at a near record in 1971, reflecting the superior resistance to pests and drought of the new Soviet wheat types, but a summer drought reduced potato and industrial crop production to levels lower than those of previous years.

Average annual output of grains rose only slightly after the war, but it increased more rapidly in the late 1960's with the introduction of new, improved varieties. Production of sugar beets and oilseeds increased sharply during the 1962-68 period, but since then it has experienced a declining trend. The combination of a labor shortage and high production costs has caused a gradual decline in the area devoted to these crops. Production figures for selected agricultural products are shown in Figure 8.

Livestock is becoming increasingly important in the East German agricultural economy. Animal products account for over half of total gross agricultural output; meat and dairy products output is well above prewar levels. Numbers of cattle and hogs (Figure 9), are above the 1956-60 average. Because of improved feeding efficiency, the reduced number of horses, and large imports of high-protein concentrated feed, production of meat and dairy products has risen more rapidly than animal numbers, reflecting gains in animal productivity. A major problem is the slow growth in beef cattle numbers needed to meet domestic demand for meat.

Although the area that is now East Germany was a net exporter of food (if trade with the rest of Germany is included) before the war, domestic production now supplies only 76% of East German food consumption.

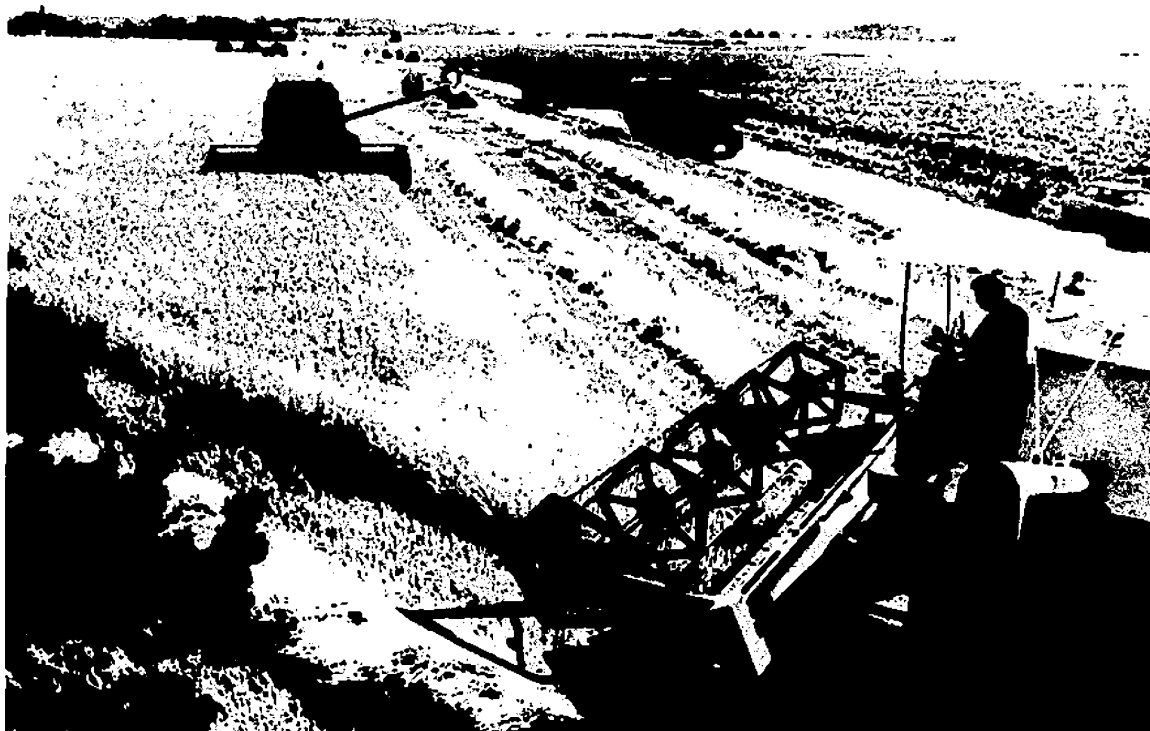


FIGURE 5. Harvesting grain in a leading agricultural area in the southwest (U/OU)

Production has increased only moderately, and consumption has risen rapidly, particularly in the 1950's. The East German diet, the best in Eastern Europe, now compares favorably with that of West Germany in terms of calories, but the quality of the East German diet is still inferior. Average per capita consumption is estimated at over 3,000 calories per day. Since 1960 the increase in per capita food consumption has slowed, actually falling slightly in the early 1960's, but the quality of the East German diet has continued to improve. Increased imports of tropical fruit, coffee, and cocoa, and even butter and meat in some cases, have been unable to keep pace with rising demand.

Imports of other agricultural commodities have also risen. Since the war East Germany has imported about one-quarter of its grain from the Soviet Union. Beginning in 1962, when poor Soviet crops and bad East German harvests forced the East Germans into the free market, imports from the West, particularly

TOTAL LAND AREA
41,200 square miles

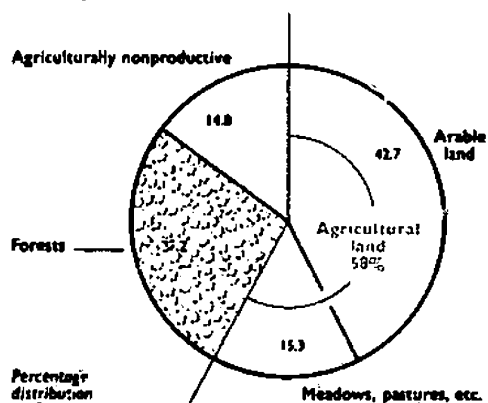


FIGURE 6. Land use, 1971 (U/OU)

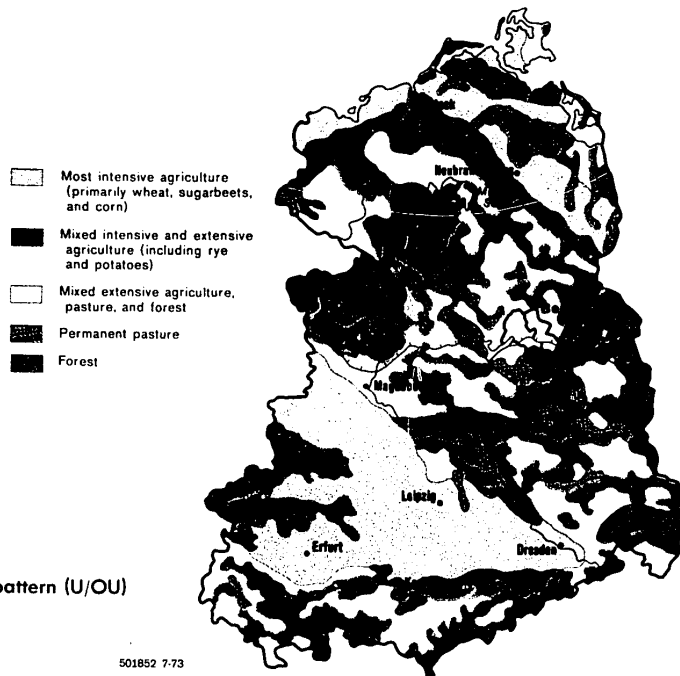


FIGURE 7. Land use pattern (U/OU)

501852 7-73

corn and sorghum, have provided significant shares of East German requirements. Western grain imports reached a peak in 1970-71. High-protein feed supplements, like oilcake, are also being imported in larger quantities each year.

c. Problems and policies

The postwar growth of agricultural production has been seriously impeded by the regime's insistence on agricultural collectivization and by its failure to allocate the resources necessary to support large-scale farming. Immediately after the war most large landholdings were confiscated, and the land was redistributed to small landholders and landless peasants. During the 1950's pressure for collectivization increased, especially through the Machine Tractor Stations, which controlled most major agricultural equipment. This campaign made rapid progress in the late 1950's and was suddenly forced to completion in the spring of 1960. The land held by collectives rose from 40% of the total in 1959 to 84% in 1960 (Figure 10). The regime then paused to consolidate the new collectives and to overcome the disruptive effects of the forced collectivization. Little pressure was exerted to transform "lower level"

cooperatives, in which only the agricultural land is held in common, into "higher level" ones, in which all land and livestock are collectively held. Since 1966, however, the regime has been pushing intercooperative planning, management, and investment, and the joint use of farm machinery in the hope of increasing specialization and the efficient use of farm resources. In 1971 the land held by collectives amounted to about 86% of all agricultural land. The remainder consisted of private holdings, including the private plots owned by members of state and cooperative farms.

The East German regime apparently did not anticipate the disruption caused by the collectivization campaign, the continued passive resistance of the peasants, and the drop in production in the early 1960's. The Central authorities did not take positive action to counter the resistance until 1963, when they introduced a complex system of production bonuses, which was subsequently modified and expanded frequently to reflect the regime's changing priorities. Production bonuses were originally designed to encourage livestock and dairy product output, but they have been extended to feed and industrial crops.

FIGURE 8. Output of principal agricultural and animal products (U/OU)
(Thousands of metric tons)

	1966	1967	1968	1969	1970	1971
Wheat and rye*	3,163	3,998	4,313	3,531	3,615	4,244
Barley and oats*	2,229	2,772	2,985	2,908	2,484	3,093
Potatoes	12,823	14,065	12,639	8,832	13,054	9,412
Sugar beets	6,611	6,948	6,998	4,856	6,135	5,128
Vegetable oilseeds (rape)	208	270	263	164	180	196
Meat**	906	946	982	893	972	996
Butter	206	209	220	215	216	225
Milk (whole)***	6,728	6,904	7,227	7,232	7,091	7,150
Sugar (raw)†	671	681	598	562	587	640
Wool (grease basis)	8.3	8.1	8.0	7.9	7.3	7.3

*Official production data do not make sufficient allowance for dockage or adjustment to a standard moisture content. Such deductions would range from 5% to 10%, depending upon harvest conditions in a given year.

**Trimmed carcass weight of cattle and hogs, excluding poultry.

***3.5% butter fat, cow milk only.

†Including raw sugar imported for refining.

Procurement prices for many commodities have been raised, and price differentials for quality have also been introduced.

In the 1960's the regime also introduced programs to improve management and resource use and abandoned obviously impossible plan goals. Since 1963 the collectives have been able to purchase equipment previously available only through the Machine Tractor Stations. These changes have not overcome the results of forced collectivization, which are reflected in the high cost of increasing agricultural output, but it has permitted a decline in the farm labor force, and productivity per unit of land remains the highest in Eastern Europe.

Although agriculture still occupies a low position in the regime's priorities, the East German leadership has apparently accepted the fact that inputs into agriculture must be improved either quantitatively or qualitatively if production is to increase. Industrial inputs available to agriculture have increased steadily

since the early postwar period and are well above comparable levels in other Eastern European Communist countries. East Germany has by far the highest input of mineral fertilizers per hectare of agricultural land in Eastern Europe (246 kilograms, nutrient content). Supplies of farm machines—such as tractors, harvesters, and combines—are also relatively high, but poor maintenance and unavailability of many spare parts have in many cases prevented their full utilization. Investment in agriculture has also increased, but not sufficiently to support the large-scale farming that the regime favors. The share of agriculture in total investment rose from 13.3% in 1965 to 15.5% in 1968. Since then investments in industry have absorbed larger amounts of investment funds, and the share of agriculture has again fallen—to 13.0% in 1971.

The agricultural labor force has continued to decline at a rate faster than the labor force as a whole, largely due to competition from relatively high-paying

FIGURE 9. Livestock numbers (U/OU)
(Thousands*)

	1956-60 AVERAGE	1961-65 AVERAGE	1966	1967	1968	1969	1970	1971
Cattle	4,150	4,623	4,918	5,018	5,109	5,171	5,190	5,293
Cows	2,139	2,133	2,196	2,188	2,165	2,167	2,163	2,174
Hogs	8,137	8,767	9,312	9,254	9,523	9,237	9,684	9,995
Sheep	2,031	1,911	1,928	1,818	1,794	1,696	1,598	1,607
Goats	614	377	278	236	204	158	135	na
Horses	576	338	250	219	188	148	126	na

na Data not available.

*As of 30 November or 3 December census.

FIGURE 10. Progress of agricultural collectivization (U/OU)
(Percent of total arable land)

	1955	1960	1965	1970	1971
Socialist.....	27.8	92.5	93.9	94.2	94.9
Of which:					
State farms.....	4.4	6.3	6.7	7.0	7.1
Cooperatives.....	18.6	84.4	85.9	86.0	86.4
Of which:					
"Higher level" (Type III).....	16.5	52.7	58.7	72.0	75.5
Private.....	72.7	7.5	6.1	5.8	5.7
Total.....	100.0	100.0	100.0	100.0	100.0

jobs in the cities. There is little that the regime has been able to do to reverse the trend, but it is making an attempt to improve the quality of the remaining agricultural labor force by training those who stay on the farms and by trying to attract more young people into agricultural careers. Many students, soldiers, and city workers are "volunteered" to work on the harvests, but they are generally not able to compensate for the loss of experienced labor formerly provided by family members of independent peasant households. (The overall manpower situation of East Germany is discussed in detail in The Society chapter of this General Survey.)

d. Fisheries and forestry

As a result of substantial and successful efforts to increase the fish catch since the war, the domestic catch now supplies most consumption requirements. From 1960 to 1971 the catch rose from 114,000 tons to 331,000 tons. Of the latter total, all but 14,000 tons was caught by the coastal and high-seas fishing fleets.

Forestry, which was an export industry in pre-World War II years and in the early postwar period, now supplies only about 85% of domestic demand for wood and wood products. Imports of lumber and pulpwood increased by at least 65% since 1960, to satisfy rising

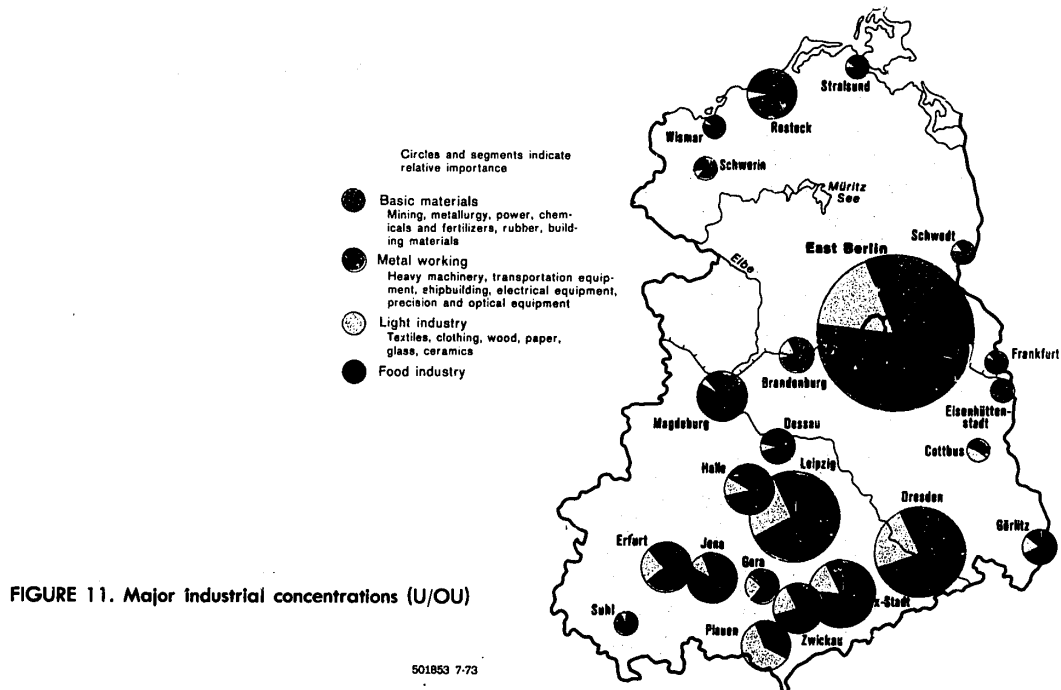


FIGURE 11. Major industrial concentrations (U/OU)

domestic requirements without resorting to overcutting of the forests. As a result, production of furniture, toys, paper, and other wood-based products rose rapidly, while domestic timber output fell from 14 million cubic meters in 1951 to a low of about 6.2 million cubic meters in 1966, probably below new growth. Since 1966, however, the output of timber has again increased.

2. Fuels and power (C)

Brown coal, the historical foundation of East German industry and still the source of 75% of its primary energy, is steadily losing ground to crude oil and natural gas as a source of power. Brown coal is used to generate 84% of the electric power produced, but it has been displaced by crude oil as a source of petroleum products and other petrochemicals.

a. Coal and coke

Brown coal mining is centered in the southern part of East Germany, around the cities of Halle, Leipzig, and Cottbus (Figure 11). Open-pit mining technique is used in all brown coal mining; thus, it is highly mechanized and requires small amounts of labor. Most raw brown coal is consumed by electric powerplants located at or near the mines. A large, but decreasing, percentage of the output is made into briquettes, used principally for household space heating, but also to a limited extent by railroads, electric powerplants, gasification plants, and chemical producers. Although proved reserves are large (about 25 billion tons), the cost of developing them is high and rising sharply, as the regime has discovered in the long-delayed and still-troubled Schwarze Pumpe project in Hoyerswerda. About 4 cubic meters of overburden must now (1971) be removed for each ton of brown coal produced, as contrasted with 2.3 cubic meters in 1955 and about 3 cubic meters as recently as the mid-1960's. According to one East German report,

the ratio of overburden to coal output is over six-to-one in more than half the mines. Because of this high cost, the phasing out of marginal mines was being considered in the mid-1960's, and output actually fell in 1965 for the first time since the war. Serious power shortages in 1969 and 1970 forced a reconsideration, however, and the regime expects to maintain output at a 250-million-ton level throughout the 1970's. (Figure 12 shows output of brown coal, other selected fuels, and electric power.)

Hard coal (chiefly bituminous) supplies less than 10% of the total domestic supply of energy. Domestic output (about 1.0 million tons) provides a declining proportion of total hard coal consumption—probably only about 10% in 1970. Consumption is also falling as railroads are shifted to diesel oil and as gasification plants are closed or begin using natural gas. Mining costs are high, and proved reserves are enough for only a few years at the current rate of production. Most hard coal mines are being closed, and their workers are being retrained for other occupations. Imports, mostly from the Silesian fields in Poland (part of Germany before World War II), but also from Czechoslovakia and the U.S.S.R., will likely continue to be the major sources of supply.

One serious fuel problem is the supply of metallurgical coke. Very little of the hard coal mined in East Germany is of coking quality. Coking coal, moreover, is in short supply throughout Eastern Europe, and East Germany has found it difficult to import enough coke or coking coal suitable for use in its iron and steel industry. East Germany has experimented on a large scale with the production of a metallurgical-grade coke from brown coal. In recent years about 1 million tons of this coke have been produced annually, of which about 300,000 to 350,000 tons have, until recently, been consumed in specially constructed blast furnaces at the Calbe steel plant. The Calbe plant was closed in early 1972.

FIGURE 12. Output of fuels and electric power (U/OU) (Thousand metric tons except as indicated)

	1955	1960	1965	1966	1967	1968	1969	1970	1971
Hard coal.....	2,682	2,721	2,212	1,887	1,789	1,600	1,300	1,000	800
Brown coal.....	200,612	225,465	250,839	249,040	242,027	247,113	254,553	260,582	262,814
Brown coal briquettes.....	50,967	56,047	60,380	59,426	56,087	56,389	56,869	57,078	55,200
Hard coal coke.....	2,705	3,206	3,209	3,191	2,921	2,551	2,391	2,572	2,316
High-temperature brown coal coke...	458	1,008	1,050	1,060	1,087	1,093	1,100	1,308	1,759
Low-temperature brown coal coke....	6,368	6,691	6,291	6,263	5,871	5,701	5,334	4,968	4,415
Electric power (million kw.-hr.).....	28,695	40,305	53,611	56,866	59,686	63,230	65,463	67,650	69,420
Petroleum products.....	1,961	3,112	6,092	7,308	7,792	8,741	9,904	11,377	12,108
Natural gas (million cubic meters)....	10	26	133	150	200	143	371	1,233	2,800

however, and it is not known whether high-temperature brown coal coke production will be continued.

b. Petroleum and natural gas

Petroleum plays an important and rapidly expanding role in the East German economy—providing about 14% of the total energy supply, compared with 3% in 1960 and 8% in 1967. East Germany, in spite of intensive exploration, has not located significant domestic deposits of crude oil. Imports from the Soviet Union provide more than 90% of the total crude oil supply and have increased rapidly, particularly since the completion of the CEMA Friendship pipeline in 1963. A large oil refinery has been built at Schwedt at the western terminus of the pipeline. In 1972 the Schwedt refinery processed 7.5 million tons of crude oil, about 65% of all the crude processed in East Germany. The petroleum processing capacity is to rise to 13 million tons annually by 1975 and 20 million tons in 1980. To handle increased Soviet supplies of crude oil a pipeline paralleling the Friendship line has been recently completed. Additional pipelines connect Schwedt with the chemical processing center of Leuna and with the port of Rostock, where crude oil comes in by tanker.

The regime plans to rely increasingly on petroleum in modernizing the economy—dieselizing the railroads, increasing agricultural mechanization, and providing more central heating for private housing. The U.S.S.R. reportedly plans to supply a total of 64 million metric tons during the 1971-75 plan period, compared with 38 million tons in 1966-70; deliveries exceeded 11 million tons in 1972. In addition, the East Germans imported over 900,000 tons of crude oil from Egypt in 1970 and have imported some from Iran as well (on West German account).

East German production of petroleum products has risen sharply since the late 1950's. Output of all products increased from 3.1 million tons in 1960 to an estimated 10.8 million tons in 1970. The bulk of this increase was in gasoline and diesel fuel production. Almost two-thirds of the total output in 1957 was derived from brown coal, while only one-third came from petroleum; in 1961 these proportions were reversed. Over 90% of the output of petroleum products and synthetic chemicals now comes from crude oil. The major refineries that produce the bulk of petroleum products are located at Schwedt, Leuna, and Brehlen.¹

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

A considerable part of the output of petroleum products is exported; exports rose by 87% between 1960 and 1975, but since then have declined by about 20%. The most important exports are gasoline and diesel fuel; substantial amounts of paraffin and fuel oil are also exported. In the early 1960's about 80% of all exports of gasoline and diesel fuel went to West Germany. Following the elimination in 1963 of West German tariff protection and subsidy payments, East German shipments of gasoline and diesel fuel fell off sharply. This trade had been highly profitable to the GDR, since the protective tariffs and subsidies applied to both West German and East German producers of petroleum products. East German shipments were suspended entirely in January 1967 in an attempt to force the West Germans to make compensatory payments, and a settlement was finally reached in December 1968. Shipments of gasoline and diesel fuel were resumed in March 1969, but under quotas that were well below the import levels of the 1960's. East German deliveries of petroleum products to West Germany in 1971 totaled only 76,000 tons.

In order to maintain exports of petroleum products to non-Communist countries while domestic consumption increases, East Germany also imports these products. The U.S.S.R. is the most important source of imports.

In 1969, after years of intensive exploration, deposits of natural gas were discovered, apparently around the town of Merseburg. Production, which was about 143 million cubic meters in 1968, rose to 2.8 billion cubic meters in 1971. Production in 1972 was estimated at 5 billion cubic meters, and the revised plan for 1975 calls for output of approximately 9 billion cubic meters. In addition, natural gas is imported from the U.S.S.R. via a new pipeline through Czechoslovakia completed in May 1973. Some of this increase in supply will replace the manufactured gas output lost in closing some of the old coal gasification plants. Consumption of natural gas is to increase rapidly, particularly in chemical production.

2. Electric power

The electric power industry is one of the most highly developed sectors of the East German economy, and per capita production is relatively high. Even so, the power supply has been very tight. At the end of 1972 the installed capacity was 14.3 million kilowatts (kw), and the production of electric power during the year was 72.8 billion kilowatt-hours (kw-hr). Thermal powerplants, including one nuclear installation, comprise by far the largest share of the capacity.

hydroelectric plants constitute less than 5% of the total capacity. Expansion of the power industry has been achieved, but at a high cost; the industry is largely dependent on domestic brown coal of low calorific value, and much of the powerplant equipment is outmoded. More than one-fifth of all industrial investments made during 1966-70 was for the development of power facilities, and electric power installations now account for one-seventh of all fixed assets in the country.

About three-fourths of the electric energy produced is consumed in the highly developed southern half of the country, largely in support of manufacturing industries; the northern regions are largely agricultural and have less need for electricity. A comparison of 1960 and 1971 power consumption, by sector (Figure 13), indicates that the percentage of the total consumed by each sector has remained relatively stable. Within the industrial sector, the chemical industry alone consumed more than one-fourth of the net available power in 1971.

The bulk of the generating facilities are located in the southern and southeastern parts of the country, close to brown coal deposits and the main consuming centers. The greatest concentration of powerplants is in the Cottbus-Dresden area. The powerplants in this region have a total capacity of over 5 million kw., or about 40% of the national capacity. Included are such facilities as the 1.3 million-kw. Luebbenau 1, 2, and 3 powerplants, the largest powerplant installation in the country (Figure 14); the 1.2 million-kw. Vetschau powerplant; the 750,000-kw. Schwarze Pumpe East,

Middle, and West powerplants; the 450,000-kw. Trattendorf 1 and 3 powerplants; and 1,050,000 kw. at the partially completed Boxberg powerplant. The second most important group of generating facilities is in the Bitterfeld-Leipzig area, where over 4 million-kw. capacity is installed. The powerplant capacities in that region include 1,000,000 kw. at the Borna Thierbach powerplant, 470,000 kw. at the Leipzig Espenhain powerplant, 600,000 kw. at the Leipzig Lippendorf powerplant, 384,000 kw. at the Vockerode powerplant, 338,000 kw. at the Leuna powerplant, and 300,000 kw. at the Zschornowitz powerplant. Other important powerplants are located in the extreme southeast, in East Berlin and its vicinity, and in the southwest. There is a 70,000-kw. nuclear powerplant at Rheinsberg in the northern part of the country, but facilities in the north are sparsely distributed. The largest hydroelectric powerplant in the country is the Saalfeld Hohenwarte 2 plant, which has an installed capacity of 320,000 kw. (Figure 15).

Electric energy is transmitted by an extensive network of high-voltage lines, especially in the southern part of the country. Major transmission facilities are centered on the main electricity producing and consuming regions of Bitterfeld-Leipzig and Cottbus-Dresden. These regions are interconnected by high-voltage 380-kilovolt (kv.) lines, and several lines—including two at 380-kv.—lead to the Berlin area. In the northern part of the country the network consists largely of long-distance lines that serve isolated load centers.

By 1975 capacity is expected to grow to 18.5 million kw., with annual production of about 90 billion kw.-hr. Main additions to existing plants will be 300,000 kw. at the Schwarze Pumpe powerplants and 1.5 million kw. at the partially completed Boxberg powerplant. The Boxberg power facility is equipped with 200,000-kw. generating units, the largest utilized by the East German industry to date; a second section of this plant eventually will include 500,000 kw. generating units. An important project of the current 5-year plan is the Goerlitz Hagenwerder 3 powerplant, where the first 300,000 kw. generating unit in East Germany will be installed. The second nuclear powerplant in the country, at Greifswald, will have a capacity of 880,000 kw. upon completion of the first section, projected for 1974-75. Construction continues on the 1 million-kw. Markersbach hydroelectric powerplant, with completion projected after 1975.

Development of the domestic power equipment industry has been discouraged because of the country's reliance upon the U.S.S.R. for much of this equipment, and continued growth of the country's

FIGURE 13. Electric power consumption, by sector (U O U)
(Percent of total)

	1960	1971
Industry		
Power and fuel industry	15.3	17.4
Chemical industry	32.2	36.7
Metallurgical industry	6.6	6.2
Building materials industry	1.2	2.4
Water supply		1.0
Metal processing industry	5.3	6.5
Light industry (includes textiles)	3.4	3.4
Foodstuffs industry	1.2	2.0
Other	3.2	2.0
Total industry	77.1	69.7
Transportation and postal services	1.9	2.1
Trade, handicrafts, and professional services	2.3	2.3
Agriculture	3.3	3.0
Household	2.0	3.2
Other	3.0	3.1
Total	100.0	100.0

FIGURE 14. Luebbenau 1, 2, and 3 powerplants; this 1,300,000-kw. installation was the largest in the country as of 1971 (U/OU)

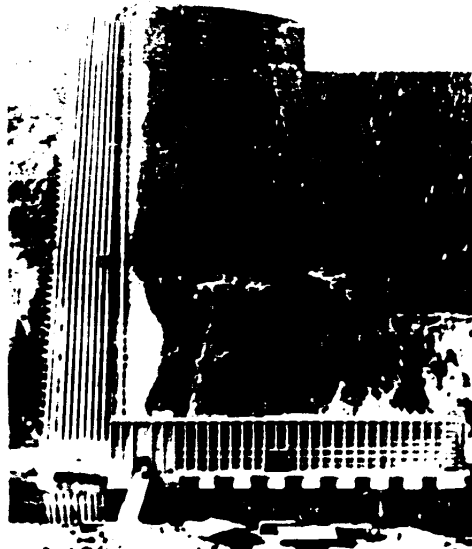
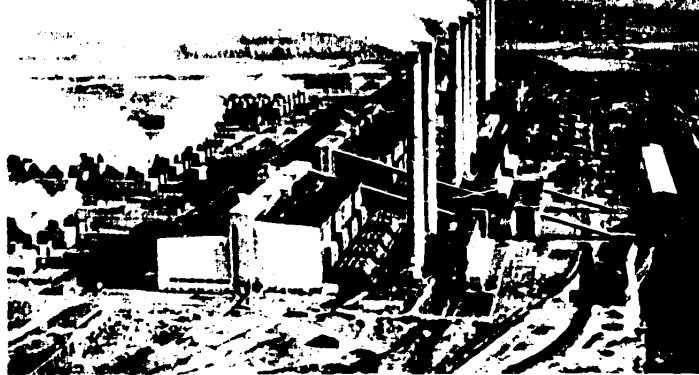


FIGURE 15. Saalfeld Hohenwarte 2 hydroelectric powerplant, the largest hydroelectric plant in East Germany (U/OU)

seasonal demands and to provide for peakload requirements. East Germany has little electric power reserve because the continued increase in consumption of electricity absorbs the output of new capacity as soon as it is placed in service. Many of the country's industries operate with outmoded industrial processes which are heavy users of electricity. In recent years, and particularly in winter months, power supplies have been rationed to industrial consumers and restrictions have been placed on the use of power at times of peak demand. Power supplies to some customers have been partially shut down, and extreme power-saving campaigns have been inaugurated. These restrictions have, in effect, helped to retard industrial growth.

3. Metals and minerals (S)

East Germany depends on imports for most of the minerals and ferrous and nonferrous metals required by industry, but it has ample supplies of potash, fluor spar, and sulfur. Mineral production, summarized in Figure 16, is concentrated in the heavily industrialized southern areas (Figure 11), particularly in the districts *Bezirke* of Cottbus, Leipzig, Halle, and Dresden, and in the Potsdam district in the central part of the country. All domestic sources of metallic and nonmetallic ores are in these districts; only a few unimportant ferrous metal processors are located north of Berlin. The Ministry for Ore Mining, Metallurgy, and Potash controls the entire metals and minerals industry. Some small plants are under the jurisdiction of regional authorities, but principal producers are either subordinated to functional Associations of

power facilities will require the importation of all generating units of 200,000 kw. and larger.

East Germany is a member of the Council for Economic Mutual Assistance (CEMA), which controls the international flow of electric power among the member countries. The principal East German connections are double circuit 220 kv. lines to Czechoslovakia and Poland. Net imports of electric power amounted to almost half a billion kw. hrs. in 1971. Exchanges of power are important to meet

FIGURE 16. Output of principal metals, minerals, and construction materials (S)
(Thousand metric tons except where otherwise noted)

	1955	1960	1965	1966	1967	1968	1969	1970	1971*
Iron ore (as mined).....	1,604	1,642	1,630	1,721	1,681	1,414	899	422	318
Iron ore (iron content).....	472	407	408	430	420	353	224	105	79
Pig iron.....	1,517	1,995	2,338	2,448	2,525	2,333	2,098	1,994	2,027
Crude steel.....	2,815.9	3,749.9	4,313.3	4,484.9	4,501.7	4,695.4	4,823.8	5,052.7	5,350
Rolled steel.....	1,884	2,613	2,988	3,051	3,078	3,156	3,182	3,406	3,551
Refined copper.....	33.3	39.2	40.0	40.0	40.0	40.0	40.0	37.5	na
Lead (smelter production)....	8.9	10.4	12.5	12.5	12.5	12.5	12.5	12.5	na
Primary aluminum.....	27	35	45	45	52	58	63	63	na
Potash (K ₂ O).....	1,552	1,666	1,926	2,006	2,206	2,293	2,346	2,419	2,426
Cement.....	2,971	5,032	6,087	6,450	7,182	7,551	7,410	7,987	8,473
Concrete products.....	1,661	6,973	10,680	11,333	12,381	13,171	13,832	16,551	na
Bricks (million pieces).....	1,968	2,272	1,410	1,407	1,414	1,352	1,299	1,280	na

na Data not available.

*Preliminary data.

People-owned Enterprises (VVB), such as that for potash, or are parts of combines. In the iron and steel industry, for example, the 16 major plants are grouped in 3 production combines centered at Hennigsdorf, Eisenhuettenstadt, and Riesa. These combines are directly responsible to the Ministry.

a. Ferrous metals

East Germany lacks the raw materials necessary to develop a self-sufficient iron and steel industry. Reserves of iron ore are of poor quality and are nearing exhaustion. There are no commercial deposits of manganese or other alloying materials needed for steel production. A small amount of ferronickel is obtained from domestic ores, and some vanadium is produced as a byproduct of copper smelting.

Raw materials for the iron and steel industry are largely imported, mostly from the U.S.S.R. During 1965-69, East Germany imported 80% of its iron ore; 96% of the imports were of Soviet origin. Dependence on imports increased even further in 1970-71, as domestic output of iron ore dropped sharply to about one-fourth the annual average of the preceding 5 years. Imports, nearly all from the U.S.S.R., rose to about 95% of the total supply of iron ore in 1970 and 1971. East Germany also imports practically all of its ferroalloying ores and metals. Domestic production of ferroalloys, although supplemented by import of selected types, is adequate for most internal needs and for some exports. The main producers of ferroalloys are the Mashiette integrated steel plant at Unterweltenborn and the alloy plant at Lippendorf.

Because of its raw material limitations, East Germany has been able to achieve only a modest rate of growth in its iron and steel industry in recent years.

Production of crude steel in 1971 reached 5.3 million tons, an increase of about 1 million tons since 1965. In comparison, Poland, Czechoslovakia, and Romania each increased steel output by somewhat more than 3 million tons over the same period, and Bulgaria increased its output by 1.4 million tons. Among the Communist countries of Eastern Europe with established iron and steel industries (i.e., excluding Albania), only Hungary increased its output less than East Germany did.

Production of pig iron in 1971 (2.0 million tons) was actually 13% less than in 1965, reflecting the decreased availability of domestic iron ore. East Germany is both an importer and an exporter of pig iron. Imports, mostly from the U.S.S.R., have averaged nearly 1,000,000 tons annually since 1965, and exports, of which a considerable share is believed to be reexports of Soviet origin, have been maintained at an average annual rate of about 500,000 tons since 1965. The principal recipients have been Japan and Western Europe.

Production of rolled steel in 1971 (3.6 million tons) was only 0.6 million tons higher than in 1965, reflecting the modest growth (31%) in steel consumption over the period. Imports have accounted for a slowly rising share of gross rolled steel supplies since 1965 and now amount to roughly half of the total. During 1969-71 imports averaged about 3.3 million tons, of which by far the larger share was obtained from the U.S.S.R. and the remainder from other Communist countries, Japan, and Western Europe. Although still modest, annual exports of rolled steel have gradually increased and reached nearly 700,000 tons in 1971. The principal destinations have been Eastern and Western Europe.

Technically, the standards of the iron and steel industry are far below those of Western countries, and even below those of some other Eastern European Communist countries. Poland, Czechoslovakia, Romania, and Bulgaria have constructed, or are constructing, integrated steel plants with large blast furnaces, basic oxygen steelmaking furnaces, plate mills, continuous hot strip mills, cold-rolling mills and finishing equipment. In contrast, East Germany has made no major additions to its iron and steelmaking capacity for more than a decade and remains committed to an inefficient complex of facilities constructed in the 1950's. The comparatively small Maxhuetten plant is the only integrated plant. Plans for construction of a large integrated plant at Eisenhuettenstadt have been indefinitely postponed, if not abandoned. The only facilities in operation at Eisenhuettenstadt are six blast furnaces constructed in the early 1950's and a Soviet cold-rolling mill commissioned in 1968. The cold-rolling mill is supplied with hot-rolled steel imported from the U.S.S.R. The major producers of crude steel are the Brandenburg and Hennigsdorf plants, which must (uneconomically) use cold pig iron from Eisenhuettenstadt or from other sources for smelting and must send much of their steel elsewhere for further processing.

The bulk of investment in ferrous metallurgy since 1960 has been concentrated in the rolling and finishing sector of the industry. Some rolling equipment of domestic manufacture has been installed, but a larger part of the new equipment has been imported from the U.S.S.R. and Western Europe. Such imports have included rolling and drawing equipment for pipe, sheet, strip, and wire, and facilities for forging, heat treating, and surface conditioning. Tangible gains have been realized from this program for upgrading of steel products. The proportion of highly processed steel, that is, steel undergoing additional rolling or finishing operations beyond the hot-rolling stage, increased from 23% of total rolled steel in 1960 to 24% in 1965 and 34% in 1971.

b. Nonferrous metals

East Germany is generally deficient in nonferrous metals, except for uranium. The output of refined copper, from scrap as well as local ores, covers less than half of domestic requirements. Imports to make up the deficit are obtained principally from the U.S.S.R. A further increase in imports seems likely. Production from the low-grade ore deposits in the Sangerhausen basin has been declining and is now exceeded by the

output from scrap. A further decline in output from the Sangerhausen ores is anticipated in the 1970's. All copper processing, from ore through finished product, is handled by the Wilhelm Pieck Mansfeld Combine, with facilities located at Eisleben, Helbra, and Hettstedt.

Lead ore mining at deposits in the Freiberg area was discontinued in 1968 because of high costs, but approximately 30,000 tons of lead are recovered each year from scrap materials. A small amount of tin ore is mined in the Altenberg area, and a modest increase in output reportedly is planned. Production of primary aluminum is entirely dependent on imports of bauxite and alumina. Imported bauxite, from Hungary and Yugoslavia, is processed at a plant in Lauta. Alumina from this source meets about half the requirements of East German smelters, and imports from Hungary and West Germany cover the remaining requirements. Primary aluminum is produced at two plants located at Bitterfeld and Lauta. Output falls considerably short of domestic needs. Imports from the U.S.S.R., which exceeded 100,000 tons in 1971, make up most of the deficit. Most other metals are imported, although small amounts of metals are obtained as byproducts from domestic and imported ores, including bismuth, cadmium, silver, selenium, rhodium, and gallium. East Germany has the capability to process a wide range of metals to meet high purity standards for electronics and other exacting applications, among such metals are antimony, arsenic, indium, lead, gallium, silicon, and germanium.

Uranium ore mining started in East Germany in 1946 under a Soviet company called *Wismut AG*, which was converted into a joint Soviet-East German company in 1954. All operations are still supervised by the U.S.S.R. The firm employs approximately 80,000 people, and its headquarters are located in Karl-Marx-Stadt. Present estimated annual production is equal to 6,500 tons of uranium metal. Mining started in the Aue area near Karl-Marx-Stadt in underground mines, but production from these mines is declining due to supply depletion. The output of pitchblende, a high-grade ore ranging in average uranium content from 1% to 2%, is sent in an unprocessed state to the U.S.S.R. East Germany is now depending more on the lower grade sedimentary deposits of Thuringia and recently discovered deposits at Koenigstein. Open pit and underground mining operations have been carried out near Gera in Thuringia since 1952. The average grade of this ore is 0.07% uranium, and over 12,000 tons of ore are mined daily. The ore is processed at a facility located at Seelingstaedt, which is the largest uranium processing plant in the world. Annual

production in terms of uranium metal is about 3,000 tons a year. The deposits at Koenigstein, 6 miles from the Czechoslovak border, have been under development since 1968. The ores, which average between 0.08% and 0.1% uranium content, are processed near Crossen. Production is small, amounting to several hundred tons of recoverable uranium metal per year. When the Koenigstein deposits are fully developed, the East Germans plan to construct another uranium concentrating plant nearby.

East Germany is the world's third-largest producer and third-largest exporter of potash. Nearly three-fourths of the total output of 2.4 million tons of K₂O are exported annually, mainly to Poland, Czechoslovakia, and Hungary. Most of the remainder is sold in Western Europe. Mining and processing are centered in the area between the Werra river and the West German border. Production is scheduled to reach 3.0 million tons by 1975, with most of the increase to come from a new mine and refinery in the Calvoerde district. Domestic production supplies most of the fluorspar needed by the chemical and metallurgical industries. A substantial amount of phosphate is imported in the form of apatite, phosphate rock, or fertilizer. Sulfur is produced as a byproduct in the refining of sulfur-rich Soviet crude oil and from sulfur-bearing domestic ores, but a considerable share of consumption is derived from imported pyrites.

4. Manufacturing and construction

Manufacturing occupies a central position in the East German economy, accounting for about 84% of

total gross output of industry and more than 85% of total industrial employment (Figures 17 and 18). In 1971 gross output in manufacturing amounted to DME129.7 billion. According to official figures, annual growth has averaged 6.2% since 1968. Employment in manufacturing, however, has grown at a substantially lower annual rate of 0.2%, or an increase of roughly 9,500 workers since 1968. (U/OU)

Within manufacturing, the metal products industries play the leading role, accounting for about 41% of the sector's gross output and 49% of its employment in 1971. In the metal products sector, as well as in manufacturing as a whole, the electrical engineering, electronics, and precision engineering industries have been growing at the fastest rate. Their average annual rates of growth in production and employment from 1968 to 1971 were 10.7% and 3.5%, respectively. During this same period the chemical, mechanical engineering and vehicle construction, and the textile industries experienced declines in employment and below average increases in production. (U/OU)

Since the nationalization in the late 1940's, most industry has been directly controlled by the state, but a significant private sector of semistate-owned enterprises, private enterprises, and self-employed craftsmen has been tolerated. In February 1972, the regime launched a drive apparently aimed at liquidating the private sector, with the main emphasis being directed at the semistate-owned enterprises. Most enterprises of this type were reportedly converted to People-owned Enterprises (VEB's) by mid-1972,

FIGURE 17. Distribution of industrial production (U/OU)

	PERCENT OF TOTAL		AVERAGE ANNUAL RATE OF GROWTH
	1968	1971	Percent
Power and fuel industry.....	5.9	5.6	4.7
Metallurgical industry.....	7.7	7.9	7.4
Building materials industry.....	2.0	2.1	7.0
Water supply.....	0.5	0.5	6.8
Manufacturing:			
Chemical industry.....	14.2	14.1	6.1
Mechanical engineering and vehicle construction.....	24.7	24.7	6.1
Electrical engineering, electronics, precision engineering.....	8.7	9.9	10.7
Light industry (excluding textiles).....	11.0	11.0	6.2
Textile industry.....	7.3	6.8	4.0
Foodstuffs industry.....	18.0	17.4	5.0
Total manufacturing.....	83.9	83.9	6.2
Total industrial production*	100.0	100.0	6.2

*Data may not add to totals because of rounding.

FIGURE 18. Distribution of industrial employment (U/OU)

	PERCENT OF TOTAL		AVERAGE
	1968	1971	ANNUAL RATE OF GROWTH
			Percent
Power and fuel industry.....	6.5	6.5	-0.2
Metallurgical industry.....	4.3	4.3	0.7
Building materials industry.....	3.1	3.2	0.7
Water supply.....	0.7	0.7	0.1
Manufacturing:			
Chemical industry.....	11.5	11.4	-0.2
Mechanical engineering and vehicle construction.....	28.7	28.5	-0.1
Electrical engineering, electronics, precision engineering.....	12.2	13.1	3.5
Light industry (excluding textiles).....	16.2	15.9	0.5
Textile industry.....	9.3	8.6	-2.4
Foodstuffs industry.....	7.5	7.8	1.6
Total manufacturing.....	86.4	86.3	0.2
Total industrial production*.....	100.0	100.0	0.2

*Data may not add to totals because of rounding.

and private owners have been granted limited compensation and usually offered management positions in the fully nationalized firms. Less pressure has been applied to small private enterprises and craftsmen, and a December 1972 party plenum promised state support and "generosity in granting trade licenses" for artisans, shopkeepers, and small tradesmen. (U/OU)

The latest data available do not yet reflect the new organizational changes. In 1971, state-owned enterprises produced 82% of the gross output in manufacturing, an increase of only one percentage point from 1968. In the same 3-year period the output of cooperative enterprises grew very little, and the contribution of private firms to total manufacturing output declined. State-owned facilities play a larger role in metal processing and chemicals than they do in light industry—including textiles—and agricultural processing, in which cooperatives and semistate-owned enterprises in the past have accounted for about 25% to 30% of the output. State-owned enterprises accounted for about 82% of total manufacturing employment in 1971, a slight increase over the 1968 figure of 79%. The most dramatic change occurred in cooperatives, where the employment level in 1971 was only 61% of the 1968 level, a decrease of 27,600 workers in the 3-year period. Within this category of cooperative enterprises, those in the textile and metal processing sectors registered the largest percentage decreases in employment in the 3-year period. (U/OU)

Most state-owned enterprises (VEB's) are organized into slightly more than 95 VVB's (Associations of People-owned Enterprises), each comprised of similar enterprises. With the implementation of the reforms of the "New Economic System," the VVB's, which existed prior to the reforms, were given additional responsibilities and considerably more authority. They form an intermediate link between the state planning authorities and individual enterprises and acquired their new responsibilities at the expense of both. The VVB's are responsible for drafting their members' production plans and insuring their fulfillment, overseeing enterprise investment policies, technical and scientific research, working out wage norms and bonus systems, and sharing in both the domestic and foreign marketing responsibilities. Other enterprises are members of industrial combines—People-owned Combines—established in 1969. The position of the combines in the economic structure of East Germany varies. Some are subordinate to VVB's, some to industrial ministries, and others to organizations such as district (*Bezirk*) economic councils. The combines were established to prevent further concentration of power under the VVB's and to increase effectiveness in introducing technological change and innovation in the production process. There are also state-owned plants which are not centrally controlled, but which are supervised by *Bezirk* or county (*Kreis*) economic councils. Private plants are members of so-called Chambers of Industry and Trade, which help integrate private production into the central planning process. (U/O'')

Participation in CEMA (the Council for Economic Mutual Assistance) has, on the whole, had little effect on the structure of East German manufacturing. Most CEMA recommendations for the assignment of production responsibilities were either ignored or were merely confirmed developments already undertaken by the East Germans acting independently. In any case, specialization agreements covered only a small fraction of the output of the key industries in the East German economy. Since 1969, new bilateral and multilateral undertakings have begun to have some effect on the product-mix, but they have had very little effect on the branch structure of industries. (U/OU)

a. Metal products (S)

East Germany has the largest and most diversified metal products industry in Eastern Europe; its output of metal products (including products of mechanical, electrical, and precision engineering, electronics, and vehicle construction) as a share of total industrial production is greater than that of any other country in Eastern Europe. In absolute terms it leads those countries in the production of railroad passenger cars and is one of the world's leading exporters of rolling stock. East Germany ranked first in Eastern Europe in 1971 in the production of transformers and radio receivers and second in the manufacture of refrigerators. Output of selected types of machinery and equipment is shown in Figure 19.

Other industries which are significant in East Germany's metal processing sector are motor vehicle manufacturing, shipbuilding, and the production of telecommunications equipment. East Germany is second only to Czechoslovakia in the production of motor vehicles in Eastern Europe. With regard to shipbuilding, East Germany ranks first in the world in the construction of fishing vessels (in terms of tonnage), and in Eastern Europe it is second, behind Poland, in the construction of maritime cargo ships (Figure 20).

Production of military end-items, by the metal-processing sector is confined largely to optical and precision engineering equipment, small arms, ammunition, explosives, and some spare parts for military aircraft. Those items are produced in enterprises that are either entirely military-oriented or serve both the defense establishment and the general economy. The former group of enterprises are organized into VVB's but are subordinated directly to the Ministry for National Defense. For its supply of major military equipment, East Germany is entirely dependent on its Warsaw Pact allies, particularly the U.S.S.R. Some military-related optical and precision equipment is exported.

The items produced by the metal products industries are an important source of export earnings. They accounted for 57% of total exports in 1971. East Germany exports about two-thirds of its machine tool output, one-third of its tractor production (Figure 21).

FIGURE 19. Output of selected types of machinery and equipment (U/OU)

	UNITS	1955	1960	1965	1970	1971	AVERAGE ANNUAL RATE OF GROWTH
							Percent
Radio receivers.....	1,000 units.....	724.7	809.6	808.0	806.9	961.0	1.8
Television receivers.....	do.....	38.6	416.5	536.7	380.1	410.9	15.9
Washing machines.....	do.....	18.4	132.5	288.9	254.5	280.5	18.6
Household refrigerators.....	do.....	17.3	138.6	364.8	380.3	410.5	21.5
Automobiles.....	do.....	22.2	64.1	102.9	126.6	134.2	11.9
Trucks.....	do.....	14.2	12.9	15.2	24.2	25.5	3.7
Tractors.....	do.....	7.8	9.1	12.9	16.4	15.2	4.2
Buses.....	Units.....	705	415	542	2,587	3,032	9.5
Diesel and electric locomotives.....	do.....	540	675	572	633	480	-0.7
Railroad passenger cars.....	do.....	697	1,705	1,088	1,519	1,437	2.6
Railroad freight cars.....	do.....	4,002	2,350	2,172	5,709	5,366	1.8
Agricultural machinery.....	Million marks*.....	330.6	600.6	776.9	1,535.6	1,635.6	10.5
Machine tools (metalcutting).....	do.....	139.7	344.0	439.4	679.8	721.5	10.8
Rolling mill equipment.....	1,000 metric tons.....	24.3	15.9	19.8	15.4	16.6	-2.4
Maritime cargo ships.....	1,000 GRT**.....	16.3	123.0	144.3	216.7	207.7	17.2
Fishing vessels.....	do.....	18.1	46.3	68.2	101.9	93.8	10.8

*1967 prices.

**Gross register tons.

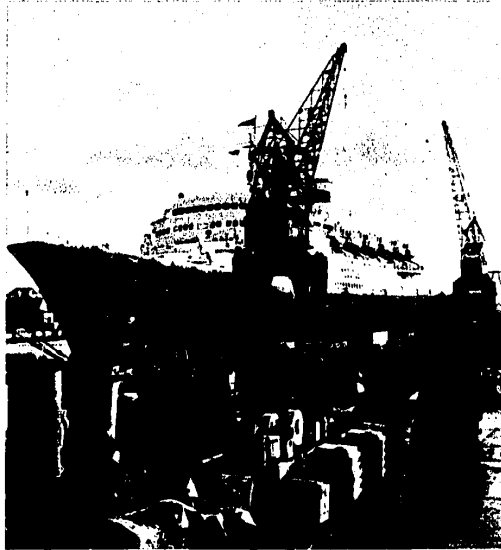


FIGURE 20. This ship was built for the U.S.S.R. in a Wismar shipyard (U/OU)

and over 50% of the automobiles it manufactures. The shipbuilding and railroad rolling stock industries are also significant sources of export earnings. East Germany ranks ninth in the world in the tonnage of merchant ships exported, and its exports of rolling stock comprises nearly 10% of all such vehicles exported in world trade.

Imports of metal products as a percentage of the value of total imports, approximately 37% in 1971, increased considerably in the 1960's and is due to rise further in the 1970's. For example, between 1968 and 1971 imports of rolling-mill machinery increased by 39%, antifriction bearings increased by 193%, and regulators and relays increased by 340%. In terms of units imported, East Germany increased its imports of automobiles by 65% over the same 3-year period.

b. Chemicals (S)

East Germany already had a well-developed chemical industry at the end of World War II, based largely on its sizable deposits of brown coal, salt, limestone, potash, and gypsum. The chemical industry, which ranks fourth among East German industries in value of output, has grown more rapidly than industry as a whole, although it has advanced more slowly than the chemical industry of any other East European country. Its annual output more than

doubled between 1960 and 1970; output of selected major products of the industry is summarized in Figure 22.

East Germany ranked third in the world in 1970-71 in output of potash fertilizer, slightly ahead of the United States and exceeded only by the U.S.S.R. and Canada. Among the East European countries, it also leads in production of soda ash and caustic soda, plastics, synthetic rubber, and tires.

East Germany is an important exporter of chemical products, especially to other CEMA member countries. In 1971 it exported nearly three-fourths of its output of potash fertilizer, almost half of its output of synthetic rubber, and close to one-third of its output of soda ash, as well as sizable quantities of plastics, photochemicals, and other products. Pharmaceuticals are a large export item, but imports in this category amounted to almost three-fourths of exports in 1971. Formerly a net exporter of nitrogen fertilizer, East Germany now imports a large part of its total supply (about one-third in 1971). The country also is dependent on imports for some of its major chemical raw materials, such as pyrites, bituminous coal, coke, phosphate rock, and especially petroleum, which is becoming increasingly important as the chemical industry shifts from a brown coal base to more modern petrochemical processes. (Reportedly more than one-fourth of all chemical output already was based on



FIGURE 21. Tractor plant, Schoenebeck/Elbe (U/OU)

FIGURE 22. Output of selected chemicals and rubber (U/OU)
(Thousand metric tons except where otherwise noted)

	1955	1960	1965	1970	1971
Sulfuric acid.....	592	730	985	1,099	1,076
Synthetic ammonia (as nitrogen).....	335	393	439	481	576
Caustic soda.....	257	327	364	413	414
Soda ash.....	458	594	682	676	714
Calcium carbide.....	793	923	1,193	1,248	1,302
Nitrogen fertilizer (as nitrogen).....	293	334	348	395	388
Phosphate fertilizer (as P ₂ O ₅).....	85	166	232	430	414
Potash fertilizer (as K ₂ O).....	1,552	1,666	1,926	2,419	2,426
Plastics and synthetic resins.....	72	115	219	370	420
Synthetic fibers.....	3.4	7.8	19.0	34.8	47.6
Synthetic rubber.....	72	87	95	118	129
Tires (thousand units).....	1,439	2,714	3,750	4,692	4,922

petroleum in 1970.) Phosphate rock is imported mainly from the U.S.S.R., as is crude oil, which is obtained via the Friendship pipeline. In the future, natural gas from domestic sources and from the U.S.S.R. via pipeline also will serve as a chemical raw material, especially for nitrogen fertilizer and plastics.

Large nitrogen fertilizer plants are under construction at Leuna and Piesteritz, and additional capacity for plastics is being added at the Schwarzeide Synthesis Plant and at the Buna Works in Schkopau. Refineries at Schwedt and Boehlen are scheduled to increase output of petrochemicals for use as starting materials for plastics and synthetic fibers. A large new potash fertilizer plant at Zielitz started trial operation in January 1973.

Plans call for output of the chemical industry to increase by 47% to 49% during 1971-75, or by about 25% during the 3 years 1973-75. By 1975, production of plastics and of synthetic fibers is scheduled to be more than double 1970 output, while output of potash fertilizers is to increase 20%.

c. Light industry (including textiles) (U/OU)

Although oriented toward the domestic market, light industry has been unable to satisfy consumers demand, either in quantity or quality. In the past, it has been given a lower priority than the metal processing or chemical industries. Gross investments by the state in light industry during the period 1965-71 were only about 39% and 45% of such outlays for the metal processing and chemical industries, respectively. For light industry the official growth rate of gross production was 5.5% during that 6-year period, while the rates of growth for the metal processing and chemical industries were 7.5% and 7.3%, respectively. Output of selected light industry products is shown in

Figure 23. Recently, greater importance has been placed on the development of the consumer goods industry to increase production and improve the quality of output. The additional output, however, is not solely for the fulfillment of domestic needs, but to meet trade commitments to the CEMA countries, especially the Soviet Union, and to satisfy the demand created by tourists from other Eastern European countries.

On the whole, light industry has not been a major source of exports. Exports of certain goods, however, have shown significant increases, absolutely and relatively to production. During the period 1968-71 furniture exports increased by 60% and exports of outer garments for men and boys, by 55%. These increases reflect the decision of East Germany to fulfill bilateral trade agreements with the U.S.S.R. and seek hard currency sales to Western countries rather than satisfy domestic demand. Domestic consumption was given a higher priority in 1972 and 1973.

d. Agricultural processing (U/OU)

The agricultural processing industries have had the lowest average annual rates of growth in production of all the manufacturing sectors. Their share of total manufacturing employment, however, has been slowly rising, and the share of total manufacturing investments going into the agricultural processing industries increased from 7.1% in 1963 to 12. % in 1969. In 1970 this figure dropped to 9.2% of total manufacturing investment, but it increased to 9.4% the following year, when total investment decreased slightly. The 1973 economic plan does not suggest any significant change in the output of the agricultural processing industries.

Before World War II, the area that is now East Germany was a net exporter of processed agricultural

FIGURE 23. Output of selected light industry products (U/OU)

VALUE OR UNITS		1955	1960	1965	1970	1971	AVERAGE ANNUAL RATE OF GROWTH
							Percent
Furniture (includes upholstered).....	Million marks*	556.7	989.9	1,246.9	2,022.9	2,129.5	8.8
Musical instruments.....	do.....	72.4	94.7	115.0	158.7	169.3	5.5
Gymnastics and sports apparatus.....	do.....	25.0	39.6	49.3	95.0	101.5	9.2
Toys.....	do.....	99.9	181.3	321.2	520.0	542.5	11.2
Outer garments for men and boys.....	do.....	410.7	537.0	675.3	815.0	808.5	4.3
Outer garments for women and girls.....	do.....	410.9	611.0	765.5	860.0	868.6	4.8
Shoes.....	Million pair.....	40.7	54.1	61.0	73.8	76.9	4.1
Chipboard.....	1,000 cubic meters.....	Insig	44.0	200.1	451.0	479.8	24.3
Household porcelain.....	1,000 tons.....	18.2	22.2	25.9	28.2	29.2	3.0
Window glass (standard thickness).....	Million square meters.....	14.3	16.1	21.3	21.0	20.4	2.2
Carpets and runners.....	do.....	5.1	8.1	11.3	14.8	16.2	7.5
Fabrics.....	do.....	501.7	609.0	639.1	714.8	723.3	2.3
Yarns.....	1,000 tons.....	252.0	275.0	269.6	244.6	234.8	-0.4
Hosiery.....	Million pairs.....	142.1	151.4	172.7	198.5	225.5	2.9
Knitted underwear.....	Million units.....	103.6	137.1	148.9	144.7	149.3	2.3
Knitted outerwear.....	do.....	15.8	20.7	22.1	34.0	35.7	5.2

*Constant 1967 prices.

products. During the postwar period, however, imports of these products have been greatly increased. In the early 1960's, roughly 20% to 25% of total imports were agricultural products, but the percentage has slowly decreased over the years. Despite the slow increase in the output of processed agricultural products, East Germany is first in Eastern Europe in the production of butter, second in the production of meat and whole milk, and second in fish catch.

e. Construction (U/OU)

The construction sector (Figure 24) increased its contribution to the national income from less than 8% in 1960 to 8.7% in 1971. It has been growing at an average annual rate of 7.8% (value basis) since 1965. During 1965-69, the annual rate of growth increased at an accelerated rate, reaching a high of 10.6% in 1969. In 1970 there was a sudden decline in the growth rate to 5.3%, and a slight rise in 1971 to 5.7%.

The construction sector consists of three components: The building industry, the building crafts, and the agricultural cooperative building enterprises. The building industry accounts for the largest portion of the output of the construction sector—67.9% in 1971. During the same year, 21.8% of the total construction was performed by the building crafts, while the remainder, approximately 10%, was accounted for by the agricultural building enterprises.

Slightly more than 85% of the value of output of the building industry is performed by state-owned

enterprises; this share has remained relatively stable since 1960. Semistate-owned enterprises accounted for approximately 12% of the building industry's construction in 1971, while private firms accounted for less than 1%. The 1972 results should show a significant decrease in construction by semistate-owned enterprises and an increase for state-owned firms, due to the conversion in early 1972 of semistate-owned enterprises into completely state-owned entities.

The building crafts consists of cooperative handicrafts, which accounted for approximately 69% of the output of this component of the construction sector in 1971, and private handicrafts. Since 1960, the percentage of the building crafts' volume of construction done by the cooperatives has steadily increased. The same trend should continue and perhaps accelerate because of the state's increased effort to nationalize private enterprises.

Of the three components of the construction sector, the agricultural cooperative building enterprises have experienced the greatest rate of growth in output since 1960. The average annual rate of growth from 1960 to 1971 has been approximately 20%, as compared to 5.6% for the building industry and 6.6% for the building crafts over the same period. The agricultural building enterprises alone handled the rapid increases in construction in agriculture resulting from final collectivization in 1960 and from subsequent efforts to increase livestock production and irrigation. They are

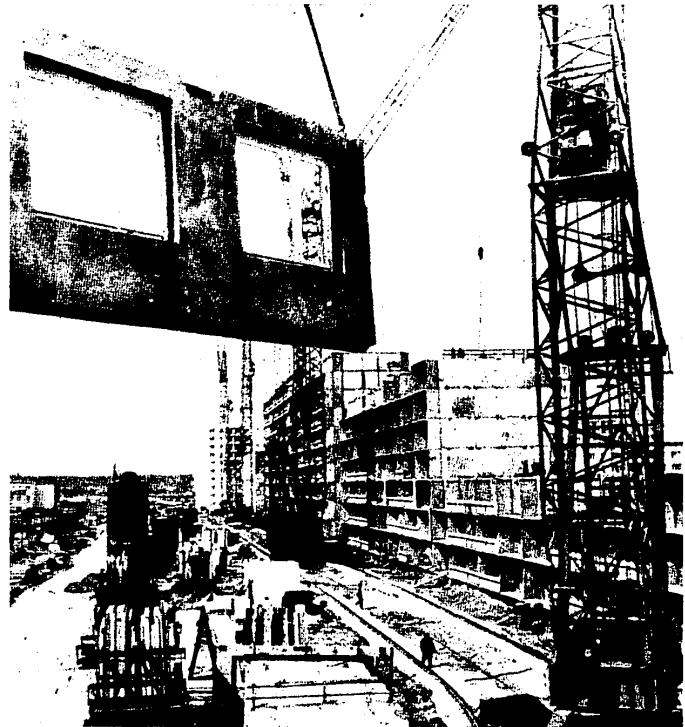


FIGURE 24. Large-unit construction methods are widespread (U/OU)

responsible not only for the construction of farm-related buildings, but also for the construction of housing in rural areas.

The government is forced to weigh carefully its priorities in construction because of labor and building material shortages. The data for 1970 show that 27.9% of the value of construction completed was for industrial and storage plants, while 16.9% was for dwellings. In 1971 these shares had changed to 29.3% and 16.5%, respectively.

During 1972, a year of increased emphasis on housing construction, 69,000 new apartments were built, compared to only 57,300 in 1971. East German statistics indicate that another 36,000 apartments were provided in 1972 through expansion, reconstruction, and modernization of existing units. The 1973 economic plan calls for the construction of 79,000 new apartments, an increase of slightly more than 14% over 1972. Because of the housing shortage and the age of dwellings, more funds must be used for reconstruction and modernization than normally required for wear and tear. According to a census taken by the state in 1972, approximately 38% of the apartments in residential buildings were 70 years old

or more, while 41% were built between 1900 and 1945. A portion of new construction is also required to replace many of the older apartments, which lack water and sewerage facilities and are too costly to repair.

5. Domestic trade (C)

Domestic trade is conducted largely by state organizations at prices set by the state. The central government plans the volume of sales for various types of commodities, the level of investments, and the volume of taxes and profits. Local administrations control only the day-to-day operations of the trade network. Private trade is regulated by membership in the commission trade system or by other indirect but effective controls.

Wholesale trade, entirely in state hands, is organized into Wholesale Trade Associations (GHG's), which supply both private and socialized retail stores. There are GHG's for each major category of goods, such as fruits and vegetables, textiles, and household goods. Agricultural procurement and distribution to retail outlets and food processors are handled by state-

owned Procurement and Purchasing Enterprises (VEAB's), which formerly set yearly quotas for compulsory deliveries of farm output, mostly grain and animal products, and which now negotiate purchase contracts for supplies of these products, working closely with processors.

The outlets of the retail trade system—probably the most modern in Eastern Europe—can be divided into three categories: 1) Socialist retail trade outlets; 2) commission outlets; and 3) private enterprises. Approximately 80% of total retail trade turnover is accounted for by socialist outlets, consisting of a network of state-owned stores and restaurants belonging to the trade organization (*Handelsorganisation*, or HO), under the general supervision of the Ministry for Trade and Supply, but under the direct control of the local economic councils. Also included in the category of socialist enterprises are industrial outlets and consumer cooperatives, which are indirectly controlled by the Ministry for Trade and Supply. The cooperatives are concentrated in the rural areas, since farmers apparently find the older cooperatives more acceptable than the state stores. Since 1950 socialist retail trade turnover has consistently grown at a faster average annual rate than total retail trade (Figure 25).

Commission outlets account for a little more than 9% of total retail sales, and since the late 1950's their sales have been increasing at a substantial rate. This can partly be explained by state pressure to force private stores to become commission outlets for the state network—buying and selling goods for the account of an HO or cooperative. The 1971 results, however, did not conform to the past growth trend. The portion of total sales attributed to commission outlets declined slightly, and the percentage increase from the previous year was less than that for total sales.

FIGURE 25. Average annual rates of growth of retail sales, by form of ownership (U/OU) (Percent)*

	TOTAL RETAIL TRADE	SOCIALIST TRADE**	COMMIS- SION TRADE	PRIVATE TRADE
1951-1955....	12.8	21.3	...	2.1
1956-1960....	7.3	10.1	Insig	-6.2
1961-1965....	2.6	2.8	8.9	-1.6
1966-1970....	4.6	5.3	6.2	-1.0
1971.....	3.9	5.0	2.0	-1.8

... Not pertinent.

*Growth rates are calculated using sales in current marks.

**State-owned retail outlets, consumer cooperatives, and other socialist enterprises.

Private retail trade has been declining steadily since 1950; however, in spite of constant political and economic pressure, the private sector still accounted for 9.5% of total retail sales in 1971. A substantial portion of this can be attributed to the sale of foodstuffs; private outlets accounted for 13.7% of total foodstuffs turnover in 1971, but their share of the foodstuffs trade has been declining slowly since 1965 (Figure 26).

All trade is carried on at prices set by the state. During the 1950's and early 1960's, there were two sets of procurement prices—low prices for compulsory deliveries within the quotas assigned by the VEAB's, and high prices for deliveries above the quotas. In 1964 a single price system was established for grains and feedstuffs, in 1966 for poultry and wool, and in 1969 for meat and dairy products. The new single prices were set so as to provide about the same average return per unit of sales as farmers had been receiving under the dual price system.

There are two types of industrial prices: The enterprise, or factory price, based on production costs plus a small profit, which is used to verify plan fulfillment; and the industry delivery price—the enterprise price plus a turnover tax—which is used to measure the returns from sales to other enterprises and to wholesalers. The final consumer price is the industry delivery price plus an additional trade markup.

A dual pricing system for consumer goods existed until 1959. It consisted of relatively low ration prices and much higher HO prices for additional quantities above the ration amounts. The system reflected the large discrepancy which existed between supply and demand. In setting consumer prices the state is acutely aware of the need to meet the social requirements of the people. The 1972 state budget provided 9.2 billion marks—11% of the total budget—in subsidies so that the state could maintain low prices for goods and services which satisfy basic needs, such as food, transportation, and housing. In contrast, items which are considered nonessential or luxuries have extremely high prices. The government is also sensitive to increases in the price level and has instituted a price stabilization program designed to combat creeping inflation. During the present 5-year plan, it has decreed that consumer prices may not be increased and that retail prices of new and improved consumer goods must be confirmed by the Council of Ministers or by the Minister and Chairman of the Price Office. The state also began an attempt in 1972 to insure adequate supplies of selected lower priced goods by incorporating the production of fixed minimum amounts of these goods in the economic plan.

FIGURE 26. Summary of retail trade in major commodity groups (U/OU)

	PERCENTAGE DISTRIBUTION OF TRADE							AVERAGE ANNUAL RATE OF GROWTH
	1965	1966	1967	1968	1969	1970	1971	Percent
Total.....								4.5
Socialist.....	77.9	78.4	78.8	79.2	80.0	80.5	81.3	5.1
Commission.....	8.8	8.9	9.1	9.2	9.3	9.4	9.2	5.3
Private.....	13.3	12.7	12.1	11.6	10.7	10.1	9.5	-1.2
Foodstuffs.....								3.7
Socialist.....	77.0	77.6	78.1	78.4	79.1	79.8	80.2	4.4
Commission.....	6.2	6.2	6.2	6.3	6.3	6.2	6.1	3.3
Private.....	16.8	16.2	15.7	15.3	14.6	14.0	13.7	0.2
Related goods.....								5.1
Socialist.....	76.4	77.0	77.7	79.1	80.1	81.0	81.9	6.3
Commission.....	15.7	15.6	15.4	14.9	14.5	14.2	13.6	2.6
Private.....	7.9	7.4	6.9	6.0	5.4	4.8	4.5	-4.3
Shoes.....								4.2
Socialist.....	75.9	75.9	76.7	77.5	78.0	78.8	80.2	5.1
Commission.....	13.4	13.9	13.9	13.8	14.3	14.5	13.9	4.9
Private.....	10.7	10.2	9.4	8.7	7.7	6.7	5.9	-5.8
Textiles & clothing.....								4.1
Socialist.....	83.9	84.0	84.2	84.3	85.2	85.5	86.3	4.6
Commission.....	7.1	7.3	7.5	7.7	7.8	8.2	8.0	6.3
Private.....	9.0	8.7	8.3	8.0	7.0	6.3	5.7	-3.7
Other industrial goods.....								5.5
Socialist.....	77.4	77.7	78.0	78.0	78.4	78.9	80.0	6.1
Commission.....	8.3	8.7	9.2	9.7	10.3	10.7	10.5	9.7
Private.....	14.3	13.6	12.8	12.3	11.3	10.4	9.5	-1.4

The growth of retail sales has been rapid, reflecting not only a substantial increase in the volume of personal consumption but also a change in consumption patterns. According to East German statistics, retail sales (in current prices) in 1971 were 48% above the 1960 level, an average annual growth rate of about 3.6%. Both the growth in the volume of trade and the changes in its composition reflect an improvement in the standard of living. Nonfood sales

have been growing at a faster rate than food sales (Figure 27). Within the nonfood category, sales of electrical appliances and other luxury items, along with building materials, have grown more rapidly than those of shoes and textiles.

Problems still exist in retail trade, however, in terms of quality and shortages of goods. As the consumers have been able to satisfy most of their quantitative needs for goods and services, they have become

FIGURE 27. Composition of retail sales, by major commodity groups (U/OU) (Percentages of respective totals)

	FOODSTUFFS AND RELATED GOODS	OF WHICH			OF WHICH			TOTAL
		Foodstuffs	Related goods	INDUSTRIAL GOODS	Shoes	Textiles and clothing	Other	
1950.....	61.1	66.7	33.3	38.9	6.1	41.6	52.3	100
1955.....	57.7	68.4	31.6	42.3	6.7	43.9	49.4	100
1960.....	55.4	69.1	30.9	44.6	5.1	36.1	58.8	100
1965.....	56.5	68.7	31.3	43.5	6.5	32.5	61.0	100
1970.....	55.8	67.2	32.8	44.2	6.2	31.1	62.7	100
1971.....	55.3	66.8	33.2	44.7	6.2	30.9	62.9	100

NOTE—Percentages are calculated using sales in 1972 marks.

increasingly quality-conscious. The state has acknowledged that such items as shoes, yard goods, and ready-made clothing have failed to meet quality standards, and it has admitted that shortages exist in fruits and vegetables, furniture, chinaware, leather shoes, and hosiery. The current 5-year plan acknowledges the problems of quality, shortages, and creeping inflation, but solutions have been elusive.

C. Policy and development (C)

I. Policy

The accelerated pace of technological change has been the main consideration in East German economic policy since the mid-1960's. Earlier policy, oriented toward catching up with West Germany, had encouraged the application of new technology, but it had mainly emphasized increasing output by tapping "hidden reserves." By the early 1960's this policy had clearly failed, and the regime was soon converted to a more systematic approach to introducing new technology, or, in East German terminology, "mastering the scientific-technical revolution."

The possibility and necessity of accelerating technological change grew out of a large increase in the availability of Soviet crude oil and a concurrent weakening of Soviet willingness and ability to increase deliveries of other essential raw materials, including coal, ferrous metals, textile fibers, and wood and cellulose. The rise in Soviet crude oil deliveries from less than 2 million tons in 1960 to over 11 million tons in 1972 led to large investments not only in oil refining but also in the petrochemical industries, in trucking, in dieselization of the railroads, and in developing plastic and synthetic products. At the same time, demand on the CEMA market for more up-to-date manufactures became more insistent, also stimulating technological change, especially in machine-building industries.

Trade with the industrial West also played an important part in technological change. Increased imports were needed not only of investment goods but also of intermediate products rarely available through CEMA trade, and even of raw materials in short supply. To plan and manage the complex changes in economic structure required higher technical competence at all levels and more reliance on decisionmaking at lower levels. The first response of the regime, worked out by a former engineer and industrial minister, Erich Apel, was the reform program called the "New Economic System of Planning and Management," announced in June 1963. This program gave increased responsibility to

the State Planning Commission and to the industrial associations (VVB's), but in 2 years' trial in 1964-65, decentralization did not produce the higher growth rates promised by Apel. More seriously, the encroachment of planners and managers into policy matters sharpened opposition within the party apparatus and the leadership.

The initial reform movement ended with the suicide of Erich Apel in December 1965, apparently in despair over basic disagreements over plans for 1966-70. In January 1966, industrial ministries were again established, and the powers of the State Planning Commission and the VVB's were sharply reduced. Walter Ulbricht, who thereupon resumed full, direct control of economic policy, discontinued efforts at formal decentralization. The main changes after 1966 came in 1969, with the establishment of procedures for consolidating group enterprises into combines (*Kombinats*), and the general use of foreign trade multipliers as a basis of internal pricing of exports and imports. Otherwise, he relied on giving increased discretionary authority to managers and on efforts to stimulate managerial incentives.

Ulbricht by no means abandoned, but rather speeded up, the efforts to stimulate and to adapt to technological change. Beginning in 1966, he radically revised investment priorities to push the development of agriculture, transport, and construction, and to expand output of electronics, plastics, synthetics, and industrial consumer goods. The effort was converted into a crash program at the Seventh Party Congress in 1967, and it gathered speed in 1968-69.

Ulbricht persisted in this program in 1970 in spite of increasing supply difficulties, aggravated by the exceptionally hard winters of 1968-69 and 1969-70 and mediocre crops in 1969 and 1970. The warning signs included growing backlogs of unfinished investment projects; mounting trade deficits; and spreading shortages of fuel and power, of many intermediate products for the engineering industries, and of foodstuffs and consumer goods.

Finally, in September 1970 the Politburo decided, over Ulbricht's objections, to adopt revised national economic priorities and publicized them at the 20th meeting of the Central Committee that followed in December. Total investment was to be cut slightly in 1971 and was to grow slowly thereafter through 1975, with sharp increases in the shares allocated to the fuels and power and chemical industries and corresponding reductions in the shares of the electronics industry, consumer goods, agriculture, and services. A major effort was to be made to expand supplies of machinery components and spare parts, and supplies of foodstuffs

and consumer goods were to be stabilized. Trade with the U.S.S.R. was to be balanced at any cost, and an effort was to be made to balance trade with West Germany.

In order to carry out these decisions, party control over the economy was greatly tightened. Enterprises lost the discretionary authority that they had acquired in the late 1960's to change their product-mix, to plan investments, and in some cases to engage in foreign trade on their own account. Increased use was made of physical indicators in setting plan goals.

This policy was taken over by Erich Honecker when he replaced Walter Ulbricht in May 1971 as Party First Secretary. In 1971-72 he attained the most urgent objectives in the fields of investment, supply, and foreign trade. Toward the end of 1971, as conditions began to improve, Honecker allowed enterprises to change approved plans by small percentages—by 1% to 1.5% for plan indexes, by 1% for plan balances, by 10% for product-mix, and by 3% for other product balances. Controls over investment and foreign trade, however, were not loosened.

Honecker's most notable initiative in economic policy was his rapid takeover of semistate-owned enterprises in 1972. By mid-1972, most had been turned into or absorbed into state enterprises. This was a sharp change from the recent policies of Ulbricht, who in the late 1960's had allowed private and semistate-owned enterprises to flourish.

The most troublesome problem that remained at the end of 1972 was the unsatisfactory supply of industrial consumer goods. Supplies of some scarce products—especially furniture, kitchen utensils, china and pottery, carpets and floor covering, and detergents—rose substantially in 1972, but these increases made only a beginning in satisfying pent-up consumer demand. Accordingly, the leadership planned large additional increases in 1973 by expanding domestic consumer goods production, by directing a greater share of output to domestic consumption (and a smaller share to exports), and by greatly increasing imports, both from Communist countries and from the West. These efforts were designed not only to appease long-standing complaints, but also to help compensate for popular disappointment over the results of the basic treaty with West Germany—increased ideological pressure and retention of tight controls on East German visits to the West.

Honecker's successes in 1971-72 came at the cost of rising trade deficits with the West, also the price of carrying out the plan for 1973. In 1971, East Germany managed to narrow its deficit in trade with West Germany, but deficits continued in other trade with

the industrial West, and a deficit appeared again in 1972 in trade with West Germany. If economic growth continues to depend so heavily on imports from the West, East Germany's debt servicing is likely to rise by the mid-1970's to the point at which it will be hard to manage.

The solution to this problem is not in sight. East Germany espouses closer economic integration with the U.S.S.R. and the rest of Eastern Europe and hopes thereby to further specialization and, in turn, competitiveness, but integration will hardly reduce the need for alternate sources of supply, especially for scarce raw materials and new technology. Finding ways to finance the increasing imports from the West appears to be the key to continued stability, growth, and technological change in the 1970's.

2. Development

After the first significant postwar reconstruction effort in 1949-50, the economy began a period of impressive growth. During 1951-55, GNP increased by 40% and industrial output by 70%. A substantial part of the increase was achieved through more intensive use of existing plants by increasing their employment and supply of materials; investments during that period were small and were devoted largely to heavy industry. In contrast to the rapid industrial recovery, agricultural output stagnated because of poor weather and a harsh collectivization policy. The Berlin riots in June 1953, combined with the "New Course" in all of Eastern Europe that year, resulted in some improvement in living conditions and in the allocation of materials to agriculture, basic materials, and light industry.

During 1956-60, industrial output rose substantially—at a yearly rate of about 7%—but more slowly than projected by the planners. Planners had largely ignored the effects of emigration, which doomed the planned increases in industrial employment. As unused productive capacity was being rapidly absorbed, new investment began to play an increasing role in industrial development, almost doubling in value between 1956 and 1960. Most investment was channeled to the fuels and power sector, with an increased share also going into the manufacturing sector. Construction output rose 58% during the 1956-60 period as the result of increased supplies of building materials, and agriculture also registered steady improvement.

Encouraged by the successes of the late 1950's, the regime proclaimed the goal of surpassing West Germany by 1965, both in output per worker and consumption per capita. In order to reach this goal,

the regime planned to maintain a high rate of economic growth throughout the period of the Seven Year Plan (1959-65). The regime failed, however, to take into full account the lack of further reserves of productive capacity, the unfavorable age structure of the population, and the negative impact of its policies. The policies increased pressure against the remaining private sector and brought about the abolition of the industrial ministries in 1958 which led to disorganization and confusion of industrial management.

By 1961, an extremely hard winter, a massive exodus of labor to West Germany, and increasing foreign trade imbalances all combined to produce a real economic crisis. The border with West Germany was closed in August 1961, the unrealistic Seven Year Plan was quietly abandoned in early 1962, and the publicity about overtaking West Germany was dropped. During 1961-63, GNP grew at an average annual rate of only 2.3% and agriculture fell well below the 1960 level. Per capita personal consumption rose by only 1% between 1960 and 1963, actually falling slightly in 1962 and 1963. Investment was particularly hard-hit, growing by only 2% annually during this period.

In response to the economic crisis, the regime fostered a consolidation and recovery and began for the first time to consider problems of quality and efficiency. Investment was concentrated on modernizing and improving existing installations rather than initiating large new projects. The culmination of the regime's efforts to deal with these problems was the New Economic System.

By 1964 the worst of the crisis had passed, and the economy, temporarily freed from the worst forms of central control and operating under looser and more realistic plans, began to grow again, though at well below the rates of the late 1950's. In 1964-68, GNP grew at an average of 3.4% annually, industrial production, at 3.1%, and agricultural production, at 3.4%.

In a remarkably similar parallel to the late 1950's, the regime, at Ulbricht's personal urging, launched another program of forced growth in 1966-67. The main emphasis was placed on the petrochemical and electronic industries, with the goal of placing East Germany in a position of leadership in these fields and providing it with more competitive exports that could be sold to both Western and Communist markets. Dogged pursuit of this policy, in spite of two harsh winters and poor harvests in 1969 and 1970, resulted in supply bottlenecks, backlogs of unfinished investment projects, and severe shortages. Output of potatoes, sugar beets, and fodder crops in 1969 all fell below

1965 production. Consumer supplies of foodstuffs in 1969-70 could be maintained only by increasing imports of agricultural and food supplies by 23% in 1969 and 26% in 1970. Investment and construction not only fell far short of planned levels, but also resulted in shortages and rationing of electric power, as power projects under construction remained unfinished. Severe shortages of semimanufactures, spare parts, and subassemblies also developed. Large above-plan imports were necessary to keep the economy functioning, and a 2-year, \$800 million trade deficit accumulated in 1969-70, which contributed to the discarding of the forced growth program at the end of 1970 and the subsequent removal of Ulbricht from leadership.

The new leadership under Honecker sought to bring the economy into balance, in part by expanding the production of spare parts and industrial materials and boosting the capacity of the power industry. Rolled steel production is to be increased to 6.1 million tons in 1975 (compared to 3.4 million tons in 1970), and 30% of industrial investment between 1971 and 1975 is to be channeled into the power and coal industries. Overall investment policy included a cutback in 1971 in total investments, a modest 27% increase in investments between 1970 and 1975, and a restriction of new plant construction to 50 to 60 large projects, which will be carried out as state planning projects under direct control of the government.

The 1973 plan continues the basic pattern of 1971 and 1972, which were admitted to be years of "consolidation." National income in 1973 is scheduled to grow by 5.7%, industrial production, by 6.5%, and labor productivity, by 5.7%. Efficiency in production continues to be emphasized in 1973, as in 1971 and 1972, and the production expenditure per unit of output is scheduled to drop by 2.1% for industrial materials, 2.0% for electric power, and 4.6% for rolled steel. The major shift in 1973 is in the greater effort to be made to increase consumer supplies, especially for products in chronic short supply. Consumer goods for the population are to increase at an annual rate of 6.2% in 1973, and investment expenditures are to rise by 63% for the glass and ceramic industries and 37% for the food industry.

3. Government finance

The financial institutions in the centrally planned East German economy are divided into the organs of the Ministry for Finance—including the financial sections of all regional levels of government—and the state banking system. Until January 1968 the latter was headed by the German Bank of Issue (DNB).

which controlled the issue of currency, carried on foreign exchange transactions, collected taxes, maintained the obligatory accounts of state-owned industrial enterprises, and handled all industrial short-term credit. The other specialized banks were directly responsible to the DNB and had no policy independence. The Investment Bank maintained the current accounts and handled short-term credits for construction enterprises and provided long-term credits for industrial investment. The Farmers' Bank made loans largely for agricultural investment, while the Trade Bank handled the accounts of and provided long- and short-term credit for trading enterprises.

As the result of a January 1968 reorganization, the State Bank of the GDR (*Staatsbank der DDR*) is now responsible for general monetary and fiscal policy, currency regulation, and interbank lending operations. The Industry and Trade Bank (IHB) handles all current operations, including both long- and short-term credit for industrial, construction, transportation, and trade enterprises. The IHB, which took over the regional and industrial branches of the DNB, is also supposed to work closely with the enterprises in drawing up financial, investment, and operating plans. The Farmers' Bank (now known as the Bank for Agriculture and Food Industries) has taken over responsibility for industrial enterprises processing foodstuffs. As under the old system, the most important function of the banks and of the Ministry for Finance is to control and monitor the operations of the economy—a function embodied in the financial plan.

The financial plan on the national level organized the flow of funds within the economy according to the dictates of the national economic plan for production and consumption. All lower levels of government, all state enterprises, and some types of cooperatives also have their own financial plans. Projections are made for the financial needs not only of the state sector but also of private enterprises, as well as for the incomes and expenditures of the population. The main components of the financial plan are the long- and short-term credit plans, the cash plan, and the budget.

The State Bank draws up both the long- and short-term credit plans. Before 1963 short-term credits were automatically extended to finance accounts receivable and inventories, and short-term credit almost doubled between 1955 and 1962, a period when inventories were rising rapidly. Beginning in 1963, enterprises were encouraged to use their own resources to cover a larger share of current expenses as well as for longer term investment needs. The normal interest rate for credit is 5%, but lower rates are granted for priority

government tasks. Preferential rates are granted to finance above-plan production, maintenance of economic reserves, changes in production to improve quality, and assistance to the housing program.

Banks are also empowered to charge punitive interest rates (up to 10%) to enterprises which are suffering from unplanned losses, are failing to pay their bills, or are accumulating unplanned inventories. Increased emphasis has been placed on bank intervention in the economy since 1971, especially in regard to unplanned inventories, which had risen to 11% of total inventories of centrally controlled industries by 1970. These inventories were sharply reduced in 1972, in part because of the assistance of the IHB in providing funds to eliminate bottlenecks in production.

The cash plan is a projection of currency flows into and out of the banking system. Since the regime tries to keep cash payments to a minimum, the only major cash transactions are wages and salaries and retail sales. Thus, the cash plan is essentially an estimate of income and expenditures in private households. The chief aim of the plan is to insure that increases in income are absorbed by increased purchases of goods. Inflation is a constant problem, since the available supply of consumer goods and services cannot keep up with rising money incomes. The cash plan is backed up by detailed quarterly balances of household incomes and expenditures.

Although the importance of the credit plan has risen, the heart of the financial plan continues to be the budget. It is a major means of implementing the regime's plans for economic growth and of financing the activities of the state. The state budget is made up of the budget of the republic, the budgets of regional authorities, and the centrally planned financial resources of state-owned enterprises. Because it includes valuable information on important and sensitive aspects of economic activity and state policy, detailed information on its contents is closely held. The Ministry for Finance insures that versions circulated within the government are carefully edited and that only selected and meaningless figures are released for publication. Figure 28, showing published revenue and expenditure data for 1972 and 1973, illustrates the limitations in the available data.

The budget is still a major source of funds for capital investment, although budget grants for investment have dropped. The greater part of investment funds is now channeled from the budget through the banking system. The budget also supports industrial and agricultural enterprises with subsidies and other payments. It makes substantial direct

FIGURE 28. Consolidated state budgets (U/OU)
(Million GDR marks)

	1972	1973
Revenues:		
Social security	10,203.7	10,470.4
Production, inventory, profits, and output taxes and other receipts	44,229.8	51,297.7
Socialist cooperatives and workers' taxes	1,082.6	050.8
Others	26,805.2	2,442.9
Total revenues	82,301.3	90,261.8
Of which:		
Central government	64,381.9	70,498.0
<i>Bezirke</i>	17,919.4	19,763.8
Expenditures:		
Education, culture, health, housing, subsidies	22,661.4	24,826.5
Replacement of fixed assets for sports, education, etc.	979.1	1,002.9
Social security	15,904.8	18,560.6
Financing of scientific tasks for in- vestments of VEB's, state com- bines, and VVB's	3,965.3	5,214.5
State farms investments, price sur- charges, soil improvement, etc.	2,202.8	2,061.3
Defense	7,325.0	8,328.0
Others	28,885.9	30,196.0
Total expenditures	82,244.3	90,198.8
Of which:		
Central government	64,324.9	70,435.0
<i>Bezirke</i>	17,919.4	19,763.8

payments to individuals, mostly as pensions, social security benefits, and scholarships, and is the sole source of financing for national defense, civil administration, and public services.

Turnover taxes, paid by producers but levied mostly on consumer goods, provide a large share of budget revenues. Profit taxes on socialized enterprises are also an important source of revenue, as are various taxes on private and semistate-owned concerns. In 1968 the regime introduced land-use taxes—designed to prevent alienation of valuable agricultural land—and capital-use charges—to encourage full use of capital goods and to reduce excess inventories. Contributions of these taxes to revenues are probably not large. Additional revenues are derived from direct wage and income taxes and from payments made into the social security fund by employees, employers, cooperative members, and the self-employed.

The East German currency is the mark, usually referred to in Western usage as the DME (Deutsche Mark East). It is used exclusively in internal transactions. At the end of 1971, the GDR announced

it was revising its exchange rate DME4.2 to US\$1.00 to DME3.15 to US\$1.00 to keep it in parity with the West German mark. A comparison of foreign trade statistics reveal, however, that East Germany revalued the "valuta mark" by 9%—from DME4.2 to US\$1.00 to DME3.8 to US\$1.00—in keeping with the changes made by the U.S.S.R. and other CEMA countries. In 1973 the rate undoubtedly will be adjusted again to reflect the dollar devaluation and West German mark revaluation.

D. International economic relations

1. Foreign trade

a. Policy (C)

The development of East German foreign trade since World War II has been determined by the absorption of East Germany into the Soviet economic sphere of influence. The Soviet Union and the other Eastern European Communist countries have largely replaced West Germany as a market and as a source of raw materials. This forced redirection of trade handicapped East German recovery and growth throughout the postwar period.

During the early postwar years the U.S.S.R. continued to collect reparations from East Germany; still worse, however, the U.S.S.R. could not supply the industrial raw materials previously supplied by West Germany, nor could it provide a market for many specialized East German manufactures. In addition, the redirection of trade toward Soviet markets forced the East Germans to develop some inefficient new industries, such as shipbuilding and uranium mining. Exporting to the relatively undeveloped markets of Communist Eastern Europe and the U.S.S.R.—where most East German exports of machinery and equipment were readily saleable and where there was little competition from Western suppliers—provided no incentive for modernizing designs and technology. In addition, the rapidly growing machinery trade with the Communist countries was not accompanied by an exchange of components or subassemblies; the exchanges involved increasingly obsolete machinery lines with little interrelationship.

As Western suppliers began to compete with East Germany to supply machinery and equipment to the Soviet Union and the other countries of Communist Eastern Europe, and when East Germany began trying to expand its own machinery sales in the West, it discovered that even the lines in which it was traditionally strong were 10 to 15 years behind comparable equipment in the West. Recent strenuous

efforts by the East Germans to upgrade their production have resulted in modest success, especially since 1970, in gaining export markets in the West for particular lines of machinery and equipment, notably office and textile machines, machine tools, and ships.

Despite these recent gains, East Germany still trades at somewhat of a disadvantage with most countries of Western Europe, paying prices that are substantially higher than world market prices for its imports and receiving prices that are much less than world market prices for its exports. With West Germany, East Germany has enjoyed more favorable terms of trade. East German terms of trade with Communist countries are on the whole favorable—the higher prices of many imports are fully offset by the relatively high prices received for its exports.

Membership in CEMA had little effect on foreign trade prior to the 1970's because of East German preference for bilateral integration with the U.S.S.R., coupled with the weakness of the organization due to its unwillingness to tackle the key problems of bilateral trade, lack of specialization, and nonconvertible currencies. The establishment of the much-heralded International Bank for Economic Cooperation (IBEC) in 1964, while facilitating the clearing of accounts, did little to encourage multilateral trade. In 1969-70, however, the East Germans changed course and grudgingly accepted the goal of integration within CEMA, in part as a consequence of Soviet refusal to support Ulbricht's program of bilateral integration, but also because of the apparent willingness of the CEMA membership at that time to foster modernization through specialization and coordination.

As one result of the new attitude toward CEMA, East Germany signed a CEMA agreement in January 1972 for specialization in the production of metalcutting lathes and products made of glass and ceramics. East Germany has also been granted project funding by CEMA's new International Investment Bank (IIB) for expansion of a machine building enterprise (1971) and for a factory to produce chemical equipment (1972). Despite its acceptance of an increased role in CEMA integration and specialization, East Germany remains a conservative within the organization and opposes Hungarian and Polish proposals for decentralized trade and convertible currencies.

Trade between East Germany and non-Communist countries has been strongly influenced by the political aims of the regime. Trade with the less developed countries has grown rapidly since 1963, as the East Germans have increased their economic assistance to encourage recognition by nonaligned governments.

The first breakthrough was recognition by Iraq in April 1969, followed in quick succession by several other Middle Eastern and Afro-Asian countries. Trade with the industrialized countries of the West has been allowed to grow rapidly during periods of comparative political relaxation such as the mid-1960's, but it has been restricted during periods of strain. Throughout the entire postwar period, there has been an erratic policy of attempting to reduce economic dependence on West Germany by shifting trade to other industrialized countries, but this policy has had little long-term success.

The interrelationship between economic and political motives are most visible in interzonal trade with West Germany. For West Germany, political considerations have been the overriding factor in its involvement with interzonal trade even though a number of individual West German firms derive considerable financial benefit from the trade. In the early 1960's interzonal trade was viewed by the West Germans as a means of keeping access to West Berlin open while now it represents a part of its *Ostpolitik*. East Germany has also experienced the conflict between political and economic considerations associated with interzonal trade. In contrast to West Germany, however, economic factors have in most cases dominated the GDR's policy for the development of interzonal trade. In the early 1960's trade fell as East Germany tried to reduce its economic dependence on interzonal trade. From 1963 to 1966 the value of trade grew steadily, but its composition changed to reflect East Germany's policy of reducing its economic dependence on West Germany and to bring pressure on the West German Government to make political concessions to encourage further increases. In December 1968, a new interzonal trade agreement was signed, embodying a number of features East Germany wanted, including an interest-free "swing" credit amounting to 25% of the value of East German exports to West Germany in the previous year. In recent years interzonal trade has become an important factor in the economic growth of the GDR.

East Germany was able to bring interzonal trade nearly into balance in 1971, but could do so only by incurring a large deficit with other industrial countries. Another large deficit in 1972 brought East Germany's interzonal trade debt to more than \$550 million by the end of 1972.

The future of interzonal trade in the short run seems assured since West Germany has pledged a continuation of the special "innerdeutsche" trade, and the other Common Market countries have at present accepted this special relationship. In the

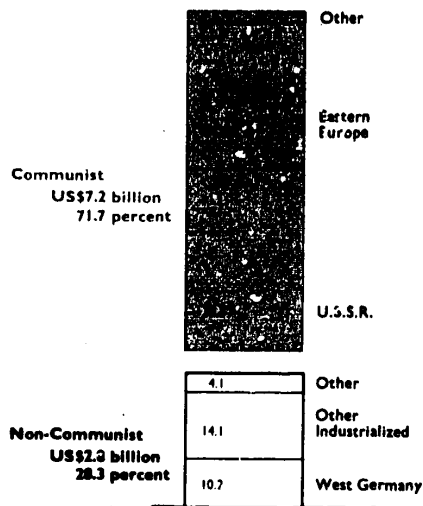
longer run, however, as trade between the Common Market and the GDR expands and becomes significant it is difficult to predict the EEC's posture on the interzonal trade issue. Another factor which must be considered when discussing the future of interzonal trade is the attitude of the CEMA countries with respect to East Germany's special economic relationship with West Germany after the GDR is generally recognized as an independent state by the West.

b. Volume and direction (U/OU)

East German foreign trade on commercial account has grown rapidly since 1950. Estimated at constant prices, the volume of commercial trade in 1970 was about 7 1/2 times that of 1950, whereas GNP was only about 2 1/2 times the 1950 level. If the 1950 trade is adjusted to include uncompensated deliveries to the U.S.S.R., however, the value of exports in 1971 was only about five times the 1950 level. In spite of this rapid growth, total foreign trade in 1971 was still only about two-fifths more than East Germany's external trade (including trade with the rest of Germany) in 1936. Commercial trade, expressed in terms of U.S. dollar equivalents, is summarized in Figure 29.

The geographical composition of East German trade has remained largely stable since the 1950's. About three-fourths of the trade is with other Communist countries, although the Communist countries' share has gradually declined. The U.S.S.R. alone accounts for over half of East German trade with Communist countries, and the other Eastern European Communist countries account for most of the balance. Because of East German dependence on imports of essential raw materials from the U.S.S.R., this trade plays a key role in the development of the economy. The Soviet share in total trade rose from

TOTAL TRADE
US\$10.9 billion



NOTE: Totals may not equal sum of components because of rounding

FIGURE 30. Geographic distribution of foreign trade, 1971 (U/OU)

about 43% in 1960 to 49% in 1962 and 1963, and then declined to about 38% in 1971 (Figure 30). There have been changes in the shares of other Communist countries, notably a sharp drop in trade with the People's Republic of China (in 1971 less than half the 1960 level) and a large increase (in 1963) in trade with Cuba, to which East Germany has extended substantial credits.

FIGURE 29. Value of commercial foreign trade (U/OU) (Millions of equivalent U.S. dollars)

	COMMUNIST			NON-COMMUNIST			TOTAL TRADE		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1950.....	276.9	356.4	-79.5	129.1	113.2	15.9	406.0	469.6	-63.6
1960.....	1,669.4	1,616.1	53.3	537.9	578.3	-40.4	2,207.3	2,194.4	12.9
1965.....	2,296.7	2,046.4	250.3	773.0	763.2	9.8	3,069.7	2,809.6	260.1
1966.....	2,385.9	2,306.7	79.2	819.1	908.3	-89.3	3,205.0	3,215.0	-10.0
1967.....	2,599.0	2,394.3	204.7	857.0	884.3	-27.3	3,456.0	3,278.6	177.4
1968.....	2,903.5	2,558.0	345.5	887.6	834.8	52.8	3,791.1	3,392.8	398.3
1969.....	3,033.7	2,987.5	46.2	1,119.4	1,135.8	-16.4	4,153.1	4,123.3	29.8
1970.....	3,386.0	3,361.6	24.4	1,195.0	1,485.4	-290.4	4,581.0	4,847.0	-266.0
1971.....	3,783.5	3,410.0	373.5	1,292.8	1,549.6	-256.8	5,076.3	4,959.6	116.7

The share of trade with non-Communist countries, which accounted for 25% to 30% of total East German trade throughout the 1950's, dropped in the early 1960's, but since then it has recovered and now accounts for about 28% of total trade. Trade with West Germany—the most important trading partner in the non-Communist area—declined absolutely between 1959, when it accounted for 11% of the total, and 1962, when the share was only 8.5%; it has since risen to between 10% and 11% during 1969-71.

Interzonal trade affords access to Western industrial materials and sophisticated engineering products, which are paid for through clearing accounts rather than with convertible currency. The remaining trade with the industrial West is widely dispersed, with no other Western country accounting for as much as 2% of total East German trade. In an attempt to dilute West German influence, however, East Germany increased its 1971 trade with France and Japan by 72% and 62%, respectively.

c. Commodity composition (U/OU)

The commodity composition of East German foreign trade (Figure 31) reflects a heavy reliance on imports for supplies of foods, fibers, fuels, minerals, and metals, and on exports of manufactured goods. Raw materials for industry and agricultural products accounted for about three-fifths of imports until 1960, since then their share has fallen to a little over two-fifths. Imports of light industry products and food products have fallen as a share since 1960, as production of those products has increased enough to satisfy most domestic needs. Imports of machinery and equipment declined from 5% of total imports in 1950 to 3% in 1955, but they rose sharply with the expansion of East German investment—reaching 14% of the total by 1960 and continuing to grow rapidly since that time. Much of this equipment has come

from Western Europe, but current long-term agreements provide for large increases in imports of machinery from the U.S.S.R. and the other countries of Communist Eastern Europe.

The commodity distribution of commercial exports has also changed somewhat. Deliveries of machinery and equipment, which made up only 28% of commercial deliveries in 1950, were more than 55% of deliveries by 1953. The share of machinery declined in the mid-1950's to about 50% of total exports, as a result of the inclusion of uranium deliveries in the commercial account. Since then, the share of machinery and equipment has risen somewhat, but not as rapidly as the regime hoped or expected. The other major groups of exports are chemicals and rubber products, textiles and clothing, and petroleum products.

The basic pattern of East German trade—exports predominantly of manufactures and imports predominantly of basic materials—holds true both for trade with the Communist countries and for trade with the less developed non-Communist countries. The pattern is different, however, for trade with the industrialized non-Communist countries, in which there is a higher proportion of raw materials and intermediate products in exports, and a higher proportion of manufactures, especially machinery and equipment, in imports.

2. Balance of payments (S)

East Germany's balance of payments showed an overall surplus on current account until the late 1950's, due to large though declining reparations deliveries and occupation costs levied by the U.S.S.R. From then until 1963, there was a deficit in the current account. Thereafter there has been a slight overall surplus; surpluses with the U.S.S.R. and less developed countries have been largely offset by deficits with the

FIGURE 31. Commodity composition of imports and exports, by major groups (U/OU)
(Percentages of respective totals)

COMMODITY GROUP	IMPORTS			EXPORTS		
	1960	1970	1971	1960	1970	1971
Basic materials industry.....	41.8	31.3	33.2	30.5	20.8	20.6
Metalworking industry.....	14.4	36.7	36.9	51.8	56.3	56.8
Light and food industries.....	27.7	20.9	19.1	15.8	20.6	20.8
Agriculture and forestry.....	15.4	10.0	9.4	*	*	*
Other.....	.7	1.1	1.4	1.9	2.3	1.8
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

*Not separately reported; presumably included in "light and food industries."

industrial West. The current account with the U.S.S.R. was nearly in balance in the early 1960's; in more recent years surpluses have followed, except for a deficit in 1970. Imbalances in transactions with the East European countries have been small and have been quickly adjusted, apart from the effect of several sizable commodity credits, notably one of \$100 million to Poland. The account with the industrial West showed surpluses with West Germany and deficits with other countries in the early 1960's, when East Germany was trying to demonstrate its independence of Bonn. Since the mid-1960's, deficits have risen sharply, both with West Germany and with other industrial countries, mainly reflecting a strenuous effort to stimulate technological change and growth. At the same time, East Germany has been running surpluses with the less developed countries, both in the Communist area (Cuba, North Korea, and North Vietnam) and the non-Communist area, as a result of aid programs and credit extensions.

Substantial trade deficits with the U.S.S.R. in 1959-62 were almost offset by earnings from goods and services furnished to Soviet forces in East Germany, which ran over \$140 million a year. In 1963-69 those earnings more than offset the small trade deficits with the U.S.S.R. In 1970 East Germany ran a net deficit on Soviet account, but experienced a surplus again in 1971-72.

Small annual deficits on current account with the industrial West first appeared in the late 1950's, as the leadership began pushing output to "overtake" its arch rival. In the early 1960's, as East Germany was forced into painful readjustments as a result of this campaign, surpluses with West Germany were offset by growing deficits with other industrial countries. In the mid-1960's, larger deficits began to show up, both with West Germany and with other Western industrial countries, and they rose to a peak in 1970-72. Mounting shortages of key materials in CEMA, together with a growing demand for Western machinery and equipment, led to rapid increases in imports and to estimated deficits averaging perhaps \$150 million a year in those years.

East Germany's surpluses with less developed countries (LDC's) have mounted, especially since the mid-1960's. Cumulative trade surpluses with Cuba, North Korea, and North Vietnam (chiefly the last named) came to about \$250 million by the end of 1971. Surpluses with non-Communist LDC's were of approximately the same magnitude; exports went mainly to the Middle Eastern countries and to several small countries, mostly in Asia, which were ready to grant official recognition to East Germany.

Commodity trade is the only element of the current account that is adequately covered (for balance-of-payments purposes) in official statistics. East German statistics in the 1960's appear to cover total payments made and received for commodities by major trading areas, with two exceptions: first, Soviet deliveries of military-end items were not included until 1966, and second, trade with West Germany (and therefore total trade) was not fully represented. In the 1960's East Germany persisted in converting this trade on a basis of 1 East German mark=1 West German mark, even though the parity achieved in the late 1950's (at 1 mark=\$0.238) had been upset by the successive upward valuation of the West German mark to \$0.25 (1960) and \$0.273 (1969). Beginning with 1972 statistics, the nominal value of the East German mark was once again pegged at the value of the West German mark, and this nominal correspondence will probably be maintained.

Statistics on invisible transactions are fragmentary. East Germany runs a substantial deficit on transport with the Communist countries, notably with Poland. On tourism (and movements of official delegations), balances with the Communist countries were probably small until 1972, when East Germany had a large surplus with Poland (roughly \$100 million) as a result of the opening of borders and easing of foreign exchange restrictions. The other major item in accounts with the Communist countries is the annual Soviet payment of over \$140 million for goods and services furnished to Soviet forces in East Germany. This payment has been made since the beginning of 1959. Other payments—interest on debts, private transfers, licenses and copyrights, and the like—have yielded very small balances in either direction.

Invisible transactions with the industrial West began with substantial net earnings from tourism (rising from a few million dollars in 1960 to \$50 million in 1972). Another source of income is charges for transport, postal, and telecommunications services between West Germany and West Berlin, running at over \$50 million a year in 1971, plus some payments for transit of Soviet and Polish goods across East Germany. In addition West Germany has made two payments of 250 million marks each on clearing accounts, one in 1971 and one in 1972, in consideration of East German claims on transport and communications services to West Berlin in the postwar period through 1966.² Major outlays include

²Two payments of 60 million marks each were also made in 1968 and 1969 to recompense East Germany for the withdrawal of subsidies for petroleum products, and a payment of 68 million marks was made in 1970 to cover communications services in 1967-69.

payments to West Germany for rail transport and port services in Hamburg, running at \$80 million in 1971. Payments to other Western countries for transport services more than offset East German earnings from those countries; the net outlay may now run at \$25 million a year. Interest payments on the East German debt may run at about \$40 million. Finally, East Germany has made outlays in West Germany for espionage and for the maintenance of the West German Communist apparatus. These were estimated in 1959 at \$12 million a year, and they have probably grown. Overall, the balance of payments with the industrial West has probably been nearly in balance, apart from the large retroactive payments made by West Germany.

On capital account with the U.S.S.R., the East German position has improved since 1959. Soviet claims against East Germany at that time are not known, apart from hard currency and commodity credits of nearly \$300 million drawn in 1957-58. These were probably repaid by 1965, but credits of about \$310 million drawn in 1961-62 have probably been refinanced, and credits of \$200 million or more drawn in 1970 are also probably largely outstanding. Thus, there has been a net increase of perhaps \$200 million in East German liabilities to the U.S.S.R. since 1959. Assets increased by more, however. The annual "contribution" to Soviet heavy industry since 1967, amounting to perhaps \$150 million a year, will just begin to flow back in the form of oil and other materials in the mid-1970's, so the cumulative "contribution" (as of the end of 1972) might be about \$900 million.

Capital accounts with West Germany indicate significant indebtedness in 1960, which increased little through 1965, but has risen sharply thereafter and amounted to more than \$550 million (1972 exchange rate) at the end of 1972. Of this amount, about \$180 million was on "swing" credit, the unpaid balance on the clearing account, which since 1968 has been allowed to run to as much as 25% of East German deliveries in the previous year. Of the remainder, almost \$145 million represents medium- and long-term credit drawn to finance machinery purchases, and the remainder is partly short-term and partly medium-term credit.

Hard currency debts to other Western creditors rose from a very low level in the early 1960's to as much as \$400 million (1970 exchange rates) on medium-term, a few million dollars on long-term, and an unknown amount on short-term at the end of 1971. Of the medium- and long-term indebtedness, perhaps \$240 million was owed to NATO countries (mainly France and the United Kingdom), with most of the rest being owed to Switzerland and the Soviet banks in Western Europe.

A partial offset to East German debts is a stock of some \$70 million in gold. East Germany bought roughly \$100 million in 1967-68, but has since sold perhaps a third of it.

East Germany's cumulative surpluses of \$175 million with North Vietnam through 1971 are presumed to have been financed with grants. Similar surpluses with Cuba and North Korea and with Western LDC's have probably been financed by credits repayable in kind.

Glossary (u/ou)

ABBREVIATION	FOREIGN	ENGLISH
CEMA.....	Council for Economic Mutual Assistance
DNB.....	<i>Deutsche Notenbank</i>	German Bank of Issue
GHG.....	<i>Großhandels-gesellschaft</i>	Wholesale Trade Association
HO.....	<i>Handelsorganisation</i>	Trade organization
IBEC.....	International Bank for Economic Co-operation
IHB.....	<i>Industrie und Handelsbank</i>	Industry and Trade Bank
IIB.....	International Investment Bank
.....	<i>Staatsbank der DDR</i>	State Bank of the GDR
VEAB.....	<i>Volkseigenen Erfassungs- und Auf-kaufbetrieben</i>	Procurement and Purchasing Enterprises
VEB.....	<i>Volkseigener Betrieb</i>	People-owned Enterprise
VVB.....	<i>Vereinigung Volkseigener Betriebe</i>	Association of People-owned Enterprises

SECRET

Places and features referred to in this chapter (u/ou)

	COORDINATES			
	°	'N.	°	'E.
Altenberg.....	50	59	12	27
Aue.....	50	35	12	42
Berlin.....	52	31	13	24
Bitterfeld.....	51	37	12	19
Böhlen.....	51	12	12	23
Bonn, West Germany.....	50	44	7	06
Boxberg.....	51	24	14	34
Brandenburg.....	52	25	12	33
Calvörde.....	52	24	11	18
Cottbus.....	51	46	14	20
Crossen.....	50	46	12	29
Dresden.....	51	03	13	45
East Berlin.....	52	30	13	33
Eisenhüttenstadt.....	52	09	14	39
Eisleben.....	51	32	11	33
Espenhain.....	51	11	12	28
Freiberg.....	50	55	13	22
Gera.....	50	52	12	05
Greifswald.....	54	06	13	23
Halle.....	51	30	12	00
Hamburg, West Germany.....	53	33	10	00
Helbra.....	51	33	11	30
Hennigsdorf.....	52	38	13	12
Hettstedt.....	51	39	11	30
Hohenwarte.....	50	36	11	29
Hoyerswerda.....	51	26	14	15
Karl-Marx-Stadt.....	50	50	12	55
Königstein.....	50	55	14	04
Lauta.....	51	28	14	04
Leipzig.....	51	18	12	20
Leuna.....	51	19	12	01
Lippendorf.....	51	11	12	23
Lübbenau.....	51	52	13	58
Markersbach.....	50	32	12	52
Merseburg.....	51	22	12	00
Piesteritz.....	51	52	12	36
Potsdam.....	52	24	13	04
Rheinsberg.....	53	06	12	53
Riesa.....	51	18	13	18
Rostock.....	54	05	12	08
Saalfeld.....	50	39	11	22
Sangerhausen.....	51	28	11	18
Schkopau.....	51	24	11	59
Schönebeck.....	52	01	11	45
Schwarze Pumpe.....	51	32	14	21
Schwedt.....	53	04	14	18
Seelingstädt.....	50	47	12	15
Silesia, Poland and Czechoslovakia (region).....	51	00	18	00
Thuringia (region).....	51	00	11	00
Trattendorf.....	51	32	14	23
Unterwellenborn.....	50	39	11	26
Vetschau.....	51	47	14	04
Vockerode.....	51	51	12	21
Werra (stream).....	51	26	9	39
Wismar.....	53	54	11	28
Zielitz.....	52	17	11	41
Zschornowitz.....	51	43	12	24

34

SECRET