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East European Grain Production: Gains in the North, Stagnation in the South

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East European Grain Production: Gains in the North, Stagnation in the South



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A Research Paper

This paper was prepared by 
Office of Global Issues, and  Office of
European Analysis. Comments and queries are
welcome and may be directed to the Chief, Strategic
Resources Division, OGI 



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**East European Grain Production:
Gains in the North,
Stagnation in the South**

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Summary

*Information available
as of 25 June 1986
was used in this report.*

The East European grain outlook, while good for the region as a whole, masks wide variation among countries. Reflecting sharp rises in yields—well above those of the Soviet Union—grain production has increased steadily during the 1980s. Hungary, East Germany, and Czechoslovakia have achieved the highest yields, as a result of better agrotechnology, improved management, and generally favorable weather. In contrast, Poland, Bulgaria, Yugoslavia, and Romania have not fared as well and face constraints in supplying inputs and in adopting the methods and technologies of the more advanced East European countries. Some degree of progress is expected, however, and, with additional gains in the leading countries, grain self-sufficiency, or balanced trade, should be within reach for the region by 1990. This development would enhance economic growth and political stability for the region as a whole, but would limit prospects for US agricultural exports.

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The above-average 1985 grain crop—estimated at 101 million metric tons—continued a trend that began in 1982. After a poor showing in 1981, East European grain production has risen significantly. Output has exceeded 100 million tons each year, compared with about 94 million tons averaged during the period 1976-80, and reached a high of 109 million tons in 1984. The area sown to grain has remained fairly stable, but yields have increased because of favorable weather, improved agricultural inputs, and better policies.

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Sharp differences exist within the region, however. Hungary, East Germany, and Czechoslovakia have attained the highest grain yields through policies that foster efficient use of already high levels of agrotechnology and offer worker and manager incentives. Hungary's decentralized market-oriented farm system, introduced in the 1960s, has achieved impressive yield increases, fulfilling domestic needs, and becoming Eastern Europe's leading net grain exporter. The centrally planned agricultural sectors of East Germany and Czechoslovakia have recently made progress in eliminating delays and wasteful practices in farm operations.

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In contrast, yields have been lower in Poland, Romania, Yugoslavia, and Bulgaria. While large areas give most of these countries potential to increase grain output sharply, regimes will have to take steps to overcome chronic problems:


- Excessive grain losses during harvest, processing, and storage detract from bumper crops.

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- High costs, shortages, and poor quality of agricultural inputs, such as fertilizer or machinery, delay farm operations and reduce yields.
- Procurement prices often are not set high enough above rising input costs to stimulate grain production, especially of particular grain types.
- The small, private farms that predominate in Poland and Yugoslavia suffer from low-technology levels resulting from regime emphasis on socialized agriculture. 


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Progress will not be easy, however. In Poland, ideological reasons will probably keep officials from providing private farmers with necessary inputs and investments. In Romania, where mismanagement and bad weather have resulted in the lowest grain yields of the region, much depends on the longevity of Ceausescu and whether his successors will put sensible agricultural policies into operation. 


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By 1990, regional self-sufficiency, or balanced trade, in grain could be the norm. Although East Germany and Poland are likely to remain dependent to some degree on grain and feed imports, increased exports of other grain types could help balance such purchases. Development of new hybrids and more efficient use of domestic farm output will also lessen the need for imports. Most East European regimes will seek to boost agricultural exports to earn foreign exchange. The degree of success, however, will depend largely on the level of resources devoted to agriculture, favorable weather, and efficient farm management. 

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As agricultural performance in Eastern Europe improves, we expect that standards of living will rise, contributing to the region's political stability. Increased output of grain and other agricultural products will improve the region's trade and financial health. Good harvests will also bolster food supplies and help defuse a source of consumer discontent. Regime leaders, however, could be faced with larger food subsidies if higher procurement prices needed to encourage farm output are not matched by higher consumer prices. 

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We see two implications for US economic interests. Prospects for increased US grain exports to Eastern Europe are likely to dim as the threat of serious crop shortfalls recedes. On the other hand, greater US trade tied to improving agrotechnology, food processing, and farm management services may be possible, especially under attractive financial arrangements. 

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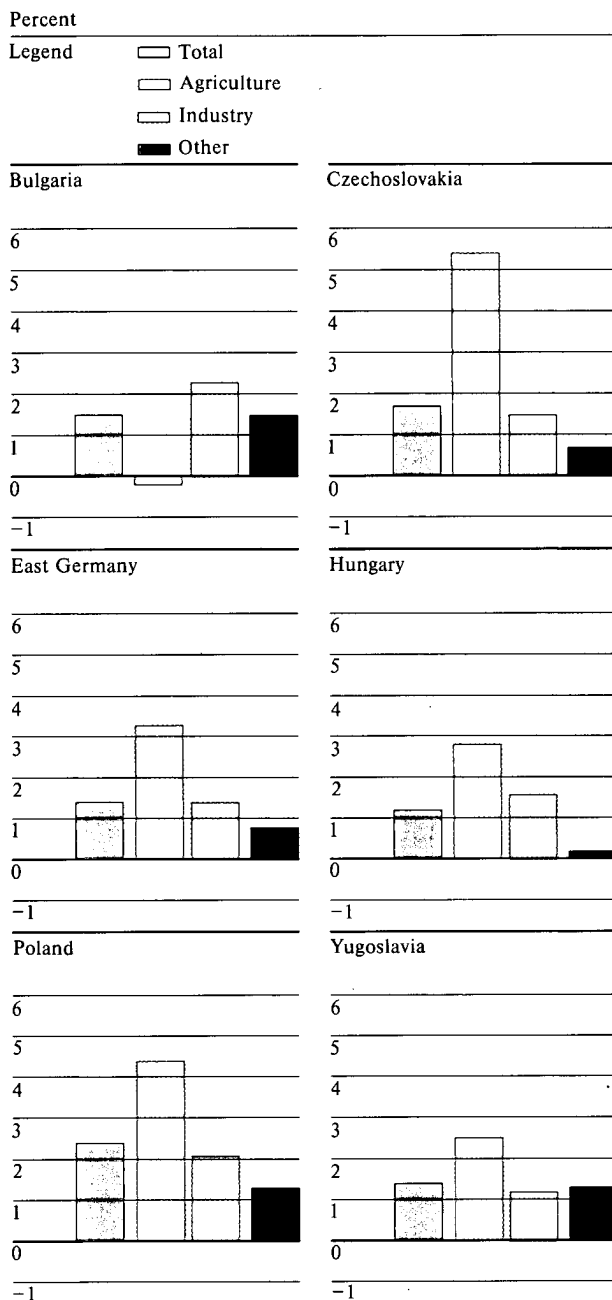
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Figure 1
East European Average Annual GNP
Growth, 1982-84^a



^a CIA estimates. Romania is not included because of the unreliability of its economic statistics

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East European Grain Production: Gains in the North, Stagnation in the South

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Introduction

Since 1981 Eastern Europe has faced a very difficult economic situation. Large hard currency debt service requirements for some countries, concern over increasing indebtedness to the West, and restraints on new Western lending have limited investment and curtailed imports of intermediate goods and raw materials, [redacted]

Shortfalls in domestic energy supplies and severe winter weather in 1984/85 have compounded economic difficulties. Industrial growth, which underpinned the high rates of economic growth in the region during most of the 1970s, has fallen sharply. [redacted]

In contrast, agricultural successes in the past four years have helped to relieve considerable pressure from the nonagricultural sectors of most East European economies (see figure 1). We estimate that East European GNP was more than \$66 billion, or about 3 percent, higher during the 1982-84 period than if regional agricultural production had followed its 1975-81 trend. The record crops, through increased domestic supplies and export earnings, also contributed to a modest rise in food consumption in most countries. [redacted]

Despite such progress, we believe that most consumers in Eastern Europe will in the short term continue to face price increases, shortages of many imported luxury foods, and limited meat supplies, although the nature of the problems will vary widely among individual countries. Problems will continue to be most severe in Romania where recent crop shortfalls and pressure to maintain agricultural exports will probably result in further deterioration of already seriously strained food supplies. While the recent nuclear accident in Chernobyl¹ has caused some disruption in marketing food products in Eastern Europe, we do not expect the problem to have a major impact on food supplies (see inset "The Impact of the Chernobyl Nuclear Accident" on page 2). [redacted]

Trends in Grain Production in the 1980s

The successes of the agricultural sector are clearly seen in the gains of the East European countries in boosting grain output (see inset "Problems With Official Grain Production Data" on page 2). Average grain production during 1981-85 increased as compared with the 1976-80 period in all the countries except Romania (see table 1). Indeed, we estimate that Romania's grain output in the first half of the decade averaged over 5 percent less per year than in the preceding five-year period. Despite disappointing harvests in 1981, bumper grain output during the next four years allowed all countries except Romania and Bulgaria to virtually fulfill their plans for total grain production during the period 1981-85. Output increased more rapidly, however, in all of the northern countries¹ than in the southern, with the exception of Hungary. Since the area sown to grain did not expand during the period except in Poland, the additional production stemmed primarily from higher yields. [redacted]

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Yields increased because of a combination of favorable weather, improved and increased agricultural inputs, and better management and agricultural policies. Comments from agricultural attaches and the East European press cite favorable, even near-ideal, weather at critical times during the crop season as a primary reason for the record yields achieved in recent years. Agrotechnology, however, has come to play an increasingly important role in Eastern Europe. Steady advances were made during the 1970s, as countries emphasized land improvements such as drainage projects and irrigation, and increased inputs such as fertilizers, chemicals, hybrids, and high-quality seeds. The role of better inputs was especially

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¹ We discuss the northern countries (Poland, East Germany, and Czechoslovakia) and the southern countries (Romania, Bulgaria, Hungary, and Yugoslavia) separately because of their different climates, crops, and degree of self-sufficiency in grain production. [redacted]

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The Impact of the Chernobyl' Nuclear Accident

We expect that agricultural production in Eastern Europe will be little affected by the Chernobyl' accident, but actual losses are difficult to quantify on the basis of available data. Grain production should not suffer; but vegetables, potatoes, and sugar beets, which absorb radioactivity from fallout dust on leaves and stems, are clearly susceptible to contamination. Since most particulate matter normally would be expected to settle out of the atmosphere within tens of kilometers of Chernobyl', the damage to these crops should be localized within the Soviet Union. Furthermore, most of these crops would not have grown enough to be above ground level, particularly in the northern East European countries. [redacted]

Gaseous radioactive iodine released at Chernobyl' is of greater concern because it travels longer distances, chemically reacts with the environment, and contaminates foodstuffs. The major health hazard stems from dairy cattle that ingest contaminated feed, concentrating the radioactive iodine in their milk. This iodine, in turn, concentrates in human thyroids, particularly in infants. While the carcinogenic effect of radioactive iodine is well documented, it has a half-life of only about eight days. This means that, for practical purposes, only food or milk produced between the time of the accident and mid-July will be a danger. [redacted]

For Eastern Europe, the most serious effect of the Chernobyl' accident has been the EC ban on the import of a wide variety of their foodstuffs. All of the countries of Eastern Europe were included in the ban except East Germany. The GDR was excluded as a result of a West German pledge to ensure that all GDR food products coming into the EC through West Germany meet FRG standards. Collectively, the ban, which expired at the end of May, has already cost Yugoslavia, Poland, and Hungary more than \$100 million, according to officials. Lingering worries over the safety of food exports, however, could increase this figure further. Annually, Eastern Europe depends on agricultural products for about a tenth—roughly \$2.5 billion in 1984—of total exports to the developed West. For Poland, Hungary, and Bulgaria the share is much higher. [redacted]

Problems With Official Grain Production Data

We regularly use US Air Force weather data, [redacted] [redacted] press, Embassy, and agricultural attache reports—to evaluate the accuracy of official grain harvest announcements and subsequent data published in statistical yearbooks of each country. Only Romanian, and to a lesser degree Bulgarian, published grain production data are judged to contain inflated figures. We believe official output figures for these countries are not consistent with known crop conditions as indicated by imagery, weather data, and attache field observations. Moreover, Embassy reporting from Bucharest and Sofia has noted that data released by official sources are often conflicting. If these countries merely padded their figures slightly it would be virtually impossible to detect, but we judge that in some years reported grain production in Romania is inflated by as much as a third. [redacted]

crucial in countries with less capital-intensive agricultural sectors, like Poland and Yugoslavia (see tables 2 and 3). Most East European regimes also strengthened incentives to use inputs more economically and boosted procurement prices to stimulate production and raise the quality of output. [redacted]

Progress in applying such policies and in improving agrotechnology was uneven, however, and nature was not equally generous throughout the region. On the basis of an analysis of weather data, attache and press reporting, and country statistics, the greatest yield increases in the 1980s occurred where better technology and policies were reinforced by adequate or better precipitation—more often than not in Hungary, East Germany, and Czechoslovakia. These three countries, already relatively successful grain producers through the 1970s, have maintained a leading position in the 1980s and greatly exceed Soviet performance (see figure 2 and table 4). For example, wheat yields in these three countries topped 5.0 tons per hectare in

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Table 1
Eastern Europe: Grain Production ^a

Million metric tons

	1976-80 Average	1981-85 ^b Average	1981	1982	1983	1984	1985 ^b	1985 Plan
Eastern Europe	94.2	101.2	92.3	102.9	100.4	108.9	101.3	118.5-119.3
Southern countries	55.6	57.7	54.3	61.4	57.2	61.2	54.3	74.6
Romania	19.4	18.3	17.6 ^c	19.8 ^c	18.4 ^c	19.0 ^c	16.6	29.6
Bulgaria	8.1	8.3	8.6	9.3 ^c	7.7 ^c	8.9 ^c	7.0	11.0
Yugoslavia	15.6	16.7	15.2	17.4	17.3	18.0	15.8	18.5
Hungary	12.5	14.3	12.9	14.9	13.8	15.3	14.9	15.5
Northern countries	38.6	43.5	38.0	41.5	43.2	47.7	47.0	43.9-44.7
Poland	19.5	22.2	19.7	21.2	22.1	24.4	23.7	22.2-23.0
East Germany	9.0	10.4	8.9	10.0	10.1	11.3	11.6 ^d	10.7
Czechoslovakia	10.1	10.9	9.4	10.3	11.0	12.0	11.7 ^d	11.0

^a Grains include wheat, rye, barley, oats, corn, and mixed grains; in the southern countries rice is also included, and in Bulgaria, legumes. Poland and Romania report grain production by combine bunker weight, which includes foreign matter and excess moisture. The other countries have varying standards of cleaning and drying grain.

^b CIA estimate.

^c Official figures and announcements concerning grain production in Romania and Bulgaria in recent years have been much higher than crop conditions during those years seemed to indicate. CIA estimates for these two countries are revised as new data for past years become available.

^d Official announcement by the country.

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Table 2
Eastern Europe: Fertilizer Consumption ^a

Thousand metric tons

	1971-75 Average	1976-80 Average	1981	1982	1983
Southern countries					
Romania	762	1,296	1,618	1,675	1,665
Bulgaria	621	740	1,044	1,038	1,009
Yugoslavia ^b	691	816	1,010	940	920
Hungary	1,127	1,485	1,485	1,528	1,586
Northern countries					
Poland ^b	3,185	3,599	3,346	3,163	3,424
East Germany	1,704	1,696	1,726	1,408	1,451
Czechoslovakia	1,436	1,697	1,720	1,742	1,776

^a Data are from Foreign Agriculture Organization (FAO), UN fertilizer yearbook.

^b In Poland and Yugoslavia the socialized farm sector uses much more fertilizer than the larger private sector.

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Table 3
Eastern Europe: Tractors ^a

Thousands

	1973-75 Average	1976-80 Average	1981	1982	1983
Southern countries					
Romania	11.2	13.1	14.8	16.0	15.9
Bulgaria	17.0	15.2	14.6	14.5	14.0
Yugoslavia	23.6	43.1	58.3	62.7	66.9
Hungary	11.2	10.8	10.3	10.3	10.6
Northern countries					
Poland	24.0	34.9	45.0	47.9	51.2
East Germany	28.9	27.7	29.3	29.9	30.5
Czechoslovakia	26.9	26.7	25.9	25.5	25.9

^a Number of tractors per thousand hectares of arable land and permanent crops. Data are from FAO production yearbook and exclude garden tractors.

1984, about 30 percent above wheat yields in Bulgaria, the next closest ranking country. Moreover, Hungarian corn yields have consistently ranked above those of the other southern countries. []

Hungary recognized the importance of its farm sector as early as the 1960s when it introduced a decentralized, market-oriented system that would produce for export as well as for domestic needs. Farm managers are relatively free to make their own decisions to boost profits, with the government using prices to stimulate farm output. According to a press article last fall, the Hungarian intensive grain production program—begun in 1981—has been successful in offsetting much of the effects of recent droughts by using good management, suitable hybrids, and adequate fertilizer. During 1976-80, Hungarian average wheat yields rose 21 percent, and average corn yields rose 17 percent as compared with the previous five years. During the period 1981-85, average wheat yields increased an additional 18 percent and those for corn 22 percent. No other country in Eastern Europe has sustained such high growth rates over both periods. []

East Germany and **Czechoslovakia** recently have taken steps to improve the efficiency of their centrally planned farm sectors, which were already adequately supplied with fertilizer and machinery. East Germany has broken up wasteful large farms where livestock and crop production were not mutually supportive. East Berlin has also boosted procurement prices sharply and improved farm management, emphasizing machinery maintenance and the timely performance of farm operations. Increased use of fungicides has helped grain yields, and the East German Agriculture Minister said that improved grain varieties, which came into use between 1982 and 1985, occupied one-third of the grain area by 1985. Czechoslovakia, while emphasizing worker incentives and better grain hybrids, apparently has improved its mechanized farm operations, particularly the cutting of harvest losses that had run to 700,000 tons of grain per year.² Prague announced more major agricultural

² While Czechoslovakia's 1984 grain output jumped to 12.0 million tons, after a record 1983 crop of 11.0 million tons, the US agricultural counselor reports that the 12.0 figure included a higher than usual moisture content due to wet harvest conditions, and that grain quality was lowered by sprouting and spoilage, leading to heavy storage losses. []

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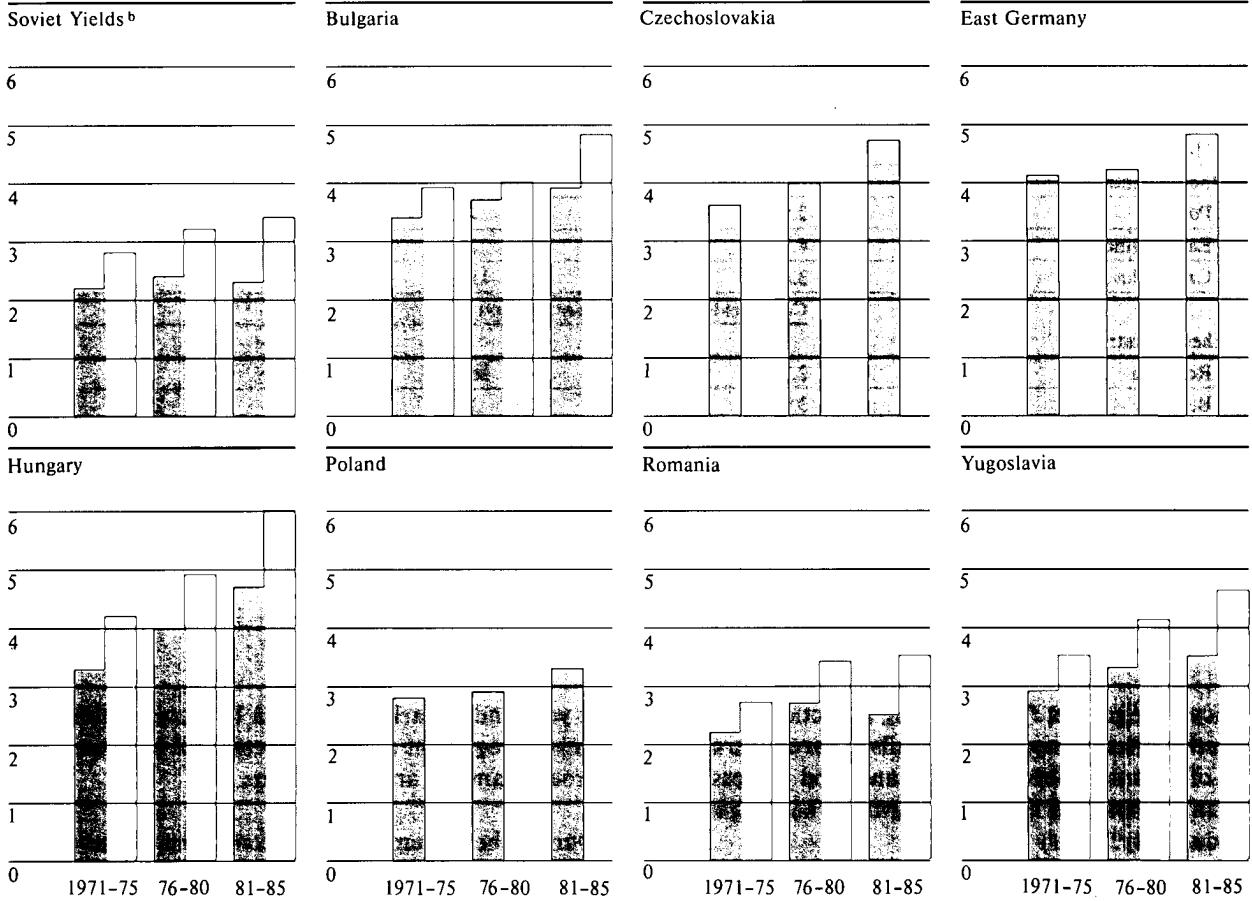
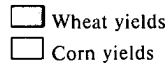
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Figure 2
Eastern Europe: Wheat and Corn Yields, 1971-85^a

Metric tons per hectare

Legend



^a Yield data are from country statistical yearbooks, except for some years during the 1981-85 period for Romania and Bulgaria and 1985 for all countries, which are CIA estimates.
^b Yield data through 1980 are from statistical yearbooks; 1981-85 data are CIA estimates.

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Table 4
Eastern Europe: Wheat and Corn Yields

	1971-75 Average	1976-80 Average	Percent Change	1981-85 Average	Percent Change
<i>Wheat yields (metric tons per hectare)</i>					
Southern countries					
Romania	2.2	2.7	23	2.5 ^a	-7
Bulgaria	3.4	3.7	9	3.9 ^a	5
Yugoslavia	2.9	3.3	14	3.5	6
Hungary	3.3	4.0	21	4.7	18
Northern countries					
Poland	2.8	2.9	4	3.3	14
East Germany	4.1	4.2	2	4.8	14
Czechoslovakia	3.6	4.0	11	4.7	18
<i>Corn yields (metric tons per hectare)</i>					
Southern countries					
Romania	2.7	3.4	26	3.5	3
Bulgaria	3.9	4.0	3	4.8 ^a	20
Yugoslavia	3.5	4.1	17	4.6	12
Hungary	4.2	4.9	17	6.0	22

^a 1981-85 average yields for Romania and Bulgaria include disastrous years when grain yields for harvested crops were inflated by excluding percentages of the sown area completely destroyed or used for forage, leaving only the better part of the crop.

policy changes last fall, including reduction of administrative interference in the details of farm operations, use of contracts between farms and food processing organizations, and linkage of farm worker wages to productivity. [redacted]

In contrast to such successful efforts, *Romanian* agriculture remains in a class by itself, with grain yields lagging those of its East European neighbors. Poor management—featuring unrealistic plans, tight central control, and meager incentives—has been a big factor behind stagnating output. In addition, the effects of bad weather have been worsened by severe shortages of agricultural inputs stemming from the country's general economic downslide. Nevertheless, the regime's official grain statistics and announcements portray record harvests, when other evidence points toward mediocre results. Many of the problems

last year and in earlier years can be traced ultimately to mismanagement and failed economic policies. Numerous examples are easy to cite:

- During the extreme drought conditions of the summer of 1985, a Romanian agricultural official admitted that a weekly irrigation plan was only 57 percent fulfilled as a result of electricity and fuel shortages and poor organization of farm labor.
- In September 1984 President Ceausescu praised certain counties for achieving high wheat and barley yields, but the US agricultural attache commented that weed products were probably counted in the harvest totals, as he estimated that many wheat and barley fields in these counties contained almost 50-percent weeds.

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- The US agricultural attache also reported that fuel shortages in 1984 forced farms to harvest almost all the corn by hand.
- Although short of fertilizer, in 1983 and 1984 Romania exported about 60 percent of the fertilizer it produced to help reduce the country's debt, according to the US agricultural attache. [redacted]

The 1985 Harvest: Bumper in the North, Down in the South

The 1985 grain harvest continued Eastern Europe's overall successful pattern of recent years with a total output estimated at about 101 million tons (see figures 3 to 6 and table 1). Although down from the 1984 record of 109 million tons, last year's output was the region's fourth consecutive good harvest. The 1985 grain production plans of the individual East European countries totaled 119 million tons, but it was primarily Romania's unrealistic goal that accounts for most of the shortfall in production. [redacted]

The southern countries, with the exception of Hungary, harvested below-average³ grain crops in 1985, largely as a result of drought. In Romania and Bulgaria, output fell to disastrous levels as both winter and spring grains suffered heavy losses from severe weather exacerbated by energy shortfalls that interfered with irrigation and the use of farm machinery. Farm management was criticized in the press of both countries for not taking decisive actions to save the crops (see figure 4). Yugoslav wheat output declined because of a smaller planted area, and the corn crop was reduced by the summer drought (see figure 5). In contrast, Hungary experienced more favorable weather and harvested an above-average grain crop, despite a decrease in corn area. [redacted]

The northern countries again benefited from good soil moisture over the growing season in 1985 and gathered above-average crops that exceeded plan (see figure 6). East Germany announced its fourth consecutive record grain output, and Czechoslovakia harvested its second-largest crop, including record corn

³ "Average production" is calculated for the years 1980 through 1984. [redacted]

production. Although Poland experienced problems with fertilizer shortages and harvest machinery repairs, its grain harvest was still the second largest ever. [redacted]

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Grain Trade Prospects

In marketing year (MY) 1985/86 Eastern Europe will return, at least temporarily, to its traditional status as a net importer of grain following last year's net exports. We estimate that imports will rise by more than 45 percent to roughly 9.0 million tons while exports will decline nearly 20 percent to about 5.4 million tons (see tables 5 and 6). The shift primarily reflects deteriorating balances of trade in the southern region, normally a large net exporter of grain. Our estimates for each country are based largely on USDA estimates adjusted on the basis of available evidence from press, agricultural attache, Embassy, [redacted] reports. [redacted]

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Compared with the 1976-80 period, however, the trade picture is still likely to be considerably more favorable to Eastern Europe, with imports down and exports up for the region as a whole. The East European countries import most of their grain from Canada, the EC, East European neighbors, Argentina, and the United States, while exporting grain primarily to the Soviet Union and East European neighbors. [redacted]

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In the *southern countries*, sharp declines in grain output will reduce hard currency export earnings while increasing demand for Western grain and feedstuffs. We expect imports to show a fourfold increase—about 3.3 million tons over last year—while exports drop by nearly 15 percent. [redacted]

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Romania's grain imports are expected to nearly triple in MY 1985/86 to 900,000 tons while exports fall by 25 percent. Bucharest has said agricultural trade will be conducted on a cash or barter basis only, and has informed US Embassy officials that it has no interest in trying to obtain Commodity Credit Corporation

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Figure 3
Eastern Europe: Growing Conditions in 1985



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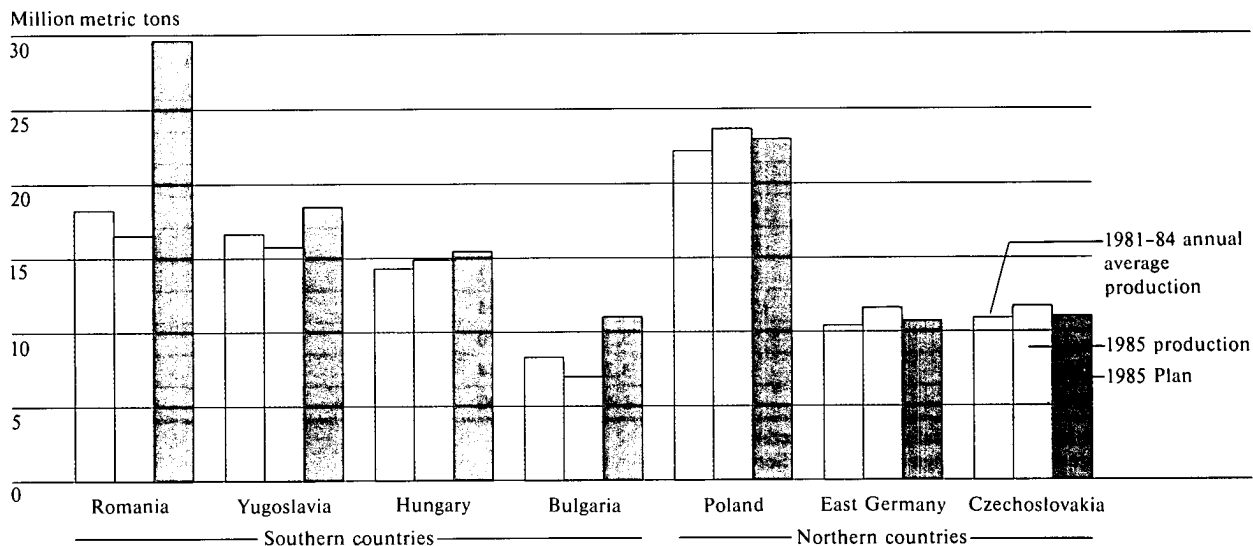
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Figure 6
Eastern Europe: Grain Production, 1981-85^a



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(CCC) credits from the United States, having turned down similar offers of credit from other Western sources. [redacted] Romania has completed a barter arrangement with a Swiss firm calling for the exchange of 500,000 tons of Romanian corn for 400,000 tons of barley, 64,000 to 70,000 tons of soybean meal, and 30,000 tons of sunflower meal. Delivery was scheduled for late 1985 and early 1986. Corn imports are expected to rise sharply, via increased cash purchases from the United States and possible barter deals with Yugoslavia. Higher imports of wheat, a portion of which may be covered under a bilateral trade agreement with India, are also likely. [redacted]

We expect **Bulgaria's** imports of grain to jump nearly sixfold in MY 1985/86 to a record 3.0 million tons, three times the previous high of MY 1981/82. Bulgarian purchases for delivery in MY 1985/86 reportedly began early in 1985 as the extent of drought

damage to the wheat crop became evident. Wheat imports from Argentina and rice imports from China were reported. Press reports indicate Bulgaria signed an agreement with Argentina in October to purchase 500,000 tons of corn and 100,000 tons of wheat for January 1986 delivery and annual purchases of 250,000 tons of soybean pellets over the next five years. According to the US Embassy in Sofia, Bulgarian officials expect MY 1985/86 corn purchases to total 900,000 tons, mostly of US origin. Press reports indicate Sofia also planned to swap 250,000 tons of urea for 100,000 tons of Indian soybean meal in the first half of 1986. Barley imports, largely from the EC and other West European sources, are expected to total approximately 1.5 million tons. Because of the

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Table 5
Eastern Europe: Grain Imports ^a

Million metric tons

	1976-80 Average	1981/82	1982/83	1983/84	1984/85	1985/86 ^b
Eastern Europe	15.59	13.71	8.63	7.75	6.15	9.00
Southern countries	3.50	3.82	0.99	1.21	0.82	4.15
Romania	1.74	1.18	0.32	0.50	0.34	0.90
Bulgaria	0.69	1.01	0.33	0.40	0.45	3.00
Yugoslavia	0.82	1.45	0.22	0.23	0.03	0.25
Hungary	0.25	0.18	0.12	0.08	0	0
Northern countries	12.09	9.89	7.64	6.54	5.33	4.85
Poland	7.05	5.22	4.20	2.82	2.27	2.50
East Germany	3.67	3.20	2.44	3.00	2.61	2.00
Czechoslovakia	1.37	1.47	1.00	0.72	0.45	0.35

^a Mixed marketing years. Import data for all marketing years, except 1985/86, are from the Foreign Agricultural Service, USDA.

^b CIA's estimate is based largely on USDA estimates, adjusted on the basis of [redacted] our estimate of the countries' needs and ability to finance grain purchases.

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Table 6
Eastern Europe: Grain Exports ^a

Million metric tons

	1976-80 Average	1981/82	1982/83	1983/84	1984/85	1985/86 ^b
Eastern Europe	3.66	4.42	5.78	5.36	6.59	5.35
Southern countries	3.26	4.02	5.37	4.35	5.14	4.40
Romania	1.67	1.60	1.85	1.20	1.20	0.90
Bulgaria	0.41	0.69	1.10	0.05	0.70	0.20
Yugoslavia	0.28	0.28	1.10	1.44	0.70	0.80
Hungary	0.90	1.45	1.32	1.66	2.54	2.50
Northern countries	0.40	0.40	0.41	1.01	1.45	0.95
Poland	0.02	0	0.01	0.30	0.70	0.30
East Germany	0.35	0.35	0.35	0.36	0.35	0.40
Czechoslovakia	0.03	0.05	0.05	0.35	0.40	0.25

^a Mixed marketing years. Export data for all marketing years, except 1985/86, are from the Foreign Agricultural Service, USDA.

^b CIA's estimate is based largely on USDA estimates [redacted]

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reduced output and poor quality of last year's harvest, we estimate that imports of wheat will jump from negligible levels last year to about 800,000 tons in MY 1985/86. France and Canada are expected to be the major suppliers. At the same time, hard currency earnings will drop sharply as Bulgaria's grain exports decline by more than 70 percent. [redacted]

Yugoslavia's grain imports, almost entirely wheat, will rise from virtually nothing last year to between 200,000 and 300,000 tons in MY 1985/86. The sharp rise reflects reduced output and below-plan state procurements. The US agricultural attache reports that, with wheat prices low relative to corn prices, farmers have chosen to feed wheat to livestock rather than sell it to state agencies. Despite restrictions on exports last year, corn sales in MY 1985/86 are expected to total about 800,000 tons, roughly half that forecast before the drought but 300,000 tons above last year's level. A large corn carryover, estimated at 2 to 3 million tons, and a reduction in domestic feed usage, should ensure exports at this level despite the downturn in corn output. Wheat exports, an important source of hard currency earnings last year, are expected to fall from last year's 200,000-ton level to nothing in MY 1985/86. [redacted]

Hungary will be the only southern country to maintain its traditional status as a major net grain exporter. Despite lower-than-planned wheat output, we expect exports of wheat and corn to increase modestly in MY 1985/86 as Budapest tries to boost hard currency earnings. Lower world prices for grain, meat, and vegetable oils, however, depressed export earnings last year. The volume of hard currency agricultural exports was down 3 percent in 1985; export earnings, however, fell by 12 percent or some \$170 million. [redacted]

In the *northern countries*, the fourth consecutive year of above-average grain harvests, good forage crops, and larger carryover stocks will allow imports to decline for the fifth year in a row. We estimate that imports will fall below 5 million tons, down more than 8 million tons, or 60 percent, from the peak levels of the late 1970s. The reduction reflects not only a continuance of generally favorable growing conditions but also effective policy decisions in each country to

achieve greater self-sufficiency in agriculture, particularly in grain usage. Dependence on costly imports of grain has declined markedly in the past five years (see figure 7). [redacted]

East Germany's grain imports are expected to plummet by 600,000 tons to a level of roughly 2 million tons or less, down from the peak of nearly 5 million tons in MY 1976/77. A large portion of these imports, primarily feed-quality wheat and barley, will be met through long-term trade agreements with Canada and Austria. [redacted]

Czechoslovakia's imports of grain in MY 1985/86 are expected to fall to a level of 350,000 tons or less, down at least 20 percent from last year and roughly one-fourth of the 1976-80 average. A record corn harvest, good fodder crops, large carryover stocks, and lower feed requirements due to reduced livestock numbers should permit a reduction in corn imports. Financing should be no problem. Prague's credit is good, and an expected increase of 100,000 tons in wheat exports together with sales of malt and bakery products should generate needed cash. [redacted]

Poland's grain imports are expected to rise for the first time in five years by more than 200,000 tons to about 2.5 million tons. The increase primarily reflects increased corn imports to support growing domestic feed usage together with imports of bread-quality wheat. Financing will remain a major constraint. Warsaw reportedly hopes to swap some 500,000 to 600,000 tons of rye, normally in surplus, for corn and wheat. West Germany, Austria, and Czechoslovakia are said to be major participants in such arrangements. The US Embassy in Warsaw reports that Hungary will provide 400,000 to 500,000 tons of grain, primarily wheat, annually in the period 1986-90 in exchange for Polish metals. Press reports have also rumored corn imports from China. Exports of rapeseed and rapeoil should generate hard currency for grain purchases or allow for additional barter deals. [redacted]

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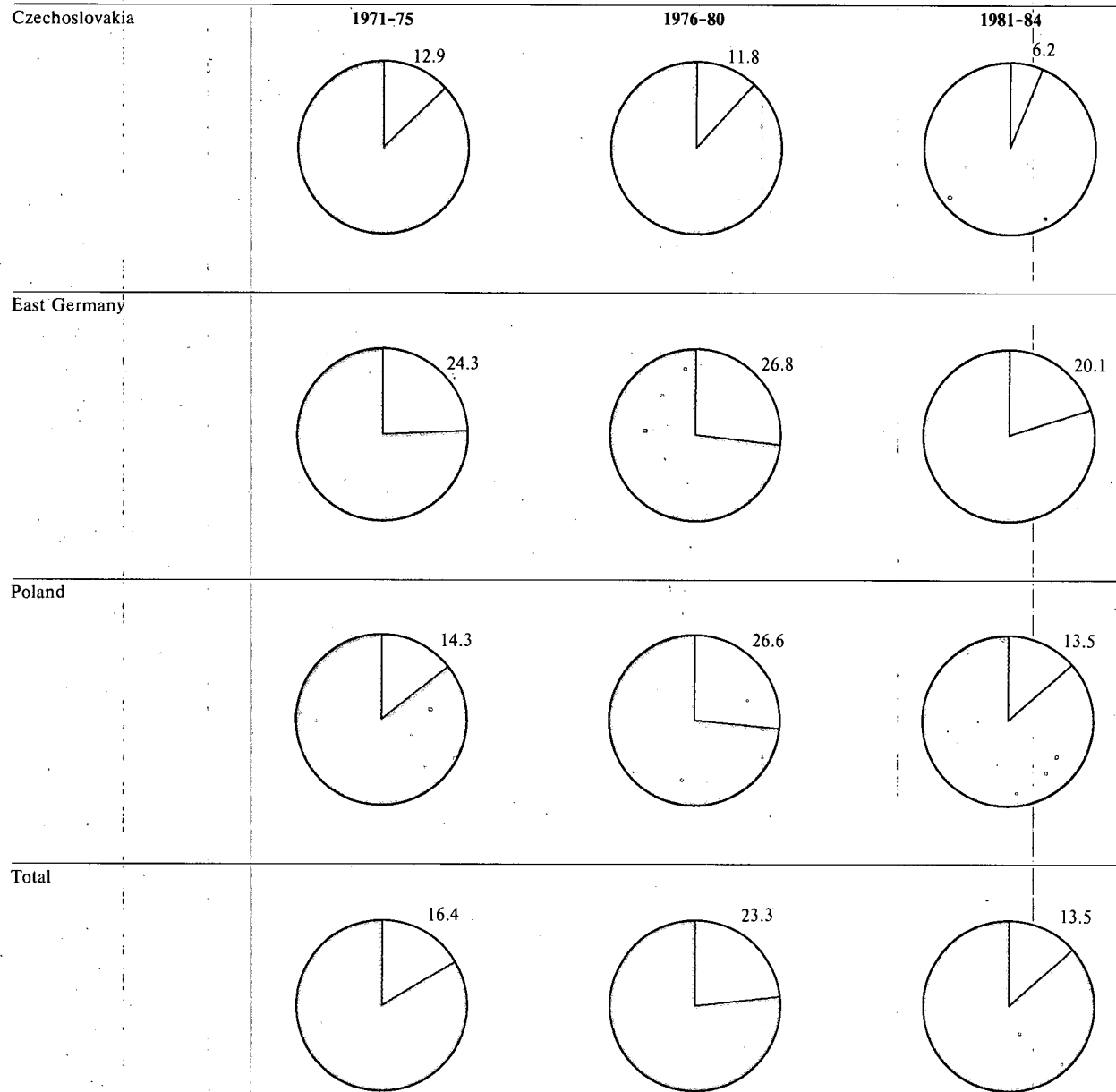
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Figure 7
Northern Countries: Dependence on Grain Imports, 1971-84^a

Percent



^a Net imports as a share of total grain consumption. Includes grain for feed, seed, food, and industrial use plus dockage.

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Outlook for Food Supplies

Last year's good harvest of grain and most nongrain crops in the northern countries should permit the three-year trend of modest improvements in food supplies to continue in 1986. In contrast, food supplies in the southern countries will be below the level of recent years. With the exception of Romania, and to a lesser extent Bulgaria, supplies of most basic foods should be adequate, but spot shortages and higher prices are likely to lead to increased consumer grumbling. Nuclear contamination from this spring's accident in the Soviet Union has resulted in some disruption in supplies of milk and fruits and vegetables.

[REDACTED]

In *Romania*, we believe consumers will probably face a worsening of already poor food supplies. With crop output down sharply, there are few prospects for any improvement in livestock output in 1986. Following the below-average harvest in 1984, feed supplies were reportedly tight in 1985. The US Embassy in Bucharest reports that Romanian trade officials have acknowledged that a severe shortage of high protein feeds existed last year when imports of soybeans and meal were reduced because of financial problems. A team from a US trade association visited several Romanian farms and reported piglets on the verge of starvation due to protein shortages. [REDACTED]

Any improvement in the current food situation would require a major commitment to consumers on Bucharest's part, a shift in policy we do not foresee. Although increased imports of grain and feedstuffs are forecast for MY 1985/86, we believe most will probably go to serve the livestock export sector to boost meat sales for hard currency or to meet export commitments to the Soviet Union. The US Embassy in Bucharest reported that, under a Romanian-Soviet barter arrangement for 1985, 60 to 80 percent of Romania's compensation for Soviet oil consisted of foodstuffs, primarily meat. The trade protocol for 1986 stipulates increased Romanian deliveries of machinery, equipment, and foodstuffs. The latter reportedly includes 300,000 tons of corn and 80,000 tons of frozen meat. With the current agricultural import policy of either paying cash or using hard goods in barter—both in short supply—increased imports of consumer foodstuffs are unlikely. [REDACTED]

Bulgarian consumers, normally one of the better supplied in Eastern Europe, will face tighter food supplies and higher prices in the first half of 1986. Last fall Sofia announced higher food prices, both at the consumer and the producer levels, in an effort to slow demand and stimulate production. Prices of many luxury foods—coffee, chocolate, certain cheeses, canned vegetables and meats, sausages, and imported beer—were raised 20 to 40 percent. The government, however, was quick to emphasize that prices of most basic foods—bread, flour, vegetable oils, eggs, beef, poultry, and potatoes—would remain unchanged. Bulgarian press and US Embassy reporting last winter noted general shortages of vegetables, fruits, milk, and chocolate products. Additional price hikes in 1986 for selected items are a good possibility.

[REDACTED]

Supplies of livestock products will tighten in 1986. Although output of milk, beef, and poultry was reportedly down only slightly last year, the outlook for early 1986 was poor. Press reports indicate an unusually high number of young animal deaths occurred last year, the result of the severe 1984/85 winter and feed and energy shortages. According to official data, imports of live animals rose 25 percent in 1985 as the government sought to replenish breeding and milking animals. Livestock officials were publicly criticized over their failure to assure sufficient feed supplies this past winter and for permitting large-scale black-market transactions in cattle feed. In an effort to stimulate output, Sofia has taken steps to encourage private farmers to expand production by providing feed and higher prices for animals raised under contract to the state. Severe water, power, and feed shortages, however, have hampered such efforts.

[REDACTED]

Polish consumers should see a modest improvement in food supplies this year but will again pay more. Increases of 5 to 11 percent for many basic foods were announced in March. Demand for most foods will be met; shortages of meat, quality fruits and vegetables, oils, margarine, citrus, and coffee, however, will continue. Meat and chocolate will remain the only principal foods still rationed in 1986. Prospects for a good

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sugar beet harvest last fall enabled Warsaw to end sugar rationing in November after nine years. Retail prices, however, rose 20 percent. In March of last year, rationing of butter and some grain products was ended, also accompanied by large price increases.

Last fall Warsaw promised to consider lifting meat rationing in 1986. Several factors, however, apparently led officials to rule out such a proposal:

- Despite an approximate 10-percent increase in hog numbers last year, inventories remain nearly 20 percent, or 4 million head, below 1975 levels.
- Meat imports in 1986 are expected to remain near last year's level—roughly half that of 1984—while exports remain constant.

• Officials are concerned over the discontent that would follow the “explosion” in prices that would probably accompany an end to rationing, according to press reports and the US Embassy in Warsaw.

Nonetheless, Warsaw decided to allow farmers to sell meat at private markets in three test areas beginning in February 1986 in an experiment to determine whether higher market prices could stimulate greater output and reduce black-market sales.

The outlook for food supplies in the rest of Eastern Europe is as follows:

- Consumers in *East Germany* will benefit from last year's record grain harvest, the fourth in a row, and an excellent harvest of potatoes and sugar beets. Supplies of meat, milk, and eggs are expected to continue to improve in 1986. Larger consumer subsidies will hold down prices of most basic foods. Prices of other—mainly luxury—foods, however, will continue to rise sharply as supplies are increasingly made available only in higher priced specialty stores.
- In *Czechoslovakia* a slight improvement in total agricultural output and the country's second-best grain harvest should permit a limited improvement in market supplies in 1986. Last year supplies of some meats, poultry, eggs, and milk declined slightly as livestock numbers fell; this was in line with party policy to become more self-sufficient in grain usage.

- Consumers in *Hungary* should again realize a relatively balanced supply of food this year but may experience higher prices and some tightening of livestock products. Low world market prices and poor profitability resulted in reduced livestock numbers and output last year.

- In *Yugoslavia*, market supplies are expected to be generally adequate despite an 8-percent drop in total agricultural output and continuing difficulties in the livestock sector. Spot shortages of many luxury foods and poor supplies of fruits and vegetables, however, are likely. If inflation continues near last year's rate of 80 percent, the level of a consumer's purchasing power will be the primary determinant of consumption. Higher priced meats have resulted in a 40-percent reduction in total consumption in the last few years. Livestock output is estimated to have fallen by 10 percent in 1985, and, unless a sharp reversal in profitability occurs soon, the downward trend in production is likely to continue in 1986.

The Likelihood of Consumer Unrest

Although complaints will continue, we see little potential for political fallout from food supply problems except in Romania. Consumer dissatisfaction over the food situation will be focused largely on higher prices and continuing shortages of many imported luxury foods—coffee, citrus, and chocolate. Consumers will probably face additional price hikes as most regimes seek to dampen or redirect demand and reduce budget outlays for food. While the planned growth in market supplies for most countries represents a retrenchment from regime promises made in the 1970s, the availability and variety of most foodstuffs have improved, if only modestly, since the early 1980s when financial constraints forced a sudden cutback in imports and domestic harvests were poor. Consumers' perception of these gains will not stop the grumbling but should forestall any serious unrest.

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In **Bulgaria**, we believe the level of consumer dissatisfaction will be based largely on how adequately the shelves in food stores are stocked, and if there are lines to reach those shelves. The regime appears to have shown some sensitivity to the food problem. The US Embassy reports that during the New Year's holiday the government supplemented market supplies in Sofia with imports of grapes, citrus fruits, and bananas. Imports of unprocessed foods—corn, oil-meal, and rice—in 1985 reportedly rose by about 75 percent. Consumers may be more vocal in registering their complaints, but we do not expect any serious unrest. []

The situation in **Romania** remains more uncertain. Unconfirmed press reports last December described a series of violent clashes between farmers and the Army and security forces. Farmers reportedly resisted the forcible seizure of food by state agencies and raided grain storage sites. The Army reportedly was used to restore order. []

While we do not believe reports of such actions are indicative of a larger groundswell of protest and civil unrest in the population at large, the reports, if accurate, indicate that the mood of the populace is worsening. Since a rash of food problems inspired unrest in 1981-82, the population has generally reacted quite passively to increasing hardships. With last year's sharp downturn in crop output and Bucharest's apparent insistence on meeting or exceeding its export commitments, consumers will be squeezed even harder in 1986. []

A Look Ahead to 1990

In an effort to raise living standards, lessen expenditures for grain imports, and earn foreign exchange from agricultural exports, East European regimes will continue measures to increase production of grain and other crops. Although it will not be easy, we believe that Eastern Europe by 1990 could be in a position where grain self-sufficiency, or balanced trade, would be a normal expectation, especially if the recent measures to boost yields remain in place and are strengthened. The region already became a net grain exporter in MY 1985/86, and production increases in

a few countries could increase grain exports and decrease grain imports. Investment constraints, problems of profitability given prevailing prices, and the possibility of less favorable weather, however, will tend to limit production gains. Moreover, the region's grain requirements will tend to rise, though more slowly than the pace of the late 1970s, as livestock herds expand from the depressed levels of the early 1980s, and this will pose an even greater challenge to achievement of balanced trade in grain. []

In our view, the northern countries are likely to remain dependent to some degree on imports to maintain a proper mix of food and feed grains, but increased agricultural exports could help offset much of the needed imports by the end of the decade. Czechoslovakia is already virtually self-sufficient. East Germany and Poland still have to import at least 2 million tons of grain annually, while exporting less than a quarter of that amount. As a result of unfavorable climatic and soil conditions, the northern countries have been unable to grow sufficient quantities of corn, high-protein feeds, and hard, baking-quality wheat. Moreover, past agricultural policy, which pushed for grain quantity over quality, resulted in the production of grain types that do not fully meet the needs of these countries. For example, much of the wheat is composed of Soviet varieties that can be used only for feed. Increasing use of new hybrids, however, could reduce such deficits. Continuation of present efforts to use grain and livestock feed more efficiently, including the emphasis on beef production over feed-intensive pork, will stretch grain supplies further. []

A number of other factors that now limit East European grain production represent potential sources of improvement that could be exploited by the end of the decade:

- Despite record crops, large grain losses still occur during harvesting, processing, and storage. Czechoslovakia's 1984 grain crop was marred by an excessively high moisture content, and Yugoslavia had problems that year with grain spoilage under poor

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storage conditions. Significant reductions in such losses could be achieved with relatively modest investments and improved farm practices based on worker incentives.

- Regimes often have not raised procurement prices high enough to stimulate planned production of desired grains. In 1984 and 1985, Yugoslav farmers failed to meet the wheat-sowing target, and in 1985 Hungarian farmers left the corn-planting target unfulfilled because procurement prices for wheat and corn in their respective countries were too low. A recent Hungarian broadcast disclosed that, while farm profits per ton of wheat had risen 100 percent from 1981 to 1984, profits per ton of corn actually had declined 17 percent. Obviously, further rationalization of pricing policy, especially crucial in keeping pace with rising input costs, will improve East European production of the right mix of grain types and will improve grain quality levels. The regimes, however, will have to reconcile higher procurement prices for farm output with consumer reaction to higher food prices.
- Agricultural productivity in Poland and Yugoslavia is held back, in part, by the low technology levels of small private farms. These farms, many only several hectares in size, receive disproportionately low shares of investment funds and agricultural inputs, chiefly because the regimes distrust private agriculture and desire to promote large socialized farms. Private farms in Poland occupy 75 percent of the agricultural land, yet receive less than 20 percent of agricultural investment funds. Private farms in Yugoslavia cover over 80 percent of the land but account for only half of agricultural investment. Nevertheless, such farms produce 75 to 80 percent of the grain crop in both countries. A more efficient allocation of certain agricultural inputs like fertilizers and chemicals could raise grain output of these farms with little additional commitment of overall resources.

On balance, we believe that some East European countries will have a more difficult time than others in overcoming such obstacles to higher grain yields over the next few years. In Romania, much depends on the longevity of Ceausescu and how quickly his

successors might put sensible agricultural policies into operation. In Poland, officials for ideological reasons will be unlikely to provide private farmers with significant increases in inputs and investments. Poland's Agriculture Minister stated last year that shortages of protective chemicals resulted in a 20-percent reduction in crop yields, and indicated that key decisions to import such chemicals had to be made if higher grain yields are to be achieved. Moreover, even though the southern countries probably will maintain or expand grain and agricultural exports, consumers in Romania will continue to face shortages.

Implications and Opportunities for the United States

Successful East European efforts to increase output of grain and other crops would contribute to overall economic and political stability. Increased farm productivity and improved food quality and variety through processing would contribute to the region's economic growth. Scarce hard currency now expended on agricultural imports could be used for other trade needs. The sharp declines in grain purchases have brought some relief to the severe debt problems that struck these countries during the 1980s. Increased farm output also would offer these countries an opportunity to earn foreign exchange. However, regimes will have to address problems of high costs of production, low commodity prices, and limited markets.

In addition to strengthening East European economies, farm performance also will play a role in the region's internal and external political situation. Good harvests will help defuse a source of consumer discontent by keeping food supplies up. The trend to higher food prices, however, will lead to more dissatisfaction among pensioners and other social groups less able to afford them. Such grumblings could be used by some party leaders to block economic reforms. Political choices on levels of food subsidies also will have to be made because of the need to offer higher procurement prices to farmers. Furthermore, leaders will have to

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address cost-effective ways to persuade young, educated people to stay in farming even though East European rural areas lack physical amenities and cultural attractions.

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The success of East European agricultural programs will also affect relations with the Soviet Union. We judge that there is increased likelihood for friction with Moscow because of Soviet demands for more and higher quality agricultural products. The EC cutoff of agricultural imports from Eastern Europe after the Soviet nuclear accident at Chernobyl' added to frustrations.

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We believe, however, that prospects will remain dim for increasing, or even maintaining, US grain sales to Eastern Europe. The drive for grain self-sufficiency will cut import needs, while competing grain exporters—Canada and the EC—will attempt to dispose of large surpluses. The United States will probably have difficulty in exporting an average of even 1 million tons of grain per year to the region over the next two or three years, as the regimes seek more attractive credit or countertrade terms. Warsaw's lack of hard currency and the US denial of CCC credits since martial law will continue to limit exports to Poland, traditionally Eastern Europe's largest market for US grains. Moreover, US sales of protein meals to Eastern Europe are likely to decrease as countries such as Brazil push their exports more aggressively and as Eastern Europe increases its domestic production of soybeans, rapeseed, and sunflowers.

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Beyond offering more attractive credit, the United States could have an opportunity to promote exports related to East European efforts to boost agricultural output and exports. We believe that US agrotechnology, food-processing equipment and technology, and managerial expertise could offer hope for new sales. East European countries are trying to improve irrigation, soil quality, crop storage and processing, and lessen pollution. They have expressed interest in imports that help them modernize to make their own products more competitive in world markets. The high technical level of US firms would offer such possibilities. The region's limited availability of hard currency, however, will constrain US sales unless more attractive credit terms are offered. Moreover, West European competition in these fields will be formidable.

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