Central and Eastern Europe:

Export Competitiveness of Major Manufacturing and Services Sectors

Investigation No. 332–308

USITC Publication 2446
November 1991

United States International Trade Commission · Washington DC

UNITED STATES INTERNATIONAL TRADE COMMISSION

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EXECUTIVE SUMMARY

This investigation provides information on economic reforms initiated by Central and Eastern European (CEE)[1] countries. It outlines the Organization for Economic Cooperation and Development (OECD) countries' aid programs and foreign direct investment in CEE countries by the West. It reports on conditions in CEE agriculture, mining, manufacturing, and services sectors and assesses their export potential.

Economic Reform Initiatives

Chapter 2 of the report evaluates recent efforts made by the CEE governments to establish market-oriented economic systems and reduce the state's direct control of the economy.

- In all five CEE countries, the principal element of reform has been the reduction of state control of industrial assets and the elimination of centralized resource allocation.
- Three CEE countries—Czechoslovakia, Hungary, and Poland—embarked upon reform programs early, and consequently have shown greater progress in reducing state control of the economy. Hungary and Poland appear to be ahead of Czechoslovakia in this regard. The number of private sector companies has increased most dramatically in Hungary and Poland.
- Although Bulgaria and Romania have stepped up their reform efforts in 1991, they appear to have made less progress along the road to a market-oriented system than their three northern neighbors.
- In addition to scaling-down direct state ownership of industrial assets, many legal and institutional foundations have been established in CEE countries for the conduct of monetary policy along market economy lines.
- However, despite significant progress in the implementation of economic reform, none of the CEE countries may be considered a market economy at this time. The state is still the dominant owner of industrial assets in the region; moreover, the conditions necessary for the creation of a system to control credit allocation and the money supply are not yet fully satisfied.
- All five CEE countries have liberalized foreign economic relations, and have ended the state monopoly on the conduct of foreign trade. The creation of convertible currencies has been made a major priority in the hope of drawing increased foreign direct investment.

International Aid and Investment

Chapter 3 discusses multilateral economic assistance programs and foreign direct investment in CEE countries.

- Between July 1989 and December 1990, the total amount of assistance provided to CEE countries by OECD member states (in addition to the EC as a separate body) was $27.0 billion. During the same time period, aid distributed by multilateral organizations amounted to $5.5 billion.
- Foreign economic assistance enhances industrial competitiveness in CEE by helping the recipient country stabilize its economy and boost productivity through greater access to Western technology and capital.

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[1] For the purposes of this investigation, CEE encompasses five countries: Bulgaria, Czechoslovakia, Hungary, Poland, and Romania.

Export Potential of CEE Industries

Chapter 4 addresses the export potential of sectors in these countries, discussing specific problems that confront CEE industries in their efforts to boost exports.

- Expansion of the export sector in all five CEE countries is constrained by deficiencies in physical infrastructure, as well as in financial and credit institutions. This study concentrates on specific deficiencies in telecommunications, the computer network, and transportation as impediments to development of competitive export-oriented industries.

- Embracing the political and economic changes that have taken place in Central and Eastern Europe since 1989, OECD member states have taken several trade policy steps designed to enhance CEE's export competitiveness. Among the initiatives are the granting of tariff concessions, the reduction of certain quantitative restrictions on imports, and the easing of technology transfer regulations. Import policy concessions vary widely among OECD member states, but export control and technology transfer initiatives have been developed within the 17-nation Coordinating Committee on Multilateral Export Controls (COCOM).

Chapter 5 gives detailed profiles assessing the export potential of 11 mining, agriculture related, or manufacturing industries and the foreign exchange earning potential of the tourism sector during the next 5 years. Table 1 summarizes the export potential of these 12 CEE sectors. Of the eight sectors with low export potential during the next 5 years, there is greater potential in the long term for three of these industries-metalworking machine tools, poultry, and tourism. This is assuming that the CEE countries progress with economic reforms and capital improvements.

Table 1
Summary of Export Potential for Select Central and East European Industries

	Export Potential[1]		
Sector	***Low***	***Moderate***	***High***
Apparel			X
Coal	X		
Copper	X		
Fertilizers		X	
Meat		X	
Metalworking Machine tools	X		
Motor–Vehicle Parts			X
Poultry	X		
Scientific & Medical Instruments	X		
Steel	X		
Textiles	X		
Tourism	X		

[1] Potential for increase in exports or foreign currency earnings over the next 5 years: low = 0-5 percent; moderate = 6-15 percent; and high = over 15 percent.

Factors favorable to CEE industries:

* abundant supply of skilled labor
* competitive wages
* proximity to West European markets
* commitment to modernization and investment
* some experience/relationships with Western markets/firms

Disadvantages faced by CEE industries:

* rising domestic costs
* low productivity
* lag in technology
* limited capital availability
* weak distribution channels
* significant competition in sophisticated products from Western producers
* significant price competition in products from LDCs

Chapter 1
Introduction

Purpose and Organization of the Study

At the request of the Office of the United States Trade Representative (USTR), the U.S. International Trade Commission (Commission) instituted investigation No. 332-308, "Central and Eastern Europe: Export Competitiveness of Major Manufacturing and Services Sectors" under section 332(g) of the Tariff Act of 1930. A notice of investigation was published in the *Federal Register* on March 20, 1991, and a copy of the notice was posted in the Office of the Secretary, U.S. International Trade Commission. (See appendix A for a copy of the USTR letter and the USITC investigation notice.)

This study assesses the export potential of major industries in Central and Eastern Europe (CEE). It focuses on three areas that are crucial to the export potential of this region: (1) economic reform; (2) international aid and foreign investment; and (3) the existing infrastructure of the manufacturing and services sectors, including the deficiencies that would hinder the development of these industries.

- Economic reform: Economic performance in each of these countries is affected by the extent and type of reforms implemented. Chapter 2 reports on the status of reform in each of the CEE countries, providing important background for the assessment of the competitiveness and export potential of these countries.

- Foreign aid and investment: Over the past 50 years, there has been limited transfer of technology and knowledge of management methods from the more advanced West to the CEE countries. Chapter 3 examines recent foreign aid programs and foreign investment patterns to discern the extent and direction of this assistance, which could add to the competitiveness of sectors that are export oriented.

- Export potential: Chapters 4 and 5 conclude the Commission's assessment of the export potential of this region. In chapter 4, particular attention is given to deficiencies in the industrial infrastructure and in business-related services. The purpose of this is to identify those areas that hinder the export potential of the CEE economies. Chapter 5 concludes with detailed profiles of 12 select industries, assessing the export potential of each.

Methodology

The findings of this report are based on (1) published CEE government directives and statistics and (2) information gathered from interviews with and reports by industry experts, independent analysts, government officials, and the staff of international organizations. Each of these resources has limitations. Statistical measures of the performance of these economies are often inaccurate or unavailable. The opportunities for regional and industry experts to gain hands-on experience and to gather first-hand information has been limited. Consequently, the Commission used both of these resources in order to provide the most thorough assessment of the status and potential of the economies of Central and Eastern Europe.

For example, staff researched government directives and other published sources to find out what reform measures were reported to have been adopted. Regional and industry experts were then contacted not only to verify the adoption of the measures, but also to assess to the extent to which they have been implemented.

Although there is some attempt, mainly in the industry profiles, to compare the CEE countries with non-OECD countries, the Western market economies are usually the norm against which the economies of Central and Eastern Europe are evaluated. There are several reasons for this. First, the primary emphasis has always been on East-West comparisons. Second, the transformation of the CEE countries is unprecedented and there is no direct historical analogue for comparison. And lastly, CEE goods and services will be competing with products and services from the West.

Before proceeding further, it might be useful to put the overall level of development in the CEE countries in some context. This can be done by comparing these economies with other economies on the basis of certain performance criteria. In doing this, no attempt will be made to break new analytical ground; instead the study will make use of existing data. This analysis should also provide insights into the overall complexity of any effort to assess the economic performance of the CEE countries.

The Central and East European Economies in Perspective

Considerable effort has been expended in the West in estimating the level of development in the Central and East European countries. Estimates of per capita Gross Domestic Product (GDP), the level of social services such as health care and education levels, and estimates of per capita income based on purchasing power (ppp), are often used as indicators of the level of development of the CEE economies. To place the development level of these economies in some context relative to the development of other Western countries, estimates for each of these factors are presented below. While each may have its own particular shortcomings,

the measures taken together can provide a reasonably accurate impression of the performance of these economies.

Estimates for 1990 show that per capita GDP in CEE is comparable to per capita GDP in Greece, Portugal, or the Republic of Korea. The estimates for CEE countries, in 1980 U.S. dollars, are $3,635 per capita for Bulgaria; $5,102 for Czechoslovakia; $4,487 for Hungary; $3,337 for Poland; and $2,408 for Romania.[1] Per capita GDP figures, however, do not tell us anything about certain distortions that may exist in an economy such as disguised unemployment and repressed inflation characterized by chronic shortages. Moreover, average income measures do not reveal anything about differences in income distribution within a country.

Measures of health care and education levels are also often used to assess the relative economic well being of a country. While the World Bank ranks the CEE countries as middle-income countries in terms of per capita nominal Gross National Product (GNP), statistics on health and education levels indicate the CEE countries more closely approximate higher income countries such as Greece, Portugal, and Spain. (See table 2.) Although these statistics may prove inadequate by themselves because of the significant differences in the quality of these social services, the general trends reflected in table 1 appear to be consistent with the other indexes.

Another measure used for comparison is per capita income adjusted for relative ppp. Based on this measure, income in CEE countries is less than one-half that in the European Community.[2] Recent, comparable data is not available on Greece, Portugal, and Spain, though a study found that in 1980 the average income level for CEE countries was about three-fifths that of Western Europe and about the same as that of Greece, Spain, or Portugal.[3] However, the estimation of purchasing power parities for the CEE countries is at the preliminary stages. Current estimates are likely to change as the models constructed to gauge ppp are refined.

Despite the difficulties, we are lead to conclude that the CEE economies are closest in level of development to those of Greece, Spain, or Portugal.

Within this context, the Commission presents the most current assessment of the economic activity and export potential of the Central and East European economies.

[1] WEFA Group, "CPE Outlook for Foreign Trade and Finance", July 1991, Washington, DC.

[2] *Eastern Europe Special*, draft, Economics Department, Deutsche Bank, February, 1991.

[3] Eva Ehrlich, "Absolute and Relative Economic Development Levels and Their Structure, 1937-1980," Budapest, 1987.

Table 2
Selected health and education indicators, 1988

Indicator	CEE Range		Average for Upper Middle Income Countries[2]	Greece	Portugal	Spain
	High	Low				
Daily calorie supply per capita	3,614	3,357	2,990	3,699	3,382	3,543
Population per physician[1]	570	280	1,160	350	410	320
Infant mortality rate per 1,000 live births	27	12	50	11	13	10
Percentage of age group enrolled in secondary education	85	71	58	95	59	105

[1] 1984 data.

[2] Includes countries such as Venezuela, South Africa, Libya, and Greece.

Source: World Bank, *World Development Report 1991*.

Chapter 2
Economic Reform Activity in Central and Eastern Europe

Prepared by Peter Pogany and Janet Whisler

Status of Economic Reforms

All five of the CEE countries have made firm commitments to move from nonmarket to market-oriented economic management.[4] They have promulgated reform measures to replace the institutional framework of central planning with indirect macroeconomic controls. These measures include reduction and reorganization of the state's economic apparatus, introduction of market prices, development of financial markets and institutions, liberalization of foreign economic contacts, and expansion of the private sector.[5] Nevertheless, reforms vary among these countries, and no one knows what shape their economies will take over time.[6] The extent to which each of these countries has succeeded in demolishing the old and creating a new economic system may be determined by (1) the reduction in the state's direct control of the economy and by (2) the progress made in establishing an institutional framework for indirect economic controls.[7]

This section of the report presents information on these two broad indicators for each of the CEE countries. It also examines the status of efforts to expand foreign economic relations and the status of expanding private ownership in industry.

[4] OECD analysts, interviews with USITC staff, June 17-18, 1991.

[5] For more information on the major elements of economic reform programs and the sequencing and time required for their implementation, see the listing below and figure 1. For the current status of the various reform measures in each of the five countries, see table 3. Details of specific reform measures in each country are presented in appendix B.

[6] OECD analysts, interviews with USITC staff, June 17-18, 1991.

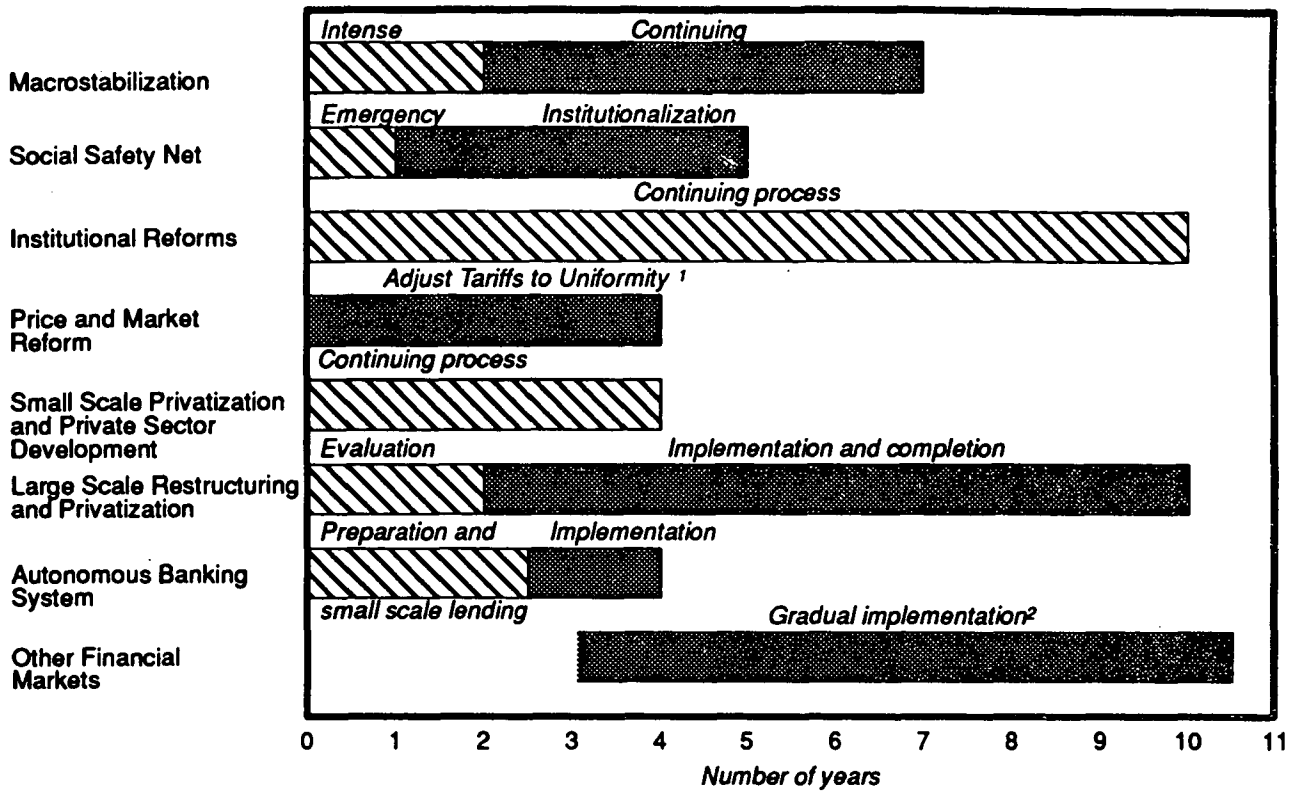
[7] The Commission was aided in the development of the method to assess decline in the state's direct control over the national economies of CEE countries by OECD analysts and by a visiting fellow at the Brookings Institution.

Major Elements of the Economic Reform Programs in CEE Countries

1. *Macroeconomic Stabilization and Control*
   - Implementation of stabilization programs
   - Creation of tools and institutions for indirect macroeconomic control, monetary and fiscal
   - Measures to reduce reliance on state support
   - Dealing with existing problems (monetary overhang, financial system bankruptcies)
2. *Social Safety Nets* (Assistance to alleviate the economic consequences of stabilization and reform policies)
3. *Institutional Reforms: Human Capital and Administrative Capacity*
   - Legal and regulatory institutions
   - Business management, including financial sector
   - Government decision-makers and administrators
   - Information systems (accounting and auditing)
4. *Price and Market Reform*
   - Domestic price reform
   - International trade liberalization
   - Distribution systems for products
   - Creation of market for housing
   - Wages
   - Interest Rates
5. *Small-and Large-Scale Enterprise Restructuring and Privatization*
   - Management system
   - Allocation of property rights
   - Agricultural land
   - Industrial capital
   - Housing stock
   - Social protection and insurance rights for individuals
6. *Development of Financial Markets and Institutions*
   - Banking systems
   - Other financial markets

Source: Paper presented at a conference sponsored by the Organization for Economic Cooperation and Development, Center for Cooperation with the European Economies in Transition, November 1990.

Figure 1
Estimated time required for economic reform programs in CEE countries



[1] Time required for this one aspect of price and market reform.
[2] Estimated three-year delay in startup pending implementation of autonomous banking system.

Source: Paper presented at a conference sponsored by the Organization for Economic Cooperation and Development, Center for Cooperation with the European Economies in Transition, November 1990.

Reduction in the Direct Control of the Economy[8]

Reduction in the state's direct control of the economy involves the reduction in the state's ownership of industrial assets and its active management of resource allocation. This report measures reduction in the state's active management of resource allocation by the decline of producer subsidies[9] as a percentage of the gross domestic product (GDP), by the increase in market generated prices versus administratively determined prices, and by the decline in the percentage of centrally allocated investment in the country's total investment spending.

The reduction of both state ownership and active management of resource allocation varies among the CEE countries. Poland and Hungary embarked on radical economic reforms during 1990 and Czechoslovakia during early 1991.[10] Although Bulgaria and Romania have stepped up their reform efforts during 1991, they currently appear to have advanced less than Poland, Hungary, and Czechoslovakia with respect to these measures.[11] Data

[8] Ibid. The state's direct control of the economy in the former East bloc countries took two main forms: detailed central planning and administrative control without compulsory plans, i.e., the indirectly centralized system. Detailed central planning, the more orthodox of the two forms, has been abolished in all five CEE countries. Thus, the expression "direct control" refers exclusively to the degree of administrative control over economic life without compulsory plans. This form of control derives from the state's overwhelming proprietorship in industry, trade, and finance and from its hegemony in national life. It is manifest in interference in the decisions of seemingly independent enterprise managers, in the withdrawal of resources from some enterprises to support others, in the use of price controls, and in the central allocation of investments. Interviews with World Bank official, June 5, 1991 and with OECD analysts, June 17-18, 1991.

[9] The word "subsidy" is a direct translation of the term used in the budgets of the five countries. The "subsidies" here appear to be domestic and not necessarily export oriented. The use of the term in this context should not be interpreted to mean that such subsidies are within the meaning of the U.S. countervailing duty law (19 U.S.C. 1303, 1671 et. seq.).

[10] OECD analysts, interviews with USITC staff, June 17-18, 1991.

[11] Ibid.

Table 3
Status of economic reform activities in Central and Eastern Europe as of June 1991

Country	*Legal Reform*	*Foreign Trade & Investment*	*New Firm Formation*	*Sales of State Enterprises*	*Major Roadblocks*
Bulgaria	Restrictions on private firms lifted; ownership of state firms unclear; EC accounting stds., Commercial code, antimonopoly law adopted.	Restrictions reduced, full repatriation allowed, but exchange constraints remain; 100% foreign ownership allowed; currency not convertible.	Thousands of functional private firms,most very small.	Program just starting, leasing most common form.	Restrictions on foreign exchange monopolies of inputs; lack of financial system and poor communications.
Czechoslovakia	Restrictions on private firms removed; commercial code to be approved this month; EC accounting standards adopted.	100% foreign ownership; full profit repatriation allowed.	Thousands of entrepreneurs, some part-time, have started firms; several dozen mid-size private mfg. firms; 1200 joint ventures.	Rules & regulations for privatization not yet fully developed, some reliance on vouchers, slow progress.	Lack of adequate financial system; restitution issues; lack of financing for purchasing firms; trade & investment constraints.
Hungary	Commercial and contract law updated; land purchases possible; accounting & concession laws.	No government approval needed for foreign purchasers; full repatriation allowed; no exchange controls; sizeable investment inflows.	Private sector is 14-30% of GDP; 14,000 new private firms last year alone.	200 sales through spontaneous privatization; State Property Agency in charge with clear ownership rights.	Auctions of state firms delayed by conflicts over receipts between levels of government; high costs of appraising and selling state firms; weak bank capitalization.
Poland	Legal restrictions on private firms lifted, but other laws and bureaucratic ways remain.	Liberal investment law drafted; foreign investment disappointing; permission needed for >10% ownership, readily granted.	A sharp increase in new firms; private sector employment share up to 15.7% in 1990; private share of industrial production 13.4%.	8 large firms and 143 others sold as of 3/91; most retail shops being sold or leased.	Restitution; lack of management skills; possibly excessive antimonopoly laws; lack of banking and credit, business infrastructure; uncertain political and economic environment.
Romania	Most legal restrictions on new private firms lifted; private ownership of farmland established; ownership of other state property uncertain.	Liberal foreign investment law; limits on hard currency repatriation; most import and export licensing automatic and most quotas abolished.	About 98,000 private businesses established in 1990, mostly small service sector firms employing fewer than 10 persons.	No full scale privatization completed; commercialization of state enterprises is proceeding; goal is 50% privatization in 3 years.	Unstable political situation; confusion and bureaucratic inertia; lack of technical and managerial skills; limited access to capital; and inadequate business infrastructure.

Source: Council of Economic Advisors, Executive Office of the President, Task Force on Reform in Central and Eastern Europe.

in this section are presented for only Czechoslovakia, Hungary, and Poland. The reforms that the following measures attempt to gauge have occurred too recently in Bulgaria and Romania to allow annual data or projections.

Reduction in the state's ownership of industrial assets

The state's virtually 100-percent ownership of industrial assets before the beginning of radical economic reforms declined to 80 percent in Hungary and Poland and to 95 percent in Czechoslovakia by early 1991.[12] The state's share of total industrial production declined from 84 percent during the first quarter of 1990 to 83 percent during the first quarter of 1991 in Poland.[13] In Czechoslovakia, the state's share in industrial production declined from virtually 100 percent during 1989 to slightly over 90 percent by early 1991. In Hungary, the state's share in industrial production is projected to decline from 97 percent during 1990 to 86 percent during 1991.[14]

Reduction in the state's management of resource allocation

Reduction in the state's management of resource allocation is underway in all five countries. Producer subsidies as a percentage of the national budget declined from 44.7 percent during 1989 to 15.7 percent during 1990 in Poland and from 19.0 percent during 1987 to 12.4 percent during 1990 in Hungary.[15] A significant decline is projected for Czechoslovakia during 1991.[16]

Based on current value of aggregate transactions, the percentage of market-determined prices (as opposed to administered prices) increased to over 90 percent in both Poland and Hungary during 1990, from 50 percent during 1989 and 1987, respectively.[17] In Czechoslovakia, market-determined prices are projected to increase from virtually zero during 1989 to 70 percent during 1991.[18]

The direct allocation of investment resources by the central government fell in Poland and Hungary during 1990. With the exception of projects to develop the infrastructure, the Government has transferred decision-making authority on even large investments to enterprises in both countries.[19] In Poland, the share of investments made by enterprises increased to 73 percent during 1990 from 70 percent during 1989.[20] Government-sponsored investment projects, representing the backbone of central planning, numbered in the hundreds during the mid-1980s, but dropped to only 57 during 1990.[21] These apparently represented a continuation of existing projects, and budget transfers for them were less than 1 percent of all investment expenditures in the country.[22] In Hungary, the share of investments made by enterprises increased from 63 percent during 1987 to 70 percent during 1990.[23] In Czechoslovakia, a significant decline in central Government investment was projected to take place during 1991. However, it is not known to what extent the control relinquished by the central Government will be assumed by the governments of the two republics.[24]

Progress in Establishing the Indirect Control of the Economy

A CEE government's indirect control of its economy can be measured by the progress made in creating preconditions necessary to conduct monetary policies as in a market economy. The model used as a comparison is that of the OECD member countries.[25]

The major precondition for implementing monetary policies compatible with a market economy is the establishment of an extensive commercial banking system. The existence of such a commercial banking system allows the allocation of investment capital according to market criteria. In conjunction with this requirement, it is useful if the country's central bank is relatively independent of the government in power.[26] The existence of an independent central bank allows pursuit of macroeconomic policy goals (e.g., the targeting of the money supply, the average rate of interest charged by commercial banks, the exchange rate of the national currency) free from the political exigencies of the government in power.[27]

All CEE countries have made important strides in establishing such a two-tier banking system, but none of them has fully succeeded in creating the conditions required for conducting monetary policies in a market economy.[28] State ownership is still predominant in

[12] CIA, Eastern Europe: *Coming Around the First Turn*, paper presented to the Technology and National Security Subcommittee of the Joint Economic Committee, Congress of the United States, May 16, 1991.

[13] Compiled from national statistics.

[14] Ibid.

[15] OECD analysts, interview with USITC staff, June 18, 1991.

[16] PlanEcon, Inc., interview with USITC staff, Aug. 1, 1991.

[17] Compiled from national statistics.

[18] Ibid.

[19] PlanEcon Inc., *PlanEcon Report*, June 19, 1991, p. 14; PlanEcon Inc., interview with USITC staff, July 25, 1991.

[20] Foreign Trade Research Institute, *The International and Polish Economy in 1990 and 1991* (Warsaw, 1991), p. 139. Although most of these enterprises remained state owned, their increased role in investment decisions is significant. By law, enterprises in all five countries have to show profit to escape the threat of liquidation or reorganization. Therefore, investment decisions by state-owned enterprises in an environment of diminished price controls and reduced central economic apparatus are assumed to be at least partially market induced.

[21] Ibid.

[22] Ibid.

[23] PlanEcon Inc., *PlanEcon Report*, June 19, 1991, p. 14; PlanEcon Inc., interview with USITC staff, July 25, 1991.

[24] PlanEcon Inc., interview with USITC staff, Aug. 2, 1991.

[25] These preconditions were determined through interviews with a senior IMF economist, a visiting fellow at the Brookings Institution, and OECD analysts.

[26] Ibid.

[27] Ibid.

[28] Interviews with the staff at a European-based international bank active in CEE (June 19, 1991), IMF economist (Aug. 30, 1991), analyst at the Institute of International Finance

commercial banking systems throughout the region, as measured by the overwhelming weight of state-owned banks in holding old loans and extending new ones.[29] Even the new, completely privately owned banks do not yet compete with one another or with other financial institutions (e.g., the savings banks) for deposits.[30]

Many unprofitable, state-owned enterprises awaiting liquidation or divestiture have loans at predominantly state-owned commercial banks in all five countries. As a result, these banks are at least partially dependent on budget allocations to carry the non-performing loans.[31] Finally, the central banks in all five countries are heavily involved in the direct financing of the government. Therefore, they cannot be considered independent from the governments in power.[32]

Liberalization of Foreign Economic Relations

The liberalization of trade, foreign investment, and currency exchange is critical to the region. Liberalization not only helps ensure its economic recovery but also helps its transition to a market economy.[33] By injecting competition into industries often dominated by a few state enterprises, the expansion of foreign economic contacts stimulates market-oriented conduct in production for both domestic and foreign markets.[34]

Liberalization of trade regimes

By granting foreign trade rights to enterprises, all five CEE countries have abolished the state monopoly in foreign trade.[35] Estimates currently available for Czechoslovakia, Hungary, and Poland indicate that enterprises already control roughly four-fifths of all export and import transactions in these countries.[36] There is some evidence that the increase in enterprise autonomy is influencing both the size and composition of exports and imports in Poland and Hungary.[37] In addition, there is evidence that domestic producers in both countries are experiencing competition from imports.

The State's absolute control over foreign trade in the five countries has given way to the use of traditional instruments of trade policy, such as tariffs, quotas and licenses, to meet goals of national economic policy.[38] These goals include the acquisition of high-technology imports, the prevention of excessive depletion of foreign-exchange reserves, and the prevention of excessive exportation of goods in short supply.[39]

All five countries now impose relatively low rates of duty on imports.[40] The average tariff rate (the unweighted arithmetic average of rates) on imports is 8.7 percent for Bulgaria, 4.6 percent for Czechoslovakia, 13.0 percent for Hungary, and 11.8 percent for Poland. Romania is currently drafting a new import tariff schedule.[41]

In addition to levying regular tariffs, other import restrictions are imposed for balance of payments reasons. Czechoslovakia levies a 15.0-percent surcharge on many consumer product imports;[42] Hungary fixes an absolute dollar ceiling on the importation of consumer goods;[43] and Poland has recently introduced special tariffs on food imports.[44] According to some estimates, the combined tariff and nontariff barriers of the three Central European countries are equivalent to a 12.0-percent average tariff rate.[45]

All five countries require licenses for both the importation and exportation of commodities covered by international agreements (e.g., weapons, explosives, and radioactive materials).[46] Export licenses are also required in all five countries for goods subject to voluntary export restraint agreements or foreign quotas and for goods in short supply (e.g., energy products, some food items, and medical products).[47]

Czechoslovakia, Hungary, and Poland issue import and export licenses for high-technology commodities recently decontrolled by the 17-nation Coordinating Committee for Multilateral Export Controls

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[28]—*Continued*
(Sept. 3, 1991), and analysts at a West European central bank with close ties to CEE banks (Sept. 3 and 4, 1991).

[29] Ibid.

[30] Ibid.

[31] Ibid.

[32] Ibid. For some specific information on the development of commercial banking in the three countries, see section on "Deficiencies in Financial and Credit Institutions," later in this report.

[33] Interviews with the vice president of a U.S. investment firm active in CEE (June 6, 1991), CEE analysts at the OECD (June 17-18, 1991), and staff at a European-based international bank active in CEE (June 19, 1991).

[34] Ibid.

[35] World Bank official, interview with USITC staff, June 5, 1991.

[36] OECD official, interview with USITC staff, June 18, 1991.

[37] World Bank official, interview with USITC staff, June 5, 1991.

[38] OECD official, interview with USITC staff, June 18, 1991.

[39] Ibid.

[40] Information obtained from the respective embassies in Washington, DC, July 1-19, 1991.

[41] Information obtained from the respective embassies, July 1-19, 1991, and the Office of the United States Trade Representative (USTR), Aug. 2, 1991. Data for Romania were not available.

The unweighted arithmetic average of tariff rates is 6.8 percent for the United States and 6.5 percent for both the EC and Japan. At 17.3 percent, Australia has one of the highest rates among the developed countries; at 43.1 percent, Thailand has one of the highest rates among the developing countries. Interview with the Office of the USTR, June 5, 1991.

[42] Interview with commercial officer, Embassy of Czechoslovakia, Washington, DC, July 1, 1991.

[43] Interview with commercial officer, Embassy of Hungary, Washington, DC, July 1, 1991.

[44] Foreign Broadcast Information Service (FBIS), *Daily Report: Eastern Europe*, June 13, 1991, p. 58.

[45] Calculated from national statistics.

[46] Information obtained from the respective embassies in Washington, DC, July 1-19, 1991.

[47] Ibid.

(COCOM).[48] The three countries issue licenses for the importation of the decontrolled items as a means of speeding up the approval of such sales by the Western nations, and they issue export licenses to keep track of the reexportation of these items under COCOM guidelines.[49]

There are no reliable estimates of the proportion of total trade transactions that are subject to licensing requirements in the five countries.[50] However, based on the limited analysis thus far performed, none of these countries currently appears to engage in excessive or objectionable licensing practices.[51]

The governments of all five countries intend to continue liberalizing their trade regimes.[52] For example, officials from Hungary and Poland say that tariff rates are scheduled to decline in the two countries, and officials from Czechoslovakia have given assurances that the import surcharge on consumer goods will be eliminated as scheduled by the end of 1991.[53] Nevertheless, many analysts believe that the current trade situation and the short-term economic outlook are not conducive to a further overall liberalization of their trade regimes. Because all five countries are currently in a recession, the further liberalization of trade could aggravate the downturn in industrial production and employment as well as increase external debt.[54]

The CEE countries have begun to create the legislative framework for the protection of their domestic industries. Based on General Agreement on Trade and Tariffs (GATT) article VI (Antidumping and Countervailing Duties),[55] Poland and Hungary have established a legal mechanism for dealing with domestic complaints about dumping and subsidization of imports.[56] Following guidelines laid down by GATT article XIX (the "Safeguard" clause),[57] Hungary also has established mechanisms that allow for temporary protection of domestic industry from unexpected surges in imports and Poland has begun to institute such mechanisms.[58] In Czechoslovakia, legal work has begun to handle complaints under both GATT articles.[59] However, so far no petitions alleging dumping or subsidization have been filed in Poland or Hungary, and none alleging damages to a domestic industry from a surge in imports has been filed in Hungary.[60]

All five countries emphasize commitment to GATT principles and goals[61] Czechoslovakia has been a member of GATT since 1948, Poland since 1967, Romania since 1971, and Hungary since 1974. Bulgaria received observer status in 1967 and requested accession in 1986.[62] The Working Party to assess Bulgaria's petition for membership was established in April 1990.[63]

Liberalization of foreign investment

Since the beginning of radical economic reforms in 1989/1990, policy makers in the CEE countries have assigned a key role to foreign capital in the transition process.[64] All five countries have expanded the possibilities of foreign ownership beyond joint ventures to the complete ownership of industrial assets.[65]

Despite the liberalization of foreign investment, Western businesses remain cautious in making use of the new opportunities.[66] The region's economic and financial problems, lack of appropriate business climate, and inadequate infrastructure have been cited as the most general disincentives to commit large sums of private capital to most of the countries of the region.[67] Nevertheless, as these problems slowly recede, Western investment in the region is projected to grow. Improved access to markets in the West is a recognized factor in the growing interest of Western firms to invest in the region.[68] Among the five countries of the region, foreign investments reportedly have begun to exert a significant economic impact only in Hungary.[69]

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[48] U.S. Department of Commerce official, interview with USITC staff, June 5, 1991. For more on the easing of export controls to the CEE region, see section on export controls under "Trade Policies of Major OECD Markets for Central and East European Exports."

[49] U.S. Department of Commerce official, interview with USITC staff, June 5, 1991.

[50] World Bank official, interview with USITC staff, July 3, 1991.

[51] Ibid.

[52] Information obtained from the respective embassies in Washington, DC, July 1-19, 1991.

[53] Ibid.

[54] For more detailed information, see USITC, *International Economic Review* (IER), August 1991, p. 7.

[55] GATT, "Text of the General Agreement," *Basic Instruments and Selected Documents*, vol. 4 (Geneva; March 1969), pp. 10-12.

[56] Interviews with respective embassies in Washington, DC, July 1, 1991.

[57] GATT, "Text of the General Agreement," *Basic Instruments and Selected Documents*, vol. 4, pp. 37, 38.

[58] Interview with the Embassy of Hungary, Washington, DC, July 1, 1991. See also FBIS, *Daily Report: Eastern Europe*, Feb. 15, 1991, pp. 39-41.

[59] Interviews with the respective embassies in Washington, DC, July 1 and 8, 1991.

[60] Interviews with the respective embassies in Washington, DC, July 1, 1991.

[61] Interviews with the respective embassies in Washington, DC, July 1-19, 1991.

[62] Office of the United States Trade Representative, *Foreign Trade Barriers*, March 1991, p. 246.

[63] Ibid.

[64] Interviews with the vice president of a U.S. investment firm active in CEE (June 6, 1991), CEE analysts at the OECD (June 17-18, 1991), and staff at a European-based international bank active in CEE (June 19, 1991).

[65] Ibid.

[66] Ibid.

[67] Ibid.

[68] Ibid. For details, see section on "Foreign Direct Investment."

[69] Radio Free Europe/Radio Liberty Research Institute (RFE/RL), *Report on Eastern Europe*, vol. 2, No. 21, May 24, 1991, p. 23.

Currency convertibility

The extent to which national currencies can be exchanged for convertible currencies for the purposes of international transaction clearly marks the progress a CEE country has achieved in the implementation of market reforms and closely associated macroeconomic stabilization policies.[70] The International Monetary Fund distinguishes between current account convertibility and capital account convertibility.[71]

The freedom to exchange the national currency for convertible currencies in order to import goods and services, repatriate foreign investment income, and make unilateral transfer payments is called current account convertibility.[72] The four major preconditions for current account convertibility are realistic exchange rates, a set of macroeconomic policies that ensure a sustainable current account equilibrium, adequate liquidity in convertible currencies, and sufficient economic reform to allow reasonably effective functioning of the price mechanism.[73]

Although all five CEE countries have taken steps toward establishing current account convertibility, they have all retained constraints to full current account convertibility.[74] In Bulgaria, restrictions apply to payments for services and transactions by individuals. The limited supply of foreign exchange is allocated through an interbank market where banks bid on behalf of their depositors, mainly industrial firms.[75] In Czechoslovakia, industrial enterprises appear to have a more ready access to foreign exchange than do individuals.[76] For example, exchange for tourism is strictly limited.[77] In Hungary, the authorities restrict exchange for consumer goods that are subject to a fixed annual value limit.[78] In Poland, authorities restrict access to foreign exchange for the payment of services, and as a rule industrial enterprises appear to experience more restrictive access to foreign exchange than do individuals.[79] In Romania, there is a formal foreign exchange market where industrial firms and individuals can bid for the available supply.[80] The state strictly limits the availability of foreign exchange to be auctioned to firms and individuals.[81]

The full repatriation of earnings on foreign capital is allowed by all five CEE countries, but there is no readily available information with which to make comparisons to Western experiences of profit repatriation.[82]

The freedom to exchange the national currency for convertible currencies for the purpose of sending capital out of the country is called capital account convertibility.[83] Whereas Western capital invested in each of the five countries may be repatriated subject to procedures of varying length, domestic firms and local residents are apparently unable to exchange the national currency to make investments abroad.[84] Some economists argue that convertibility for the purpose of investing abroad requires a larger supply of convertible currency reserves and a higher degree of domestic economic stability than currently exist in these countries.[85]

All five countries consider full convertibility (i.e., unrestricted convertibility for all international transactions) a goal to be achieved as soon as possible. This policy is guided by the recognition that progress in external convertibility increases access to Western capital and strengthens transition to a market economy.[86]

Privatization

For the purposes of this study, privatization is the expansion of the private sector either by the establishment of new, privately owned businesses or by the state's divestiture of its property. To date, most of the expansion of the private sector in all five countries can be attributed to the establishment of new enterprises rather than to the divestiture.[87]

All five CEE countries have enacted legislation to expand their private sector, but progress in this area varies significantly among the countries. At present, Czechoslovakia, Hungary, and Poland have moved the furthest in creating the legal framework for the expansion of the private sector and in implementing programs aimed at the divestiture of state-owned industrial assets.[88]

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[70] Remarks by Joshua Greene, Senior Economist, International Monetary Fund (IMF) at the Conference on Eastern European Economies in Transition, May 23, 1991.

[71] For definitions regarding currency convertibility, see Joshua E. Greene and Peter Isard, *Currency Convertibility and the Transformation of Centrally Planned Economies*, occasional paper No. 81 (Washington, DC: International Monetary Fund, June 1991) pp. 3, 5-6, and 17.

[72] For items included in the U.S. current account, see Council of Economic Advisors, *Economic Report of the President*, February 1991, p. 402.

[73] For a detailed analysis of the preconditions for currency convertibility in Eastern Europe, see Joshua E. Greene and Peter Isard, *Currency Convertibility and the Transformation of Centrally Planned Economies*, Occasional paper No. 81 (Washington, DC: International Monetary Fund, June 1991), pp. 9-15.

[74] Remarks by Joshua Greene, Senior Economist, International Monetary Fund (IMF) at the Conference on Eastern European Economies in Transition, May 23, 1991.

[75] Ibid.

[76] Ibid.

[77] Remarks by the Ambassador from Czechoslovakia at the Conference on Eastern European Economies in Transition, May 23, 1991.

[78] Remarks by Joshua Greene, Senior Economist, International Monetary Fund (IMF) at the Conference on Eastern European Economies in Transition, May 23, 1991.

[79] Ibid.

[80] Ibid.

[81] Ibid.

[82] Ibid.

[83] For items included in the U.S. capital account, see Council of Economic Advisors, *Economic Report of the President*, February 1991, p. 403.

[84] Remarks by Joshua Greene, Senior Economist, International Monetary Fund (IMF) at the Conference on Eastern European Economies in Transition, May 23, 1991.

[85] Ibid.

[86] Ibid.

[87] Interviews with Congressional Research Service, June 10, 1991, and a U.S. investment firm providing assistance in privatization to CEEs under contract to the U.S. Agency for International Development (AID), June 13, 1991.

[88] OECD analysts, interviews with USITC staff, June 17 and 18, 1991.

The Establishment of New Businesses

Although there are no detailed and comparable data on the establishment of new businesses in the CEE countries, it is apparent that private entrepreneurship has gained significant momentum throughout the region. New private businesses in Bulgaria number approximately 50,000.[89] Most of these businesses are in agriculture, services, and retailing.[90] However, only about 5,000 of these businesses are fully functional, and profitable firms number in the hundreds. Only several dozen new firms have a turnover in excess of $1 million.[91]

In Czechoslovakia, there were 655,000 registrations to start private businesses at the end of the first quarter of 1991.[92] Of these, 495,000 were in the Czech Republic and 160,000 in the Slovak Republic. Of the total number of registrations, 189,295 were in industry. No information is currently available on the size or status of these new businesses.[93]

In Hungary, there are 28,000 registered nonagricultural private businesses with sales in excess of $300,000.[94] The new businesses are involved in practically every economic sector and industrial branch, including the machine, light, and food industries and the construction and retail trades.[95]

The number of private business registrations in Poland increased by an estimated 400,000 during 1990.[96] The bulk of new businesses are in retailing, but there are significant numbers of private firms engaged in small-scale manufacturing, transport, foreign trade and services.[97] At midyear 1991, private corporations numbered 38,516.[98] The number of privately owned companies in industry increased by 3,780 during 1990.[99]

About 98,000 private businesses had emerged in Romania by the end of 1990.[100] These are mostly small service outlets involved in personal transportation and repairs. Other small firms produce food, textiles, handicrafts, and knitwear.[101]

[89] Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 18, 20.

[90] Ibid.

[91] Ibid.

[92] OECD analyst, interview with USITC staff, July 31, 1991.

[93] Ibid.

[94] FBIS, *Eastern Europe: Daily Report*, July 1, 1991, pp. 18, 19.

[95] Ibid.

[96] For details on the expansion of the private sector in Poland, see Janine R. Wedel, *The Unplanned Society: Poland During and After Communism* (New York: Columbia University Press) (forthcoming 1991).

[97] Ibid.

[98] Poland's Ministry of Finance, interview with USITC staff, July 30, 1991.

[99] FBIS, *Daily Report: Eastern Europe*, Mar. 8, 1991, p. 14.

[100] Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, p. 80.

[101] Ibid.

The Divestiture of State-owned Property[102]

Divestiture has been classified into the following methods: sale of stocks to foreign or domestic investors;[103] sale of enterprise assets through auction (liquidation); total or partial relinquishment of control by entering into joint ventures with private firms; lease of assets to private firms; or relinquishment of management to private firms through management contracts. These techniques may be combined in a number of ways, but the most prevalent method is likely to be the sale of enterprises. A precondition to the application of this method is the transformation of the state-owned company into a joint-stock or shareholding company.

Joint ventures have been created between Western firms and the state-owned enterprises of the CEE region for several years and, to a limited extent, have eroded the state's ownership of industrial assets. However, the extent of this erosion has not been documented.[104]

The following country-by-country description provides information on the status of divestiture in each of the five countries.

Czechoslovakia, Hungary, and Poland

The principal method of divestiture in these countries is the transformation of the state-owned companies into joint-stock companies and the subsequent sale of their shares to private firms and individuals.[105] Some state-owned firms volunteer and some are being forced into this process by bankruptcy.[106] Regardless of who initiates divestiture through the sale of shares, the enterprise concerned has to value its assets to price its shares and plan for the

[102] State property slated for divestiture is normally classified by its factor of production (i.e., capital or land) and economic sector (i.e., industry, agriculture, trade, or financial services.) Within industrial enterprises, the number of employees serves as the main criterion for dividing enterprises into large, medium, and small ones. The process of divestiture is classified according to initiator, targeted ownership, and divestiture method. The divestiture of state property may be full or partial, and it may occur at once or gradually.

Divestiture may be initiated by an appropriate government agency, the state-owned enterprise itself, a private domestic entity, or a foreign firm. If divestiture is initiated by a state-owned enterprise and eludes government control, the process is often referred to as "savage privatization," "privatization from below," or "spontaneous privatization." Based on the targeted ownership, the divestiture may be internal (the employees of an enterprise), external (outside investors), or free distribution (the entire population through the distribution of property certificates or vouchers). Divestiture may target two or all three of these groups. (Interviews with Congressional Research Service, June 10, 1991, and a U.S. investment firm providing assistance in privatization to CEEs under contract to the U.S. Agency for International Development (AID), June 13, 1991.)

[103] Under this method shares are issued in the value of enterprise assets and sold on one or more stock exchanges or through negotiated sales (tenders). Shares may be sold at discount or given gratis to the employees of the enterprise.

[104] For details on joint ventures, see section on Foreign Direct Investment, later in this report.

[105] OECD analysts, interviews with USITC staff, June 17 and 18, 1991.

[106] Ibid.

distribution of shares.[107] By law, Government agencies in all three countries closely control the process of valuation and have the final word about enterprise divestiture plans.[108] The three countries combine these divestiture methods in a large number of ways that seem to vary from enterprise to enterprise.[109]

Although these countries underscore the importance of foreign capital in the divestiture of state enterprise and do not put legal limits on the foreign acquisition of divested property, employee ownership plans and other domestic placements of shares do in fact prevent the acquisition of foreign control over a large number of enterprises.[110] A growing political opposition to foreign ownership has also been noted in all three countries.[111]

A major difference in the divestiture strategies of the three countries is that Czechoslovakia and Poland intend to use vouchers as a major means of divestiture, whereas the use of vouchers in Hungary is limited to compensation for confiscated assets.[112] Heated political debates relating to the divestiture of state property have created some measure of uncertainty concerning the speed and extent of the entire process in all three countries.[113]

Czechoslovakia.—The "Law on Mitigation of the Consequences of Certain Property Losses," enacted by the Federal Assembly in October 1990, and the "Law on Extrajudicial Rehabilitation," enacted in February 1991, gave the legal basis for the restitution of property to pre-Communist owners.[114] The "Law on Transfers of State-Owned Assets," enacted in October 1990, provided for the divestiture of small-scale enterprises and commercial outlets, and the "Law on Large-Scale Privatization," enacted in February 1991, provided legal basis for the divestiture of large industrial enterprises and other businesses.[115]

Government programs call for the divestiture of roughly 3,000 enterprises representing about four-fifths of the country's major industrial firms.[116] In the first phase of the program, 800 enterprises have been earmarked for divestiture.[117] Most of these enterprises volunteered but some were forced into participation by bankruptcy.[118] Preparations for the first phase are well advanced.[119] The participating firms have transformed themselves into joint-stock companies and are under obligation to submit their plans for divestiture to the Government by October 31, 1991.[120] The major Government agencies involved in the preparation and acceptance of the plans are the Czech Ministry of Privatization and the Slovak Ministry of Privatization at the republic level, and the National Property Fund at the federal level.[121] The actual sale of shares is scheduled to begin in early 1992.[122]

The free distribution of state property through vouchers apparently plays a significant role in the country's divestiture strategy.[123] The government plans to provide every citizen over the age of 18 a voucher booklet to use for the purchase of shares.[124] Each booklet will contain 1,000 investment points in various denominations. The holder can deposit investment points either with companies earmarked for divestiture or with private investment companies.[125] Since enterprise divestiture plans are not yet approved, it is not known what portion of the assets of each enterprise will be distributed through vouchers.[126] Analysts say that by attempting to maximize the cash value of the subscription to their capital, many firms will tend to limit the distribution of shares through vouchers.[127] According to some estimates, not more than 30 percent of the total assets involved in the first phase of divestiture is likely to be distributed through vouchers.[128]

In January 1991, the state began to auction roughly 100,000 state-owned commercial and service outlets. Approximately 300 companies were sold at 30 auctions by mid-1991.[129]

Hungary.—The "ACT XIII of 1989 on the Transformation of Business Organizations and Companies of 1989" (the so-called Transformation Act), enacted in June 1989, established the legislative framework for the divestiture of large enterprises.[130] The "Law No. LXXIV of 1990," enacted in September 1990, provided for the divestiture of small state-owned

[107] U.S. investment firm active in the CEE area, interview with USITC staff, July 26, 1991.
[108] Ibid.
[108] Ibid.
[109] Ibid.
[110] Ibid.
[111] Ibid.
[112] Ibid.
[113] Ibid.
[114] U.S. Department of State, Bureau of Public Affairs, *U.S. Department of State Dispatch*, Feb. 25, 1991, p. 135; U.S. Department of Commerce, International Trade Administration, *Czechoslovakia Privatization Information*, February 1991.
[115] U.S. Department of Commerce, International Trade Administration: *Czechoslovakia Privatization Information*, February 1991; Joint Publications and Research Services (JPRS), *East Europe Report*, Jan. 23, 1991, pp. 25-29. For details on new legislation governing the development of private property rights and business law in Czechoslovakia, see CEA, Task Force on Reform in Central and Eastern Europe, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 30-33.
[116] Ibid. RFE/RL, *Report on Eastern Europe*, vol. 2, No. 5, Feb. 1, 1991, p. 7.
[117] Ibid.
[118] Interview with Department of Commerce official, July 26, 1991.
[119] Ibid.
[120] Ibid.
[121] Ibid.
[122] JPRS, *East Europe Report*, June 18, 1991, pp. 34, 35.
[123] Ibid.
[124] Ibid.
[125] Ibid.
[126] U.S. Department of Commerce analyst, interview with USITC staff, July 26, 1991.
[127] Ibid.
[128] Ibid.
[129] Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe, p. 41.
[130] U.S. Department of Commerce, *Business America*, Jan. 14, 1991, p. 17. For a complete review of legislation to expand the private sector in Hungary, see CEA, Task Force on Reform in Central and Eastern Europe, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 48-63.

stores, restaurants, and other service outlets.[131] "Law VII of 1990 on the State Property Agency," enacted in January 1990, established the State Property Agency (SPA) to assist and monitor the divestiture process.[132] "Law No. XXV of 1991," enacted in April 1991, provided for the compensation of expropriated assets.[133] The law covers not only the Communist period, but also World War II.[134]

Government programs call for the divestiture of 2,000 industrial enterprises over the next few years, representing 50 percent of the state's assets.[135] Based on manpower size, 300 of these enterprises are considered large, 1,200 medium, and 500 small1.[136]

At the end of March 1991, 400 enterprises were involved in the divestiture process with a combined asset value of approximatively $5 billion.[137] Within this group, state ownership fell below 50 percent in 9 large and 22 medium- and small-size enterprises.[138] The state's ownership declined from 100 percent but remained above 50 percent in roughly 200 enterprises.[139] For some of these 200 enterprises, the sale of shares has just been authorized; for others, the state's share has declined to nearly 50 percent.[140] Even when the state has retained majority ownership, it has often contracted a private firm to manage the enterprise.[141] With the exception of the Hungarian travel agency IBUSZ, most of the shares of which were sold on the Budapest and Vienna stock exchanges, stocks were sold through private bidding.[142]

On April 1, 1991, the Government began to auction 9,900 of the state's approximately 30,000 retail outlets.[143] By August 1, 1991, the Government auctioned off 433 outlets and was engaged in negotiations concerning the sale of 2,000 other outlets.[144]

Divestiture of the 340 service chain enterprises, which own the majority of the state's remaining 20,100 retail outlets, is scheduled to begin by yearend 1991 through the regular mechanisms applied in the divestiture of large enterprises.[145] Foreign firms and individuals will be allowed to buy stocks in these companies or to establish business combinations with them.[146] After the divestiture of the 340 chain enterprises, the fate of the outlets under their control will be decided by the new owners.[147]

The consensus in Hungary indicates a preference for a gradual rather than a shock-therapy approach to divestiture.[148]

Poland.—The "Law on State Enterprises," published in May 1990 (as amended),[149] provided for the liquidation of some state-owned enterprises.[150] The "Law on Privatization of State-Owned Enterprises," enacted in July 1990, provided the legislative basis for the divestiture of both large industrial enterprises and state-owned commercial outlets.[151] This law also created the Ministry of Ownership Transformations to assist and administer the process.[152] Legislation to provide for the use of Government bonds to compensate for the expropriation of assets during the Communist era is in the draft stage.[153]

Current Government programs aim at the divestiture of one-half of the country's 8,000 industrial enterprises during the next few years.[154] The divestiture of the 500 largest enterprises will be accomplished on a case-by-case basis.[155] The divestiture of the rest of the industrial firms will be carried out through mass sales to individual buyers.[156]

At the end of May 1991, the state had fully divested 8 large and 4 medium-sized industrial enterprises in two separate pilot projects,[157] and it was engaged in the divestiture of 136 other enterprises.[158] Of these 136 enterprises, 90 were engaged on a voluntary and 46 on a compulsory basis.[159] During the second half of 1991, the Government plans to complete preparations to divest 20 large enterprises and to begin auctioning off thousands of small and medium-size enterprises.[160]

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[131] *U.S. Department of State Telegram*, Budapest, Message Reference No. 14890.
[132] RFE/RL, *Report on Eastern Europe*, vol. 1, No. 34, Aug. 24, 1990, p. 27.
[133] RFE/RL, *Report on Eastern Europe*, vol. 2, No. 19, May 10, 1991, p. 10.
[134] *Official Gazette*, No. 77, July 11, 1991 (in Hungarian).
[135] The Bureau of National Affairs, Inc., *International Trade Reporter*, Dec. 5, 1990, p. 1840; RFE/RL, *Report on Eastern Europe*, vol. 2, No. 5, Feb. 1, 1991, p. 7.
[136] Ibid.
[137] State Property Agency (SPA), Budapest, interview with USITC staff, Aug. 16, 1991.
[138] Ibid. Included among the 9 large enterprises is the renowned Hungarian light bulb manufacturer Tungsram that sold 51 percent of its stock to the General Electric Co. in late 1989.
[139] Ibid.
[140] Ibid.
[141] Ibid.
[142] Ibid.
[143] State Property Agency (SPA), Budapest, Hungary, interview with USITC staff, Apr. 23, 1991.
[144] State Property Agency (SPA), Budapest, Hungary, interview with USITC staff, Aug. 2, 1991.
[145] Ibid.
[146] Ibid.
[147] Ibid.
[148] FBIS, *Daily Report: Eastern Europe*, Sept. 17, 1990, p. 29.
[149] This law was originally enacted in September 1981. Library of Congress, interview with USITC staff, Aug. 1, 1991.
[150] See, FBIS, *Daily Report: Eastern Europe*, Aug. 13, 1990, pp. 61-68.
[151] 29 I.L.M. 1226 (1990) and FBIS, *Daily Report: Eastern Europe*, Aug. 13, 1990, pp. 52-57.
[152] Ibid.
[153] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, p. 66.
[154] Embassy of Poland in Washington, DC, interview with USITC staff, July 29, 1991.
[155] FBIS, *Daily Report: Eastern Europe*, Feb. 14, 1991, p. 36.
[156] Ibid; JPRS, *East Europe Report*, Jan. 16, 1991, p. 38.
[157] Embassy of Poland in Washington, DC, interview with USITC staff, July 29, 1991.
[158] FBIS, *Daily Report: Eastern Europe*, Feb. 14, 1991, pp. 36, 37; and *Daily Report: Eastern Europe*, Apr. 1, 1991, p. 38.
[159] FBIS, *Daily Report: Eastern Europe*, Mar. 13, 1991, p. 43.
[160] MOT official, interview with USITC staff, Apr. 25, 1991.

The details of mass divestiture, based on the Government's draft proposal published in late 1990, are presently under discussion in the country's legislature. According to this proposal, enterprises slated for divestiture would give 10 percent of the shares to their employees free of charge.[161] Employees would also be allowed to buy an additional 20 percent of the shares at half price.[162] Another 30 percent of the total asset value of these enterprises would be distributed in the form of ownership coupons to every adult citizen. According to preliminary estimates, each coupon would be worth 1,000,000 zlotys (ca. $105).[163] Individual citizens would be entitled to sell their coupons to mutual funds, thereby moving their holdings from the capital market to the money market. Of the remaining 40 percent, 20 percent would be given to the Social Security Agency, 10 percent to commercial banks, which could also purchase stocks from the mutual funds, and the remaining 10 percent would be sold through public or private offerings.[164] About 70 percent of the state's commercial outlets have been divested or leased.[165]

Bulgaria and Romania

Both countries are engaged in the preparatory stages of divestiture. As in the three other CEE countries, the principal method of divestiture will be the transformation of state-owned companies into joint-stock companies and the subsequent sale of their shares to private firms and individuals.[166] The free distribution of assets through vouchers will play a major role in the divestiture process. The authorities of both countries emphasize the role foreign capital is likely to play in the process.[167]

Bulgaria.—Allegations of corruption surrounding earlier efforts to divest state-owned assets have prevented the passage of legislation guiding divestiture.[168] Nevertheless, a national agency to oversee the process has been created in anticipation of the enactment of legislation.[169] At least 500 small-scale enterprises have been leased to employees to reduce the state's role in the operative management of industry and commerce.[170]

Romania.—Law 15/1990, promulgated in August 1990, and the Privatization Law, promulgated in August 1991, provide the legislative basis for the divestiture of enterprises in Romania.[171] The Government's goal is to divest 50 percent of the equity of all enterprises selected for divestiture by 1993.[172]

The Government program derived from these laws stipulates a six-phase approach: (1) selection of state enterprises for divestiture; (2) conversion of state-owned enterprises into joint-stock companies with the state as the first owner; (3) selection of the enterprises for a pilot program; (4) distribution of 30 percent of the shares of enterprises that are included in the pilot program; (5) sale of the remaining equity to mutual funds and on the national stock market; and (6) implementation of the full-scale program.[173]

Of the 6,000 enterprises selected for divestiture, 5,200 enterprises have been turned into joint-stock companies to date, and 35 of these have been selected for the pilot program.[174] Preparations are underway for the establishment of a number of mutual funds and the Bucharest stock market, which will play a vital role in the sale of 70 percent of shares, but analysts do not expect their completion before 1992.[175]

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[161] FBIS, *Daily Report: Eastern Europe*, Jan. 16, 1991, pp. 38-40.
[162] Ibid.
[163] Ibid.
[164] Ibid.
[165] Ministry of Ownership Transformation, Warsaw, interview with USITC staff, Apr. 17, 1991.
[166] Prehearing brief submitted to the USITC by the Embassy of Romania, July 10, 1991, pp. 6, 7; Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 23-27.
[167] Ibid.
[168] Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, p. 18. For details on the parliamentary debate surrounding the divestiture of state-owned assets in Bulgaria, see RFL/RL, *Report on Eastern Europe*, Aug. 23, 1991, pp. 2-4.
[169] Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, p. 23, 24.
[170] Ibid.
[171] *Monitorul Oficial*, No. 98/8, August 1990 (in Romanian); chief editor of *Romania Economic Newsletter*, interview with USITC staff, Sept. 10, 1991.
[172] Ibid.
[173] Ibid.
[174] Ibid.
[175] *Official Transcript of Proceedings of the U.S. International Trade Commission*, Investigation No. 332-308, pp. 16-18; Chief Editor of Romania Economic Newsletter, interview with USITC staff, Sept. 10, 1991.

Chapter 3
International Aid and Investment Initiatives Pertaining to Central and Eastern Europe

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Multilateral and Foreign Government Aid and Assistance

The United States and other Organization for Economic Cooperation and Development (OECD) countries provide a variety of aid and assistance through both bilateral and multilateral arrangements.[176] The Commission of the European Communities (EC Commission), which regularly reports on aid and assistance to the Central and Eastern European (CEE) countries, classifies the programs provided into the following categories: (1) macro-economic assistance (mainly programs by the IMF and the World Bank, plus financial assistance to support the transition process, e.g., the Stabilization Fund for Poland);[177] (2) energy assistance (emergency energy assistance and the development of guidelines for long-term energy cooperation with Western Europe); (3) food aid and agricultural assistance (e.g., financing projects in rural telecommunications and improvements in food-processing equipment); (4) humanitarian and medical aid (e.g., emergency deliveries of pharmaceuticals and baby food to Romania); (5) training (e.g., language training assistance and student exchanges); (6) environmental assistance (feasibility studies for projects to alleviate air and water pollution and monitoring programs); and (7) facilitation of foreign investment (e.g., programs to foster investment through project financing, publication of surveys on investment protection, and tax agreements).[178]

These various programs of the member countries of the OECD, or Group of 24 (G-24),[179] are coordinated by the EC Commission.[180] Both bilateral and multilateral aid and assistance were initially provided to only Poland and Hungary, but coverage was extended to Bulgaria and Czechoslovakia in 1990[181] and to Romania in 1991.[182] The EC Commission received the mandate for this role through the PHARE program—Poland and Hungary, Aid for Restructuring of the Economy; and PHARE remains the designation for the aid and assistance programs extended to all the CEE countries.

The coordination role may be shared in the future with the OECD. The OECD announced in June 1991 that it has concluded a major cooperation agreement with Czechoslovakia, Hungary, and Poland, called "Partners in Transition" (PIT).[183] The content of the programs will be determined jointly by OECD's Centre for Cooperation with European Economies in Transition (CCEET) and the partner countries' governments.[184] Among the activities to be undertaken, the OECD will study the economies of the partner countries with the aim of "providing their authorities with a general orientation on reforms or other policy measures affecting macroeconomic, sectoral and structural aspects."[185] Technical assistance in the implementation of recommended policies will also be a part of each country program.[186]

In June 1991, the OECD also endorsed a resolution urging the avoidance of tied-aid credits for the countries of CEE.[187] This action was taken in an apparent effort to prevent member-country governments from using aid as a means to compete for CEE markets.

During the 18 months from July 1989 through December 1990, the cumulative value of bilateral aid and assistance to the CEE countries by the G-24 and the European Community as a separate organization[188] amounted to $27.0 billion.[189] Aid and assistance by multilateral organizations during the same period amounted to $5.5 billion.[190] At the end of 1990, Poland and Hungary were the largest recipients of both bilateral and multilateral assistance (table 4). The distribution of assistance by major types of programs is shown in table 5. Germany had made the largest commitments of grants and loans or credits to the CEE countries by yearend 1990, followed by the EC as a body separate from its member states. Among the G-24 countries, Japan was the second single largest donor, and the United States ranked third (table 6).

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[176] OECD analysts, interviews with USITC staff, June 17–18, 1991; U.S. General Accounting Office, *Eastern Europe, Donor Assistance and Reform Efforts*, November 1990, p. 12.

[177] The Stabilization Fund for Poland was designed to help the zloty maintain a relatively stable exchange rate following the wide-scale decontrol of prices and currency transactions that occurred on January 1, 1990. (USITC, *65th Quarterly Report on Trade Between the United States and the Nonmarket Economy Countries During 1990* [Publication 2375, April 1991], p. 16.)

[178] Commission of the European Communities, *Progress Report on G–24 Assistance to Central and Eastern Europe*, presented at a meeting of the Group of 24 in Brussels, Jan. 30, 1991, pp. 3–9.

[179] The 24 OECD member countries are as follows: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

[180] OECD analysts, interviews with USITC staff, June 17–18, 1991. See also USITC, *1992, The Effects of Greater Economic Integration Within the European Community on the United States: Third Followup Report*, Investigation No. 332-267 (USITC Publication 2369, March 1991), p. 1-29.

[181] Ibid.

[182] Government of Romania, commercial office in New York, interview with USITC staff, June 11, 1991.

[183] OECD, *Press Release*, Paris, June 4, 1991.

[184] Ibid.

[185] Ibid.

[186] Ibid.

[187] OECD, *Press Release*, Paris, June 5, 1991.

[188] The aid and assistance provided by the EC is in addition to that provided by its member states.

[189] Commission of the European Communities, *Progress Report on G–24 Assistance to Central and Eastern Europe, Jan. 30, 1991, Annex 1, p. 1. Figures provided in ECUs were converted into U.S. dollars at 1 ECU = $1.18.*

[190] Multilateral organizations here refer to the European Investment Bank (EIB), the World Bank, and the European Coal and Steel Community (ECSC). See Commission of the European Communities, *Progress Report on G–24 Assistance to Central and Eastern Europe*, Jan. 30, 1991, p. 2.

Table 4
Geographic distribution of aid and assistance to Central and Eastern European countries, Dec. 31, 1990
(In percent)

Country	Bilateral assistance by members of G-24 and the EC	Assistance by multilateral organizations
Poland	40.6	50.9
Hungary	27.2	30.5
Czechoslovakia	5.2	9.7
Romania	2.1	3.1
Bulgaria	1.1	5.8
Unallocated	23.8	-
Total	100.0	100.0

Source: Commission of the European Communities, *Progress Report on G-24 Assistance to Central and Eastern Europe*, Jan. 30, 1991.

Table 5
Distribution of aid and assistance to Central and Eastern Europe, by major type of program, Dec. 31, 1990
(In percent)

Type of program	Bilateral assistance by members of G-24 and the EC	Assistance by multilateral organizations
Social and administrative infrastructure	0.6	(1)
Economic infrastructure:		
Environment	2.4	(1)
Training	1.9	(1)
All other	2.8	(1)
Total	7.1	20.9
Productive sectors	7.4	9.6
Nonproject assistance[2]	28.8	14.0
Emergency assistance:		
Food aid	4.3	(1)
All other	.5	(1)
Total	4.8	(1)
Official support:		
Export credits	29.3	(1)
Investment support	5.5	(1)
Total	34.8	(1)
Unallocated	16.5	55.5
Total	100.0	100.0

[1] Not applicable or no data available.
[2] Consists mainly of financial assistance to stabilize the CEE economies.

Source: Commission of the European Communities, *Progress Report on G-24 Assistance to Central and Eastern Europe*, Jan. 30, 1991.

Germany's bilateral commitments of grants to Poland amounted to $839.3 million at the end of 1990.[191] The grants consisted mainly of debt relief ($784.7 million) and funds provided for environmental protection ($22.4 million).[192]

Germany's grant commitments to Hungary were $31.6 million at the end of 1990; to Romania, $28.8 million; and to Bulgaria, $2.8 million.[193] Its official commitments of loans and credits to Poland and Hungary amounted to $1.7 billion each.[194] At the end

[191] Commission of the European Communities, *Scoreboard of Assistance to Central and Eastern European Countries*, presented at a meeting of the Group of 24 in Brussels, Jan. 30, 1991.
[192] Ibid.
[193] Ibid.
[194] Ibid.

of 1990, Germany had made no loan or credit commitments to Bulgaria, Czechoslovakia, and Romania.[195]

The EC has made substantial bilateral commitments of assistance to the CEE countries separate from those made by its member states. The EC's commitments of grants to Poland amounted to $398.6 million at the end of 1990. The grants consisted mainly of food emergency aid ($147.5 million) and funds for agricultural development ($118.0 million).[196] The EC's commitments of grants to Romania amounted to $151.5 million; to Hungary, $107.1 million; to Bulgaria, $68.7 million; and to Czechoslovakia, $40.1 million.[197] The official EC commitments of loans and credits during 1990 were $1.0 billion to Hungary and $427.2 million to Czechoslovakia.[198] The EC reported no loan or credit commitments to Poland, Bulgaria, and Romania.[199]

Japan's bilateral commitments of grants to the CEE countries by the end of 1990 amounted to $28.3 million, consisting of $26.5 million in emergency food aid to Poland and $1.8 million in food aid to Bulgaria.[200] Its loan and credit commitments to CEE countries totaled $1.8 billion: $870.7 million to Poland, $769.6 million to Hungary, and $171.1 million to Czechoslovakia.[201]

U.S. bilateral grant commitments to the CEE countries totaled $438.6 million at yearend 1990, and loan and credit commitments totaled $211.7 million.[202] U.S. grant commitments to Poland amounted to $350.8 million; to Romania, $73.5 million; to Bulgaria, $14.2 million; and to Hungary, $0.1 million.[203] The United States also extended official export credits of $171.1 million to Poland and $40.6 million to Hungary.[204]

U.S. assistance to Eastern Europe was first extended through the Support for East European Democracy (SEED) Act of 1989.[205] As authorized by this act, food aid for Poland represented the largest single U.S. bilateral initiative, and participation in the Stabilization Fund for Poland accounted for the largest U.S. contribution to assistance extended through multilateral channels during fiscal year 1990.[206] Starting with fiscal year 1991, appropriations for U.S. assistance to the CEE countries were included in the overall foreign assistance legislation.[207] The Foreign Assistance Appropriations Act for fiscal year 1991 authorized $370 million for the region.[208] These programs include a wide range of activities, e.g., technical assistance, training, scholarship programs, and medical assistance. Major areas of activities supported through bilateral channels include private sector development, environmental protection, the production and use of energy, and agricultural and rural development.[209] Activities supported through multilateral channels include U.S. contributions to the establishment of the European Bank for Reconstruction and Development (EBRD) and the Stabilization Fund for Poland.[210] At the end of 1990, 36 U.S. Government agencies participated in various aid and assistance programs.[211]

In July 1991, President Bush announced a Trade Enhancement Initiative for the countries of Central and Eastern Europe.[212] Under this new initiative, the United States has made commitments to (1) increase market access for the countries of the region by liberalizing quota programs and enhancing its GSP program and (2) help improve the export performance of the eligible countries through a targeted technical assistance program. The latter will include assistance to establish export and investment promotion programs, export financing programs, and training in management and marketing. The United States has also pledged to take precautions to ensure that its agricultural export subsidies do not displace farm exports from the CEE countries.

Foreign Direct Investment[213]

Foreign direct investment (FDI) is expected to be a key to future CEE economic development. Most of the CEE countries already have considerable hard-currency debt and lack the necessary financial resources to finance commercial and infrastructural development. Many foreign commercial banks are reluctant to extend further credit to them until there is more certainty regarding their ability to repay. At present, FDI provides the best practical means of financing development without increasing these countries' external debt.

Virtually all past and recent FDI in CEE has been in joint ventures. While foreign acquisitions of domestic enterprises are now technically legal in most of the countries, joint ventures are easier to establish, preferred by the host government, and less risky because the local partners can be of special assistance in obtaining necessary supplies and government approval. Foreign partners are attracted by the large pool of relatively skilled labor at low wage rates, the existing manufacturing base, the potential of the CEE

[195] Ibid.
[196] Ibid.
[197] Ibid.
[198] Ibid.
[199] Ibid.
[200] Ibid.
[201] Ibid.
[202] Ibid.
[203] Ibid.
[204] Ibid.
[205] For details, see USITC, *Trade Between the United States and the Nonmarket Economy Countries During 1989* (USITC Publication 2286, June 1990), pp. 18–19.
[206] Ibid. For more details on the European Bank for Reconstruction and Development, see USITC, *International Economic Review*, April 1991, pp. 9–10.
[207] For details, see USITC, *Trade Between the United States and the Nonmarket Economy Countries During 1990* (USITC Publication 2375, April 1991), p. 16.
[208] Ibid.
[209] Ibid.
[210] Ibid.
[211] Ibid.
[212] The White House, Office of the Press Secretary, *Press Release*, July 12, 1991.
[213] Data sources on joint ventures and foreign direct investment do not distinguish between equity investments and other types of business arrangements, such as licensing. For this reason, joint ventures and investment in the remainder of this section refer to all types of cooperative business arrangements.

Table 6
Distribution of aid and assistance to Central and Eastern Europe among members of the Group of 24 and the European Community, Dec. 31, 1990
(In percent)

Donor	*Share of total*
European Community[1]	17.6
EC Member States:	
Germany	19.7
Italy	7.7
France	7.3
United Kingdom	4.7
Spain	3.0
All other	5.8
Total	48.2
EFTA Member States:	
Austria	3.7
Switzerland	2.6
All other	4.3
Total	10.6
Turkey	1.8
North America:	
United States	8.5
All other	1.9
Total	10.4
Far East/Oceania:	
Japan	10.6
All other	0.8
Total	11.4
Grand total	100.0

[1] Assistance is provided by the European Community as an organization separate from its member states.

Source: Commission of the European Communities, *Progress Report on G-24 Assistance to Central and Eastern Europe*, Jan. 30, 1991.

market, and the possibility of using CEE as a gateway to an even larger Soviet market. CEE partners are interested in foreign investment to modernize and upgrade production and services, technology, and management and marketing skills.

Joint ventures were not permitted in any CEE country prior to 1968. As of April 1991, the number of registered East-West joint ventures was reported to be in the range of 15,000,[214] compared with less than 400 in 1987.[215] Joint-venture activity is dominated by German and Austrian firms. Location, culture, and historical ties play a major role in this relationship. Although U.S. ventures are fewer in number than those involving German and Austrian firms, total U.S. capital outlays are proportionately larger. In Hungary, U.S. investment increased from 17 percent of total foreign investment in January 1990 to more than half of the amount invested by June 1991.[216]

Japanese firms have not yet become significant investors in CEE, but reports indicate that Japanese companies are actively examining investment possibilities.[217] According to a survey taken in September 1990 by DRT International, a U.S.-based accounting firm, many Japanese investment plans include delaying investments until 1995 and after. Reportedly, current Japanese priorities are in developing import-export activities rather than direct investment.[218]

As of April 1991, Hungary accounted for 46 percent of the region's registered joint ventures, followed by Poland and Czechoslovakia with 24 and 19 percent, respectively (figure 2). At $1.4 billion, Hungary was by far the largest recipient of foreign capital accumulated through joint ventures, followed by Poland at $460 million and Czechoslovakia at $418 million (figure 3). Hungary's success in attracting FDI most likely stems from its early liberalization of JV laws and its steps toward economic and political

[214] Calculated from data prepared by UNECE as of April 1991.

[215] Calculated from UNECE data presented in *East–West Joint Ventures*, 1988. This figure does not include 719 "Polonia" firms, which are generally small-scale businesses that are owned and operated by foreigners of Polish origin.

[216] *International Trade Reporter*, July 24, 1991, p. 1124.

[217] Japanese banks, however, have been active in financing investment in Eastern Europe.

[218] *Business Eastern Europe*, Oct. 8, 1990, pp. 329–330.

reform. Hungary also has a relatively high rate of registered joint ventures in operation. Over 75 percent of the registered JVs was in operation in Hungary by July 1990, compared with only 40 percent in Poland and 20 percent in Czechoslovakia at the end of the year. For the most part, investment activity in Czechoslovakia has been fairly recent, since the Government liberalized its foreign investment law in May 1990. Around 70 percent of the JVs operating in Poland involve Polish individuals rather than firms.[219]

Joint-venture activity in Bulgaria has been sluggish largely because of poor economic conditions and a slow start in the implementation of economic reforms. On the other hand, Western firms have been more aggressive in forming subsidiaries in Bulgaria (90 subsidiaries as of the beginning of 1991). Bulgaria has had relatively liberal legislation for subsidiaries, which included low-capital requirements and considerable tax advantages. However, future subsidiary growth is expected to slow with the recent liberalization of JV laws and the stiffer restrictions on subsidiaries.[220] In 1989, Romania declared joint ventures undesirable; however, this decision has since been overturned.[221] Many obstacles exist to setting up and running a business in Romania, including the current political conditions, confusion over investment laws, and the poor economic environment. Out of 600 JVs registered in Romania as of the end of 1990, only 5 were operational.[222]

To date, most of the joint-venture activity in CEE has involved small-to-medium-size projects, involving less than $1 million each in startup capital. However, there have been some major undertakings in the region, including investment by General Electric in Hungary with an initial foreign capital outlay of about $130-150 million. In the region as a whole, the manufacturing sector accounts for the largest share of the registered joint ventures, followed by services. Investment in the service sector tends to be in small enterprises with capital not exceeding $10,000 each.

Many joint ventures entail modernizing and upgrading existing manufacturing facilities. For example, automobile manufacturers from industrialized countries have formed partnerships with established manufacturers in Hungary, Czechoslovakia, and Poland. In Hungary, the chemical and light manufacturing industries, particularly consumer electronics, have attracted considerable foreign investment. Similarly, numerous joint ventures have built on Czechoslovakia's strength in heavy industry, especially machinery.

CEE countries have also shown interest in developing and strengthening the services and high technology goods sectors. In general, the services that have received considerable foreign investment have been in the areas of insurance, financial services, tourism, transportation, engineering, franchising, and construction. Construction will continue to be particularly important in building up the weak regional infrastructure. In addition, considerable investment is expected in industrial pollution control. The Czech Republic's 1991 investment priorities include strengthening the service sector while scaling down production in heavy industry. Projects involving improving infrastructure and the environment are also encouraged.[223]

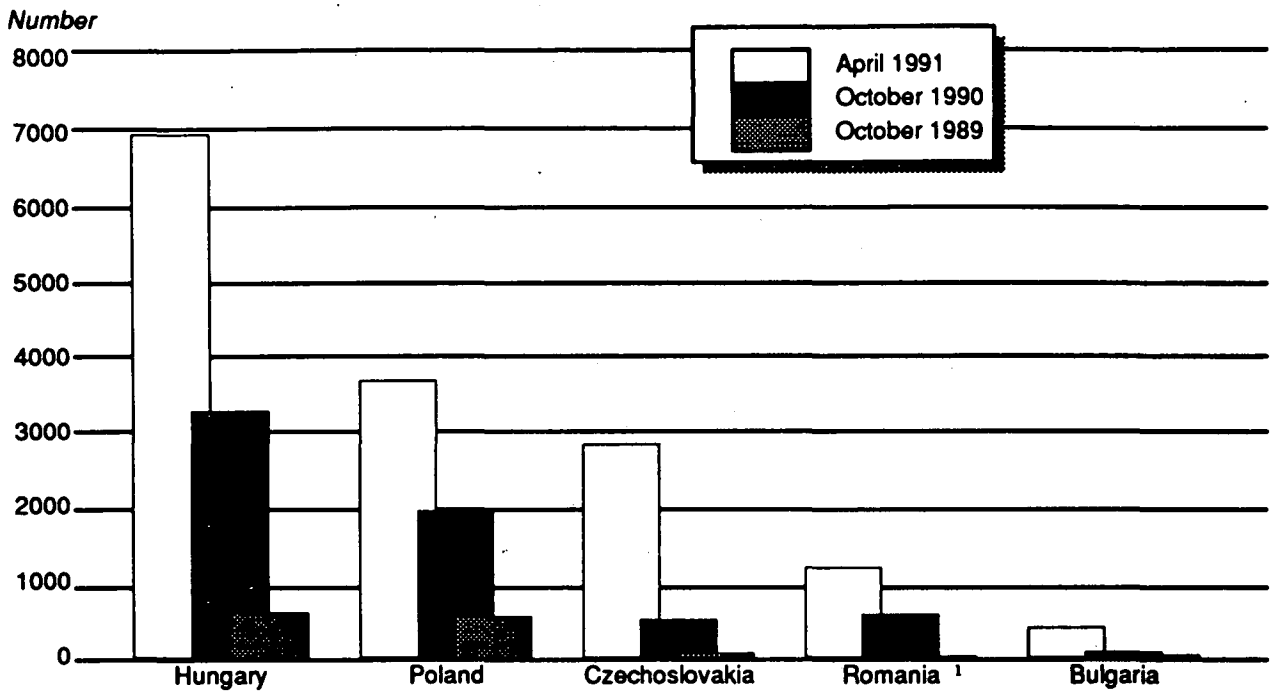
Franchising has become increasingly popular as a less risky JV alternative, especially with smaller companies. Franchising offers firms a relatively low-cost way of gaining access to a market, and also a chance to "test the water" before undertaking an acquisition. Franchising also provides a relatively inexpensive way for CEE firms to access Western production, marketing, and servicing knowhow. Given the increased interest in this option, the Hungarian Parliament is expected to pass a specific franchise law sometime in 1991 or in 1992. Some major Western companies that have looked into or that have signed franchising agreements in Hungary include Shell International (UK/Netherlands), and the U.S. multinational companies such as Coca Cola, PepsiCo, McDonald's, and Burger King.[224]

Joint-venture activity in high-technology areas had been limited to some extent by the Coordinating Committee on Multilateral Export Controls (COCOM)[225] restrictions on technology transfer to these countries. In 1990, however, COCOM eased restrictions on the export of controlled goods and technical services to those CEE countries whose governments agreed to establish safeguards against the transfer of technology for military purposes. Under the new regulations, controls have been eased on exports to Czechoslovakia, Hungary, and Poland.[226] The relaxed rules could lead to increased foreign investment in high-technology sectors, such as an Austrian project to produce robots in Czechoslovakia.

Government policies and incentives play a major role in the success of various countries in attracting foreign investors. All of the CEE countries have set up legal frameworks for permitting foreign equity investment. Most of the CEE countries have permitted foreign investment only since the 1970s. Czechoslovakia has permitted foreign investment since the mid-1980s. Liberalization of existing guidelines, including restrictions on foreign-ownership equity, management control, and profit repatriation has occurred in most of the countries since the beginning of 1989. Table 7 lists current host country policies toward foreign investment.

[219] *Business Eastern Europe*, Feb. 18, 1991, p. 53.
[220] *Business Eastern Europe*, Jan. 21, 1991, pp. 19–20.
[221] Deutsche Bank, "Special Eastern Europe," Feb. 1990, p. 63.
[222] *Business Eastern Europe*, Feb. 25, 1991, pp. 60–61.
[223] *Business Eastern Europe*, Oct. 29, 1990, pp. 356.
[224] *Business Eastern Europe*, Jan. 28, 1991, pp. 25–26.
[225] The Committee is made up of 17 nations including the members of NATO, except Iceland, in addition to Australia and Japan. COCOM coordinates a list of certain sensitive products restricted for export to certain nonmarket economy destinations to prevent technology from being used by those countries for military purposes.

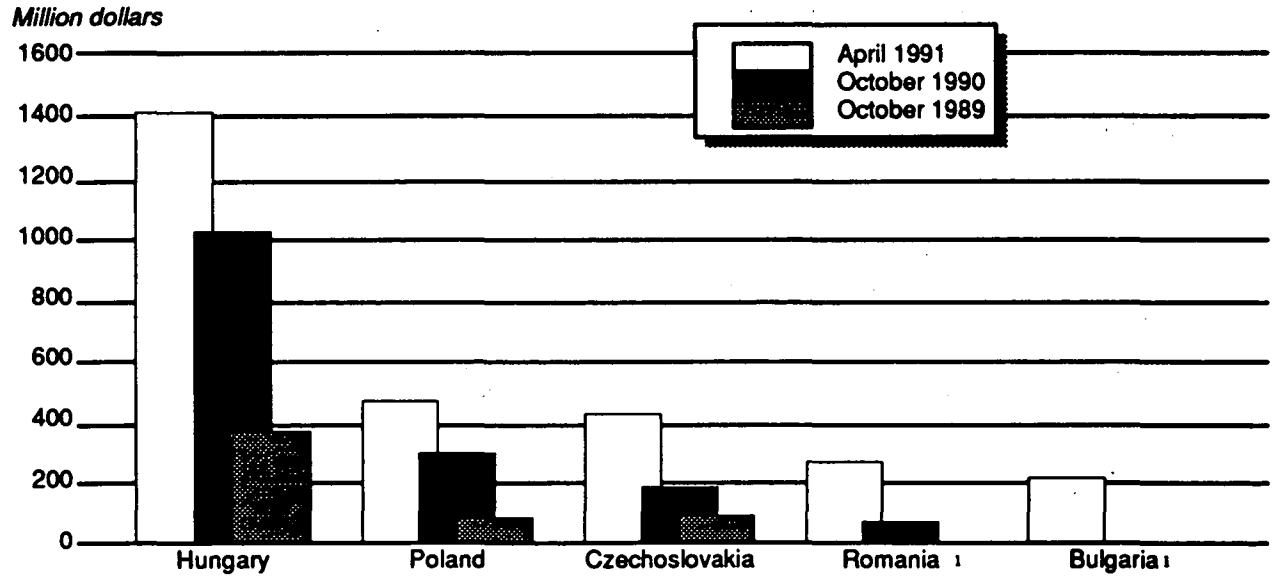
Figure 2
Registered number of JVs in CEE



[1] There were five JVs registered in Romania as of October 1989.

Source: UN Economic Commission for Europe.

Figure 3
Foreign capital outlay in registered JVs



[1] Estimated capital outlays were not available for Romania in 1989 nor for Bulgaria in 1989 and 1990.

Source: UN Economic Commission for Europe.

Numerous international agreements affect FDI in the CEE countries, including agreements on investment, taxation, trade, and intellectual property rights.[227] So far, the United States has signed only one

agreement that specifically deals with investment. The Business and Economic Agreement with Poland provides investment protection, guarantees partial profit repatriation now and full profit repatriation by 1996, intellectual property right protection, and a number of other measures to facilitate U.S. business transactions in Poland. An investment treaty has also been signed between the United States and Czechoslovakia, covering profit repatriation, expropriation, national treatment for U.S. companies, and dispute settlement. Bilateral investment treaties currently also are being negotiated with Hungary and Bulgaria. Other investment agreements among major Western nations and CEE countries include agreements with Czechoslovakia, Hungary, and Poland. France and Belgium each have bilateral agreements with Czechoslovakia to guarantee investments, and West Germany has signed investment protection agreements with Hungary and Poland.

The Group of 24 (G-24) countries has established a number of programs to assist and encourage foreign business participation in CEE. G-24 programs include credits, loan and investment guarantees, and grants to CEE. These programs were initially limited to Poland and Hungary; however, they have been extended to other CEE countries. The PHARE program (Poland and Hungary, Aid for the Restructuring of the Economy), initiated in July 1989 and coordinated by the EC, provides for trade concessions, financial aid, and technical advice. In July 1990, a similar program was extended to Czechoslovakia and Bulgaria. Romania was confirmed as a beneficiary of the program in January 1991.[228]

In the fall of 1989, the G-24 countries reached an agreement to establish the European Bank for Reconstruction and Development (EBRD). The EBRD, which became operational on April 15, 1991, works with the European Investment Bank and the World Bank to promote investments in CEE. The EBRD was capitalized at $12 billion and its assistance programs include loans, investment and loan guarantees, and grants for technical assistance. At least 60 percent of EBRD's total annual lending must be allotted to the private sector. Although the United States is the single largest shareholder, the EC member states together hold a 51-percent majority. On June 25, 1991, the EBRD approved its first loan, which involved providing the Polish government $50 million for a heating project.

Through the SEED Act of 1989, Hungary and Poland were the first CEE countries to benefit from U.S. investment assistance. The act provided for the establishment of private enterprise funds and the extension of benefits under the U.S. Overseas Private Investment Corporation (OPIC). Enterprise funds, set up under the SEED Act, were established with the intent to promote the development of the private sector in Hungary and Poland, including small businesses and U.S. joint ventures with local companies. OPIC provides loans and loan guarantees, as well as insurance against a broad range of political risks for U.S. private investments. OPIC also leads investment missions, such as those held in Poland and Hungary in 1990 to familiarize U.S. businesses with investment opportunities. In 1991 Czechoslovakia also became eligible for OPIC programs.

The Multilateral Investment Guarantee Agency (MIGA), a World Bank Group entity, provides an investment insurance program similar to that of OPIC. The International Finance Corporation (IFC), which is also part of the World Bank Group, provides loans and syndicates loans for commercial banks for private sector investment. Hungary, Czechoslovakia, and Poland are currently eligible for both MIGA insurance and IFC loans. Bulgaria and Romania are in the process of becoming members of MIGA, but are not yet eligible for MIGA programs.

A number of obstacles still remain to foreign investment in the region, including ambiguity in the interpretation of foreign investment laws; difficulties in determining the decision-making authority of state enterprises; incomplete liberalization of prices; restrictions on profit repatriation; uncertainty regarding ownership of businesses and property; and a low degree of flexibility on the part of state-owned suppliers. Foreign investments have been concentrated in Hungary, Czechoslovakia, and Poland, which have shown the most movement in addressing these problems. Much of the investment has been in sectors in which the countries already had a strong base. However, the region has also attracted investment in areas, such as tourism and telecommunications.

Lack of adequate infrastructure in areas such as telecommunications and transportation has held back Western investment in CEE to some extent. One major concern of prospective investors is the lack of an adequate supply of energy. This concern has become even more relevant with the collapse in the Comecon trading system, which has increased prices and reduced gas and oil supplies from the U.S.S.R. To assist the CEE countries, the UN Economic Commission for Europe has launched "Energy Efficiency Project 2000." However, the planned $3.5-5.5 million in funding is far from the investment needed to bring the CEE electricity industry up to Western standards. Reportedly, General Motors discovered too late that its proposed motor and assembly plant in Hungary would not be supplied with the amount of power that it required.[229]

[226] For more detailed information, see the section on export controls in "Trade Policies of Major OECD Markets for CEE Exports."

[227] See tables 10 and 11 in the section on "Current CEE Trade Patterns."

[228] For more detailed information, see the section above on "Multilateral and Foreign Government Aid and Assistance."

[229] *Business Eastern Europe*, January 21, 1991, p. 17.

Table 7

Host country policies towards foreign investment as of July 1991

Country	*Foreign ownership*	*Repatriation of profits*	*Field of activity*	*Investment incentives*
Bulgaria	No set limit[1]	Profit transfer in hard currency is allowed.	All economic sectors, except where prohibited by law or similar authority.	No excise duty on imported or capital goods or raw materials to be used for the purpose of the investment (min. level of foreign investment may be required). Some tax holidays, depending on location and industry.
Czechoslovakia	100% permitted with advance approval	Part of foreign currency receipts must be offered to the State Bank; salaries and profits may be transferred abroad from hard currency resources of the JV.	All economic sectors, except those relating to defense or national security.	Selective incentives, depending on investment, including tax holiday and exclusion from antitrust suits.
Hungary	100% permitted	Profit transfer in hard currency is allowed. Conversion of profits into hard currency guaranteed by the government.	All economic sectors.	Taxation incentives available for specific activities.
Poland	100% permitted	100% of hard currency profit remittable; government can authorize remittance of zloty profits.	All economic sectors.	Capital expenditures may be charged against taxable profits. No excise duty on imported capital goods which form part of a shareholder's capital contribution or are purchased within 3 years of the company's establishment. tax holiday.
Romania	100% permitted with advance approval	Partial profit transfer in hard currency allowed.	Foreign investment forbidden if it affects national security and defense or if it would infringe on environmental law.	Tax holidays depending on sector. Foreign contributions in kind are duty free.

[1] Minimum capital requirements of $20,000 or $500,000 for banks.

Sources: (1) "Building Free Market Economies in Central and Eastern Europe: Challenges and Realities," The Institute of International Finance, 1990, pp. 44 and 45; (2) "Doing Business in Poland," U.S. Department of Commerce, January, 1990; (3) *Eastern Europe and the USSR: A Guide to Foreign Investment Legislation,* Klynvelud Peat Marwick Goedeler, April 1990; (4) *BNA International Trade Reporter,* and (5) *East–West Joint Ventures,* No. 8, July 1991.

Chapter 4
Sectoral Analysis of Central and East European Industries and the Trade Policies of Major OECD Markets for CEE Exports

Prepared by Joe Pelzman, Robert W. Wallace, Don Alexander, and Dennis Rudy

Aggregate Sector Analysis

The transformation of Central and Eastern Europe into a market-oriented economy is occurring against a backdrop of rapidly declining economic activity. In fact, output in the region during the past 2 years or so has been arguably the worst in the post-war period and has been in marked contrast to the ongoing—albeit slowing—expansion in the OECD nations, as shown in table 8. After several decades of reported economic growth, the CEE economies are now experiencing a significant and rapid contraction.[230]

[230] As discussed earlier in this report, the CEE countries measure national income in terms of net material product (NMP). The NMP is equal to GNP less depreciation and consumer services.

This weakness can be traced mainly to deteriorating conditions in the industrial sector. Real industrial output fell sharply in 1990, as shown in table 8, and has continued on a downward path so far in 1991. The agricultural sector has performed poorly too, though the farm sector still plays an important role in the region, especially as a source of jobs. Traditionally important for most of the CEE countries, agriculture has long been overshadowed by mining and manufacturing as a result of the postwar industrialization drive that had taken place in Central and Eastern Europe.

Mining and Manufacturing

The economic structure in place in each of the CEE countries remains largely a legacy of central planning and the Council of Mutual Economic Assistance (CMEA).[231] These economies are dominated by the

[231] The CMEA was created in January 1949 as an organization to promote trade and economic development within the Soviet bloc. It was originally conceived as a mechanism through which industrial cooperation among socialist states could be encouraged. All of the CEE countries under review in the report were CMEA member states before the organization was formally disbanded in early 1991.

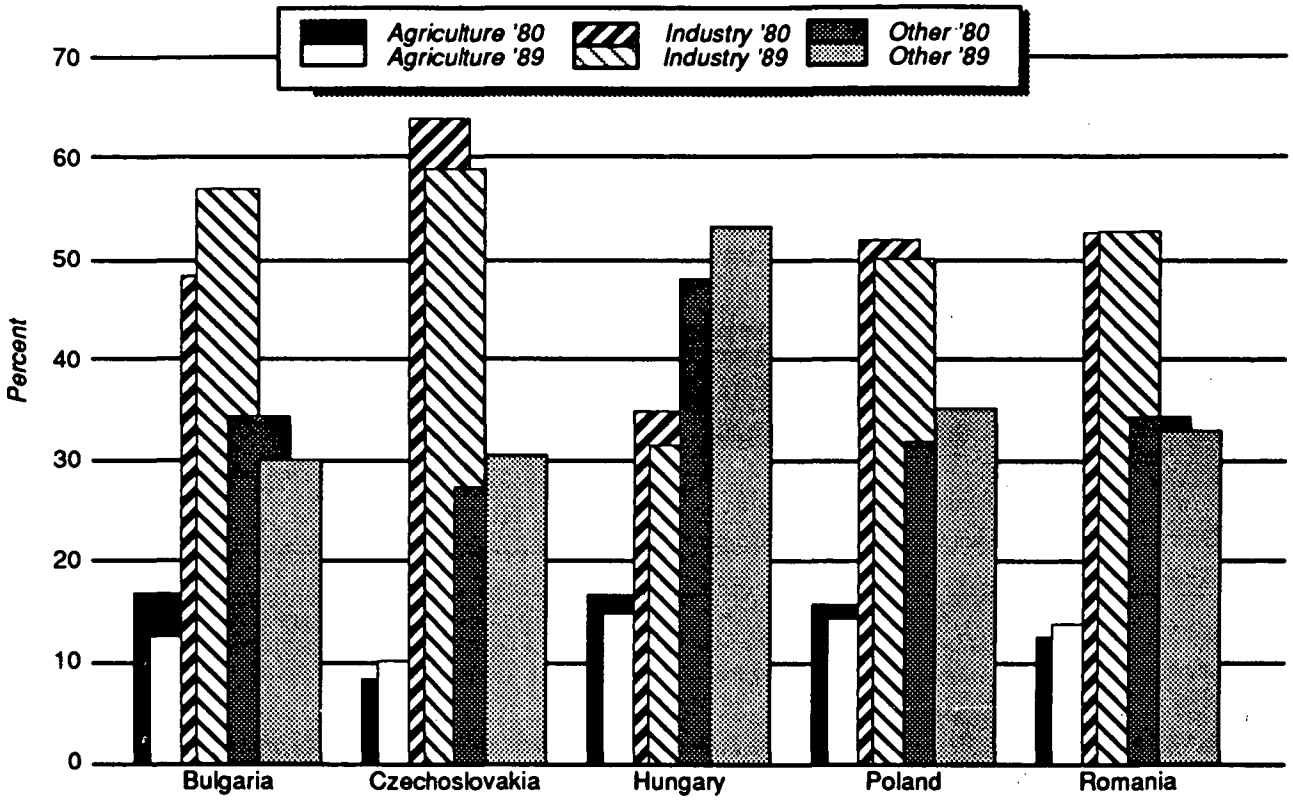
Table 8
Selected economic indicators for Central and Eastern Europe and OECD countries, 1985-90
(Annual percentage rate of real change)

Item and year	*Bulgaria*	*Czecho-slovakia*	*Hungary*	*Poland*	*Romania*	*OECD*
Economic output:[1]						
1985	1.8	3.0	-0.3	([2])	-0.1	3.5
1986	5.3	2.6	1.5	4.2	2.4	2.9
1987	5.1	2.1	4.1	2.0	.8	3.4
1988	2.4	2.3	-.1	4.1	-.5	4.5
1989	-.3	.7	-.2	.2	-5.8	3.2
1990	[3]-11.9	-1.1	-5.0	-12.0	-7.9	[3]2.6
Industrial output:						
1985	3.3	3.6	0.7	3.7	6.2	3.4
1986	4.0	3.2	1.9	4.2	4.8	1.2
1987	3.9	2.4	3.6	3.2	2.5	3.6
1988	5.2	.9	-.4	4.8	3.4	5.6
1989	-1.4	4.0	-3.4	-1.4	-2.3	3.7
1990	-10.7	-3.8	-8.5	-27.1	-19.8	1.8
Agricultural output:						
1985	-12.3	-1.6	-5.5	0.7	1.0	3.6
1986	12.0	.5	2.4	5.0	-5.5	2.3
1987	5.1	.9	-2.0	-2.3	-8.9	.4
1988	-.1	.6	4.3	1.2	5.8	2.3
1989	-.5	1.8	-1.3	1.5	-5.0	1.9
1990	[3]-2.0	-3.9	[3]-4.0	-1.4	-5.0	([2])

[1] Economic output for Bulgaria and Czechoslovakia is measured in terms of NMP (1985 prices); Hungary, Romania, and OECD, GDP (1985 prices); and Poland, GNP (1984 prices).
[2] Not available.
[3] Preliminary.

Source: The United Nations, *Monthly Bulletin of Statistics*, November 1990 (Special Table I), and July 1991; International Monetary Fund, *International Financial Statistics*, September 1991; The WEFA Group, *CPE Outlook for Foreign Trade and Finance*, Bala Cynwyd, PA, July 1991; The Economist Intelligence Unit, *Hungary - Country Report*, London, No. 3 1991; "Poland's Economic Situation in 1990 and Medium-Term Outlook," May 1991; Central Statistical Office, Warsaw; OECD, *Main Economic Indicators*, Paris, July 1991; and OECD, *Agricultural Policies, Markets and Trade: Monitoring and Outlook 1991* (Annex V) Paris, 1991.

Figure 4
Relative importance of major sectors



Note.—The data for Hungary are based on the GDP for 1980 and 1988; data for all other countries are based on the NMP for 1980 and 1989.

Source: The United Nations, *Monthly Bulletin of Statistics*, July 1991, pp. 265-73.

industrial sector, an outgrowth of postwar economic policies emphasizing rapid industrialization. The industrial sector received priority in the allocation of labor, production inputs, and investments, enabling the sector to account for the largest share of the region's economic output, as shown in figure 4. Much of the post-war industrial investment was allocated to heavy industry, which in 1989 generated slightly more than half the industrial activity in each of the CEE countries.

Investment patterns of the 1980s continued the preference for heavy industry, especially machinery and equipment, the single largest industry in the region. As shown in table 9, machinery and equipment's share of industrial activity during the 1980s rose in all CEE countries except Poland and Romania. The relative importance of other heavy industries in the region during the 1980s remained fairly stable or declined slightly. The relative importance of chemicals remained stable in the region. Metallurgy declined slightly in overall importance in the region and is likely to decline further as some CEE countries restructure their industrial processes and cut output to reduce pollution. The energy industry declined somewhat in importance too, with only Romania showing an increase throughout the 1980s. Romania had invested more in energy production, as a share of total industrial investment, than almost any other CEE country. However, Romania depleted its petroleum reserves faster than expected, forcing the country to become a net oil importer.

The continued emphasis on heavy industry during the 1980s came at the expense of traditional light industries and the food-processing industry. In general, the relative importance of the textile and apparel complex and the food-processing industry decreased in the region during 1985-89. This decline is likely to be reversed as the CEE countries reform their economies.

Services

Services represent a relatively small portion of CEE countries' NMP, as reflected in the "other" category shown in figure 4. They have traditionally been divided between producer and consumer services. As noted earlier in the report, the emphasis in all the CEE countries has been on developing the industrial base. As a result, producer services that contribute to the production and distribution of goods, namely construction, transportation, communications, and retail trade, received priority in resource allocation. In contrast, consumer services, such as housing, tourism,

Table 9
Industrial structure: Percentage distribution of gross production in Central and Eastern Europe by countries and sectors, specified years 1980-89

Sector and year	*Bulgaria*	*Czecho-slovakia*	*Hungary*	*Poland*	*Romania*
Fuels:					
1980	1.6	5.4	13.9	6.5	4.5
1985	1.3	4.6	16.8	12.0	9.2
1988	1.3	4.2	13.5	10.6	11.2
1989	(1)	4.1	12.0	9.2	11.5
Electric power:					
1980	2.7	4.0	5.7	2.7	1.8
1985	3.6	3.9	4.5	3.2	3.5
1988	3.8	3.9	6.0	3.0	3.9
1989	(1)	4.0	6.2	3.1	3.9
Metallurgy:					
1980	2 4.0	12.8	9.1	9.5	10.6
1985	2 3.8	11.6	9.0	9.8	10.8
1988	2 3.9	11.4	8.5	8.8	10.0
1989	(1)	11.2	10.5	10.8	9.8
Machinery and transport equipment::					
1980	28.4	27.2	23.5	31.3	35.2
1985	25.9	30.3	24.6	24.9	29.7
1988	28.6	31.9	25.8	27.6	28.9
1989	(1)	31.7	24.8	25.2	27.7
Chemicals:					
1980	(3)	13.6	11.1	8.8	8.7
1985	(3)	13.4	10.8	8.5	10.5
1988	(3)	13.6	11.6	8.5	9.9
1989	(1)	13.6	11.9	9.0	9.8
Building materials:					
1980	4.2	3.7	3.5	2.8	3.4
1985	3.9	3.4	3.0	2.7	3.3
1988	3.6	3.5	3.4	2.6	3.6
1989	(1)	3.3	3.1	2.4	3.7
Wood and wood products, including paper:					
1980	4.3	4.8	3.1	4.6	5.5
1985	4.2	4.8	3.4	4.2	5.1
1988	3.9	4.8	3.4	4.2	4.9
1989	(1)	4.9	3.4	4.5	5.0
Textiles and apparel:					
1980	10.5	5.9	6.6	10.2	11.8
1985	7.5	5.7	6.0	8.8	10.3
1988	7.4	5.6	5.8	8.7	10.2
1989	(1)	5.7	5.6	9.0	10.6
Food, beverages, and tobacco:					
1980	20.2	15.2	16.7	17.6	12.8
1985	23.2	14.3	18.9	20.5	11.4
1988	20.5	13.6	16.4	20.3	11.2
1989	(1)	14.0	17.8	20.8	11.6

See footnotes at end of table.

Table 9—Continued
Industrial structure: Percentage distribution of gross production in Central and Eastern Europe by countries and sectors, specified years 1980-89

Sector and year	Bulgaria	Czecho-slovakia	Hungary	Poland	Romania
Other:					
1980	24.1	7.4	6.8	6.0	5.7
1985	26.6	8.0	3.0	5.4	6.2
1988	27.0	7.5	5.6	5.7	6.2
1989	([1])	7.5	4.7	6.0	6.4

[1] Not available.
[2] Includes only ferrous metallurgy; nonferrous metallurgy is included in "other."
[3] Included in "other."

Source: *Statistical Yearbook of the Czech and Slovak Federal Republic*, 1990 edition, pp. 362-3, and 1989 edition, p. 361; *Statistical Yearbook of Hungary 1989 and back issues; Statistical Yearbook of Romania 1990*, pp. 452-5; *Statistical Yearbook of Poland*, 1990 edition, pp. 157-8, and 1981 edition, p. 229; and data for Bulgaria from *Statistical Yearbook of Member States of the CMEA 1989*, pp. 90-93 (in Russian).

and banking, received less priority. A detailed discussion of the region's services infrastructure is provided in the following section.

Infrastructure and Support Services Deficiencies

The expansion of the export sector in all five CEE countries is constrained by deficiencies in the infrastructure and in financial and credit institutions. These deficiencies will take time and, in some cases, considerable capital investment to remedy. The pace of market reforms and recovery from the current region-wide economic downturn will also affect the speed with which these deficiencies are ameliorated and perhaps eliminated.[232]

Infrastructural deficiencies

Inadequate investment in telecommunications, the computer network, and transportation are often cited as general obstacles to enhancing the competitiveness of industrial exports from the CEEs. Underdevelopment in these three areas raises the costs of exports and discourages foreign investment without which the modernization of the infrastructure and the development of an export competitive industrial sector are impossible.

Telecommunications.—Communication resources consist of a number of different elements ranging from telephone lines to FAX machines. Overall, the communication infrastructure in Central and Eastern Europe is inadequate for the current level of business activity. Not only are there insufficient numbers of telephones, but the ones that do exist use outdated switching systems.[233] Newer forms of communication, including cellular and FAX services, are rare or nonexistent. The major reason for the relative backwardness of these services in Central and Eastern Europe is the low level of investment. Although this differs by country, the differences are not that large. Under the centrally planned system, the state has traditionally neglected the modernization of these services.[234] Despite current efforts to upgrade technology in all five countries, the level of telecommunications services remains low throughout the region.[235]

Low density and poor quality are characteristics of the CEE telecommunication networks. In the mid-1980s there were an average 109 telephones per 1000 inhabitants in Poland, 226 in Czechoslovakia, and 140 in Hungary. Density of telephones in rural areas is about one-fifth that in the cities. Automatic dialing is a remote dream in CEE countries with the exception of Czechoslovakia and part of Hungary.[236]

In data transmission, the problems are aggravated not only by unavailability of terminals but also by the poor quality of communication networks. The first teletex sets started to operate (via Germany) in 1986, but still no more than 100 to 200 terminals were operating by 1990. Generally, only 6 to 7 percent of the investment funds earmarked for the development of telecommunication services in Hungary is allocated to the introduction and extension of services. The rest of the investment funds must be used for maintenance of the basic network and for upgrading the present system. The Hungarian Post Office recently started a modernization program: the first digital switching center (for 27,000 lines) opened in February 1989, and was scheduled to expand to 90,000 lines by 1990 with the help of Austrian technology and credits.[237] In Czechoslovakia, 433,000 new telephone lines were installed during 1981-85, and the number of telephones per 1,000 inhabitants increased to 246 by 1987.

[232] To illustrate these deficiencies, this section concentrates on data for Czechoslovakia, Hungary, and Poland.
[233] See U.S. Department of State, Advisory Committee on International Communications and Information Policy, *Eastern Europe: Please Stand By*, Report of the Task Force on Telecommunications and Broadcasting in Eastern Europe, Spring 1990.
[234] See Eva Ehrlich, "Telecommunication in Eastern Europe and Central Europe," (Budapest, 1991) (unpublished manuscript).
[235] Ibid.
[236] Ibid.
[237] *Der Standard*, Feb. 28, 1989, p. 12.

However, almost 200,000 applications for telephone lines were pending because of construction delays.[238]

Satellite communication in the area is provided by the Soviet communication system, ORBITA. For joint communication, a regional organization, INTERSPUTNIK, was established in 1971. In addition, the CEE countries are members of the International Organization for Satellite Communication (INTELSAT).[239]

The governments of Central and Eastern Europe are aware that they have to invest in telecommunication services in order to be integrated with the rest of the world. However, they lack the manufacturing technology and technical personnel needed to create their own internal telecommunication services.[240] The domestic economic situation in the five countries is not conducive for financing the modernization of telecommunications from domestic resources. Therefore, updating the telecommunication services requires a great deal of outside capital and technical assistance.[241]

Because of these shortcomings and because any expansion of the CEE economies, particularly in areas of foreign trade, will require telecommunication services, foreign investors view this sector as one of the first to enter. In each of the Central and East European economies, there is a major attempt by West European and U.S. companies to enter the telecommunications area. Despite this shift, it is not clear if this foreign investment will be sufficient to create a telecommunication infrastructure that can meet CEE's future demands.[242]

It is generally believed that the Central and East European economies would like to catch up to Western Europe in the telecommunication area by the year 2000. However, this feat is possible only if there are clear-cut price reforms in this sector together with clear regulations on ownership and sufficient foreign capital.[243] Telecommunication in the CEE region is the most developed in Czechoslovakia, Hungary, and Poland. Details on telecommunication in each of these countries follow.

Czechoslovakia.—Telecommunication services in Czechoslovakia are state owned. In order to facilitate conversion to private ownership, the Czechoslovak Government is receiving assistance from a joint venture with U.S. West and Bell Atlantic. These two companies are investing $80 million in the joint venture and will provide feasibility studies for the development of a country-wide cellular and packet data network.[244]

[238] Ibid.
[239] Ibid.
[240] See Eva Ehrlich, "Telecommunication in Eastern Europe and Central Europe," (Budapest, 1991) (unpublished manuscript).
[241] Ibid.
[242] Ibid.
[243] Ibid.
[244] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, p. 35.

Hungary.—In the pre-war period, Budapest had established a respectable communication network.[245] In 1937, when 13 percent of the population lived in Budapest, 70 percent of the phone lines were concentrated there. By 1987, Hungary had 7.67 main phone lines per 100 inhabitants, a respectable figure when compared with Brazil with 5.58, Turkey with 7.66, and Argentina with 8.61. The density of phone lines relative to Hong Kong with 35.14 per 100 inhabitants and South Korea with 20.5 was not as impressive. In general, compared with the international average, the gap in telephone density increased in Central and Eastern Europe during the 1980s. A similar development also occurred with respect to the number of Telex lines installed. In Hungary, there were 4,661 FAX machines in operation in December 1989, which is equivalent to 0.44 per 1000 inhabitants. There were also 90 Videotex and 317 Minitex machines in operation in 1989. Throughout Central and Eastern Europe, there were no up-to-date telecommunication networks and services at all.[246]

In most countries, the density of telephones tends to be greater in the large metropolitan areas than in rural areas. For example, in 1989 Budapest proper had 20.81 main lines and 38.62 telephones in use per 100 inhabitants, whereas the rural areas of Hungary had 5.6 main lines and 11.25 phones per 100 inhabitants. In the rural areas of Hungary, the existing main lines give access to the outside world only during the day. Emergency telephones are available, but only for outgoing calls.[247]

The poor availability of phone service in the rural areas of Hungary can be illustrated by the fact that, at the end of 1988, there were only 2,024 main exchanges in operation, of which 78 percent were manual exchanges providing services comparable to those provided 50 years ago. Furthermore, 78 percent of Hungarian localities are not connected to the automated service, with 60 percent of Hungarian cities having no access to long-distance service and 80 percent having no access to the international network. In 40 percent of Hungary's cities, the manual exchange is the only one in operation.[248]

In the 1980s, when Hungary initially sought Western technology to expand its phone services, the Coordinating Committee for Multilateral Export Controls (COCOM) prohibited the sale of digital exchanges to Eastern Europe. As of August 1989, restrictions on the sale of these digital main exchanges were lifted, although the sale of the know-how to produce these systems was still prohibited. In 1990, the restriction on the sale of transmission facilities was also removed.[249]

Several major foreign investors have already established operations in Hungary's telecommu-

[245] See Eva Ehrlich, "Telecommunication in Eastern and Central Europe," (Budapest, 1991) (unpublished manuscript).
[246] Ibid.
[247] Ibid.
[248] Ibid.
[249] Ibid.

nications sector. According to the Hungarian Telecommunication Company (MATAV), districts with more than 10,000 lines will be required to have equipment compatible with the Siemens (German) and Ericsson (Swedish) exchanges that will be used at the national level. U.S. firms also play an important role in the modernization of Hungary's telecommunications. Bell Atlantic, U.S. West, and General Telephone Equipment, Inc. (GTE), in joint ventures with Hungarian partners, are involved in expanding cellular telephone service in the country, in the introduction of packet switching, and in the modernization of the existing wire network.[250] In addition to private investors, the World Bank has authorized a $220 million loan to Hungary for the development of this sector and has made a commitment for an additional $100 million loan.[251]

These developments fall in line with the Hungarian Government's plans to massively upgrade the quality and quantity of telecommunication services through increased domestic and foreign investment coupled with privatization. Legislation in 1990 broke up the centralized communication system into three separate sectors—telecommunication, post, and broadcasting—with each becoming an independent, state-owned joint-stock company. The Hungarian Government is currently planning to sell 50 percent of the Hungarian Telecommunication Company (MATAV) to foreign investors.[252]

Poland.—Currently, Polish telecommunication is considered to be inferior to that found in Hungary. Nevertheless, in April 1991 the World Bank approved a $120 million loan for a new digital system, including fiber optic cables, switches, and a satellite ground station to improve international links. This loan is to be accompanied by a loan of ECU 70 million from the European Bank for Reconstruction and Development (EBRD) for the installation of 12 digital switches to improve long-distance communications. The Polish Government has also established a business network in Warsaw in order to connect banks, hotels, and government offices.[253]

To modernize service, Poland has also developed a network of 12 long- distance exchanges and a microwave link between Warsaw and Katowice. Recently, Poland signed a $100 million contract with AT&T to modernize its telephone system and a $50 million contract with Ameritech Corp. to install a cellular telephone system. Overall, the Polish Government expects to spend $1.5 billion in the next 10 years to modernize the country's telecommunication infrastructure.[254]

Computers.—An integral part of a sound telecommunication system is the availability of a modern computer system. Demand by the business community for automated business systems, accounting systems, and management information systems dictates the availability of modern computer facilities. In most CEE economies these resources are in such short supply that they provide a real impediment to business activity.

The CEE computer industry was initiated in the Soviet Union, Czechoslovakia, and Poland in the early 1950s. Despite Western controls on technology transfer, about thirty different kinds of computer systems were in production in the CEE countries at the beginning of the 1970s.[255] In December 1969, Bulgaria, Czechoslovakia, Hungary, Poland, and the Soviet Union established a Standing Commission for Cooperation in Informatics, in part designed to promote the joint development, production, and application of electronics information equipment. The result of this cooperation was a series of Unified System of Electronic Computers (RYAD series), which met the "international standards" by imitating the equipment that met those standards. Current CEE mainframes are modifications of the IBM 360/370 architecture; minicomputers are modifications of DEC or HP designs; personal computer designs are of the IBM PC or Apple II design; and semiconductors borrow heavily from Intel, TI, and Motorola.[256]

Since the mid-1970s, the CEE countries have produced their own third- generation equipment and imported Western technology.[257] Romania acquired licenses for the production of integrated circuits, Hungary for automatic control equipment, Bulgaria for magnetic tapes and discs, Czechoslovakia for VLSI circuits, and Poland for highspeed printers.[258] In May 1986, a new CMEA cooperation agreement for the period 1986-90 was devised for the joint development and production of more than 200 specialized technologies to be used for the manufacture of LSI and VLSI integrated circuits—components of 16- and 32-bit computer chips. Despite all these efforts, there is still insufficient computer equipment in Eastern Europe to meet current demand.[259]

In Czechoslovakia, the Minister of Electrotechnical Industry apparently stated that the gap between supply and demand was nearly 33 percent during 1987-90.[260] In Hungary, reduced investment in the electronics industry during the 1980s resulted in a drastic reduction in technical standards. Some experts believe

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[250] Interviews with Bell Atlantic, U.S. West, and GTE, Sept. 26 and 27, 1991.

[251] Ibid.

[252] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, p. 54.

[253] Ibid., p. 67.

[254] Ibid.

[255] See M. Lebkowski and J. Monkiewicz, "L'Informatique dans les pays du CMEA," *Revue d'Etudes Comparatives Est-Ouest*, 1986, vol. 17, No. 4, p. 6.

[256] See R. W. Judy, "The Soviet Information Revolution: Some Prospects and Comparisons," in Joint Economic Committee, *Gorbachev's Economic Plans*, 1986, vol. 2. p. 163.

[257] Czechoslovakia reported 58 different types of computers out of its total stock of 236 machines in 1970 *(CSSR Statistical Yearbook, 1970*, p. 154).

[258] See Lekowski and Monkiewicz, op. cit., p. 8.

[259] Ibid.

[260] Total supply includes domestic and imported. See *Hospodarske Noviny*, Nov. 28, 1986, pp. 1 and 7.

that the equipment used by the R&D network is some 10 years behind that used in Western countries; the productivity level of Hungarian enterprises is ten to twenty times lower, and the leading component producing enterprises lag 5 to 7 years behind their Western counterparts.[261] In the summer of 1986, a fire almost completely destroyed a Hungarian microelectronic plant where a third of the country's diode, transistor, and integrated circuits were being produced.[262]

The current stock of computers, despite age and quality, varies across countries. In Hungary, by the end of 1987, there were 65,000 computers in the state sector and an additional 280,000 computers in private hands. By comparison, Austria has about three times more computers per capita.[263] In Czechoslovakia, there were 60,000 Western-made home computers at the end of 1986, mostly imported by private individuals.[264] It is estimated that annual output of personal computers in Czechoslovakia is in the range of 300,000 to 350,000 units. To reach the U.S. per capita level, Czechoslovakia would have to reach a production level of 1.5 to 2 million.[265]

The CEE countries lag an estimated minimum 10 years behind the West in computer technology.[266] Moreover, the underdevelopment of the region's telecommunications networks prohibits, at least over the medium term, the linkage of computers at a level that could bring about significant advancement in this sector.[267]

Transportation.—The development of transportation services in the CEE countries followed the general development of their overall economies. The transportation sector expanded quickly during 1970-75 and declined in growth during the late 1970s, in line with lower overall economic growth and higher fuel prices. This reduction in investment continued into the 1980s as the CEE economies began to constrain their allocation of investment. Insufficient investment in the transport systems resulted in inadequate road and rail networks.[268]

Inland freight traffic in most CEE economies is concentrated on two modes—rail and road. The highest volume of transport of merchandise via rail was in Poland, where it represented 70 percent of total tonnage transferred in 1987. Comparable figures for Czechoslovakia were 40 percent and for Hungary, 33 percent. The fast development of road traffic since the 1970s in all of CEE was facilitated by relatively cheap oil imports. Nevertheless, rail transport still dominates the structure of freight transport in CEE economies, making railways the backbone of the region's inland transport system.[269] Most area specialists agree that this element of the CEE infrastructure is one of the weakest elements in the CEE economies.[270] Some details on the transportation in Hungary and Poland follow.

Hungary.—The bulk of Hungary's freight is carried by rail (21.7 bn ton/km in 1987), with significant traffic carried by road (12.8 bn ton/km in 1987) and waterways (10.7 bn ton/km in 1987). As in the other CEE economies, air freight accounts for a negligible proportion of the country's freight delivery system. The Hungarian freight system, like that of the other CEE economies, is considerably out of date.[271]

Poland.—In 1987, Poland had 157,000 km of surfaced roads with 26,637 km of rail lines. Most of the freight traffic was dependent on rail rather than the road network. In large part, this is due to the cost savings provided by Polish rail and the inadequate supply of trucks and vans, which, at the end of 1987, amounted to 866,000. Air freight is virtually nonexistent in Poland.[272]

Deficiencies in financial and credit institutions

No CEE economy has as yet developed a functional credit system thzt can provide adequate credit to small- and medium-size businesses, clear checks, provide export financing, or induce savings. Existing CEE banks, although partly decentralized, are as yet poorly capitalized and burdened with nonperforming loans that were previously issued to large state-owned enterprises. Moreover, these new banking institutions lack the modern skills necessary to perform Western-style banking functions.[273]

Under Soviet-type central planning, the banking sector was totally centralized and played a largely passive role. Credit was extended in order to provide working and investment capital to the enterprise sector. Cash was provided to enterprises to meet their demands for payments such as wages. As such, the central mono-bank had little control over most of the factors affecting the amount of currency in the economy, which was decided by the planning authority.[274]

The development of financial markets and private sector financial institutions is an essential step in the transition to a market economy. In most of the CEEs, a

[261] See *Nepszabadsag*, May 24, 1985, p. 3.
[262] See *Heti Vilaggazdasag*, June 7, 1986, p. 1.
[263] See *Die Presse*, Nov. 17, 1988, p. 9.
[264] See *Rude Pravo*, Nov. 14, 1986, p. 2.
[265] See *Zemedelske Noviny*, Nov. 25, 1987, p. 2.
[266] See *Planovane Hospodartsvi*, No. 3, 1988, pp. 69-82.
[267] Ibid.
[268] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1989-90*, pp. 157-182.
[269] Ibid.
[270] Ibid.
[271] The Economist Intelligence Unit, *Hungary: Country Profile - 1988-89*, 1988, pp. 26-27.
[272] The Economist Intelligence Unit, *Poland: Country Profile - 1989-90*, 1989, p. 30.
[273] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 9-11.
[274] See David Lipton and Jeffrey Sachs, *Creating a Market Economy in Eastern Europe: The Case of Poland*, paper presented to The Brookings Institution, April 1990.

commercial banking system has been created directly from a monopoly-bank system. However, there are several other conditions for a complete transformation. For instance, the existing loans to state enterprises, many of whom are bankrupt, were shifted to these new institutions from the monopoly bank. These "bad" loans have to be addressed before a sound banking system can be created. The large loan losses that will emerge as these economies react to market forces may have to be absorbed by the state budget.[275]

Without the restructuring of enterprises and further price reforms, a truly competitive banking system cannot be expected. Yet such reforms are only underway in some of the CEEs. Currently, with the exception of Hungary, many of the existing CEE financial institutions have no basis for allocating credit according to market criteria, nor for identifying and pricing risk. Credit allocation in such a situation is indeterminate, given that it is neither set by a plan or by the market.[276]

Although significant changes have taken place in the financial sectors of Bulgaria and Romania, these changes are too recent for a comprehensive review.[277] Details on changes in the financial sectors of Czechoslovakia, Hungary, and Poland follow.

Czechoslovakia.—As of January 1990, Czechoslovakia's monopoly bank, the Statni Bank, was broken up. A state bank and three new banks—the Komercni Banka (Commercial Bank of Prague) primarily operating in the Czech Republic, Vseobecna Uverova Banka (the General Credit Bank) based in Bratislava and covering Slovakia, and the Investicna Banka (Investment Bank), which had previously functioned as a state disbursement agency—were created in the place of the former monopoly bank. These newcomers joined the Ceskoslovenska Obchodni Banka, old foreign trade bank, and Zivnostenska Banka, the only Czech bank with a London branch (previously used by the Communist functionaries), to form the country's new banking system.[278] In addition to this decentralization of the old monopoly bank, the Government of Czechoslovakia created the Postovni Bank (Postal Bank), a joint-stock company, with the Postal Bank of Vienna as the only foreign shareholder.

At present, the country's new banking system is not comparable to the commercial banking system of a market economy. For instance, there is only one major commercial bank in each republic. The existing savings institutions have a limited network of 70 branches, with limited foreign competition. Apart from representative offices of foreign banks, foreign participation is still awaiting licensing authorization.[279]

Although the Komercni bank has built a network of 83 branches with a further 70 sub-branches, commercial bank practices are not at par with Western standards. Even priority transactions, such as checks drawn on foreign banks, require 2 to 3 months for completion. There are also problems with the ready availability of cash for local transactions, and the concept of venture capital is practically unknown.

Jozef Mudrik, the recently appointed president of Vsebecna Uvervova Banka (the general credit bank) in Slovakia, says that he cannot lend to new entrepreneurs unless they provide some form of outside guarantee, perhaps from an international institution. Moreover, he notes that no rate of interest would compensate the bank for the risks it would have to take in order to issue credit.[280]

As is true in most CEEs, the decentralization of the Czechoslovak monopoly bank was not accompanied by an infusion of capital. On the contrary, most of the new banks were burdened with portfolios that include a large number of troubled loans which may never be repaid. In effect, these new banks have a limited ability to finance new projects. In addition, the absence of a convertible currency and of bankruptcy laws prevents these new Czechoslovak banks from exercising real control over borrowers and differentiating between good and bad risks.[281]

Hungary.—The Hungarian banks are far ahead of their CEE competitors in introducing market control. The Hungarian banking system was decentralized in 1987, after the management of state enterprises had been decentralized and after bankruptcy legislation had been enacted.[282] Beginning in 1987, the monopoly of the National Bank of Hungary (NBH) was abolished. With the reforms the credit functions of the NBH were transferred to two commercial banks, the Commercial and Credit Bank (CCB) and the Hungarian Credit Bank (HCB). A third bank, the Budapest Bank (BB) was created by merging the commercial functions of the State Development Bank and the Credit Bank of Budapest. These three banks were allocated loan accounts from the NBH portfolio. This division was necessary for the separation of monetary policy from commercial banking activity that became the responsibility of these banks.[283] Some experts have

[275] Ibid.

[276] Ibid.

[277] For more information on developments in the financial sectors of Bulgaria and Romania, see Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 20 and 89.

[278] *Euromoney, Special Supplement on Czechoslovakia*, June 1991.

[279] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 28-47. Among the 28 banks now operating in Czechoslovakia, a dozen are foreign joint ventures or, in the case of Citibank, wholly owned subsidiaries.

[280] *Euromoney, Special Supplement on Czechoslovakia*, June 1991.

[281] Ibid.

[282] See Mario I. Blejer and Silvia B. Sagari, "Hungary: Financial Sector Reform in a Socialist Economy," The World Bank, *Working Papers - WPS 595*, February 1991.

[283] See L. Bokros, "The Conditions of the Development of Businesslike Behavior in a Two-Tier Banking System. An 'Ex Ante' Evaluation of the Hungarian Banking Reforms," *Acta Oeconomica*, 38: (1-2), 1987.

noted that this rapid decentralization of the Hungarian banks created undercapitalized banks that are virtually all insolvent.[284]

As of January 1989, commercial banks and savings institutions have been free to engage in financial transactions with both households and enterprises. Treasury bills have been introduced and sold through an auctioning procedure. While state guarantees remain on treasury bills, state bonds are no longer guaranteed. Other recent developments in the financial sector included legislation allowing individuals to form limited liability and stock companies and to hold negotiable shares in joint-stock companies, to convert state enterprises into joint-stock companies and to grant enterprises the power to maintain checking accounts in more than one bank.[285]

Despite these reforms, credit in Hungary continues to be largely allocated to the enterprises that accounted for the largest share of the pre-reform portfolio. This result is largely due to the slow progress that has been made in liquidating problem loans. Discussions regarding the recapitalization of these banks are underway. The resulting shortage of new credit is therefore largely affecting new entrants.[286]

A new preferential credit program designed to deal with this shortage of capital to new businesses is being jointly financed by the German Government and the National Bank of Hungary. This program allows any Hungarian to draw 50 million forints in order to purchase real estate, installations, machines, or stocks. Western businessmen have reported that setting up a new private business in Hungary is often easier than attempting to purchase an existing state enterprise.[287]

Poland.—Poland has made enormous progress in converting its monopoly banking institution to a market-oriented financial system, with reasonable success in a short period of time. In January 1989, the national Bank of Poland (NBP) was divided into the central bank and nine commercial banks organized on a regional basis, with about 40 to 50 branches each. However, as in the CEE economies, the capitalization of these new institutions came from the monopoly bank, thus maintaining the former portfolio of industrial and infrastructure loans. Foreign trade financing continued to be handled by Bank Handlowy w Warszawie, while private household deposits are kept with Bank PKO and Bank Pekao.[288]

The privatization of Poland's banks is expected to follow a program to re-capitalize the banks and a plan to change the ownership structure of the banks. These changes have been delayed, however, by a failure of the Polish authorities to change the management structure of the banks. The presidents of the banks are still appointed by the Prime Minister on the advice of the President of the NBP. Lacking the required autonomy, Poland's new commercial banks still lack sufficient competitiveness.[289]

Despite all these changes, the banking habit has not yet developed widely in Poland, and there continues to be a heavy reliance on cash for transactions. Private businesses primarily operate on a cash basis, which is costly and inefficient.[290] There are a number of reasons for this: Basic financial services for small enterprises are currently either unavailable or available only on prohibitive terms. Domestic and foreign checks take weeks to clear, letters of credit are unavailable without full cash cover, and there are no overdraft facilities.

Trade Policies of Major OECD Markets for Central and East European Exports[291]

In response to the political and economic changes that have taken place in Central and Eastern Europe since 1989, the OECD member countries have made tariff concessions, reduced quantitative restrictions, and eased restrictions on the transfer of technology to the countries of the region. Whereas the governments of OECD countries have taken independent actions to reduce import restraints on CEE products, policies aimed at the transfer of technology to the CEE countries have been liberalized on a unified basis through the 17-nation Coordinating Committee on Multilateral Export Controls (COCOM). See tables 10 and 11 for summaries of U.S. and EC trade agreements and policies toward CEE countries.

Current CEE Trade Patterns

In the area of foreign trade, the countries of Central and Eastern Europe have suffered a major setback in their drive to expand exports. Trade trails only industry as a source of economic activity in the region. As shown in table 12, compared with 1988 levels, CEE trade in 1990 fell by $26 billion, or by 20 percent, to $107 billion, the lowest level in at least 10 years. Imports fell by 17 percent to $52 billion and exports dropped 22 percent to $55 billion. Two-thirds of the decline in foreign trade during 1988-90 was absorbed by Romania and Bulgaria, whose combined trade decreased by 28 percent. Nevertheless, the region eked

[284] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 48-63.

[285] Blejer and Sagari, 1991, pp. 10-13.

[286] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 48-63.

[287] Ibid.

[288] See Task Force on Reform in Central and Eastern Europe, Headed by the Staff of the Executive Office of the President, Council of Economic Advisers, *Designing U.S. Policy to Accelerate Creation of Market-Based Economies in Central and Eastern Europe*, pp. 64-79.

[289] Ibid.

[290] Ibid.

[291] The 24 OECD member countries are as follows: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States.

Table 10
U.S. trade agreements and policies towards Central and Eastern Europe

Country	Trade agreement	MFN	GSP	Export credit insurance
Bulgaria	Yes[1]	No[2]	No	Yes
Czechoslovakia	Yes	Yes	Yes	Yes
Hungary	Yes	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes
Romania	Yes	No	No	No

[1] The United States and Bulgaria have signed a trade and financial agreement, which is currently before the U.S. Senate.

[2] It is expected that MFN status will be granted by the end of the year.

Source: Compiled by staff of the U.S. International Trade Commission.

Table 11
EC trade agreements and policies towards Central and Eastern Europe

Country	Trade agreement	MFN	GSP
Bulgaria	Yes	Yes	Yes
Czechoslovakia	Yes	Yes	Yes
Hungary	Yes	Yes	Yes
Poland	Yes	Yes	Yes
Romania	Yes	Yes	Yes

Source: Compiled by staff of the U.S. International Trade Commission.

Table 12
Foreign trade of Central and Eastern Europe, by countries, 1980 and 1986-90
(In millions of dollars)

Item and country	1980	1986	1987	1988	1989	1990
Imports:						
Bulgaria	9,650	15,249	16,211	16,582	14,881	13,089
Czechoslovakia[1]	15,148	13,358	14,883	14,593	14,277	13,106
Hungary	9,235	9,292	9,450	9,135	8,803	18,764
Poland	19,089	11,208	10,844	12,240	10,085	8,160
Romania	13,201	10,590	[2]11,100	[2]10,600	[2]10,400	9,249
Total	66,323	59,697	62,488	63,150	58,446	52,368
Exports:						
Bulgaria	10,372	14,192	15,905	17,223	16,014	13,428
Czechoslovakia[2]	14,891	13,227	14,723	14,894	14,440	11,882
Hungary	8,677	8,875	9,204	9,739	9,584	9,707
Poland	16,997	12,074	12,205	13,956	13,155	13,627
Romania	11,401	12,543	[2]14,000	[2]14,100	[2]14,200	6,095
Total	62,338	60,911	66,037	69,912	67,393	54,739
Balance:						
Bulgaria	722	(1,057)	(306)	640	1,133	339
Czechoslovakia[2]	(257)	(132)	(160)	302	162	(1,224)
Hungary	(558)	(417)	(246)	604	780	943
Poland	(2,092)	866	1,361	1,716	3,070	5,467
Romania	(1,799)	1,953	2,900	3,500	3,800	(3,154)
Total	(3,985)	1,214	3,549	6,762	8,947	2,371

[1] Beginning with 1985, data for Czechoslovakia are not comparable to those for prior years due to revisions of the koruna/dollar exchange rate.

[2] Estimated by the staff of the U.S. International Trade Commission on the basis of annual percentage changes for hard-currency trade, as published by The WEFA Group in *Centrally Planned Economies Outlook*, April 1991, p. 79.

Source: United Nations, *Monthly Bulletin of Statistics*, June 1987, p. 122, and July 1991, p. 110.

out a trade surplus in 1990 of over $2 billion on the strength of trade surpluses in Poland and Hungary. In fact, both Hungary and Poland recorded small increases in their exports in 1990, as a result of large increases in hard currency exports to Western countries. Poland's growth was largely the result of a devaluation of the zloty by more than 50 percent at the start of 1990.

Intra-CMEA trade has fallen substantially, while trade with OECD countries has increased in importance. The latter now take about half of the exports from CEE countries. Food and raw materials, basic consumer goods, and heavy industry products, each account for about one-third of the exports from this region to OECD countries.

Export Controls

COCOM policies took a major turn during the summer of 1989, when the U.S. Government announced plans to liberalize controls on high-technology exports to CEE countries instituting political and economic reforms.[292] In June 1990, with strong U.S. support, COCOM decided to accord special treatment to those CEE countries that were willing to adopt appropriate safeguards against possible military use and illegal reexport of controlled technology.[293]

COCOM reduced the level of controls on exports to the CEE countries in two separate rounds of negotiations, taking place in July and September 1990.[294] Controls have been eased on exports to Czechoslovakia, Hungary, and Poland, whose Governments have committed themselves to the introduction of safeguards against reexports of controlled technology to proscribed destinations.[295] By yearend 1990, U.S. export authorities were advising the Governments of Czechoslovakia, Hungary, and Poland concerning the technical aspects of the new licensing practices and the various enforcement measures required as appropriate safeguards.[296]

On April 25, 1991, the United States created a new designation (Country Group W) for the purposes of administering the liberalized controls on the exportation of high technology to Czechoslovakia, Hungary, and Poland.[297] Since then, applications by U.S. companies for licenses to export to these countries have been treated more favorably.[298]

In May 1991, COCOM decided to revise the core list of items that would remain under its control.[299] The new core list, expected to be published by October 1991, will significantly reduce licensing requirements on exports of high-technology items to the CEE region.[300] The new, reduced list of controlled commodities is expected to reduce U.S. export controls to the region by 50 percent in terms of the volume of licenses issued by U.S. export control authorities.[301]

Import Controls

The United States

The United States currently extends most-favored-nation (MFN) tariff status to Czechoslovakia, Hungary, and Poland.[302] The President has issued a Jackson-Vanik waiver for Bulgaria, and the United States and Bulgaria have signed a trade agreement providing for the reciprocal extension of MFN tariff status.[303] MFN status will enter into force after both the U.S. Congress and the Bulgarian Parliament have approved the agreement. Romania's MFN status was suspended in 1988.[304] However, bilateral consultations on commercial relations have continued with Romania under the 1975 trade agreement.[305] The United States currently extends tariff concessions under the Generalized System of Preference (GSP) to Czechoslovakia, Poland, and Hungary.[306] Bulgaria has formally requested GSP status, but has not yet been added to the U.S. list of beneficiary countries.[307] Romania lost its GSP status in 1987.[308]

The United States currently applies quantitative restrictions on the importation of textiles, certain agricultural products, and steel products from these countries.[309] The quantitative restrictions on textiles and steel products may be eased as new bilateral agreements on the importation of these commodities are negotiated with Czechoslovakia, Hungary, and Poland under the recently announced Trade Enhancement Initiative for the Central and East European countries.[310] In response to requests by the

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[292] USITC, *62nd Quarterly Report on Trade Between the United States and the Nonmarket Economy Countries During January-March 1990* (publication 2302, August 1990), p. 12.
[293] USITC, *65th Quarterly Report on Trade Between the United States and the Nonmarket Economy Countries During 1990* (publication 2375, April 1991), p. 14.
[294] U.S. Department of Commerce official, interview with USITC staff, June 5, 1991.
[295] Ibid.
[296] USITC, *65th Quarterly Report on Trade Between the United States and the Nonmarket Economy Countries During 1990*, p. 14.
[297] U.S. Department of Commerce official, interview with USITC staff, June 5, 1991.
[298] Ibid.
[299] Ibid.
[300] Ibid.
[301] Ibid.
[302] Poland's MFN status was first restored in 1960, suspended in 1982, and restored again in 1987. MFN was extended to Hungary in 1978, and to Czechoslovakia in 1990. *65th Quarterly Report*, p. 1.
[303] The agreement was signed on Apr. 22, 1991 (Congressional Research Service, interview with USITC staff, June 5, 1991).
[304] *65th Quarterly Report*, pp. 1, 2.
[305] U.S. Department of State official, interview with USITC staff, June 5, 1991.
[306] Hungary received GSP status in 1989, Poland in 1990, and Czechoslovakia in 1991. See *61st Quarterly Report*, p. 18; and 56 F.R. 19525, Apr. 25, 1991.
[307] USITC, Office of Tariff Affairs and Trade Agreements, Aug. 2, 1991.
[308] Proclamation 5617, 52 F.R. 7265, Mar. 6, 1987.
[309] The bulk of U.S. quantitative restrictions against imports from other countries focus on the same commodity groups. Interview with the Office of the United States Trade Representative, June 24, 1991.
[310] The White House, Office of the Press Secretary, *Press Release*, July 12, 1991.

CEE countries for a reduction in restrictions on agricultural products, the U.S. Government pledged to act "in conjunction with the results of the Uruguay Round to increase country access for cheese covered by quotas."[311]

Other major OECD markets

All other OECD countries provide MFN tariff treatment to all five CEE countries.[312] The EC also extends tariff concessions under its GSP program to all five countries. Both Japan and Canada extend GSP benefits to Bulgaria, Hungary, Poland, and Romania, but not to Czechoslovakia.[313]

All five CEE countries have concluded first-generation bilateral trade and economic discrimi-

[311] Ibid.
[312] OECD analysts, interview with USITC staff, June 17, 1991.
[313] Ibid.

cooperation agreements with the EC.[314] These agreements call for the elimination of the EC's natory quantitative restrictions (QRs) against CEE products and the suspension of its nonspecific QRs by yearend 1991 in exchange for improved market access for EC products.[315] The negotiation of second-generation bilateral association agreements with the countries of CEE began in August 1990.[316] The association agreements, some of which might enter into force in 1992, will further reduce EC tariffs on industrial imports from the CEE countries. In addition, the agreements will provide for the gradual introduction of Community rules governing capital movement and the freer movement of people.[317]

[314] USITC, *1992, The Effects of Greater Economic Integration Within the European Community on the United States: Third Followup Report*, investigation No. 332-267, USITC publication 2369, March 1991, p. 1-29, 1-30.
[315] Ibid. For Romania, the process might be completed during 1992.
[316] Ibid.
[317] Remarks by Mr. Andreas van Agt, Head of the Delegation of the Commission of the European Communities to the United States, at the National Issues Forum of the Brookings Institution, May 21, 1991.

Chapter 5
Assessment of Export Potential of Select Manufacturing Industries and the Income-Earning Potential of a Select Services Sector

Methodology for Selecting Industries for More Detailed Study

Previous sections described the sectoral composition of current CEE output and trade. The current status, however, is the consequence of past state intervention, and cannot serve as an adequate indicator of export potential under competitive market conditions. To identify potential export industries, staff first compiled a revealed comparative advantage index (RCI), based on 1989 trade data.[318] The purpose of this index was to rank the CEE countries relative to other exporters in OECD markets. The underlying assumption is that a country's exports reflect its comparative advantage vis a vis its competitors. Since actual trade patterns have been affected in many cases by the central planners in the CMEA countries, the ranking based on the comparative advantage index was reviewed by industry analysts, who researched factor endowments and industry conditions to determine whether there was evidence to support the inferences suggested by the revealed comparative advantage analysis. In some cases, analysts were able to provide more detail then the index, and pinpointed specific industries as the major competitive segment within a sector. As a result of this process, the following non-services industries were chosen for detailed review in this report: apparel, coal, copper, fertilizers, meat, motor-vehicle parts, metalworking machine tools, poultry, steel, and textiles. Scientific and medical equipment was also included because there was not adequate information available initially to enable us to compute an RCI for this industry. However, several published articles did mention these products as possible exports from the CEE countries.

This methodology could not be applied to the services industries, whose data sets are not comparable to other industries. A review by industry analysts lead to the decision to include tourism, a services-oriented industry, in the industry profiles.

A more detailed discussion of the compilation of the index and a summary of analytical observations follow. Profiles of each of the selected industries conclude this report.

[318] OECD country import data were substituted for CEE export data. Although some distortions in the data may be created by exchange rates, these import data are believed to more closely reflect responses to market conditions while providing timely, consistent data sets. To mitigate questions that may arise because of the exchange rate used, the index was compiled and analysis based on more than one year's data (see appendix D). In addition, the analysts were requested specifically to take into consideration the effects of the exchange rate on export patterns.

The Relative Comparative Advantage Index

Trade between two countries (or regions) is based on differences in the factor endowments in each country. The specific trade pattern that evolves is described by the well-known Heckscher-Ohlin theorem, which states: "[e]very country tends to export those goods that use its relatively abundant resources relatively intensively, and tends to import those goods that use its relatively scarce resources intensively."[319] The implication is that a country's exports reflect its comparative advantage, which is derived from an abundance of some particular factor endowment (e.g., land, labor, capital, and natural resources). Thus, the theorem can be described in terms of the relationship shown below:

Factor endowments → Comparative advantage → Trade patterns

The analysis proceeds in two steps. The first step computes a RCI, which is based on existing trade patterns between the OECD countries and the five CEE countries for each of 61 SITC 2-digit commodity classifications for 1989.[320] The RCI is defined as the ratio of country i's exports for a particular commodity to country j expressed as a share of country i's total exports to country j over the rest-of-the-world's exports of the same commodity to country j expressed as a share of the total rest-of-the-world's exports to country j. An index greater than one indicates that a country has a comparative advantage relative to the rest of the world in that particular commodity. So, for example, if Bulgaria's exports of widgets to the OECD as a share of Bulgaria's total exports to the OECD is greater than the rest-of-the-world's exports of widgets to the OECD as a share of total exports to the OECD, then Bulgaria would likely have a comparative advantage in widgets.

The intuition behind this approach is that a country's trade flows will reveal that country's comparative advantage. If the Heckscher-Ohlin theorem is right, then a relative abundance of some factor endowment within that country should explain why that country is exporting that particular commodity. The second step then examines those sectors in which the RCI is greater than one to determine whether a country (or countries) has an abundance of some factor of production that would give rise to a comparative advantage in that particular sector. It is quite possible, however, that the trade data may reflect distortions in prices introduced by the system of central planning used in these countries. If input prices were fixed at artificially low levels or if the government controlled prices of final goods, the RCI index may show a comparative advantage where none would exist on the basis of market prices. If

[319] See, for example, J. David Richardson, *Understanding International Economics*, p. 393 (1980).

[320] This approach is discussed in detail in Peter Murrell, *The Nature of Socialist Economies: Lessons from Eastern European Foreign Trade* (1990).

Poland, for example, decided to promote steel production when this sector has a comparative disadvantage, then inferences based on the RCI computed from these data would be misleading. In addition, the trade data may be too highly aggregated to discern specific sources of comparative advantage for specific commodities and this criticism is acknowledged. Therefore, staff analysis of specific commodities will provide additional evidence that will be used to check the plausibility of any inferences drawn from the revealed comparative advantage analysis.

The data presented in table 13 show the RCI for each of the 61 commodity classifications for the five countries for 1989.[321] The criteria used to select sectors for analysis are (1) RCIs greater than two for at least three of the five countries and (2) RCIs that appear to be unusually large for any one country. The entries highlighted by an asterisk represent commodities that meet either criterion, and these will be the focus of the following discussion. To place these data in proper context, however, table 14 shows the RCIs ranked according to size for each of the five countries, and this information will supplement that which is presented in table 13.

Summary of Comments by Analysts on Sectors Identified by the RCI

00 Live animals

The data presented in table 13 indicate that Bulgaria, Hungary, and Poland each have a revealed comparative advantage in raising live animals.[322] Since raising ruminate animals is a land-intensive activity, the apparent source of each country's comparative advantage is the temperate climates and availability of land suitable for growing animal feeds. Bulgaria, for example, has a high arable land-to-population ratio relative to the other CEE countries, although industrial pollution has contributed to a decline in the usefulness of the land over time. Similarly, Hungary and Poland have a relatively high percentage of arable land, which would be important for raising livestock. Perhaps, more important, each country has had a rich tradition of having a well-developed farm sector that has provided each with the knowledge necessary to compete effectively against other countries.

In addition, the data presented in table 14 send a similar message. In each of these three countries, for example, this commodity classification ranks near the top of all classifications that had a revealed comparative advantage greater than two. The RCI for Bulgaria, Hungary, and Poland was 8.67, 7.25, and 13.09, respectively. Moreover, the economic reforms being implemented should reinforce the export potential of this particular sector. Thus, the temperate climates, the relative abundance of land, and the accumulated knowledge would make this a likely export sector.

01 Meat and meat preparations

Meat and meat preparations is one sector in which several CEE countries appear to have a comparative advantage.[323] The data shown in table 13 indicate that each country, except Romania, has an advantage in this particular sector. However, the data also indicate that the advantage is greatest for Hungary and Poland, which most likely reflects Hungary's comparative advantage in processed poultry and Poland's comparative advantage in certain processed red meats.

The production of processed poultry is a relatively capital intensive-operation, which requires modern technology to be competitive in the world market. Hungary, for example, has a number of large-scale facilities that appear to be efficient in processing meat. Indeed, the trend toward privatization has progressed quite rapidly in the meat processing sector, which naturally encourages firms to increase the efficiency of their operations. Hungary's apparent abundance of capital and its long tradition in processing poultry suggest that poultry is likely to emerge as an export industry in this country. Furthermore, Hungary's apparent comparative advantage in raising livestock contributes, in part, to their advantage in this sector. The data in table 14 show that meat and meat preparations has the top-ranking within Hungary.

Poland's situation in meat processing is similar to Hungary's in many ways. Poland, for example, has an abundant labor force that is skilled in processing certain red meats, and there is some evidence that Poland is cost-competitive with other world producers. Poland has also moved towards privatizing the processing facilities, which should increase the efficiency and, hence, the competitiveness of the industry. And like Hungary, Poland has an advantage in raising live animals, which would contribute to the processing of red meat. This commodity classification also ranks fourth among the other RCIs for Poland.

Both Poland and Hungary recently requested GSP treatment with respect to exports of certain types of pork to the United States. In each case, U.S. producers opposed the petition, which would suggest that U.S. producers viewed the meat processors from these countries as viable competitors in the marketplace.

Czechoslovakia, on the other hand, appears to be the least likely of the four countries to export prepared meat products for several reasons. First, meat processors in Czechoslovakia have relatively high production costs, which would make less likely that they would compete against the more efficient producers. And second, labor productivity appears to be relatively poor. These factors may reflect a relative

[321] The data for each country for 1985 to 1989 are reported in appendix D.

[322] This classification includes animals used primarily for food.

[323] This includes all fresh, chilled, frozen, prepared, or preserved meat that is suitable for human consumption.

Table 13
1989 revealed comparative advantage indices, by country

SITC	Commodity	Czech	Bulgaria	Hungary	Poland	Romania
*00—	Live animals	1.13	8.67	7.25	13.09	0.28
*01—	Meat and preparations	2.37	2.39	9.13	4.08	1.68
*02—	Dairy products and eggs	3.13	2.91	1.11	1.94	0.73
03—	Fish and preparations	0.12	2.46	0.07	2.61	0.02
04—	Cereals and preparations	0.93	0.04	1.37	0.16	0.28
*05—	Fruit and vegetables	1.09	3.50	3.05	2.95	0.46
*06—	Sugar and preps honey	0.79	2.15	2.21	2.13	0.36
07—	Coffee tea cocoa spices	0.10	0.40	0.71	0.45	0.01
08—	Animal feeding stuff	0.23	2.97	1.36	0.50	0.00
09—	Misc food preparations	0.43	0.91	3.38	0.09	0.06
*11—	Beverages	0.71	5.58	0.83	0.21	0.43
12—	Tobacco and mfrs	0.01	14.39	0.18	0.22	0.12
21—	Hides, skins, furs undrssd	0.44	0.73	0.40	1.08	0.00
22—	Oil seeds, nuts, kernels	0.17	3.16	2.52	4.50	0.10
23—	Rubber crude, synthetic	1.93	3.23	0.24	1.47	0.29
24—	Wood lumber and cork	4.77	0.86	1.58	2.30	0.70
25—	Pulp and waste paper	4.41	2.62	0.02	0.22	0.00
26—	Textile fibres	0.56	0.95	0.82	0.27	1.76
27—	Crude fertlzr, minrls nes	2.68	0.58	0.51	3.80	0.22
28—	Metalliferous ores, scrap	0.73	0.98	1.22	1.14	0.08
*29—	Crude animal, veg mat nes	0.65	2.67	5.15	2.35	0.53
*32—	Coal, coke, briquettes	5.06	0.02	0.68	15.71	0.00
33—	Petroleum and products	0.77	1.35	0.66	0.31	3.58
34—	Gas natural and manufctd	0.32	0.00	1.33	0.05	0.00
*35—	Electric energy	2.55	2.62	0.00	3.30	0.00
41—	Animal oils and fats	0.84	1.57	5.10	1.43	0.01
42—	Fixed vegetable oil, fat	0.85	0.13	3.14	0.61	0.09
43—	Procesd anml veg oil, etc	1.23	0.09	0.14	1.10	0.03
51—	Chem elements, compounds	1.92	1.39	1.80	1.18	0.66
*52—	Coal, petroleum etc chems	2.08	0.91	2.45	2.39	0.00
53—	Dyes, tanning, colour prod	0.98	0.01	0.23	0.38	0.08
54—	Medicinal etc products	0.42	1.49	1.20	0.07	0.13
55—	Perfume, cleaning etc prd	0.13	1.82	0.25	0.08	0.01
*56—	Fertilizers manufactured	1.00	13.72	3.47	1.84	10.54
57—	Explosives, pyrotech prod	4.58	0.00	2.00	1.33	0.41
58—	Plastic materials etc	1.72	0.60	1.38	0.57	0.36
59—	Chemicals nes	0.58	0.80	0.41	1.71	0.13
61—	Leather, dressed fur, etc	0.37	0.32	3.64	0.59	0.37
62—	Rubber manufactures nes	1.39	0.70	1.59	0.54	0.72
63—	Wood, cork manufactrs nes	1.92	0.24	1.51	1.50	1.57
64—	Paper, paperboard and mfr	0.85	0.13	0.26	0.52	0.50
65—	Textile yarn, fabric etc	2.45	1.14	1.23	0.77	0.78
66—	Nonmetal mineral mfs nes	2.14	0.42	0.75	0.91	1.05
*67—	Iron and steel	3.53	2.55	1.65	1.70	3.78
68—	Non-ferrous metals	0.33	0.63	1.50	2.43	1.82
69—	Metal manufactures nes	0.75	0.32	0.98	1.18	0.63
71—	Machinery, non-electric	0.54	0.49	0.39	0.35	0.17
72—	Electrical machinery	0.32	0.35	0.65	0.41	0.19
73—	Transport equipment	0.29	0.03	0.17	0.35	0.13
81—	Plumbg, heatng, lghtng equ	1.64	0.19	0.91	0.79	0.71
*82—	Furniture	1.87	1.45	1.77	2.95	10.15
83—	Travel goods, handbags	1.92	1.60	1.26	1.06	1.28
*84—	Clothing	1.12	1.94	2.62	2.04	3.45
85—	Footwear	2.22	0.61	1.59	1.43	2.38
86—	Instrmnts, watches, clocks	0.15	0.15	0.14	0.11	0.04
89—	Misc manufctrd goods nes	0.60	0.33	0.35	0.18	0.23
91—	Mail not classed by kind	0.38	0.14	0.13	0.33	0.07
93—	Special transactions	0.50	1.13	0.64	0.48	0.13
94—	Zoo animals, pets	11.73	2.61	11.27	4.03	6.02
95—	War firearms, ammunition	0.87	0.33	0.19	0.10	0.00
96—	Coin nongold, noncurrent	0.60	12.34	2.17	1.69	0.00

Source: Compiled by staff of the U.S. International Trade Commission from official statistics of the OECD, the EC, and the Governments of Canada and Japan.

Table 14
1989 revealed comparative indices, by country

Country	RCI	Commodity
Czechoslovakia	5.06	32 Coal, coke, and briquettes
	4.77	24 Wood, lumber, and cork
	4.58	57 Explosives and pyrotechnic products
	4.41	25 Pulp and waste paper
	3.53	67 Iron and steel
	3.13	02 Dairy products and eggs
	2.68	27 Crude fertilizers and crude minerals
	2.55	35 Electric energy
	2.45	65 Textile yarn, fabrics, made-up articles and related products
	2.37	01 Meat and meat preparations
	2.22	85 Footwear
	2.14	66 Nonmetallic mineral manufactures
	2.08	52 Coal and petroleum chemicals
Bulgaria	14.39	12 Tobacco
	13.72	56 Fertilizers manufactured
	8.67	00 Live animals
	5.58	11 Beverages
	3.50	05 Fruit and vegetables
	3.23	23 Crude rubber
	3.16	22 Oil seeds, oil nuts, and oil kernels
	2.97	08 Animal feeding stuff
	2.91	02 Diary products and eggs
	2.67	29 Crude animal and vegetable materials
	2.62	35 Electric energy
	2.62	25 Pulp and waste paper
	2.55	67 Iron and steel
	2.46	03 Fish and fish preparations
	2.39	01 Meat and meat preparations
	2.15	06 Sugar, sugar preparations, and honey
Hungary	9.13	01 Meat and meat preparations
	7.25	00 Live animals
	5.15	29 Crude animal and vegetable materials
	5.10	41 Animal oils and fats
	3.64	61 Leather, leather manufactures, and dressed furskins
	3.47	56 Fertilizers, manufactured
	3.38	09 Miscellaneous food preparations
	3.14	42 Fixed vegetable oils and fats
	3.05	05 Fruit and vegetables
	2.62	84 Clothing
	2.52	22 Oil seeds, oil nuts, and oil kernels
	2.45	52 Coal and petroleum chemicals
	2.21	06 Sugar, sugar preparations, and honey
	2.00	57 Explosives and pyrotechnic products
Poland	15.71	32 Coal, coke, and briquettes
	13.09	00 Live animals
	4.50	22 Oil seeds, oil nuts, and oil kernels
	4.08	01 Meat and meat preparations
	3.80	27 Crude fertilizers and crude minerals
	3.30	35 Electric energy
	2.95	05 Fruit and vegetables
	2.95	82 Furniture
	2.61	03 Fish and fish preparations
	2.43	68 Non-ferrous metals
	2.39	52 Coal and petroleum chemicals
	2.35	29 Crude animal and vegetable materials
	2.30	24 Wood, lumber, and cork
	2.13	06 Sugar, sugar preparations, and honey
	2.04	84 Clothing

Table continues on next page.

Table 14—Continued
1989 revealed comparative indices, by country

Country	RCI	Commodity
Romania	10.54	56 Fertilizers manufactured
	10.15	82 Furniture
	3.78	67 Iron and steel
	3.58	33 Petroleum and petroleum products
	3.45	84 Clothing
	2.38	85 Footwear

Source: Compiled by staff of the U.S. International Trade Commission from official statistics of the OECD, the EC, and the Governments of Canada and Japan.

scarcity of capital that is necessary for processing meat. In addition, the RCI for meat and meat preparations ranks well below many of the RCIs for the other commodity classifications for Czechoslovakia. On the other hand, Czechoslovakia appears to have a better health and sanitary system than Bulgaria, and in fact has been a larger volume exporter. On balance, however, it is unlikely that meat processing will remain a viable export industry under competitive conditions.

02 Dairy products and eggs

Dairy products and fresh eggs are commodities in which Bulgaria, Czechoslovakia, and Poland appear to have a revealed comparative advantage. However, since milk production and exports of dairy products are subsidized by most countries of the world, including most of the OECD countries with the exception of New Zealand and, to a lesser extent, Australia and Ireland, it seems unlikely that Bulgaria, Czechoslovakia, and Poland could exploit their comparative advantage. In addition, the dairy sector is capital-intensive relative to the other agricultural sectors, and it does not appear that Bulgaria, Czechoslovakia, and Poland have an abundance of the capital resources necessary to make dairy products a likely export industry.

The production of eggs is also capital-intensive and, for this reason it is unlikely that this product will emerge as an export industry. Besides, fresh eggs are relatively costly to transport and to store, which seems to suggest that they are sold primarily for domestic consumption.

05 Fruits and vegetables

These data also indicate that Bulgaria, Hungary, and Poland appear to have a revealed comparative advantage in fruits and vegetables.[324] However, it is likely that the comparative advantage relates to the exportation of fresh fruits and juices, since vegetables can be grown almost anywhere. The source of Bulgaria and Hungary's comparative advantage is probably the temperate climatic conditions that are suitable for certain types of fruit production. Given that climatic conditions are likely to be important, it does not appear that Poland's geographic location would support a comparative advantage in fruits or vegetables.

[324] This classification includes a wide range of fresh and frozen fruits and vegetables, and several types of fruit juices.

29 Crude animal and vegetable materials

Crude animal and vegetable materials are commodities in which Bulgaria, Hungary, and Poland appear to have a revealed comparative advantage.[325] This particular classification includes animal and vegetable parts, cut flowers, gums, and resins, among other things. Gums, resins, cut flowers, and live plants are products that require an intensive use of land, certain natural resources (e.g., rubber trees), and certain climatic conditions that Bulgaria, Hungary, and Poland are unlikely to have. Thus, it seems unlikely that these products will emerge as significant exports.[326]

The data presented in table 13 most likely reflect exports of animal and vegetable parts which seems plausible since Hungary and Poland are likely to have a comparative advantage in certain types of processed meats. Given that animal parts are a by-product in the slaughtering process, exporting these products would be likely for Hungary and Poland.

35 Electric energy

The data also reveal that electric energy is a sector in which Bulgaria, Czechoslovakia, and Poland seem to have a comparative advantage. Poland's comparative advantage would likely be in its indigenous deposits of lignite coal. Since the production of electric energy is relatively energy intensive, an abundant supply of coal would provide Poland with an inexpensive source of fuel. However, for reasons related to environmental protection, the thermal electric power plants must either be shut down or retrofitted, and it is not clear what will happen to production in this country.

Bulgaria and Czechoslovakia, on the other hand, produce the bulk of their power in Chernoybl-style nuclear reactors, and recently Austria has offered to supply Czechoslovakia with electric power if Czechoslovakia would close its nuclear reactor. In addition, some of the electric power that is being "exported" probably involves the retransmission of power across national boundaries for the same reasons that the United States and Canada transmit power across their border. Thus, it seems like any efficiencies

[325] This includes animal or vegetable parts that are used for processing other commodities.

[326] Certain flowers grown only in these countries may be exported to the OECD. However, it is likely that these represent an insignificant part of the total trade in this commodity classification.

gained through the current exchange of electric power will continue, and it is not likely that electric power would be "exported" to many different countries.

56 Fertilizers manufactured

Manufactured fertilizers is a sector in which Bulgaria, Hungary, and Romania appear to have a revealed comparative advantage.[327] Romania's source of its comparative advantage is its endowment of natural gas, which is an essential input used to produce nitrogenous fertilizers. Hungary's advantage most likely reflects the fact that the industry is using modern technology, which perhaps offsets the disadvantage of not having an indigenous source of many of the natural resources used in fertilizer production. These data also indicate that Bulgaria has a revealed comparative advantage in this sector. However, Bulgaria lacks the requisite natural resources to be a player in the marketplace.

Poland's RCI is 1.84, which is low relative to the other countries in this study. However, there is reason to believe that Poland has some export potential in this sector, at least with respect to nitrogenous fertilizers. Poland has a rich endowment of sulfur, which is important in producing the fertilizers. Therefore, it is likely that fertilizers would continue to emerge as an export sector in Poland.

67 Iron and steel

Iron and steel is a commodity classification in which Bulgaria, Czechoslovakia, and Romania seem to have a revealed comparative advantage. The primary source of the comparative advantage these countries have in this sector is the supply of relatively inexpensive energy and iron ore from the Soviet Union. However, the Soviet Union is likely to raise its prices for these raw materials. Moreover, production of steel will require high capital input, which is likely to be scarce. It is not clear, therefore, that these industries will be able to export iron or steel to the OECD on the basis of market-determined prices. Therefore, it seems unlikely that steel or iron ore will be a viable export sector under competitive conditions in the long run.

In terms of the data presented in table 14, the RCI for iron and steel ranks among the highest for Romania and Czechoslovakia, but is relatively low for Bulgaria, which suggests that Bulgaria, given its limited resources, is least likely to become an exporter of steel.

84 Clothing

In table 13, Hungary, Poland, and Romania each appear to have a revealed comparative advantage in clothing, which includes all clothing made from textile or knitted fabric, and fur. Each country has a relative abundance of semi-skilled labor. Since apparel production is labor intensive and labor costs typically account for 50 percent or more of total costs, the abundance of labor is the probable source of each country's comparative advantage in this sector. In addition, the geographic proximity of the major EC market and the potential for "outward processing" arrangements with Western firms are also positive factors. In outward processing, foreign firms provide cut fabric to be assembled in CEE factories and then re-exported, usually to Western markets. Notwithstanding the relatively low ranking for clothing reported in table 14 for each country, the analysis suggests that there is considerable promise for apparel production to emerge as export industries for Hungary, Poland, and Romania.

The data presented in table 13 also reveal that there are several commodity classifications with unusually large RCIs for 1989. These exceptional cases are discussed below.

11 Beverages

Bulgaria has a relatively large RCI for beverages in 1989. This classification includes both alcoholic and nonalcoholic beverages such as beer, wine, lemonade, and flavored waters. Bulgaria is a relatively large exporter of wine, and for good reason. The fertile soil and temperate climatic conditions in Bulgaria are especially conducive to cultivating vineyards. These natural advantages should continue to support Bulgaria's exportation of wine.

32 Coal, coke, and briquettes; 52 coal chemicals and petrochemicals

Czechoslovakia, Hungary, and Poland appear to have a revealed comparative advantage in either coal production or coal and petrochemicals. Poland, however, is the only country that is likely to have such an advantage and only in coal exports.

Poland's comparative advantage is in the production of bituminous or hard coal. The U.S. Department of Energy, for example, has reported that Poland has an estimated 21 billion tons of economically recoverable reserves, and is currently the fifth-largest supplier in the world.[328] Many mines are now beginning to be operated on the basis of their profitability, which means that less efficient mines are being closed. The profit incentive coupled with the relative abundance of this natural resource would suggest that coal is likely to remain an export leader in the world market.

Czechoslovakia and Hungary, in comparison, have relatively small reserves of high-sulfur, low-heat content coal, which is not demanded on the world market. Therefore, these countries are not likely to have a comparative advantage in coal production.[329] In addition, the data in table 14 indicate that this classification ranks well below many of the other

[327] This classification includes nitrogenous, phosphatic, and potassic fertilizers.

[328] Official statistics of the U.S. Department of Energy.

[329] Official statistics of the U.S. Department of Energy.

classifications within each country. This suggests that these countries would be better off to promote other industries that have greater potential to compete in the global marketplace.

82 Furniture

Furniture is the final sector in which several countries appear to have a revealed comparative advantage. The RCI values for Romania (10.15) and for Poland (2.95) are consistent with the relative abundance of forestland in each country. In Romania, for example, almost one-third of the country (approximately 6,337,000 hectares in 1983) is covered with forests, which naturally provides the Romanian furniture industry with an accessible source of relatively inexpensive wood.[330] A major Western furniture company is reportedly involved in manufacturing furniture in Romania for export.[331] Similarly, Poland is endowed with expansive forests, which enhance the export potential of its furniture industry. Thus, the accessible supply of wood in each country suggests that furniture will continue to be a leading export industry in these countries.

Apparel

Prepared by William Warlick

Export potential

CEE apparel producers possess a moderate-to-high potential for boosting exports to the West. Factors that should have a positive effect on export competitiveness for this industry include uniformly low labor costs—especially critical in labor-intensive "cut and sew" processes applied in apparel production, a relatively high degree of technological sophistication in comparison to other low-cost producers around the world, and a demonstrated ability to market a limited range of CEE apparel products in Western markets.

Geographical proximity to major markets in Western Europe and a willingness on the part of Western companies to consider investment and production sharing agreements in CEE should also improve the region's competitiveness *vis a vis* major apparel exporting nations in East and Southeast Asia. Sustained interest by Western apparel firms should ease efforts by CEE producers to modernize manufacturing technology and boost productivity.

CEE producers will have to overcome many obstacles in order to become competitive in mature, low-growth Western markets. One negative feature of the industry is the residual inefficiency brought about by over 40 years of central planning and state control of industrial production. Tremendous waste is still apparent in the use of human and natural resources, particularly in vertically integrated factories incorporating each stage of the textile/apparel manufacturing chain. With the exception of a small but growing segment of the industry that has been privatized—and in some cases purchased by Western companies—productivity remains far below West European and U.S. standards. In major segments of the market like shirt and trouser production, CEE companies still require more labor per unit of output than competing firms in Korea and Hong Kong.[332]

Also, poor product quality standards and inadequate knowledge of Western customers' needs are hindering export development across the CEE region. Finally, infrastructural impediments—long lead times on purchases, inadequate access to top-quality raw materials, and an absence of reliable financing—continue to hurt the competitiveness of the industry.

Industry characteristics

Before analyzing industry characteristics in each of the CEE countries, it is important to place in proper perspective the relative size of these countries as producers and exporters of clothing to the West. Compared to major Asian apparel exporters like Hong Kong, Korea, and Thailand, the CEE countries capture a very small share of European Community and U.S. apparel import markets—as shown in figure 5 at the end of the section and in the table on the following page.

Apparel manufacturers in four of the five CEE countries under review in this study appear to possess significant potential as exporters to the West—at least in some narrowly defined product groups. Based on an initial assessment of the CEE industry and its ties to Western markets, however, it is clear that Bulgaria does not maintain a strong market presence in Western Europe or North America. The transformation of the Bulgarian industry is expected to proceed more slowly than in other CEE countries. An analysis of the Bulgarian industry, therefore, has been omitted from this section of the report. Industry characteristics for Czechoslovakia, Hungary, Poland, and Romania are presented in the sections that follow.

Czechoslovakia.—In 1990 there were 12 firms primarily engaged in apparel production in Czechoslovakia, reflecting a high degree of industry concentration. State-owned firms continue to dominate the market. Apparel industry employment was estimated at 60,000 by government officials in July 1991—only about one-fourth of the size of the textile workforce.[333] Some of the larger Czechoslovak factories employ as many as 7,500 people.[334]

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[330] "Country Profile, Romania" *Economic Intelligence Unit*, 1986-87.

[331] ITC staff interview with Sergio Arzeni, OECD official, Paris, June 17-19, 1991.

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[333] Officials of Centrotex, Czechoslovak state trading firm, interview with USITC staff, Prague, July 12, 1991.

[334] Zdenek Marsicek, "Czechoslovak Privatization," *Textile Asia*, November 1990, p. 16.

Table 15
CEE apparel exports to Western markets

Country	Combined exports to U.S. and EC, 1989	Share of total
	(Millions of dollars)	(In percent)
Bulgaria	42.6	0.1
Czechoslovakia	130.2	.4
Hungary	384.2	1.1
Poland	411.7	1.1
Romania	455.2	1.2
CEE total	1,423.9	3.9
China	4,617.1	12.7
Hong Kong	6,415.3	17.6
Malaysia	887.1	2.4
Mexico	619.4	1.7
Singapore	816.0	2.2
South Korea	5,043.9	13.8
Thailand	1,002.6	2.7
Turkey	2,379.5	6.5

Source: Compiled from United Nations trade data.

Table 16
Czechoslovakia: Apparel industry characteristics

Item	1989
Number of state enterprises	13
Number of employees	43,000
Industrial production (million U.S. dollars)	921
Average hourly wage (U.S. dollars)	1.21
Average hours worked per week	38.2
Labor productivity index (1970=100)	227.2

Source: *Statistical Yearbook of the Czech and Slovak Republic*, 1990.

Historically, this industry has accounted for a significant portion of total manufacturing employment and output. Before World War II, total textile and apparel industry employment was estimated at 360,000, approximately 16 percent of the Czechoslovak labor force.[335] Traditional areas of competitive success in apparel production include the manufacturing of wool suits and coats.[336] These items have typically been the most competitive in Western markets.

Czechoslovak manufacturers of apparel are vulnerable to changes in the price of imported raw material inputs, although Czechoslovakia does possess some expertise in the production of cotton and wool fabrics. Both the cotton and wool fabric sectors are almost entirely dependent on imported raw fibers.[337] The level of technological sophistication in Czechoslovak factories is seen as high by CEE standards, but this seems to be less significant in apparel production than in the more capital-intensive segments of the textile mill industry.

With regard to foreign investment in apparel firms, recent developments in Czechoslovakia have been less striking than in neighboring CEE countries. The amount of outward processing work done for Western companies is lower than in Hungary or Poland. However, enactment of privatization legislation in early 1991 may spur new interest. In 1990 Marzotto of Italy became one of the first Western companies to negotiate a contract in Czechoslovakia, agreeing to modernize an apparel production facility for an estimated $4.3 million.

Hungary.—According to official figures released by the Hungarian Ministry of Industry, the number of enterprises engaged in apparel production stood at 437 in 1990, a sharp increase over the 1989 level of 280.[338] As recently as 1985, official figures placed the number of apparel enterprises at 139. This increase in the number of firms has arisen as part of the government's efforts to encourage the break-up of large-scale, inefficient companies. The average number of workers employed in a Hungarian apparel enterprise fell from 209 in 1989 to 131 in 1990.[339] Employment in apparel

[335] Marsicek, "Czechoslovak Privatization," p. 16.
[336] "Eastern Europe Seen as Threat to U.S. Mills," *Daily News Record*, April 1990.
[337] See *The Fibre and Textile Industries of the U.S.S.R., Eastern Europe and Yugoslavia to 1990*, International Wool Secretariat, Brussels, 1990, p. 14.
[338] *Hungarian Industry and Trade, 1980-1990*, Ministry of Industry and Trade, Budapest, May 1991, p. 42.
[339] Ibid., p. 42.

Table 17
Hungary: Apparel industry characteristics, 1989-90

	1989	1990
Number of enterprises	280	437
Employment (thousands)	58.6	57.3
Production (thousand pieces):		
Men's suits	1,130	726
Men's jackets	872	1,320
Man's trousers	1,524	2,904
Women's coats	1,087	752
Dresses	7,089	5,608

Source: Ministry of Industry and Trade, Budapest, 1991.

manufacturing has shown a steady decline over the last decade. Overall industry employment fell from 77,700 workers in 1980 to 66,100 workers in 1985 and 57,300 in 1990.[340]

Average wages in Hungarian apparel firms exporting to the West have been estimated at $3.00-$3.50 per hour, though industrywide figures are probably much lower.[341] This places Hungary well below many export-oriented apparel manufacturing nations in terms of labor wage rates. Taiwan, for example, had an average hourly wage rate ranging between $4.00 and $5.00 in 1990. However, wages were still higher, in dollar terms, than those in other Asian exporting nations—including China, Indonesia, and Malaysia.[342] In Western-owned apparel factories such as the 200-employee Levi Strauss jeans-making facility in Kiskunhalas, wages are tied to performance and are significantly higher than the national average.

As in Czechoslovakia, enterprises in Hungary have had great difficulty arranging a secure supply of high-quality inputs.[343] Levi Strauss created a profitable apparel facility largely because a steady supply of high-quality denim fabric, purchased in the West through the company's West European headquarters, has been guaranteed for delivery on a timely basis.[344]

Apparel makers in Hungary have fared somewhat better than textile manufacturers in terms of technical modernization. A number of firms are now using modern technology, including electronic sewing machines, laser cutting machines, and pattern-grading equipment. Difficulty obtaining credit or hard currency has forced many Hungarian firms to purchase or lease second-hand equipment.[345] The majority of all equipment in place was purchased from other CEE countries.[346]

In recent years, most sales to the West have been concentrated in cotton and cotton/polyester blend leisurewear, as well as cotton nightwear. Most export business has been conducted in Western Europe, but the U.S. market is also being emphasized.[347]

Since the early 1980s, the level of interest by Western investors in the Hungarian apparel industry has been quite high. The Levi Strauss jeans plant has been operating profitably for more than 10 years. Other Western companies with a presence in Hungary include Lee (jeans) and Adidas (sportswear). German, Austrian, and Italian companies have, up until now, shown the most interest in setting up Hungarian facilities.[348] Recent figures place total foreign investment in apparel at $4.5 million.[349]

Poland.—In early 1991, approximately one-half of the Polish apparel industry was still in state hands (roughly 50 state-owned companies).[350] Most of the remaining state enterprises are very large, multi-plant operations employing more than 1,000 workers in a typical factory. In addition, there are about 300 co-operative enterprises in this industry, and the number of private firms is increasing rapidly. Private firms are usually much smaller—employing fewer than 100 workers per factory on average—and much more specialized in their production. This shift reflects the general pattern of organization and production in most West European clothing companies.[351]

According to official government statistics, employment in the apparel sector totaled 158,000 in 1990.[352] In the aftermath of the financial crisis of the early 1980s, the Polish apparel industry went into a severe downturn. Although output and employment rebounded somewhat through the rest of the decade, rationalization is again underway as part of the broad industrial restructuring program initiated by the Polish government in January 1990. As a result of restructuring, employment can be expected to decline.

[340] Ibid., p. 42.
[341] Denyse C. Selesnick, "Hungary Leads the Way," *International Apparel Sourcing Update*, 1990.
[342] Ibid.
[343] John Elbogen, "Three Roads to Sourcing," *Bobbin*, October 1990, p. 78.
[344] Philip Revzin, "Ventures in Hungary Test Theory that West Can Uplift East Bloc," *Wall Street Journal*, Apr. 5, 1990, p. A1.
[345] Sandor Fulop, "Profile of the Textile Industry in Hungary," *Textile Outlook International*, Economist Intelligence Unit, November 1989, p. 82.
[346] Ibid., p. 72.
[347] "Advent of East European Market," *Japan Textile News*, December 1990, p. 71.
[348] Official of Hungarotex (Hungarian textile trading firm), telephone interview with USITC staff, Mar. 5, 1991.
[349] "Database on Joint Ventures," Economic Commission for Europe, January 1990.
[350] *Polish Textile and Clothing Industry Restructuring Programme*, p. 23.
[351] Ibid.
[352] Ibid.

Table 18
Poland: Apparel industry characteristics, 1989-90

	1989	1990
Number of enterprises	555	(1)
Employment (thousands)	186.3	158.1
Production of suits and overcoats (thousand pieces)	69,700	49,700

[1] Not available.

Source: Data supplied by the Polish Ministry of Foreign Economic Relations, Warsaw.

The Polish apparel industry has been hit particularly hard by the recession in the domestic market and the decline in export business with the Soviet Union, which had historically been a major market for Polish producers. In 1990, production of woven outerwear fell by 33.4 percent from 1989 levels.[353] The downturn in the apparel market reflected a 22-percent decline in consumers' real incomes during 1990.[354] At the same time, retail clothing prices soared by over 700 percent in 1990 following the price liberalization program introduced in January 1990.

Much of the decline in production reflected decreased availability of imported raw materials and intermediate textile inputs. Imports of finished cotton fabrics fell by 45.2 percent in 1990, while imports of woolen fabrics declined by 79.7 percent.[355] Many Polish producers have complained that it is very difficult to purchase high-quality fabrics from abroad without help from a Western partner.

The state-owned segment of the Polish apparel industry is still plagued by overstaffing, poor equipment, and inadequate distribution methods. Over half of the state-owned factories still employed more than 3,000 workers in 1990.[356] State enterprises have been slow in developing contacts with small retail shops, and large inventories of unsold apparel have often resulted from a failure to find buyers. This trend has been accelerated by the collapse of the Soviet export market.

The right to export, however, is no longer enjoyed only by state-owned enterprises. Government allocation of quotas for exports of apparel to the EC and the United States has been expanded to include about 100 co-operative and private firms, compared with 7-10 eligible firms under the old system.[357]

The Polish apparel industry has been identified by some Western observers as the most efficient in the region. Productivity levels in some segments of the industry—men's shirt production, for example—are comparable to those in Hong Kong and Taiwan.[358] Sound management practices and good quality-control procedures have allowed some Polish apparel firms to market their products successfully in the West where style and product quality are especially important.[359]

In all, 63 joint ventures with foreign support had been undertaken in apparel by January 1990. In comparison, only 10 textile joint ventures had been started by early 1990.

Romania.—Apparel production accounted for 4.0 percent of Romania's total industrial output in 1989, up from 3.6 percent in 1980.[360] Official figures on apparel production and employment are provided below.[361] Of the 50 establishments identified as garment producers by the Romanian Ministry of Resources and Industry in 1989, 36 employed more than 2,000 people.[362] One factory in Bucharest had close to 20,000 employees in 1989.

Most apparel production is still carried out in the state-run sector, and prospects for a quick sell-off of state enterprises are not good.[363] In the absence of privatization, it can be expected that most apparel factories in the country will remain grossly overstaffed, with low levels of productivity. As in other CEE countries, moreover, the limited availability of high-quality fabrics for garment construction is a persistent problem that will impede export competitiveness. Hard currency shortages are especially acute in Romania, and access to Western-made yarns and fabrics—as well as technology—is extremely limited.[364] Accordingly, most of the clothing exported from Romania is manufactured from fabrics supplied by Western outward processing trade (OPT) partners.[365] Items typically produced for export to the West in recent years have included suits, jackets, rainwear, and skirts. Wool apparel in particular has been exported to the EC and the United States, due in large part to the ready availability of raw wool and wool fabrics in Romania.

In addition to the problems associated with restructuring, Romania's capacity to export to the United States will certainly be hindered by the absence of most-favored-nation trade relations. U.S. recognition of MFN status for Romania was ended in 1988. High tariffs on some apparel imports into the United States have already reduced the volume of trade

[353] *Polish Foreign Trade in 1990*, Foreign Trade Research Institute, Warsaw, 1991, p. 74.
[354] Ibid., p. 74.
[355] Ibid., p. 74.
[356] Ibid., p. 75.
[357] Ibid., p. 75.
[358] ***
[359] John Elbogen, "Three Roads to Sourcing," p. 78.
[360] *Statistical Yearbook of Romania*, Bucharest, 1990.
[361] Ibid.
[362] Data supplied in Edward Pincheson, "The Textile and Clothing Industry in Romania," *Textile Outlook International*, Economist Intelligence Unit, London, March 1991, p. 20.
[363] U.S. Embassy Economic Officer, interview with USITC staff, Bucharest, June 28, 1991.
[364] Pincheson, p. 20.
[365] Ibid., p. 27.

Table 19
Romania: Apparel industry characteristics, 1988-89

	1988	1989
Index of production (1980=100)	165	170
Share of Romanian industrial output (percent)	3.7	4.0
Apparel production (million lei)	47,163	48,561
Total employment in apparel industry (thousands)	240.2	247.3
Production workers in apparel industry (thousands)	223.8	230.5
Labor productivity index (1980=100)	170	171

Source: *Statistical Yearbook of Romania*, Bucharest, 1990.

with Romania. The U.S. duty on men's and boys' wool suits, for example, increased from 20 percent for MFN partners to 54.5 percent for column 2 source countries.[366] The premium paid on landed goods imported from Romania is jeopardizing the country's status as a leading CEE exporter to the United States. U.S. imports of Romanian apparel have fallen off drastically, from $94.7 million in 1987 to $27.7 million in 1989.[367]

Government policy and nature of management structure

Since the late 1940s, when most CEE apparel firms were nationalized, production has typically been dominated by a relatively small number of very large, vertically integrated state-owned companies. Government control of pricing and distribution generally prevented company managers from making decisions based on economic rationality. Rather, high-volume facilities were favored as a means of promoting centralized state control over purchasing, production, and distribution. Maximization of output—often without regard to cost—was the overriding objective for central planning authorities throughout the region. As a result, production inputs were often used in inefficient ways, and product quality suffered. This bias toward mass production of generic, low-quality apparel is still plaguing CEE plant managers as they try to upgrade quality and improve materials flows to compete in Western markets.

One of the most troublesome features of CEE enterprises in the textile/apparel complex has been administrative top-heaviness. In some cases, white-collar workers still comprise as much as a third of the total enterprise workforce—an extremely high figure given the labor intensive nature of the industry.[368]

In order to roll back the state management system, Western companies operating in the region have placed a great deal of emphasis on improved management techniques and the introduction of incentive systems to boost worker productivity. The Levi Strauss jeans plant in Hungary has designed a program to reward workers with bonuses based on satisfying daily production quotas.[369] In early 1990, each worker in the Levi's plant was expected to make a pair of jeans every 10 minutes. As modern sewing machines are introduced in greater numbers, this rate is expected to increase.

Although privatization of the state-run enterprises is proceeding very slowly in some countries (Romania in particular), substantial rationalization of old production structures has taken place—especially in Poland and Hungary. In some cases, lay-offs of government managers have already taken place in large numbers. Price liberalization programs and a freeing of foreign exchange markets have made it much easier for managers to make rational decisions at each stage of the manufacturing process. In Poland and Hungary, most state price supports for industry have been phased out, and apparel firms are facing the real prospect of failure if profitability cannot be maintained. The residual power of state enterprises appears much greater in Romania and Czechoslovakia, where privatization programs have been slow to unfold.

Adjustment issues

The most serious structural impediment faced by the CEE apparel industry appears to be its almost complete dependence on imported yarn and fabric for the manufacture of export-competitive garments. Throughout the region, apparel producers complain about poor fabric quality and the inability of local fabric producers to supply goods promptly. The bulk of apparel exports are part of outward processing jobs, with West European firms (especially German companies) supplying finished fabric for cutting and sewing in CEE plants. Although natural and manmade fiber fabrics are produced in great quantity in CEE, quality is generally inferior. Particularly in placing orders for nonstandard fabrics of different colors or construction, CEE apparel makers are often forced to wait up to 2 months for delivery. As a result, manufacturers are forced to hold very large fabric stocks, raising overhead costs.[370]

Financial impediments can also be expected to put pressure on firms in this industry during the transition to a market-oriented system. Economic austerity programs, especially far-reaching in Poland, have resulted in a credit squeeze that has made borrowing

[366] Column 2 source countries include Romania and many other members of the now-defunct CMEA.

[367] See section below entitled "Foreign Trade" for a tabular presentation of U.S. imports from CEE sources.

[368] See Revzin, p. A1 and Steven Greenhouse, "In Distressed Poland, A Success Story," *New York Times*, Mar. 5, 1991, p. D1.

[369] Revzin, p. A1.

[370] ***

for capital investment extremely difficult. Even among the surviving profit-making enterprises, cash flow uncertainties caused by the failure of customers to pay debts has often put technical modernization and expansion on hold. Apparel firms in particular stand to lose a great deal as the level of consumer spending contracts.

CEE exporters will be facing considerable competition from East Asian suppliers in major Western markets, where there has been little growth in apparel consumption in recent years. However, established producers in Taiwan, Korea, and Hong Kong are confronted with rising production costs. Some CEE producers, especially those involved in outward processing trade, will probably remain cost competitive with "second-tier" apparel suppliers in Asia—including Malaysia, India, and Sri Lanka.

Foreign trade

The largest, and potentially the most lucrative markets for Central and East European apparel makers are Western Europe and the United States. Poland and Hungary have demonstrated the greatest competitive strength in export markets over the past 5 years, with Czechoslovakia showing less dramatic improvement, and Romania losing some ground (see trade tables at end of section). Poland's exports of apparel items to OECD markets jumped from $187.8 million in 1985 to $433.8 million in 1989, while Hungarian exports rose from $205.5 million to $410.5 million during the same period.

Recent reports suggest that the potential gains for CEE firms selling in export markets are large. As an example, profit margins for Polish apparel companies selling for export are now estimated to be three times larger than margins in the home market.[371] Because CEE consumer spending has been hit hard by economic austerity programs, many firms have shifted their focus abroad.

Both the EC and the United States maintain quantitative restrictions on imports of apparel through quotas administered in accordance with the Multifiber Arrangement (MFA). The impact of quotas on Central and East European exporters is limited, however, since most quotas are consistently underutilized. The United States and the EC have existing bilateral textile agreements with Czechoslovakia, Hungary, and Poland.

For imports from Czechoslovakia, quota utilization rates are very low in the U.S. market. Only men's and boys' wool suits had high fill rates in 1989-90. For the year ending May 31, 1990, 92 percent of the Czechoslovak quota for wool suits was filled.[372] The Czechoslovak bilateral agreement with the United States expires on May 31, 1992.

[371] Greenhouse, "In Distressed Poland, A Success Story," p. D1.

[372] *Performance Report: Textile and Apparel Bilateral Agreements and Unilateral Import Restraints*, U.S. Department of Commerce, 1990.

The state trading company Centrotex continues to play the leading role in Czechoslovak apparel trade. The company still controls about 85-90 percent of all foreign trade in apparel and textiles, but since April 1990—when foreign trade was officially liberalized—private firms have begun to act independently in this area.[373]

Similarly, in the case of Hungary, high quota fill rates have been common for imported men's and boys' wool coats and suits (over 90 percent), women's and girls' wool coats, slacks and shorts, as well as some types of synthetic fiber yarn.[374] The current U.S.-Hungary bilateral agreement expires at the end of 1991.

The bilateral textile agreement between the United States and Poland expires at the end of 1992. Again, with regard to quota utilization, almost all quota categories are unfilled, except for men's and boys' wool coats and suits, in addition to knit fabrics. Strong gains in convertible currency apparel exports were seen in Poland in 1990, according to official figures.[375]

Quantitative EC restrictions on CEE apparel imports appear to be more problematic for CEE exporters. Decisions made by the EC Council of Ministers in late 1990 liberalized quotas modestly on imports from Poland, Hungary, and Czechoslovakia in conjunction with broad efforts by the West to encourage market-oriented reform in these three countries.[376] However, the EC and its three trading partners agreed that the quota increases would be considered "exceptional." Market access for CEE suppliers was expanded for woven fabrics, trousers, blouses, shirts, suits and jackets. Still, some EC quotas on CEE apparel are effectively restricting potentially competitive imports. As an example, quotas on EC imports from Poland—including those for trousers and knitwear—were filled in 1990. At the same time, some EC quotas remain so low that Polish producers are unable to export sufficient quantities to make the business profitable.[377] Many CEE producers still view these quantitative restrictions—especially those administered by the EC—as a serious hindrance to export growth.[378]

Over the last several years, CEE to the EC have in large part consisted of so-called "outwardly processed" items. These are finished products—usually apparel made from Western-supplied fabrics—that are exported to the West under preferential trade rules. Through outward processing, competitive Central and East European apparel makers can get access to secure supplies of high-quality raw materials and intermediate

[373] Officials of Centrotex, interview with USITC staff, Prague, July 12, 1991.

[374] Ibid.

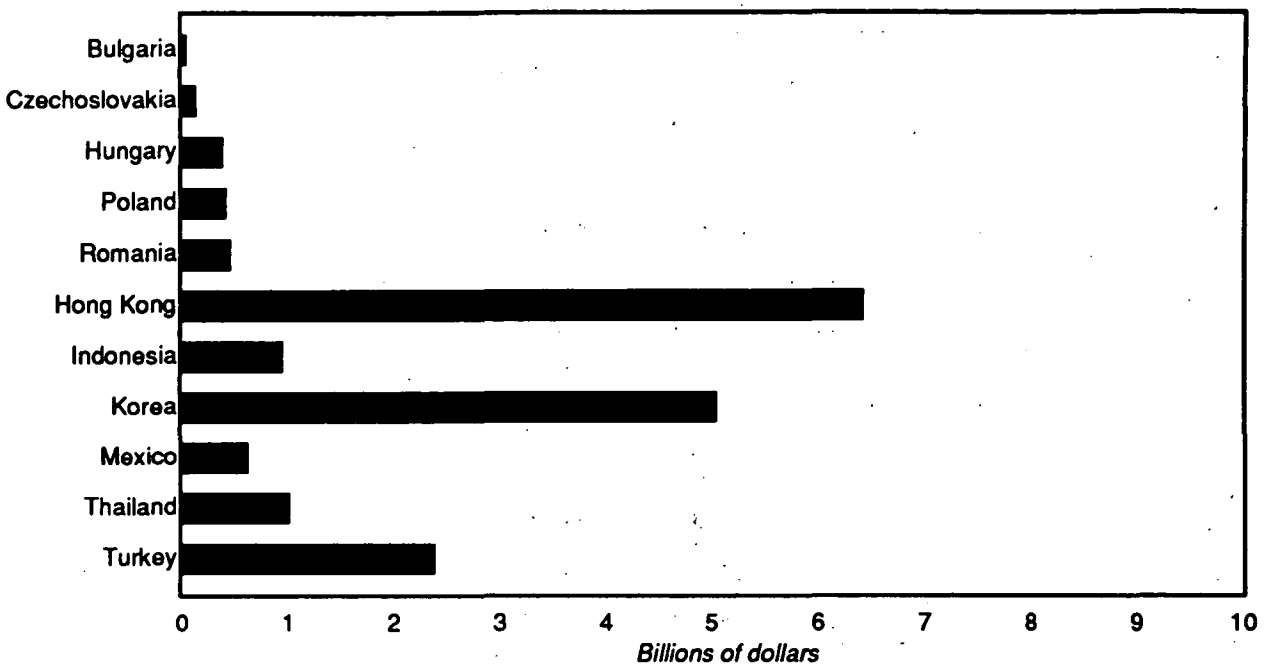
[375] *Polish Foreign Trade in 1990*, Foreign Trade Research Institute, Warsaw, 1991, p. 73.

[376] See *Official Journal of the European Communities*, Brussels, No. L 285, Oct. 17, 1990 and No. L/13, Jan. 18, 1991 for more detail on the adjustment of these quotas.

[377] Conversation with official from the Boston Consulting Group, London, July 25, 1991.

[378] Mr. Janusz Zgorzynski, Polish Ministry of Industry, interview with USITC staff, Warsaw, July 4, 1991.

Figure 5
Apparel exports to EC and U.S., 1989



Source: UN trade data compiled for ISIC category 84 (apparel).

Table 20
Apparel: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	17,755	13,978	22,446	40,498	38,607
Czechoslovakia	4,216	4,060	5,311	6,457	3,957
Hungary	23,531	32,410	41,129	42,679	46,568
Romania	65,630	79,281	94,742	71,998	27,727
Bulgaria	3,944	3,134	3,302	1,055	507
EC imports from—					
Poland	149,928	222,534	294,659	340,313	356,831
Czechoslovakia	73,038	95,411	120,532	115,909	116,162
Hungary	158,696	224,085	285,004	298,597	317,066
Romania	275,842	333,886	401,681	410,347	421,783
Bulgaria	37,962	47,011	50,364	38,711	40,465
Other OECD imports from—					
Poland	20,121	32,483	44,173	33,623	38,317
Czechoslovakia	23,583	27,233	37,203	34,688	36,633
Hungary	23,250	27,633	36,275	33,359	46,816
Romania	20,557	28,331	34,750	29,059	31,330
Bulgaria	8,781	9,046	11,082	10,918	12,470
Total OECD imports from—					
Poland	187,804	268,995	361,278	414,434	433,755
Czechoslovakia	100,837	126,704	163,046	157,054	156,752
Hungary	205,477	284,128	362,408	374,635	410,450
Romania	362,029	441,498	531,173	511,404	480,840
Bulgaria	50,687	59,191	64,748	50,684	53,442

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 21
Apparel: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	34	62	1,009	2,163	354
Czechoslovakia	0	1	1	2	198
Hungary	0	14	0	386	478
Romania	138	170	1,620	13	100
Bulgaria	0	0	0	0	2
EC exports to—					
Poland	21,249	22,890	26,072	38,549	67,259
Czechoslovakia	8,076	9,711	13,182	12,977	9,067
Hungary	29,631	39,451	46,222	46,099	59,611
Romania	18,156	24,530	36,292	38,936	42,725
Bulgaria	3,714	3,456	2,309	7,305	8,197
Other OECD exports to—					
Poland	4,302	5,821	5,140	10,011	29,987
Czechoslovakia	6,111	5,972	6,547	6,429	5,659
Hungary	6,164	9,152	9,518	9,735	18,910
Romania	70	111	383	198	199
Bulgaria	1,696	557	823	2,226	2,445
Total OECD exports to—					
Poland	25,585	28,773	32,221	50,723	97,600
Czechoslovakia	14,187	15,684	19,730	19,408	14,924
Hungary	35,795	48,617	55,740	56,220	78,999
Romania	18,364	24,811	38,295	39,147	43,024
Bulgaria	5,410	4,013	3,132	9,531	10,644

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

goods. Likewise, Western companies can take advantage of low wages in CEE to cut costs in a labor-intensive stage of the manufacturing process—i.e. cutting and sewing of garments.[379] Germany has been the most active participant in outward processing programs. In the mid-1980s outwardly processed apparel accounted for 10 percent of West Germany's total apparel imports. CEE was the principal location for German outward processing—contributing about 80 percent of total outward processing trade volume.[380]

Coal

Prepared by Cynthia B. Foreso

Export potential

Coal from Poland and crude petroleum and natural gas from Romania constitute the only significant CEE energy sources. Coal has been the most dominant energy sector in the region and accounted for about 50-60 percent of primary energy consumption in 1989 and 1990. Poland is the primary CEE coal producer and exporter, accounting for about 35 percent of the regional coal production and 48 percent of the exports.

Poland's coal should continue to be competitive in neighboring CMEA markets because it is easily accessible by railroad and is considered a high-value coal because it is low in sulfur-content and has a high-temperature burning rate. The following tabulation shows future estimates of Poland's exports of coal to CMEA nations, including the Soviet Union (in millions of metric tons):[381]

1991	14.0
1992	15.0
1993	16.0
1994	16.5
1995	17.0
1996	17.6
1997	18.0
1998	17.8
1999	18.1
2000	18.5

However, exports to non-CMEA countries are generally expected to decline. As government price controls on inputs are removed, some mines will have to be closed, even though revenues earned by the coal-mining sector will increase as the price of coal in Poland moves to world market price levels. The supply of coal for export is likely to fall. An additional factor to consider is the high costs of transporting the coal in Poland to the ports from which it is exported.

[379] David Morris and Alan Sowter, "Outward Processing of Apparel: West Germany to Eastern Europe and Yugoslavia," *Textile Outlook International*, Economist Intelligence Unit, July 1987, p. 7.

[380] Ibid., p. 10.

[381] Ocean Shipping Consultants, *East Europe to 2000*, p. 90.

Industry characteristics

Poland is the-fifth largest producer of coal in the world after China, the Soviet Union, the United States, and Germany. World production of hard (bituminous and anthracite) coal is shown in the following tabulation (in millions of metric tons):[382]

Producer	*1988*	*1989*
OECD	1,187.7	1,216.3
Australia	134.6	147.8
United States	783.5	804.8
Non-OECD	2,183.7	2,209.5
Africa	184.9	188.6
South Africa	178.2	180.0
Asia	1,210.5	1,252.0
China	940.5	980.0
USSR	526.4	518.0
Eastern Europe	230.4	213.9
Poland	193.0	177.0
Latin America	31.5	37.0
Total world	3,371.4	3,425.8

Poland supplied approximately 7 percent of total world exports of hard coal in 1989, as shown in the following tabulation (in millions of metric tons):[383]

Exporter	*1988*	*1989*
OECD	229.5	233.4
Canada	31.7	32.7
United States	86.1	91.4
Australia	99.7	98.4
Poland	32.3	28.3
USSR	39.4	39.8
China	14.8	14.7
Colombia	10.7	13.0
South Africa	44.2	46.1
Total world	375.7	381.7

Poland accounts for approximately 85 percent of the total reserves and 83 percent of the total production of bituminous coal in CEE. Poland has extensive bituminous coal deposits in the southwestern districts of Upper and Lower Silesia and in the Lublin Basin in the East. Coal is shipped by rail over approximately 500 miles to port installations for export to non-CMEA nations. Coal is shipped by rail directly to neighboring CMEA nations.

Total coal reserves in Poland are estimated at 132 billion tons.[384] Poland's production of coal remained at approximately 192 million tons during 1984-88 but declined to 178 million metric tons in 1989; the decline is attributed to the political changes and modifications of the workers' shift system (alleviating the Saturday work-day) in Polish mines. In 1990, Poland's production of coal declined to 147.6 million metric tons, or by 16.9 percent. The percent decline in 1990 was twice that in 1989, when coal production fell by 8 percent. This decline reflects the process of restructuring taking place in the industry.

[382] International Energy Agency, *Coal Information 1990*, 1990, p. 63.
[383] Ibid., p. 44.
[384] Official statistics of the U.S. Department of Energy.

Coal is produced in 70 underground mines of which 65 account for 98 percent of total production. State-of-the-art technology developed in the West is used in mining coal. Also, the skill level of the miners is considered high. In 1989, employment in Poland's coal mines was 415,000 workers, of which 280,000 were employed in underground mines. In 1990, employment decreased to 390,000 workers, of which 265,000 were employed in underground mines.[385] Data on wage rates are not available.

The cost of coal production has been heavily financed by the government in order to keep less productive mines open. As part of the industry's restructuring, price supports by the Treasury were reduced in 1990 and totalled 9.5 trillion zlotys equivalent to about $6.7 per ton of coal produced.[386] This represents a drop of 47 percent in the real value of these supports compared with 1989. The aim of the government is to hold the financing at the 1990 level in nominal terms or even reduce it slightly so that its real value will decrease. The restructuring plan calls for the eventual elimination of all such financial assistance.

Coal is very important to Poland's economy internally as a major source of energy. Domestic consumption of coal increased from 157 million metric tons in 1985 to a high of 165 million metric tons in 1987. As a result of decreased production, domestic coal consumption began to decrease in 1988, falling to 120.3 million metric tons in 1990.[387] As a result of low world crude petroleum prices, Poland's consumption of crude petroleum increased by 10-15 percent during the period 1985-89. However, in 1990, consumption of crude petroleum decreased by 13 percent as the Soviet Union failed to fulfill crude petroleum export contracts with Poland. Poland responded by importing a larger share of its petroleum needs from the Middle East, primarily Kuwait and Iraq.[388]

Government policy and nature of management structure

The government structure for administering energy policy in Poland is still evolving. Following the reorganization of the government at the end of 1987, responsibility for energy policy has rested with the Ministry of Industry, subject to general control by the Parliament. On September 30, 1990, the responsibilities of the Union of Hard Coal and the Union of Power and Brown Coal (WEWB) were passed to the Ministry of Industry; the Ministry then

[385] International Energy Agency, *Energy Policies, Poland, 1990 Survey*, 1991, p. 31.
[386] *Energy Policies, Poland, 1990 Survey*, International Energy Agency, Paris, 1991, p. 31.
[387] Ibid.
[388] It is estimated that the embargo on trade with Iraq resulting from the Persian Gulf war cost Poland $285 million because of the failure to receive contracted petroleum in repayment for Iraq's debt to Poland. An additional $1.8 billion loss is projected in 1991 as a result of lost export and service contracts and delayed loan repayments in Iraq, coupled with lost assets and contracts in Kuwait.

established a new Hard Coal Agency based at Katowice in the Upper Silesian coalfield to discharge many of its responsibilities.[389]

Traditionally, the government has controlled energy prices in Poland resulting in little or no domestic incentive to conserve energy. Energy prices paid by industry as well as coal export prices remained "fixed" over the past several decades despite rapid rises in production and labor costs. For example, coal export prices were traditionally set at 5 percent below the world price for U.S. coal exports (c.i.f. Rotterdam and Antwerp) in order to capture and retain market share.[390] Price reforms are being introduced which will allow coal prices to rise. Since mines are in the South, away from port facilities, coal must be shipped by rail to the ports, adding to the cost.[391] As a result, future coal exports could be priced out of the export market.

The Government of Poland has also announced plans to improve its laws governing the environment, thus requiring the implementation of new processes which will result in less pollutants being emitted into the atmosphere. As a result of these new environmental laws, the Government of Poland is negotiating with Western companies to introduce new technologies into Poland's coal industry. Technology areas being negotiated include the introduction of fluidized-bed coal slurry boilers for installation in thermal power plants (common in the West) which will produce more energy with less fuel and far less damage to the environment. Also, Poland is reportedly interested in technology developed in the United States to tap methane (the principle constituent of natural gas) reserves from coal mines which could be used to decrease dependence on imports of natural gas from the Soviet Union.

Adjustment issues

Poland has recently undertaken a restructuring of its coal industry. Labor problems once plagued the industry; however, recent modifications in the worker shift system and other political changes have alleviated much of the unrest. Also in the past, artificially low energy prices and a lack of funds have restricted Poland's ability to modernize the energy sector; forexample, until recently, Poland's domestic coal prices had been maintained at about one-half of the export prices.[392]

The Government of Poland had historically attempted to maintain quantity targets for coal production, with no regard for mining costs. Poland is now committed to reforming its pricing structure, bringing domestic prices to world levels, and has shut down unproductive mines. In 1990, mines were placed on an independent basis; they are now to be evaluated on their profitability.[393] High-cost shafts and mines have been closed and investment scaled back.

Foreign trade

Coal is also important to Poland's economy externally as it is the leading individual item of trade. Poland's coal exports are the nation's most important source of hard currency. Poland's exports of coal have been competitively priced on the world market vis-a-vis other world coal exporters; the government has historically priced exports at 5 percent below U.S. coal export prices. As a result of the decline in production resulting from the restructuring taking place in the industry, exports declined from 43.2 million metric tons in 1984 to 28.9 million metric tons in 1989. Exports fell slightly to 27.9 million metric tons in 1990.[394]

Poland's exports have been equally divided between markets in the Central and Eastern Europe region and markets in Western Europe. The OECD markets have accounted for approximately 50 percent of Poland's total coal exports. Denmark, Austria, and Finland are among Poland's principal markets in Western Europe. Exports to these markets are shipped by sea.

[389] International Energy Agency, *Energy Policies, Poland, 1990 Survey*, 1991, p. 39.
[390] Staff interview with Mr. Robert Ovart, International Energy Agency, OECD, Paris, June 17, 1991.
[391] Ibid.
[392] *East European Energy, U.S. Business Opportunities in and Assistance to Poland's Energy Sector*, U.S. Government Accounting Office, a report to the Chairman, Committee on Energy and Natural Resources, U.S. Senate, May 1991, p. 4.
[393] "Poland's Economic Performance in 1990," *PlanEcon Report*, vol. 7, No. 13-14, Apr. 18, 1991, p. 21.
[394] Ibid., p. 20.

Table 22
Poland: Coal exports

(Million metric tons)

	1986	1987	1988	1989	1990
CMEA:					
Soviet Union	11.7	9.6	11.7	10.0	10.3
Other	4.9	4.0	4.3	3.9	3.9
Non-CMEA:					
OECD	14.5	14.6	13.5	12.2	10.9
Other	3.1	2.6	2.8	2.8	2.8
Total	34.2	30.8	32.3	28.9	27.9

Source: Ocean Shipping Consultants, *East Europe to 2000*, p. 87.

The CMEA nations, including the Soviet Union have accounted for the remaining 50 percent of Poland's exports of coal. The Soviet Union is Poland's largest single coal export market, accounting for an average of 32 percent of total coal exports during 1986-90. In December 1990, an agreement was reached providing for the export of Poland's coal to the Soviet Union. Under the terms of the agreement, coal will be sold to the Soviet Union for hard currency. Although the Soviet Union has been unable to pay hard currency for any coal, credit and barter arrangements are being considered for future coal exports from Poland[395] In order to accommodate Poland's coal exports, the Soviet Union recently completed a railroad link dedicated to the transport of coal between Minsk and Poland's Lublin coal basin.[396]

Poland supplies much of the Central and Eastern European demand for coal, via railroads. Coal exports to Central and Eastern Europe in 1989 are shown in the following tabulation (in millions of metric tons):[397]

Bulgaria	0.02
Czechoslovakia	1.40
East Germany	0.60
Hungary	0.57
Romania	1.36

These nations also import some coal from the Soviet Union, Western Europe, and Australia. As Poland moves to liberalize its foreign trade system along with the objectives of its market-oriented economic reform program, coal exports to all markets (including CMEA nations) will be negotiated based on hard currencies and world level prices. As a result, exports to neighboring CMEA nations could decrease in the short-term.

Coal is expected to remain a cornerstone of Poland's economy in the 1990s. However, its importance could decrease somewhat as a result of the nation's economic reforms coupled with the Government's recent announcement of plans to develop a more balanced energy base, including more imported crude petroleum from nations other than the Soviet Union.

[395] International Energy Agency, *Energy Policies, Poland, 1990 Survey*, 1991, p. 31.
[396] Staff interview with Mr. Robert Ovart, International Energy Agency, OECD, Paris, June 17, 1991.
[397] Ibid, p. 90.

Table 23
Coal: OECD Imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	*1986*	*1987*	*1988*	*1989*
U.S. imports from—					
Poland	0	0	0	0	13
Czechoslovakia	0	0	0	0	0
Hungary	0	0	0	0	0
Romania	0	0	0	0	0
Bulgaria	0	0	0	0	0
EC imports from—					
Poland	549	475	427	399	410
Czechoslovakia	71	88	81	67	72
Hungary	(1)	(1)	(1)	1	2
Romania	8	(1)	0	0	0
Bulgaria	0	7	1	0	0
Other OECD imports from—					
Poland	314	309	282	219	278
Czechoslovakia	69	83	65	62	73
Hungary	(1)	(1)	2	17	17
Romania	0	(1)	(1)	(1)	(1)
Bulgaria	2	(1)	0	0	0
Total OECD imports from—					
Poland	863	784	709	618	688
Czechoslovakia	140	171	146	129	145
Hungary	(1)	(1)	2	18	19
Romania	8	(1)	(1)	(1)	(1)
Bulgaria	2	7	1	0	0

[1] Less than $500,000.

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 24
Coal: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	0	0	0	0	0
Czechoslovakia	0	0	0	0	0
Hungary	0	0	(1)	(1)	0
Romania	54	47	47	66	71
Bulgaria	15	11	0	0	5
EC exports to—					
Poland	3	6	0	(1)	(1)
Czechoslovakia	(1)	(1)	0	(1)	0
Hungary	41	21	3	7	2
Romania	62	28	1	3	(1)
Bulgaria	10	5	0	0	0
Other OECD exports to—					
Poland	0	(1)	0	0	0
Czechoslovakia	0	0	0	0	0
Hungary	5	2	0	0	0
Romania	92	118	122	103	114
Bulgaria	13	10	3	1	0
Total OECD exports to—					
Poland	3	6	0	(1)	(1)
Czechoslovakia	(1)	(1)	0	(1)	0
Hungary	46	23	3	7	2
Romania	154	146	123	106	114
Bulgaria	23	15	3	1	0

[1] Less than $500,000.

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

Copper

Prepared by Linda White

Export potential

Poland is the only CEE country with sufficient reserves of copper ore to become a major exporter. Despite certain strengths in the industry, Poland has little potential for increasing exports without significant capital investment in its copper industry.

Industry strengths include: (1) substantial reserves, the largest in Europe, and the relatively high grade of its copper ore deposits; (2) convenient location of the deposits to an already established rail and waterway shipping network which extends from the ore deposits throughout Europe; (3) high degree of technological skills, particularly compared with those of leading producers in developing countries; and (4) proven ability to effectively compete with other major producers in market-based economies.

Factors that presently hinder Poland's ability to further exploit its copper resources include: (1) decreasing ore concentration and increased depths of the mines will require major new capital investments and will increase mining costs; (2) the current low world prices for copper reduces the expected return on new capital investments, making the infusion of new capital less attractive; and (3) the need to upgrade environmental safeguards in existing mining facilities will divert capital from a potential expansion of the mines.

If Poland is to remain a competitive exporter of copper, it will have to invest in new and sophisticated technologies for deep mining operations. Without such investments, the productivity of its mines will fall. However, the investment decision depends upon the income stream generated by the project, and thus the timing and amount of capital invested will be influenced by copper price levels and volatility. Low world copper prices coupled with uncertain environmental costs, at this point, appear to provide little incentive for potential investors to commit the funds necessary to increase exports.

Industry characteristics

Poland is the only major producer of copper in Central and Eastern Europe. It accounted for about 71 percent of the output in that region during the 1985-1989 period (table 25). The other CEE countries do not have much copper or coal for smelting purposes, both of which would have to be imported from the Soviet Union. The decision by the Soviet Union to virtually eliminate price controls on energy and to convert to trade in hard currencies to improve its economy has worsened this situation.[398] Faced with

[398] "Soviet Energy to Spare," *Mining Journal* (London), vol. 315, No. 8086, Aug. 31, 1990, p. 155.

Table 25
CEE refined copper production

(In thousand of metric tons)

Country	1985	1986	1987	1988	1989	1990
Poland	387.0	388.0	390.2	401.0	390.3	341.6
Czechoslovakia	26.4	26.5	27.7	30.0	26.9	(1)
Hungary	23.0	22.1	23.3	15.3	13.1	(1)
Romania	50.0	44.0	42.0	40.0	48.0	(1)
Bulgaria	73.0	74.0	76.0	78.0	55.8	(1)
Total	559.4	554.6	559.2	564.3	534.1	(1)

[1] Not avilable.

Source: World Metal Statistics Yearbook 1991.

these problems, other CEE countries are unlikely to become significant producers of copper.

Poland's copper ore deposits, discovered in the southwestern part of the country in 1957, are reported to be the largest in Europe[399] and among the largest in the world.[400] Reported ore deposits range in size from an estimated 1.6 billion[401] to 3.1 billion metric tons.[402] Reported copper reserves, or the amount of copper which can be economically recovered from these ore deposits, range in size from an estimated 28 million metric tons[403] to 50 million.[404] Based on estimates of 28 million metric tons of recoverable copper, reserves are estimated to be sufficient for another 40 years at present mining rates.[405] Poland is the sixth largest producer of mined copper ores and concentrates in the world, following Chile, the United States, Canada, Zambia, and Zaire, and accounts for about 4 percent of world production (385,000 metric tons in 1989). Poland is the tenth largest producer of refined copper, accounting for about 4 percent of world production (390,300 metric tons in 1989). In Europe, Poland is the largest producer of mined copper and third largest producer of refined material, ranking after West Germany (prior to unification) and Belgium. (Belgium has no copper mines but relies on imports of copper ores and concentrate for refining purposes.)[406]

Poland exported approximately 25 percent of its refined copper to market economy countries during 1985-1989, mostly to West Germany.[407] Such exports provide a significant amount of hard currency.

Copper production is Poland's second most important mining sector, after coal. From 1985 to 1988, Poland's refined copper production (table 25) increased by about 4 percent to 401,000 metric tons and accounted for 4 percent of global production. However, refined production decreased by 12 percent from 1985 to 341,600 metric tons in 1990. This decline is principally attributed to problems such as labor disturbances and a reduction in the work week for miners.[408]

The Polish copper industry is highly concentrated and vertically integrated with mines, smelters, refineries, and semi-fabricating plant operations coordinated by the state-owned company, Kombinat Gorniczo-Hutnizy Miedzi (KGHM). This company is directed by the Ministry of Metallurgical and Machine Industry.[409] KGHM's main business is the operation of 4 connected underground copper mines, 3 smelters, 3 refineries, and several semifinishing plants in the southwestern part of the country. In addition to copper mining and refining activities, KGHM also operates manufacturing plants of machinery and equipment used in copper mining and refining, a machine repair workshop, an underground mine development division,[410] and a research & development group.[411] In addition to domestic work with difficult mining conditions of copper deposit formations in Poland, KGHM's underground mine development division and its research and development group have developed technical expertise in mine planning, design, and construction, which they market to customers worldwide, including Algeria, Argentina, Bolivia, Colombia, Mexico, Germany, and the U.S.S.R.[412] Such expertise in machinery fabrication and mining strategy might be further developed into viable industries for technology export potential in the future.

Poland's copper industry compares favorably with leading copper producing countries in terms of the quality of its deposits and the anticipated costs per ton produced. Deposits in Poland possess relatively high grade ores, with copper content estimated at 1.9 percent

[399] The World Bank, "Poland: Reform, Adjustment, and Growth," vol. II, December 1987, p. 118.
[400] "Non-Ferrous Metals - Poland's Problems," *Mining Journal* (London), vol. 315, No. 8093, Oct. 19, 1990, p. 305.
[401] Ibid.
[402] "Poland", *Mining Annual Review - 1990*, p. 170.
[403] "Poland", *Mining Annual Review - 1990*, (published by *Mining Journal*, London, June 1990), p. 170.
[404] "Poland", *Mining Annual Review - 1990*, p. 170.
[405] "Non-Ferrous Metals - Poland's Problems," *Mining Journal*, p. 305.
[406] *World Metal Statistics - June 1991*, published by World Bureau of Metal Statistics, vol. 22, No. 6, June 12, 1991, pp. 33 and 46.
[407] Calculated by staff using data from World Metal Statistics Yearbook, 1991.
[408] "Elsewhere in Copper," *Metals Week*, May 20, 1991, p. 6.
[409] The World Bank, "Poland: Reform Adjustment, and Growth," p. 119.
[410] Janusz Dobrzanski, "Polish Copper: Great Reforms, Great Expectations," *Mining Magazine*, April 1991, p. 205.
[411] The World Bank, "Poland: Reform Adjustment, and Growth," p. 119.
[412] "Polish Copper - Increased Reliance on Domestic Equipment and Technology," *Mining Magazine* (March 1981), p. 244.

in 1987[413] (currently reported at 1.5 percent,)[414] comparing favorably with such major copper producers as the United States (0.5 percent), Chile (1.0 percent), and Zambia (2.0 percent); however, the estimated ore grade for Zaire was higher (4.1 percent) during the same year.[415] The industry is also ideally located near rail transportation and a major seaport facility (Szczecin, Poland on the Baltic Sea) to efficiently ship product to western European markets. In addition, the amount of silver by-product in Poland's copper ore, averaging 800-900 tons annually,[416] significantly reduces the total cost of copper production. In 1985, Poland's silver by-product credit amounted to about (in U.S. currency) 15 cents per pound of copper,[417] and compares favorably with by-product credits per pound of copper estimated for the United States (09 cents), Chile (05 cents), Zambia (09 cents), and Zaire (41 cents) in the same year.[418]

While gross production cost comparisons between centrally planned and free-market economies should be regarded with caution because of differences in statistical measurement of cost, World Bank estimates for 1985 indicate costs (in U.S. currency) were 40 cents per pound for Poland,[419] compared with 98 cents per pound for Zaire, 79 cents for the United States, 69 cents for Zambia, and 65 cents for Chile.[420] (Gross production cost estimates do not take into account by-product credit.) These costs compare with an LME annual average copper price for 1985 of 64.3 cents per pound.[421] While most leading producers (especially the United States) have achieved lower unit production costs since 1985,[422] higher unit production costs could occur in Poland's copper industry due to labor strikes associated with market transition and privatization efforts.

The principal disadvantages for the Polish industry are insufficient smelting capacity relative to mine production, low productivity, and the physical conditions of the ore deposit. Polish copper ore mine production exceeds domestic smelting capacity, forcing sales of excess mined copper concentrate to countries with excess smelting capacity. However, foreign exchange earnings from sales of copper concentrate are lower in comparison to sales of higher valued copper products. Productivity appears to be lower than in Western countries; for example, Poland's copper sector employs 24,500 people,[423] while the U.S. industry employs 17,300 people who produce four times as much copper.[424] Moreover, all of Poland's copper ore comes from deep underground mines (over 3,000 feet and increasing), which are more expensive to mine than open pit mines. This is much higher than in other major producing countries. For example, only about 12 percent of copper mine production is from underground mines in the United States.[425] Mining conditions in Poland are difficult because of depth, high temperatures, and ground control problems that increase the likelihood of cave-ins. The latter requires extensive monitoring by sophisticated electronic instrumentation available only from Western countries; funding for such purchases was frozen by Polish authorities in 1986. In addition, expensive drainage is required because of the amount of water in the ore body.[426]

In an effort to attract necessary foreign capital to deal with these problems and facilitate competition in a market-based economy, Polish authorities retained a U.S. management consulting firm, A.T. Kearney Inc., to evaluate KGHM and propose new organizational guidelines and strategy for future industry development.[427] Although details of the study have not been reported, one recommendation provided by the consulting group was to place KHGM operations under a joint-stock or holding company, details of which are discussed below.

Government policy and nature of management structure

Through 1989, Poland's central government exercised direct management control over the copper industry and KGHM by determining investment levels, export goals, and raw materials distribution.[428] KGHM reportedly established production goals to fulfill the government plan. During 1986-1990, two-thirds of the investment programs were funded by KGHM's internally generated cash-flow. The remainder was financed by bank loans which carried a 12 percent interest rate.[429]

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[413] The World Bank, "Poland: Reform Adjustment, and Growth," p. 122.

[414] June Carolyn Erlick, "Debating Battles Rage in Poland Over Copper," *American Metal Market*, Sept. 8, 1989, p. 8.

[415] U.S. Department of the Interior, Bureau of Mines, *An Appraisal of Minerals Availability for 34 Commodities*, Bulletin 692, 1987, p. 82.

[416] June Carolyn Erlick, "Debating Battles Rage in Poland Over Copper," *American Metal Market*, Sept. 8, 1989, p. 8.

[417] The World Bank, "Poland: Reform Adjustment, and Growth," p. 122.

[418] U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, ch. on Copper, vol. I, 1985, p. 351.

[419] The World Bank, "Poland: Reform, Adjustment, and Growth," pp. 121-122.

[420] U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, ch. on Copper, vol. 1, 1985, p. 351.

[421] U.S. Department of the Interior, Bureau of Mines, *Mineral Commodity Summaries, 1989*, summary on Copper, by Janice Jolly and Daniel Edelstein, p. 46.

[422] For 1988, the latest year available, the Bureau of Mines estimated unit production costs dropped to 61 cents for the United States, 39 cents for Chile, and 48 cents for Zaire; the unit cost for Zambia, however, rose to 89 cents. U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, preprint ch. on Copper, 1988, p. 26.

[423] The World Bank, "Poland: Reform, Adjustment, and Growth," p. 120.

[424] U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, preprint ch. on Copper, 1988, p. 5.

[425] U.S. Department of the Interior, Bureau of Mines, *Minerals Facts and Problems*, ch. on Copper (1985), by Janice L. W. Jolly, U.S. Bureau of Mines preprint from Bulletin 675, p. 1.

[426] The World Bank Study, "Poland: Reform, Adjustment, and Growth," p. 121.

[427] Edward Worden, "Polish Company Eyes Privatization," *American Metal Market*, Mar. 20, 1991, p. 1.

[428] Janusz Dobrzanski, "Polish Copper: Great Reforms, Great Expectations," p. 207.

[429] The World Bank Study, "Poland: Reform, Adjustment, and Growth," p. 123.

In preparation for the transition to a market-based economy and the ultimate privatization of the copper industry, the central government has given KGHM management the authority to develop its own business plan, i.e., to determine production levels and direct future investment decisions. This development allows management to determine a more realistic financial requirement for each different business of KHGM, and thus makes it possible to attract an investor for each business rather than trying to find one investor to assume all of the financial obligations of KGHM. KGHM's establishment and control of the Bank Miedziowy S.A. (the Copper Bank, PLC), which reportedly opened in July 1991, will likely facilitate the necessary financial operations of the new KGHM and its partners.[430]

Plans are also reportedly in place to reorganize KGHM into a joint-stock company, either as a holding company or corporation. This type of organization should establish an environment for developing separate business components and afford improved economic integration between capital, labor, and management within each component. When allowed entrepreneurial latitude, these business components may develop economic viability not presently foreseen. The establishment of smaller entrepreneurial businesses should improve response to market conditions, increase commercial sensitivity to developing technologies, and provide faster, more meaningful job creation. This development should facilitate diversity of production and investment in higher valued manufactured products and provide a vehicle for dealing with current levels of employment within the organization (KGHM).[431]

Adjustment issues

Poland's copper industry may be adversely affected by more difficult mining conditions, lack of electronic monitoring instruments, insufficient smelter capacity to process excess copper concentrate production, and reduced copper ore grade from nearly 2 to 1.5 percent in the last 5 years.[432] The latter is of concern to interested investors particularly because despite relatively high grade compared to other world sources, the grade of Poland's copper ore has decreased marginally as mine depths have increased. Thus, the economic advantage of a relatively high ore grade is limited by increases in the cost of mining at deeper levels. Without significant investment in new and sophisticated deep mining technologies, the convergence of marginally decreasing ore concentration and escalating mining costs may make recovery of Polish copper economically unfeasible under the current relatively low world prices. Although all of Poland's exports of excess concentrate have gone to hard currency countries, foreign exchange earnings from such a low valued item are limited.

Whether or not privatization of the Polish copper industry takes place, the copper industry will not be able to attract or qualify for additional capital investment unless world copper prices increase substantially. Currently, international copper prices face downward pressure reflected by the drop to below $1.00 per pound on the New York Commodity Exchange for the first time since January 1990.[433]

Another problem in attracting foreign investment is the industry's need to address environmental problems caused by current smelting practices. While government regulation lags behind world practices for mining operations, recent action by a growing environmental lobby in Poland has resulted in new operating constraints on smelting practices. It is anticipated that restraints on mine tailings, rain water runoff, and disposal of industrial mining chemicals will be developed. Further, heavy metal contamination of workers and related health effects for affected populations will become major considerations in any privatization of the copper industry.

While environmental issues are not disadvantages that directly affect Poland's production capability, they impede the industry's future survival and development. Environmental concerns affect the industry worldwide, but are particularly acute for Eastern Europe. The cumulative degree of environmental degradation and the limited time to address the issue present a significant problem for Poland. Germany, Poland's major hard currency trading partner, strongly supports more stringent environmental controls in Europe and could demand changes at a time when Poland also must upgrade basic production operations.[434] It may be difficult for potential investors and business partners to justify the cost of retrofitting Poland's smelters to meet higher environmental standards when copper prices are dropping and new smelters are proposed for Thailand, Indonesia, Canada, and the United States.[435]

Foreign trade

Foreign trade in copper is important to Poland, providing a substantial employment base and generating hard currency earnings. In 1989, Poland exported an estimated 39 percent (91,000 metric tons) of its refined copper production to market based economies, while its imports of refined copper from market economies are estimated to account for only 0.1 percent (200 metric tons) of apparent consumption in Poland. Major OECD export markets and estimated trade figures for Polish refined copper in 1989 are shown in Table 26.

[430] Janusz Dobrzanski, "Polish Copper: Great Reforms, Great Expectations," p. 207.

[431] Edward Worden, "Poland Copper Mart Stuck in Stalemate," *American Metal Market*, July 15, 1991, p. 6.

[432] June Carolyn Erlick, "Debating Battles Rage in Poland Over Copper," *American Metal Market*, p. 8.

[433] "Copper Fades Despite Squeeze and Strike News," *Mining Journal* (London), May 17, 1991, p. 380.

[434] Edward Worden, "Poland Copper Mart Stuck in Stalemate," *American Metal Market*, p. 6.

[435] Ibid., p. 10.

Table 26
Copper: Polish exports to OECD countries, 1989

Country	Value 1,000 US$	Metric tons	Percent of exports by quantity
West Germany	232,877	70,422	79.7
France	12,344	3,733	4.2
Italy	10,116	3,059	3.5
Sweden	5,373	1,625	1.8
Belgium	5,304	1,604	1.8
Other OECD	26,286	7,951	9.0

Source: Calculated from UN and World Metal Statistics Yearbook 1991 trade data.

These five markets have accounted for the bulk of Poland's refined copper exports from 1985-89, with West Germany consistently receiving the largest portion.

Although trade policy in Poland's centrally planned economy exploited copper to generate foreign currency from market-based economies, recent economic reforms have linked domestic and foreign prices which previously had no historical reference. The privatization efforts of the Government of Poland, if realized, will liberalize trade in copper products and expose the industry to the forces of world demand.

The recent U.S. grant of most-favored-nation status to Poland has reduced impediments to trade development between the countries. Until January 9, 1990, the United States imposed a column 2 tariff rate of 6 percent ad valorem, while the column 1 MFN tariff rate averaged 1 percent ad valorem. Presently, under U.S. GSP benefits, Poland is eligible to ship refined copper free of duty. However, the availability of substantial U.S. capacity for refined copper products is expected to preclude substantial trade between the United States and Poland in the future.

Table 27
Copper: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	0	0	0	1.7	0
Czechoslovakia	0	0	0	0	0
Hungary	0	0	0	0	0
Romania	0	0	0	0	0
Bulgaria	0	0	0	0	0
EC imports from—					
Poland	160.4	155.1	196.4	309.1	265.2
Czechoslovakia	0.7	0.1	0.4	0.6	3.0
Hungary	8.0	6.3	7.4	10.1	19.6
Romania	0.1	0.2	(1)	(1)	0.4
Bulgaria	0.4	0.6	1.9	5.9	1.8
Other OECD imports from—					
Poland	35.7	12.1	11.5	16.4	27.1
Czechoslovakia	(1)	0.1	0	4.0	1.4
Hungary	1.3	1.1	0.1	2.2	2.6
Romania	0	0	0	(1)	0
Bulgaria	0.4	5.6	0.2	0.2	0.6
Total OECD imports from—					
Poland	196.2	167.2	208.0	327.2	292.3
Czechoslovakia	0.7	0.2	0.4	4.6	4.4
Hungary	9.3	7.4	7.5	12.3	22.2
Romania	0.1	0.2	(1)	(1)	0.4
Bulgaria	0.8	6.2	2.1	6.1	2.4

[1] Less than $50,000.

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 28
Copper: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	(1)	0	0	0	0
Czechoslovakia	0	0	0	0	0
Hungary	0	0	0	0	0
Romania	0	0	0	0	0
Bulgaria	0	0	0	0	9.4
EC exports to—					
Poland	(1)	(1)	0.1	0.1	0.4
Czechoslovakia	(1)	0.1	(1)	(1)	0.2
Hungary	8	5.4	6.4	4.8	5.9
Romania	0	1.5	(1)	1.0	0.1
Bulgaria	(1)	(1)	0.1	0.1	0.1
Other OECD exports to—					
Poland	0.1	0.2	0.2	0.1	0.7
Czechoslovakia	0	0	(1)	0	0.1
Hungary	5.0	2.0	5.1	4.7	4.0
Romania	0.1	3.8	2.7	6.4	0
Bulgaria	(1)	0	0	0	3.9
Total OECD exports to—					
Poland	0.1	0.2	0.3	0.3	1.1
Czechoslovakia	(1)	0.1	(1)	(1)	0.3
Hungary	12.9	7.4	11.5	9.5	9.9
Romania	0.1	5.4	2.7	6.9	0.1
Bulgaria	(1)	(1)	0.1	0.1	13.3

[1] Less that $50,000.

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

Fertilizers

Prepared by Cynthia D. Trainor

Export potential

The change from centrally planned economies to privatization with removal of government supports has caused a decline in both indigenous CEE fertilizer production and consumption. It is unclear how the fertilizer industry will be rationalized as a result of privatization of both industry and agriculture. However, there is high potential for continued exports of Polish sulfur, moderate potential for significant exports of nitrogenous fertilizers from Romania and Poland, and some potential for nitrogenous fertilizer exports from Hungary, Czechoslovakia, and Bulgaria. There is little or no export potential for potassic or phosphatic fertilizers from any country in the CEE region.

The fertilizer industry of the CEE region is, on the average, composed of well-established, mature, moderately sized operations. Some facilities are older, inefficient, and highly polluting; some facilities are fairly modern and undergoing process and equipment upgrades. Modernization of some fertilizer plants is planned in certain countries within the CEE region. New technology is actively being sought to replace older, inefficient plant and equipment.

However, the CEE region possesses few domestic sources of fertilizer raw materials. While Poland has abundant sulfur and Romania has natural gas, beyond this, CEE fertilizer production is based on imported raw materials. Since foreign exchange is scarce, much of the raw material/fertilizer trade is based on countertrade and barter arrangements. If CEE firms are allowed to retain export earnings, as currently proposed for several countries, the purchase of raw materials may become less cumbersome and add incentive to exporting.

Industry Characteristics

The global fertilizer industry is structured to include the major nutrients nitrogen (N), phosphorus (P), and potassium (K), and also frequently includes the secondary nutrient sulfur (S). Natural gas is the primary raw material needed to produce ammonia and other downstream nitrogenous fertilizers and accounts for approximately 75 percent of the cost of ammonia production. Phosphate rock is the primary raw material needed to produce phosphatic fertilizers. Potassium chloride (potash) is the basis of all potassic fertilizers. Sulfur is primarily used to produce sulfuric acid, an important intermediate in phosphatic fertilizer production.

Total NPK fertilizer consumption in Central and Eastern European declined slightly from 11.7 million metric tons in 1989 to 11.6 million metric tons in

1990.[436] Total world fertilizer consumption was 144 million metric tons in 1990.[437] Each country in the CEE region has the capacity to produce nitrogenous and phosphatic fertilizers, albeit based almost entirely on imported raw materials.[438] Most of the CEE nitrogenous fertilizer producers import natural gas raw materials from the Soviet Union. Romania has indigenous natural gas supplies yet must also import significant quantities of gas from the Soviet Union. CEE phosphatic fertilizer production is based on phosphate rock imports primarily from Morocco, the Soviet Union, and Jordan. All potassic fertilizer raw material is imported into the region, primarily from Germany and the Soviet Union. In addition, with about 30 percent of the world's sulfur reserves,[439] Poland is the fifth largest producer of sulfur in the world after the United States, Soviet Union, Canada, and China.[440]

There are approximately 40 fertilizer producers within the CEE region covered by this report. The CEE fertilizer producers are moderately sized operations, some aging from reconstruction after World War II; some fairly modern facilities built in the 1970's. Plant expansions are planned in Czechoslovakia and Bulgaria for completion by the mid 1990s and new processing equipment and technology are slated for certain plants in Romania. Poland has two new nitrogen plants slated for start-up in the mid-1990s and is in the midst of an industry modernization program scheduled for completion by the year 2000. However, actual expansion so far is limited and without additional new plants and equipment CEE fertilizer capacity will remain limited. Given the nature of production processes and the fact that one product is a raw material for other downstream products, there is a fairly high degree of vertical and horizontal integration among producers, with all nutrients frequently produced at one location. Staffing levels and labor costs tend to be rather high in the CEE fertilizer industry, yet output often does not achieve plant rated potential for a variety of reasons. The recent attempts at conversion to market economies have made more state-of-the-art technology available to a technically skilled workforce.

[436] "Where Will the East European Dice Land?," *Fertilizer International*, No. 296 (April 1991), p. 25.
[437] International Fertilizer Industry Association (IFA) estimates.
[438] "East Europe Report: Chemical Industry," *Chemical & Engineering News*, v. 68, No. 20, May 14, 1990, pp. 15-39.
[439] Ibid. p. 18.
[440] David E. Morse, U.S. Bureau of Mines, *1989 Minerals Yearbook: Sulfur*, p. 15.

Domestic CEE consumption of fertilizers has declined since 1989 due to removal of government price supports. CEE fertilizer production has correspondingly declined, due partially to lack of available foreign exchange to purchase relatively high cost market price raw materials and needed spare parts for processing equipment. Significant export markets for CEE fertilizers, primarily nitrogenous, are China, the EC, and the Middle East. CEE fertilizer products are of comparable quality and priced to be competitive on the world market.

Bulgaria.—Bulgaria has four main fertilizer complexes.[441] Nitrogenous fertilizers are produced at all sites and phosphatic fertilizers at two sites.[442] Bulgaria is self-sufficient in nitrogenous fertilizers and exports the surplus. However, Bulgaria has limited capacity to produce phosphatic fertilizers and is dependent on Morocco, Tunisia, and Jordan for imports of needed phosphate rock raw materials. Bulgaria is dependent on the USSR for single super phosphate, and all potassic and micronutrient fertilizers.[443] In general, Bulgarian fertilizer consumption declined from 1985 to 1989 and exports rose correspondingly. Bulgarian fertilizer exports are handled by Chimimport, the state trading company.[444]

Czechoslovakia.—Czechoslovakia has eight fertilizer plants and produces mainly nitrogenous fertilizers but also produces some phosphatic and compound products. Czechoslovakia is also heavily dependent on imported Soviet raw materials for its fertilizer production; nonetheless, the country is working to build up its domestic production in this sector and is the only country in the CEE region where fertilizer production did not decrease during 1989-90.[445] The Lovosice fertilizer plant in northern Bohemia expanded recently, however, much of the expansion replaces older capacity so overall additional capacity is minor.[446] Czechoslovakia is seeking to lessen its dependence on the USSR for natural gas

[441] *Chemical and Engineering News*, May 14, 1990, p. 20.
[442] *Fertilizer Manufacturers World Directory*, 7th ed., The British Sulphur Corporation, Ltd., 1990, pp. 19.
[443] *Bulgaria: Crisis and transition to a Market Economy* (vol. II) (World Bank: Country Department IV; Europe, Middle East, and North Africa Region, Jan. 23, 1991), p. 75.
[444] "Chimimport Regains Control in Bulgaria," *Fertilizer Week*, vol. 5 No. 1, May 27, 1991, p. 2.
[445] *Chemical and Engineering News*, p. 16.
[446] "Czechoslovakia: Expansion at Lovosice," *Nitrogen*, No. 189, (January-February 1991), p. 8.

Table 29
CEE Nitrogen Fertilizer Production (100 percent active)
(In thousands of metric tons)

	1980	1985	1988
Czechoslovakia	618	526	596
Hungary	649	684	556
Poland	1,290	1,254	1,622
Romania	1,707	2,197	2,315
Bulgaria	730	838	948

Source: *Chemical and Engineering News*, p. 22.

supplies by transforming the state-owned Transgas into a joint stock company, owned by the Czech and Slovak republics. Part of the pipeline may be privatized and sold to foreign investors to raise capital to fund new pipeline investments. By doing this, the Czechoslovak government hopes eventually to set up links with pipelines in western Europe.[447]

Although Czechoslovakia was a large consumer of fertilizers under central planning, consumption of fertilizers may decline as a result of privatization. This decline may lead to overcapacity and an excess of fertilizer products available for export. However, this depends on raw materials availability and integration into international export market structures.[448]

Hungary.—The Hungarian chemical industry is the nation's second largest industrial sector after mechanical engineering. Fertilizers account for 11 percent of overall industry output. Hungary has six major fertilizer complexes throughout the country. Nitrogen fertilizers are produced at Varpalota, Kazincbarcika, and Leninvaros; phosphate and NPK mixtures at Peremarton, Szolnok, and Budapest.[449] The Hungarian fertilizer industry was reconstructed after World War II, added to and modernized in the late 1960s, and saw new state-of-the-art capacity added between 1971 and 1975.

Hungarian fertilizer production declined last year, as home-market demand continued to stagnate. Hungarian nitrogenous fertilizer production totalled approximately 1.2 million metric tons during 1990, down 17 percent from approximately 1.4 million metric tons during 1989. Hungarian phosphatic fertilizer production also fell almost 34 percent from approximately 213,000 metric tons during 1989 to 140,900 metric tons during 1990. Hungary also imports all three fertilizer nutrients. A long term import agreement for urea with the Soviet Union expired in 1990. The combination of nitrogenous imports and domestic production became more than Hungarian agriculture could absorb, therefore, a substantial volume of nitrogenous fertilizers is exported from Hungary each year. Phosphatic fertilizer production capacity is below that required by agriculture, therefore phosphates are regularly imported as well as domestically produced. Hungarian potassic fertilizer requirements are met entirely through imports which decreased about 20 percent from 98,300 metric tons during 1989 to 79,500 metric tons during 1990.[450]

Removal of price supports, with a consequent increase in domestic prices, and introduction of hard currency payments for raw materials and imported finished fertilizers, are expected to cause a decline in domestic Hungarian fertilizer consumption of about 20 percent for 1991. This lower consumption is expected to affect mainly P and K nutrients as 1990 nitrogen application rates were already close to the minimum requirement. However, once the question of agricultural land ownership is settled, Hungarian fertilizer consumption should improve once again in 1992.[451]

The Hungarian fertilizer industry is controlled by the Government, but with the removal of government supports and movement toward a market economy, outside private investment is now being sought. Despite the 1990 production declines, two of Hungary's producers, Nitrokemia and Pet, were reported to be profitable during 1990. Pet was sold to a consortium that includes private ownership (Techtrade) and Nitrokemia management has proposed a series of joint ventures with western capital.[452]

Fertilizer exports, which are the most important chemical product in Hungarian foreign trade, totalled 797,000 metric tons in 1988. The export structure is favorable and the quality of products manufactured in Hungary corresponds to the leading international products. In 1988 the largest export markets for Hungarian fertilizers were Germany, France, UK, Yugoslavia, Austria, Finland, and China.

Poland.—Poland can be self-sufficient for nitrogen and phosphorus fertilizer production. The production capacity of its five nitrogen fertilizer plants is about 1,600 metric tons per year and the production capacity of the nine Polish phosphatic fertilizer plants is about 1,000 metric tons per year. All potassium fertilizers are imported into Poland partly from the USSR and partly from the eastern part of Germany. Poland imports all

[447] "Czechoslovakia to Set Up Extra Crude Oil Sources," *European Chemical News*, Feb. 25, 1991.
[448] USITC staff meeting with Ivan Angelis, Director, Foreign Trade Research Institute, Thursday, July 11, 1991.
[449] *Chemical and Engineering News*, p. 19-20.
[450] USITC staff meeting with Mr. Janos Sandor of ICF Chem-Consult, and various officials of Tiszamenti Vegyimuvek, Hungary, May 14, 1990, at the 59th IFA Annual Conference, London, UK.
[451] "Hungary: Consumption to Fall Further," *Fertilizer International*, No. 297 (May 1991), p. 18.
[452] *Fertilizer International*, p. 27.

Table 30
Hungary: Production of N, P, and K fertilizers, 1989 and 1990
(In thousands of metric tons nutrient)

	N		P		K[1]	
	1989	1990	1989	1990	1989	1990
Production	1,401	1,158	213	141	98	80

[1] All potassic fertilizer data is based on imports.

Source: USITC staff meeting with Janos Sandor, ICF Chem-Consult, Budapest, Hungary, May 14, 1991, at the 59th IFA Annual Conference, London, UK.

phosphate rock and almost 90 percent of natural gas raw materials for this fertilizer production. On the other hand, Poland is the world's largest producer of native mined sulfur, and ranks fifth in rated production capacity for sulfur in all forms behind the United States, the USSR, Canada, and China.[453] Poland is the main supplier of sulfur to the other CEE countries as well as to the Western republics of the USSR and is a major exporter of sulphur[454] to France, Germany, the United Kingdom, Morocco, and Tunisia, Jordan, India, and Brazil.[455]

The Polish fertilizer industry is concentrated in the Skopanic, Krakow-Katowice, Wroclaw, and Gdansk areas[456] with production facilities at Tarnow, Kedzierzyn, Pulawy, Police, and Wloclawek. All Polish producers reported financial losses on their fertilizer production last year.[457] The majority of the Polish fertilizer industry's output consists of simple single-component nitrogenous and phosphatic fertilizers, with some ammonium phosphates, and NPK mixtures. Recently, liquid multicomponent, micronutrient-containing fertilizers have been developed to be used for foliar application. Until 1989, the actual production of nitrogenous and phosphatic fertilizers roughly corresponded to the production capacity of the fertilizer plants and nearly the whole amount was consumed domestically by Polish agriculture. In 1990, fertilizer production was far below the industry's potential, and in addition, almost 30 percent of nitrogenous fertilizer production and 45 percent of phosphatic fertilizer production were exported, while potassic fertilizer imports were almost cut in half.[458]

While export levels were high during 1990, the picture can be somewhat misleading. At times during 1990 fertilizer production at Pulawy and Police was at only about 20-30 percent of capacity because supplies of natural gas were diverted for domestic heating use. The cold weather also caused disruption of port shipments of exports, prompting producers to declare "force majeure" on fertilizer exports for a time during February 1990.[459] Doubts are beginning to surface about the ability of Polish fertilizer producers to maintain the high level of exports seen in 1990. Experts tend to disagree on the level of Polish fertilizer exports in the future. Some forecast that the production and export levels will be maintained through cost accounting procedures which would allow some government underwriting of losses.[460] Others predict that high costs of production combined with the end of state supports may mean the Poles will be unable to sell cheaply enough to compete in world markets in the future.[461]

Until 1988, the Polish Government set domestic fertilizer prices at levels substantially below world levels. In 1989/90, prices were increased and in 1990 reached market levels. As a result, prices nearly tripled and sales declined. However, a so-called "preferential credit" given by the banks to farmers to purchase fertilizers remains available. The credit is extended for a period from planting to harvest at a set interest rate. The increase in fertilizer prices brought about a substantial worsening of the fertilizer/grain price relationship and had an adverse effect on the returns from fertilization. As a result, fertilizer consumption declined, and this decline is expected to decrease crop yields.[462]

By the year 2000, Poland is expected to complete a fertilizer industry modernization program at existing plants and construction of two new urea units, one at Pulawy (start up scheduled before 1995) and Wloclawek (scheduled to be completed after 1995). This additional domestic capacity could allow Polish nitrogenous fertilizer exports to expand. Overall, Western Europe is Poland's most important marketing area for its finished nitrogenous and phosphatic fertilizer exports with Germany the largest single export market.[463]

[453] David E. Morse, "Sulfur: 1989," *Minerals Yearbook* (Bureau of Mines, October 1990), p. 15-16.
[454] Marius Fotyma, "Outlook of the Fertilizer Situation in Poland," paper given at 59th IFA Annual Conference, London, UK, May 15, 1991, p. 6.
[455] Final Sulphur and sulphuric acid statistics 1989 (Revised), International Fertilizer Industry Association (IFA), p. 4-5.
[456] Patricia L. Layman and Earl V. Anderson, "East Europe Report: Chemical Industry," *Chemical and Engineering News*, vol. 68, No. 20, May 14, 1990, p. 16.
[457] *Fertilizer International*, p. 26.
[458] Fotyma, p. 6.
[459] "Poland: Producers Declare "Force Majeure"," *Nitrogen*, No. 190, March-April 1991, p. 7.
[460] "Poland: Exports to be Maintained," *Fertilizer International*, No. 296, Apr. 1991, p. 9.
[461] "Polish Exports Likely to be Scaled Back," *Fertilizer Week*, vol. 4, No. 50, May 13, 1991, p. 1.
[462] Ibid., p. 5.
[463] Malgorzata Siedlecka, "The Polish Fertilizer Industry - CIECH and its Role," *Fertilizer Focus*, June 1990, p. 40-42.

Table 31
Poland: Production, consumption, and exports of N, P, and K fertilizers, 1989 and 1990
(In thousands of metric tons nutrient)

	N		P		K[1]	
	1989	1990	1989	1990	1989	1990
Production	1,576	1,232	946	473	949	461
Consumption	1,477	668	924	337	949	461
Exports	99	564	22	136	-	-

[1] All potassic fertilizer data is based on imports.

Source: USITC staff meeting with Janos Sandor, ICF Chem-Consult, Budapest, Hungary, May 14, 1991, at the 59th IFA Annual Conference, London, UK.

Romania.—Romania has ten fertilizer plants—6 nitrogenous, 3 phosphatic, and 1 potassic—and can be self-sufficient in finished fertilizer product production.[464] Romania is the only country in the CEE region that has indigenous supplies of natural gas needed for nitrogenous fertilizer production. However the gas supply is limited and must be supplemented by additional gas supplies, primarily from the USSR. All Romanian phosphatic and potassic fertilizer production is based on imported sulfur, phosphate rock, and muriate of potash. Romania imports basic fertilizer raw materials such as sulfur from Poland, phosphate rock from Morocco, the USSR, and Jordan, and potash from the eastern part of Germany and the USSR. Due to restricted capital availability, much of these imports are obtained through barter agreements under which Romania exports fertilizers in exchange for fertilizer raw materials (for example, urea ammonium nitrate solutions in return for natural gas, or diammonium phosphate in return for sulfur).[465]

The Romanian fertilizer industry is concentrated in Borzesti in the Northeast, Craiova and Ploiesti in the South, and Midia-Navodari and Arad in the West.[466] The Arad plant has been idle for some time and will not re-open in the near future due to the closed gas supply line from Transylvania and high gas consumption per metric ton of urea produced.[467] Of the remaining facilities, some are operating at reduced capacity, some with equipment difficulties, and some are operating at full capacity. Reportedly the industry lacks sufficient raw materials and spare parts due to a shortage of capital.[468]

Romania produces a full range of both simple and complex nitrogenous, phosphatic, and potassic fertilizers. Besides meeting its domestic needs, Romania has been a major exporter (amounts comparable to domestic consumption of about 700,000 metric tons nutrient) of nitrogenous fertilizers (such as urea and ammonium nitrate) and also exports finished phosphatic and compound fertilizers.[469] Until 1989, fertilizer exports were expanded to help service foreign debt. After the 1989 revolution, fertilizer production fell substantially, and Romania several times declared force majeure on certain fertilizer exports in order to meet domestic needs for fertilizers.

Much of Romanian fertilizer plant management changed after the revolution. From 1989 onward, the scarcity of raw materials, reduced domestic consumption after privatization of agricultural output, and production cutbacks have adversely affected fertilizer industry employment. Experienced managers chose to separate from direct employment within the fertilizer industry because of labor problems. These managers then maintain their higher salary level by in turn consulting to the industry. These situations have resulted in higher costs for fertilizer production and consequently higher prices charged to consumers.[470]

Until 1989, the Romanian fertilizer enterprises were state owned and production and marketing were centrally planned. Since 1989, a number of the fertilizer production facilities have operated semi-autonomously—as privately owned but with limited state supervision. Every company is a share-holder company owned by the state with set wages. The state-owned trading agency Chimica, is being reorganized into a limited company with shares floated in Romania in due course and foreign competition encouraged. The new company with be called Romfertchim.[471]

Since April 1991, Romania has negotiated numerous barter agreements with companies in Germany, Thailand, the United Kingdom, and the United States to obtain raw materials and return finished fertilizer products. With these co-operative agreements, fertilizer production has increased monthly and capacity use has increased. However, with the onset of cold weather it is expected that scarce natural gas raw materials will be reallocated from fertilizer production to power generation for heat and hot water. This situation is expected to ameliorate sometime in the near future as Romanian power plants are first changed to liquid fuel, then some will further change to coal, while adhering to international pollution requirements.[472]

Production of certain fibers, caustic soda, and dyes has already been halted due to high pollution levels and lack of adequate pollution-control equipment. Romania recently has begun to modernize fertilizer technology but efforts have been slowed due to a lack of foreign exchange to purchase western technology and equipment. However, the Romanian government gives considerable latitude to plants to administer their own money for improvements or upgrades in technology. Several ammonia and urea plants have been shut down for a few months to be retrofitted to use Kellog process technology from Topsoe in Germany. Romania requires export invoices to be paid directly to the producing plants in 50 percent free currency and 50 percent Romanian leis if the monies are to be used for plant upgrades or new technology.[473]

Government policy and nature of management structure

The fertilizer industry of CEE remains primarily state-owned, and prices have only recently begun to approximate world prices. Until recently, fertilizer trading companies within the CEE region were entirely state-owned, but efforts are underway to achieve some privatization and set up joint ventures with the West.

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[464] USITC staff telephone conversation with Mr. Dimitru Ionescu of ICEC, Aug. 7, 1991.
[465] Ibid.
[466] *Chemical and Engineering News*, May 14, 1990, p. 16-17.
[467] Ionescu.
[468] Ibid.
[469] *Fertilizer Manufacturers World Directory*, 7th ed., The British Sulphur Corporation, Ltd., 1990, pp. 129-131.
[470] Ionescu.
[471] "Romania: Chimicia to Restructure," *Fertilizer International* No. 294, February 1991, p. 16.
[472] Ionescu.
[473] Ibid.

Adjustment issues

Many inefficient and outdated plants, equipment and technology are structural industry impediments that are slowly being addressed. With the exceptions of Polish sulfur and Romanian natural gas, lack of mineable phosphate rock or potash deposits, and lack of indigenous sources of natural gas within the CEE region impedes the fertilizer industry through dependency on imported raw materials. Lack of foreign exchange or readily convertible currency impedes purchase of raw materials, spare parts, processing equipment, technology upgrades, or new technology. Seasoned management, in many cases, has opted to leave direct employment within the fertilizer industry due to production and labor problems for higher salaried positions as consultants to the industry. Therefore, newer management teams now control a significant portion of the industry. Transport is inadequate in terms of methods and organization. Great quantities of fertilizers are transported within these countries, or from factories to ports, in railway cars which are not adapted for carrying fertilizer products. This may result in product impurities and lumps, and discharge techniques may damage the railcars.[474]

[474] "Fertilizer Inspection in Eastern Europe," *Fertilizer Focus*, November 1990, p. 40.

Foreign trade

Prior to recent price increases, the domestic and export prices charged by producers in many CEE countries were below the world averages. In 1986, the Ad Hoc Committee of Domestic Nitrogen Producers filed petitions with the U.S. Department of Commerce and U.S. International Trade Commission alleging that urea from East Germany, Romania, and the Soviet Union was being imported into the United States at less than fair value (dumped) and that a U.S. industry was materially injured or threatened with material injury by reason of such imports. The Department of Commerce determined that urea from East Germany, Romania, and the USSR was being sold in the United States at LTFV. In July 1987, the USITC determined that an industry in the United States was materially injured by reason of imports of urea from the former East Germany, Romania, and the USSR that were found by Commerce to be sold in the United States at LTFV.[475] As a result, a cash deposit or bond in the estimated weighted-average margin percentage of 90.71 percent of the customs value is required for imports of urea from Romania (44.80 percent for the former East Germany, and 66.28 percent for Soyuzpromexport, 53.23 percent for Phibro, and 64.93 percent for all other U.S. imports of urea from the USSR).

[475] USITC, *Urea from the German Democratic Republic, Romania, and the Union of Soviet Socialist Republics*, (investigation Nos. 731-TA-338 through 340), USITC publication 1992, July 1987.

Table 32
Fertilizers: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	18.5	13.1	12.5	12.0	19.2
Czechoslovakia	16.7	11.6	4.3	(1)	3.3
Hungary	1.8	1.2	6.3	1.6	5.3
Romania	7.5	5.1	6.0	1.0	3.0
Bulgaria	1.7	3.4	2.4	(1)	(1)
EC exports to—					
Poland	(1)	(1)	(1)	(1)	(1)
Czechoslovakia	3.6	1.2	.5	2.8	(1)
Hungary	.5	.5	.8	(1)	(1)
Romania	(1)	1.1	(1)	1.0	.5
Bulgaria	(1)	(1)	(1)	(1)	(1)
Other OECD exports to—					
Poland	6.9	2.1	3.8	7.1	10.8
Czechoslovakia	6.0	6.4	6.9	20.1	26.6
Hungary	4.1	3.5	4.5	3.8	3.8
Romania	13.5	5.6	9.4	7.6	7.3
Bulgaria	2.6	3.3	1.4	3.7	(1)
Total OECD exports to—					
Poland	25.4	15.2	14.6	19.1	30.0
Czechoslovakia	23.3	19.2	11.7	22.9	30.3
Hungary	6.4	5.2	11.6	5.7	9.4
Romania	21.4	11.8	15.8	9.6	10.8
Bulgaria	4.6	6.7	3.9	3.8	(1)

[1] Less than $50,000.

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

Table 33
Fertilizers: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	(1)	(1)	(1)	(1)	(1)
Czechoslovakia	(1)	(1)	(1)	(1)	(1)
Hungary	(1)	(1)	(1)	(1)	(1)
Romania	44.7	37.6	.5	(1)	11.4
Bulgaria	(1)	1.4	4.1	7.6	12.2
EC imports from—					
Poland	139.5	113.7	93.2	86.7	86.4
Czechoslovakia	.5	(1)	1.2	1.6	1.9
Hungary	.5	.6	1.6	2.0	3.8
Romania	1.7	2.5	(1)	(1)	(1)
Bulgaria	(2)	(2)	(2)	(2)	(2)
Other OECD imports from—					
Poland	25.9	23.2	26.0	13.7	23.6
Czechoslovakia	5.7	2.4	1.9	5.8	6.0
Hungary	12.4	12.8	10.9	21.0	24.8
Romania	3.6	9.6	30.3	37.9	26.1
Bulgaria	(1)	(1)	(1)	.5	(1)
Total OECD imports from—					
Poland	165.5	136.9	119.3	100.4	110.2
Czechoslovakia	6.2	2.8	3.1	7.4	7.9
Hungary	12.9	13.4	12.5	23.0	28.6
Romania	50.0	49.7	31.2	38.0	37.6
Bulgaria	(1)	1.4	4.1	8.1	12.3

[1] Less than $50,000.
[2] Not available.

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

All fertilizers enter the United States duty free (except for any applicable antidumping duty or other special duty). However, most countries impose moderate duties on their fertilizer imports, primarily to protect domestic fertilizer industry output.

Fertilizer exports from the CEE region are mostly nitrogenous fertilizers directed primarily to markets in South America, North Africa, and the Middle East. In addition, a significant amount of Polish sulfur and nitrogenous fertilizers are exported to the EC. Market share of Polish fertilizer exports to the EC declined irregularly from 84 percent in 1985 to 78 percent in 1989.

The International Fertilizer Industry Association (IFA) estimates that world fertilizer consumption fell by nearly 1 percent in 1990, to 144.3 million metric tons nutrient, compared with 145.0 million metric tons in the previous year. IFA attributed this decline mainly to the fall in consumption in the Soviet Union, where fertilizer usage is estimated to have fallen from 27.2 million metric tons nutrient in 1989 to 24.5 million tons in 1990 - a decline of nearly 10 percent. For 1991, IFA predicts a further fall of 3 percent, as world fertilizer consumption is expected to decline to 139.7 million metric tons nutrient. In 1991, the CEE countries are expected to reinforce the continued decline in Soviet demand.[476]

IFA predicts that fertilizer consumption will recover in due course in the CEE countries, but may take some time in the Soviet Union. Because little growth is expected in the developed countries of North America and Western Europe, IFA forecasts limit the rate of increase in world fertilizer consumption to around 1 percent per year during the next five years. Over the next ten years, assuming a recovery in CEE fertilizer consumption, the average rate of growth may be slightly higher, at perhaps 1.3 percent per year.[477]

Meat

Prepared by David E. Ludwick

Export potential

Overall, it appears that the CEE countries have moderate potential to increase exports of meat (beef, veal, pork, lamb, mutton, and goat meat) during the next 5 years. A significant increase in meat exports is unlikely in the short term because of a general lack of infrastructure and investment funds. However, in the longer term (10 years or so), given certain capital improvements, the export potential could be high, especially in regard to Poland and to a lesser extent Hungary and Czechoslovakia.

[476] "East European Dice," p. 25.
[477] Ibid.

In general, the capital investment needed to expand production and exports is believed to be relatively small for this sector (especially livestock production) compared with sectors such as heavy industry. CEE countries could expand meat production by allocating more land to the production of livestock and/or grain used to feed livestock. In addition, livestock production efficiencies could be improved by increasing the protein content of animal feed.[478] Also, the CEE countries might purchase raw materials (live animals or fresh meat for processing) from the EC or possibly other suppliers to expand production of processed meat.

The CEE countries have a long history of livestock and meat production and meat exports indicating that they have an experienced labor and management force. Some CEE products (e.g., Polish hams) have a reputation for high quality and have developed consumer preferences and brand loyalties in certain markets.[479] Among CEE member countries, at least Poland appears to have the capacity to expand production of processed meat with existing facilities. Capacity utilization at Polish meat plants approved by the U.S. Department of Agriculture for processing of meat shipped to the United States, was 70 percent in 1988 and 65 percent in 1989.[480] Also, 10 large Polish Government-owned slaughter houses are authorized to export meat to the EC and as of mid-1991 were reportedly operating at 60 to 80 percent of capacity.[481]

There are a number of factors that apparently will work to restrict CEE exports of meat. CEE exports must compete with domestic production in most markets and with exports from many other very competitive (e.g., EC, United States, Australia, etc.) suppliers. Sanitary regulations in importing countries and perceived environmental problems in CEE countries may also have a negative effect on exports. Relatively high per capita meat consumption in most CEE countries and a possible future increase in demand for higher quality meats and meat products could also adversely affect the quantity of meat available for export. In addition, many important markets have import restrictions on meat. For example, the EC's Common Agricultural Policy (CAP), which among other things provides for a minimum import price and variable import levies on agricultural products generally, has the effect of minimizing meat imports. Also, to the extent that the CAP contributes to EC meat exports it may limit CEE exports.[482] Trade and industry sources report that although modern meat processing facilities exist in the CEE countries, many facilities and much equipment is outmoded.

Industry characteristics

The CEE countries have a long tradition of being meat exporters. At least since the end of World War II, many of the CEE countries have shipped significant quantities of meat to the USSR. Poland has exported canned hams to the United States since the 1920s although there have been interruptions in such exports.[483] In recent years CEE exports of meat to the United States have amounted to about $150 million annually. Trade and industry sources report that the CEE has well established distribution networks and trade contacts in many markets, including the United States. While the CEE countries have traditionally been significant meat producers (table 34) and meat exporters, the share of production exported in 1990 ranged from 2 percent for Bulgaria to 16 percent for Hungary, implying that physical supplies are not an immediate constraint to exports (table 35).

In general, foreign investment in the CEE meat-processing sector appears to be small. A U.S. company, Epstein Engineering Export (US) is involved in a joint venture in meat processing with Animex Export-Import in Poland. The joint venture includes a loan of $16.4 million, of which $14.6 million was guaranteed by the Export-Import Bank on July 1, 1991.

Meat exports for further processing from CEE countries may benefit where brand identification is thought to be less important than price. According to the Animex petition for GSP treatment, Romanian and Hungarian hams typically undersell U.S., Danish, Polish, and Yugoslavian hams in the United States.[484] Some CEE meat products are used by restaurants and

[478] In the CEE countries livestock feeds consist primarily of grain and sometimes potatoes. These feeds typically contain about 12-percent protein or less, by weight, whereas an ideal animal feed ration contains about 16-percent protein. The protein content of animal feeds can be increased by the addition of supplements, such as soybean meal, which is about 44-percent protein. In a large part of the CEE countries, the growing season is too short for the raising of many of the major crops, such as soybeans, from which protein concentrates are made. Also, the CEE countries have lacked sufficient hard currencies to purchase protein concentrates on the world market.

[479] Statement in opposition to GSP treatment for certain pork submitted to the USTR by the National Pork Producers Council, (NPPC) Oct. 17, 1990, p. 2 "It is beyond dispute that Polish canned ham is at least equal to U.S. canned ham. Polish canned ham, like Polish sausage, has name recognition that connotes quality. Animex rightfully boasts that Polish canned hams are "a high quality product manufactured with the application of traditional methods dating several decades back... distinguished by their special taste and flavor."

[480] A petition for GSP treatment for certain pork was filed by Animex Export-Import Limited, Poland ("Animex") on May 31, 1990. On Apr. 25, 1991, the USTR announced that hams and cuts thereof, boned and cooked and packed in airtight containers (HTS subheading 1602.41.20), shoulders, and cuts thereof, boned and cooked and packed in airtight containers (HTS subheading 1602.42.20) (canned hams and shoulders) and other pork, boned and cooked and packed in airtight containers (HTS subheading 1602.49.20) were to become eligible for GSP treatment May 1, 1991. The Polish petitioner estimated that exports of the subject pork to the United States would increase 10 percent if GSP treatment were granted.

[481] Interview by ITC staff with M. Malgorzata Ellert, Ministry of Agriculture and Food Economy, Department of Food Processing at Warsaw, Poland, on July 5, 1991.

[482] For an explanation of the implications of the CAP for trade in pork and live swine see *The Competitive Position of U.S. and European Community Pork in the United States and Third Country Markets*, USITC publication 1794, December 1985.

[483] Polish exports of "family size" (2, 3, 5, or 7 pounds) hams and shoulders to the United States accounted for 21.7 percent of the total ham and shoulder exports to the United States during 1989 and 17.4 percent during the first half of 1990 as reported in the Animex petition to USTR.

[484] Animex petition, p. 10.

Table 34
Meat:[1] Production in Poland, Czechoslovakia, Hungary, Romania, Bulgaria, the EC, the United States, and the USSR, 1986-90

(1,000 metric tons, carcass-weight equivalent)

	1986	1987	1988	1989	1990[2]
Poland	2,633	2,603	2,653	2,621	2,641
Czechoslovakia	1,326	1,311	1,399	1,458	1,370
Hungary	1,079	1,183	1,083	1,191	1,036
Romania	1,102	1,203	1,130	882	902
Bulgaria	710	646	624	638	636
Total CEE	6,850	6,946	6,889	6,790	6,585
EC	20,472	21,180	21,283	20,984	21,788
United States	17,824	17,546	17,546	18,146	17,595
USSR	14,799	15,517	15,893	16,500	16,500

[1] Beef, veal, pork, lamb, mutton, and goat meat.
[2] Preliminary.

Source: USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991.

Table 35
Meat:[1] CEE and U.S. trade balance, imports as a share of apparent consumption, and exports as a share of production, 1990[2]

Country	Trade balance (carcass wt. equivalent)	Imports as a share of apparent consumption	Exports as a share of apparent consumption
	(1,000 metric tons)	(Percent)	
Bulgaria	11	(3)	2
Czechoslovakia	68	2	7
Hungary	153	(4)	16
Poland	80	(4)	4
Romania	(225)	22	3
United States	(1,460)	8	3

[1] Beef, veal, pork, lamb, mutton, and goat meat.
[2] Preliminary.
[3] Negligible or nil.
[4] Less than 0.5 percent.

Source: USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991.

delis as parts of meals or to make sandwiches and some large volume (16-21 pound) canned hams are sliced and repackaged in retail size (4, 6, or 8 ounce) containers. Consequently, the retail consumer of meat that has been further processed is probably unaware of the country of origin of the product consumed.

Another important consideration regarding CEE export potential relates to raw material supply. It is possible CEE countries may have access to ample raw materials (live animals and fresh, chilled, or frozen meat) for processing, as well as grain for animal feed, in part because of the CAP. The CAP appears to contribute to a chronic over production of agricultural products in the EC, including meat. Indeed, in 1990 Poland imported 110,000 swine (mostly from Germany) and 17,400 tons of pork (mostly frozen carcasses) from Germany.[485] In addition to access to imports, the CEE countries are important producers of grain for animal feed; Poland also grows significant quantities of potatoes, a basic feed for swine in that country.

Perhaps the best potential for CEE countries is to increase exports of pork. Most of the beef produced in the CEE is better suited for manufacturing into food products than it is for table beef. Manufacturing quality beef is produced in, and exported from, many other parts of the world, including the EC. The world export market for veal, lamb, mutton, and goat meat is rather limited.

Some concern has been expressed about environmental problems in the CEE countries as a result of inadequate controls over the last 40 years.[486] The concern is with pesticide, insecticide, and heavy metals residues that could work its way into the meat through animal feeds or through meat processing.

[485] USDA, FAS, *Livestock Semi-Annual Report* (PL1003), Feb. 1, 1991, pp. 7 and 9.

[486] USDA FAS *Livestock Annual* (CZ0009), June 13, 1990, p. 2.

Some problems have been detected in Czechoslovakia. Reportedly, nitrates are the major problem, but other contaminates such as cadmium, PCB, lead, and mercury are also finding their way into the food chain. There is some concern that, with widespread publicity about environmental problems, consumers will avoid agricultural products from the CEE countries.

Poland.[487]—The livestock sector is extremely important to Polish agriculture; it provides about half of the value of agricultural production and exports, uses 70 percent of all domestically produced grains, and is the main source of cash income for 1.2 million small-volume farmers. Poland has been the leading meat producer among CEE countries with production averaging about 2.6 million metric tons annually during 1986-90 (table 34). Poland was the third leading CEE exporter during 1985-89 and became the second leading in 1990, following Romania's export restraints. Polish exports fluctuated, increasing from 80,000 tons (metric) in 1985 to 131,000 tons in 1986 before declining to 102,000 tons in 1990 (table 36). Exports were equal to 4 percent of consumption in 1990 and imports were equivalent to less than 0.5 percent of consumption (table 35).

The Polish livestock sector consists of state farms and cooperatives, about 1.2 million small farms (less than 5 hectares with 1 or 2 milk cows and 1 or 2 sows) and about 800,000 medium-sized private farms (5 to 10 hectares with 5 to 20 milk cows or 5 to 10 sows). Many livestock producers on private farms are part-time operators. The small and medium-size farms account for most of the country's livestock production. As of December 31, 1989, over 70 percent of the swine in Poland were owned by private farmers[488] and an estimated 60 percent of the Polish sheep are raised on private farms. About 80 percent of the beef produced in Poland is derived from dairy cows that are slaughtered when they are too old to be efficient in the production of milk.

The animals on the small farms are almost exclusively raised on feeds grown on the farms (grains, forages, and potatoes) and receive little or no protein supplement. In part, as a consequence of the feed they receive, animals, especially swine, and the meat derived from them, are not as lean as demanded by the world market. Excess fat must be removed by trimming, reducing efficiency. The Polish grading system apparently contributes to the problem by not penalizing overfinished animals.

Poland's small farms have some inherent disadvantages. Because the farms are such small-volume producers and income generators they cannot support or justify investment in modern production facilities. Also, because farmers are so dependent on income from livestock, they are conservative and reluctant to adopt new practices. Consolidation of the small farms appears unlikely as long as the unemployment rate is high; many operators are part- time farmers, and see their farms as potential employers of last resort and potentially their sole source of support. The medium-size farms generally have skilled management, high-quality animals, and rather good machinery and equipment. The conservative Polish system implies that there will be an assured supply of animals for slaughter in the foreseeable future. However, those farmers that maintain dairy cows have suffered from declining milk prices (associated with a drop in consumer income) and a reduction in a Government incentive for consumers of dairy products. Declining profits could result in farmers selling their dairy cattle for slaughter, causing a temporary surplus of beef. The state farms and cooperatives generally have high outputs per animal, but such outputs often reflect high levels of input and are not necessarily economically efficient.

[487] Adapted from *An Agricultural Strategy for Poland*, report of the Polish European Community World Bank Task Force, July 1990, annex 20, except as noted.

[488] USDA FAS *Livestock 1990 Annual for Poland* (PL0035), Aug. 1, 1990 p. 13.

Table 36
Meat:[1] Exports from Poland, Hungary, Czechoslovakia, Romania, Bulgaria, CEE total, and the United States, 1985-90

(1,000 metric tons, carcass weight equivalent)

	Poland	*Hungary*	*Czecho-slovakia*	*Romania*	*Bulgaria*	*CEE total*	*United States*
1985	80	222	98	265	34	699	210
1986	122	175	88	280	43	708	279
1987	120	170	73	310	17	698	327
1988	131	172	78	305	18	704	402
1989	121	184	93	330	13	741	583
1990[2]	102	170	93	25	11	401	565

[1] Beef, veal, pork, lamb, mutton, and goat meat.
[2] Preliminary.

Source: USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991 for 1986-89 and USDA, FAS "World Livestock Situation" (FL&P 2-90), March 1990 for 1985.

In 1989, the Government withdrew payments made to farmers for the purchases of feed concentrates. Consequently, purchases at medium-size private farms declined and the farmers resorted to preparation of homemade concentrates. Large-sized farms did not have the option of reducing purchases and small-size farms have traditionally not used concentrates. The situation was more serious for state farms that are dependent on purchased feed.

There appears to have been little change in export-oriented meat plants in Poland in recent years; almost all plants that are currently exporting have been exporters for many years and few new plants have entered into exporting. In recent years wage rates (at least nominal rates) have risen sharply for packing house workers, quadrupling from 1988 to 1989.[489] Wages for Polish workers are lower than those in Hungary and Czechoslovakia, but higher than those in Romania and Bulgaria.[490] Total employment in the meat-packing sector averages about 90,000. In general, the Polish meat-packing sector appears to benefit from having a skilled, competitively priced work force. However, Poland's export-oriented meat-processing plants have been criticized for being too specialized, inflexible, and outdated, using equipment that is at least 15 years old.

Hungary.[491]—Among CEE countries, Hungary is the third-leading meat producer, after Poland and Czechoslovakia. During 1986-90 meat production fluctuated from 1.1 million metric tons to 1.2 million metric tons (table 34). During 1985-90 Hungarian exports declined irregularly from 222,000 metric tons in 1985 to 170,000 metric tons in 1990 (table 36). Hungary was the second- leading exporter during 1985-89 and became the leader in 1990, following Romania's food export restrictions. Exports were equivalent to 16 percent of consumption in 1990 and imports accounted for less than 0.5 percent of consumption (table 35).

The Hungarian livestock-meat sector is characterized by a mix of large-volume state livestock farms and cooperatives and meat-processing facilities, small-volume private farms and meat-processing facilities, and home-use livestock production and processing. However, the trend appears to be away from the state and cooperative facilities and toward private, market-oriented production, and reduced Government involvement. It was recently reported that 53 percent of Hungarian swine was raised by large-scale state farms and cooperatives and 47 percent by small-volume subsistence and part-time farmers.[492]

Czechoslovakia.[493]—Livestock and meat production have traditionally been an important part of Czechoslovakian agriculture. In 1989, for example, livestock production accounted for about 58 percent of total gross agricultural production. Czechoslovakia has been the second-leading meat producer among CEE countries with production rising irregularly from 1.3 million metric tons in 1985 to 1.4 million in 1990 (table 34). During 1985-90 Czechoslovakian exports ranged from 98,000 metric tons (1985) to 73,000 metric tons (1987); in 1989 and 1990 exports were 93,000 metric tons (table 36).

The Czechoslovakian livestock-meat sector has been domestically oriented. During 1985-89 Czechoslovakia's meat exports exceeded only Bulgaria's among the CEE countries included in this study. Meat exports were equivalent to 7 percent of consumption in 1990 and imports accounted for 2 percent (table 35). The Czechoslovak Government has had a goal of self-sufficiency in all areas, including meat production. The policy is to export only after the domestic market is satisfied. However, that policy is currently being revised.

The quantity and quality of feed supplies in Czechoslovakia are barely adequate to maintain the Czechoslovakian livestock population. Domestic feeds are protein-deficient and could be improved through the importation of protein supplements. The Czechoslovakian livestock-meat sector also reportedly suffers from inadequate cattle inventories, high production costs, poor labor productivity, and other problems. Foreign trade is hampered by a lack of foreign exchange, the allocation of convertible currency, the policy of self sufficiency, and the monopolistic structure of the foreign trade organizations. However, Czechoslovakian trade officials contend that there is a large market potential for Bohemian (Czechoslovakian) hams in the United States. Until recent years the Government has had a near monopoly in the livestock-meat sector; however, as described the next section of this report, there has been some recent movement to privatization.

One industry source[494] indicated that "Czechoslovakia's export markets will be affected by the country's competitiveness in the evolving free-market environment. The elimination of agricultural controls, the uncertainty of exchange rates and domestic demand will all affect Czechoslovakia's meat exports. Its modest exports of canned hams to the United States are likely to continue. Barter arrangements are likely to develop with the U.S.S.R. with meat products exchanged for energy supplies.[495] Export of beef and pork to Western Europe is likely to continue." Another source indicated that EC quotas restrict Czechoslovakia's exports of beef to 800 tons but that Czechoslovakia could ship three times that amount.[496]

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[489] Animex petition.

[490] Interview by ITC staff with Wlodzimierz Drozdz, Deputy Managing Director, Animex, at Warsaw, Poland, on July 8, 1991.

[491] Adapted from USDA FAS *Livestock Annual* (HU0024), July 16, 1990.

[492] USDA FAS *Livestock, Annual* (HU1028), July 31, 1991, p. 1.

[493] Adapted from CZ0009.

[494] Communication from the New York Commodities Corporation, received July 18, 1991.

[495] At an interview by ITC staff with Czechoslovakian Government officials, Prague, Czechoslovakia, July 12, 1991, it was reported that a new agreement with the USSR will barter Czechoslovak meat and butter for Soviet oil.

[496] Interview by ITC staff with Czechoslovakian Government officials, Prague, Czechoslovakia, July 12, 1991.

Romania.[497]—During 1985-89 Romania was the leading meat exporter among CEE countries with exports increasing from 265,000 metric tons in 1985 to 330,000 tons in 1989; however, exports fell to 25,000 metric tons in 1990 (table 36) following restrictions on food exports. Meat exports were equivalent to 3 percent of consumption in 1990 and imports accounted for 22 percent (table 35). Meat production in Romania fluctuated, increasing from 1.1 million metric tons in 1985 to 1,203 million tons in 1987 before declining to 902,000 tons in 1990 (table 34).

In Romania as in Hungary, the livestock sector is characterized by a mix of large-volume state livestock farms and cooperatives and small-volume private farms with the trend appearing to be away from the state and cooperative facilities and toward private, market oriented production, and reduced Government involvement. In 1989 about 17 percent of the cattle were owned by the state, 48 percent were owned by cooperatives, and 34 percent were privately owned. In the same year, about 50 percent of swine was owned by the state, 18 percent by the cooperatives, and 32 percent by private individuals. Sheep have traditionally been one of the more independent sectors in Romanian agriculture, with at least 50 percent of the total privately owned. However, in Romania the marketing of meat is the responsibility of Government agencies, and there is no indication that there are private meat-packing or -processing plants. Also, the Romanian feed industry remains under Government control.

Romanian livestock production has been hampered by insufficient and low quality feed, including much feed that is moldy because of inadequate drying and storage facilities. Moldy feed has reduced nutritional value and is thought to be associated with some animal diseases. Also, forage lands in Romania have suffered from neglect and overgrazing. In recent years, some forage lands were converted to lands used for grain and fiber production, some went unseeded, and others received little or no fertilizer. The recent liberalized international trade policy should allow imports of higher quality animal feed that could contribute to improved animal agriculture in Romania.

Bulgaria.—Among the CEE countries Bulgaria was the smallest volume meat producer and exporter. Meat production in Bulgaria declined irregularly from 710,000 metric tons in 1986 to 636,000 tons in 1990 (table 34). During the period, Bulgarian exports declined irregularly from 34,000 metric tons in 1985 to 11,000 metric tons in 1990 (table 36). The Bulgarian livestock-meat sector is domestically oriented. Meat exports were equivalent to 2 percent of consumption in 1990 and imports accounted for less than 0.5 percent (table 35).

[497] Adapted from USDA FAS *Livestock Annual — Romania* (RO0021) Aug. 15, 1990.

Government policy and nature of management structure

Poland.[498]—With the introduction of reforms in recent years, Government direct control of agriculture has been decreasing. The Government monopoly on meat trade was abolished on August 1, 1989. However, marketing and processing continue to be dominated by Government industries that are better equipped to carry out procurement, processing, and retail sales. Price controls were partially lifted on August 1, 1989, and in October 1989 Government incentives for agricultural products were partially withdrawn. Until January 1, 1990, livestock marketing and slaughtering was a monopoly of a state trading company, Animex. That company has reportedly become a limited liability stock company and will be 100-percent privatized by September-October 1991. The State owns 35 percent of the stock and suppliers (meat producers) own the rest. Trade was estimated to be valued at $600 million in 1990; estimates for 1991 are $500 million. The firm is diversifying into areas other than trade and has bought 60 percent of a plant making sausage and bacon.[499] In February 1991 it was reported that state companies accounted for 75 percent of cattle procurement but that in 1990 state procurement was 9-percent lower than in 1989, reflecting a growth in private sales.[500] About 40 percent of the sheep sold in Poland is procured by the state. In 1990, 75 percent of beef trade was accounted for by state-owned meat stores. State procurement of swine dropped by 23 percent in 1990 in comparison with 1989. It is estimated that about 50 to 60 percent of swine is procured by state agencies and the rest purchased by private firms. State firms account for about 60 percent of Poland's exports of pork products. With declining Government involvement, swine production has become relatively more profitable than cattle raising.[501]

Meat processing is carried out in 72 state-owned meat plants. These plants account for 90 percent of livestock slaughter, 60 percent of sausage production, and 90 percent of meat for export (100 percent of canned hams).[502] The remainder is carried out in small scale cooperatives and private plants. State meat plants are reported to be generally equipped with old machinery and in need of modernization. Most private and cooperative meat plants started to operate in 1990 after liberalization of the meat trade.

The withdrawal of Government payments for feed concentrates in 1989 caused a sharp increase in feed prices. Consequently, demand declined and farmers started to prepare homemade concentrates. There is a

[498] Adapted from PL0035, except as noted.

[499] Interview by ITC staff with Wlodzimierz Drozdz, Deputy Managing Director, Animex-Export Import Ltd., Warsaw, Poland, on July 8, 1991.

[500] PL1003, p. 3.

[501] *Agricultural Strategy for Poland*, p. 296.

[502] These statistics apparently include Animex, which as noted earlier, is now partially state owned.

shortage of high-protein concentrates that farmers mix with their grains.

In early 1990, about 100 new private firms were established to export live animals and meat from Poland. The Government's policy is to entirely demonopolize the internal meat trade by creating small local slaughterhouses and processing plants which could supply local markets.[503]

Hungary.[504]—Hungary appears to be moving toward a more market-oriented, privately owned and operated agricultural sector. Since January 1991, agricultural producer prices have been set by market forces. Also, the consumer price system has been fully liberalized. The liberalized consumer price system apparently resulted in sharp increases in food prices: 32 percent for meat and 42 percent for dairy products in 1990, and a decline in the quantities of meat and dairy products purchased. By 1991, direct Government production incentives were reported to have been practically terminated. However, the Government continues to provide investment and export incentives.

Notwithstanding the movement toward a market economy, in January 1991, the Government of Hungary established an agricultural policy agency called the Coordinating Committee for Agricultural Market Regulations (CCAMR). The CCAMR handles all Government trade, fiscal, and production measures including export incentives and domestic market interventions. Although the activities of CCAMR are said to be limited by a tight budget, during the first half of 1991, the CCAMR was reported to have provided increased export incentives for dairy products, frozen chicken, and pork. The movement to a privately owned and operated food-processing sector has been gradual. About 74 percent of the food processing is accounted for by large-scale state companies and another 25 percent is from agricultural and consumer cooperatives and farms; only 1 percent is accounted for by private firms. Only a few food-processing firms have even begun to privatize and the privatization of milk, wine, meat processing, and the canning industries is proving to be difficult.

It was recently reported that the Government of Hungary is providing tax incentives for livestock production. Part (40 percent) of the amount invested in livestock production, and 50 percent of the interest on loans for such investments, can be deducted from income taxes. Also, 50-percent cost sharing is being provided by the Government for facilities for cleaning waste water and for building access roads related to livestock production.[505] It was also reported that Government export incentives, after being reduced in the summer of 1990, were increased in 1991 for exports to markets where convertible currencies are earned. Effective January 18, 1991, deboned pork cuts receive an incentive equal to 25 percent of the value of the exports; an additional 10-percent incentive is available for pork derived from swine weighing more than 150 kilograms if the pork is exported by October 31, 1991. Bone-in pork and other pork products receive incentives of 20 percent, and are eligible for the aforementioned 10-percent bonus. Notwithstanding the increase in incentives in January 1991, Hungary continued to have large quantities of pork in storage. Since January 1, 1991, Hungarian exports of pork to the EC have been subject to a price guarantee agreement whereby the exports are not permitted to go below an EC reference price. In return, the EC does not subject its pork imports from Hungary to quantitative limitations. The agreement has had the effect of opening the EC market to new Hungarian export companies.[506] For lamb, mutton, and goat meat, Government export incentives, effective January 18, 1991, are equal to 25 percent of the value of the exports for non-EC markets and 20 percent for EC markets.[507]

Czechoslovakia.[508]—Czechoslovakia's pattern of land ownership is currently in transition. In Czechoslovakia, cooperatives control about 80 percent of the country's farm land and the Government controls the remainder. Under the previous government almost no private farming had been tolerated. However, the new parliament recently passed legislation returning all farm land confiscated by the former government. Officials estimate that about 3.5 million original landowners or their heirs living in Czechoslovakia are eligible. However, it is anticipated that few of those eligible will opt for private farming and most who claim land will rent it to the cooperative farming it now. Another law is expected in 1991 governing the distribution of land taken from churches. It is anticipated that the majority of the land will be distributed to cooperative members. The reported aim of the law is to transform the cooperatives into voluntary associations of landowners.[509]

The trend toward privatization of farm land ownership is consistent with a recently reported trend toward a private, market-oriented livestock-meat sector in Czechoslovakia. For example, in 1989, 1.4 million animals (15 percent) of swine slaughter was accounted for by the private sector, up from 1.3 million (14 percent) in 1988. A growing proportion of the livestock is expected to be raised on private farms and there has reportedly been an increase in raising of swine by small-volume private farmers on a contract basis for the socialized sector.

The primary goal of agriculture in Czechoslovakia has changed from self-sufficiency to the transformation into an efficient market-oriented economy.[510] Virtually every law, regulation, system, and institution has been or is in some form of change. These changes

[503] Adapted from USDA FAS *Agricultural Situation Annual* (PL1010), Mar. 3, 1991.
[504] Adapted from USDA FAS *Agricultural Situation, Annual* (HU1025) July 15, 1991, except as noted.
[505] HU1028, pp. 4-5.
[506] Ibid., pp. 5-8.
[507] Ibid., p 12.
[508] Adapted from USDA FAS *Agricultural Situation, Annual* (CZ1011), July 19, 1991, except as noted.
[509] *The New York Times*, June 4, 1991.
[510] Adapted from CZ0009, except as noted.

in land ownership, capitol investment, food processing, wholesaling and retailing, price and Government incentive payments policy, and the structure of agricultural organizations will drastically alter agriculture.

There are five major laws which will have an impact on agriculture and the food industry. Under the Small Privatization Law, small Government-owned businesses such as restaurants and grocery stores are being sold at auction. The Large Privatization Law has established a framework for the privatization of large enterprises. The policy of privatization of state farms and cooperatives is still being developed under the Land Law and the Law of Transformation of Cooperatives. It is anticipated that new cooperatives may not only be involved in production but also may enter into food processing and marketing. Government-controlled agricultural land is being restored to owners or sold under the Restitution Act.

The demonopolization of the Government's food-processing, wholesaling, and retailing industries is in the beginning stages. According to industry sources, the decisions to export are made by the managements of the individual meat plants, which are now financially independent and must be self supporting.[511] The entire sector is scheduled to be completely privatized. In 1991 the large horizontally integrated food-processing sector is to be split into smaller units and is to be privatized under the Large Privatization Law. Reportedly there is growing interest on the part of western firms in possible joint ventures. Foreign trade, which had been a Government monopoly, is changing rapidly. While the Government trading agency and its subsidiaries maintain a dominate position in trade in the agricultural sector, some groups, including those in the meat industry, are starting to handle their own foreign trade.

The transition to a market economy appears to be difficult for the livestock-raising sector. Retail price increases of meat have reduced the quantity demanded at the same time as Government incentive payments to producers have been eliminated. While some aspects of the old system have changed, farmers are caught between two near monopolies—the Government-operated food processors and the Government-operated suppliers of agricultural inputs.

Czechoslovakia has expressed a desire to become a part of the EC but that appears to be unlikely in the immediate future. The Government has also requested the EC abolish certain quantitative restrictions on agricultural products, but the request has not been granted. The EC has, however, granted GSP treatment for pork and poultry.

Notwithstanding the trend toward privatization, the Government recently announced the establishment of a Federal Market Regulation Fund to help farmers sell their commodities. The Government has allocated 3.4 billion Czechoslovak koruna (equal to about $635 million) to the fund. Among other things the fund will provide export incentives for meat, live animals and dairy products.[512]

Romania.[513]—Agriculture policy in Romania is still evolving following the change of Government in December 1989. However, it appears that initially the Government had two major policy goals. The first goal was to assure an adequate supply of affordable food, including meat, for the domestic market, even if it required imports, a prohibition on exports, and Government- controlled prices to the consumer. Meat consumption in Romania had been restricted for many years as the previous government promoted exports of meat. The second major goal was to expand the country's food production capacity, including the capacity to produce meat, as quickly as possible. Land reform laws were enacted in February 1990 and on March 20, 1991. As of mid-1991 about 28 percent of arable land was in the private sector, compared to 12 percent in 1989.

Although agricultural producer prices were raised (those for meat and milk were raised by more than 40 percent), consumer prices subject to Government control were kept at the old low levels and the Government provided subsidies to consumers. However, beginning April 1, 1991, a graduated price decontrol program applicable to most basic food products was initiated.

Also, to encourage livestock production, the Government removed limits on the number of animals that could be privately owned, provided small tracts of land for agricultural workers' private use, established higher prices for animals purchased by the State, guaranteed specific amounts of low priced feed for animals contracted to be delivered to the state, liberalized prices at farmers markets (including permitting trade in live animals with the price determined by market forces), and suspended central planning. The greatest results will probably come from free trade in live animals, the raising of state purchase prices, and the retaining of low input (feed) prices. In addition, in order to build up cattle herds, producers are to receive bonus payments from the Government for calves retained for breeding purposes and an additional payment will be made to farms that achieve a 70-percent calving rate. Also, female cattle and swine are to receive preferential tax treatment.

However, as of 1991, the structure of the livestock sector remains the same—large collectives and state farms, community grazing, and confined centralized livestock units. Most swine are housed in large industrial complexes under state farm control. Rural Romania still suffers from poor roads, bad communications, outdated and depreciated equipment, excessive labor, and excessive labor usage in the production process. Agricultural processing facilities are partially antiquated, partially not sufficient in capacity, and generally too labor intensive. Romanian

[511] Communication from the New York Commodities Corp. received July 18, 1991.

[512] USDA FAS *Livestock, Annual* (CZ1013) July 31, 1991, p. 7.

[513] Adapted from RO0021, and USDA FAS *Agricultural Situation Report -Romania* (RO1004), Apr. 23, 1991.

agriculture also suffers from lack of research and development.

Overall, swine and poultry producers are receiving more preferential treatment than are cattle producers because returns, in terms of meat production, are faster from swine and poultry than from beef cattle. Swine and poultry producers are to receive preferential access to high-quality Government feed supplies. Swine producers are eligible to enroll in Government programs that provide bonuses for animals delivered to state procurement agencies with payments increasing in conjunction with the number of animals delivered. Also, private households have showed strong interest in increasing their holdings of dairy cattle after the Government established a guaranteed price for milk. Sheep producers are receiving the least governmental assistance; they traditionally have been the most independent of Romania's livestock producers. It is anticipated that much of the increased production that results from the governmental polices will be used for home consumption and the urban population will continue to be dependent primarily on state and cooperative production. Most meat will continue to be marketed by the state, but private individuals will be allowed to have animals slaughtered at public slaughter houses and have the meat returned for home consumption.

One of the first decrees of the new Government in 1990 was a prohibition on exports of food. However, in early 1991 the Government replaced its prohibition with a program of export licensing and export quotas. It is anticipated that Romania may want to enter into barter agreements with the U.S.S.R., exchanging food, including meat, for oil or other raw materials. In general, it appears that, with the possible exception of pork and small quantities of lamb meat that have been traditional export items, Romania will have difficulty in competing in the world export market for meat. Romania appears to have the capacity to supply the domestic market for pork and still produce for export, assuming adequate supplies of feed. Romania's exports of live lambs and lamb meat appear to have been a rather small specialized business. Under the previous government, there were no known export incentives, but since meat trade has been dominated by the Government, prices may be adjusted to levels necessary to achieve the desired market share. In both the production of live animals and meat, Romania appears to lack modern and efficient infrastructure, including animal housing facilities, sanitary and modern meat processing facilities, refrigeration, transportation facilities, veterinary facilities, and so-forth. Production technology in the sheep and mutton sector is the least advanced of any sector. Romanian meat production and marketing have been criticized for lack of worker incentives to maximize output.

Adjustment issues

In general, one of the most important impediments in the meat industry common to nearly all CEE countries is the pattern of farm ownership (i.e., a large number of small, almost subsistance level farms that lack scales of efficiency). The pattern is especially notable in Poland and is also found in Hungary and Romania but is not especially common in Czechoslovakia. Small farms do not produce enough animals to justify investment in modern production facilities and equipment. The animal feed problems, most significantly protein-deficient feeds that contribute to overfinished animals and excessively fat meat, have already been discussed.

It should be noted however that large-volume livestock farms are sometimes inefficient producers. Large-volume farms utilize hired workers who may not be as motivated to provide as diligent care to animals as are actual owners who are dependent on the productivity of their animals.

The CEE countries appear to have some inherent natural limitations for agricultural that adversely affect the competitiveness of meat production. Mountainous regions of CEE countries are not suited to the production of grains or high-quality forages. Many of the soils, including the sandy soils of Eastern Poland, lack natural fertility. In addition Poland, because of its northerly climate, has a rather short growing season.[514]

Also, there is some suggestion that infrastructure limitations, such as inadequate transportation (especially refrigerated rail cars) and communication facilities and a shortage of capital for investment adversely affect the livestock and meat sector. Infrastructure in rural parts of the CEE countries especially Poland, is reportedly less well-developed than in industrial or urban areas. The quality and service abilities of the transportation network are especially important in dealing with perishable products such as live animals and meat.

Foreign trade

The demonstrated ability of CEE countries to meet importing countries' health and sanitary requirements enhances their export potential. For example, U.S. meat and poultry inspection regulations require countries exporting these products to the United States to impose inspection requirements at least equal to U.S. requirements.[515] As of January 1, 1990, Poland had 31 plants authorized to ship meat to the United States, Hungary had 8, Czechoslovakia 2; and Romania 14; and Bulgaria had none. However, U.S. imports of fresh, chilled, or frozen meat of most animals are limited to those countries that have been declared free of rinderpest and foot-and-mouth diseases by the U.S. Secretary of Agriculture. None of the CEE countries has been declared free of the diseases, thus meat imports from CEE countries must generally be cooked, canned, or cured so that the disease causing organisms are destroyed. Other major meat-importing countries generally impose health and sanitary regulations comparable to those of the United States.

[514] *An Agricultural Strategy for Poland*, p. 298.

[515] U.S. imports of meat and poultry are subject to the Federal Meat Inspection Act and regulations enforced by the USDA Food Safety and Inspection Service.

CEE exports compete with domestic production in most markets of the world. For example, among the countries (the United States, the EC, the USSR, Japan, the Republic of Korea, Canada, and Hong Kong) that accounted for about three-fourths of world meat imports in 1990, all are important meat producers, except Korea and Hong Kong. Also, the CEE countries must compete with exports from other countries. For example, CEE beef and lamb exports must compete with exports from Australia and New Zealand, countries that appear to have relatively low costs of production.[516] CEE pork exports must compete with exports from the EC and Canada which benefit from Government payments.[517]

Table 36 shows exports of meat from Poland, Hungary, Czechoslovakia, Romania, and Bulgaria (and for comparative purposes, from the United States) during 1985-90. The table shows that exports were rather stable during 1985-89, ranging from 699,000 metric tons (carcass-weight equivalent basis) in 1985 to 741,000 metric tons in 1989, before declining to 401,000 in 1990. Almost all of the decline in 1990 was accounted for by Romania, which had been the leading CEE exporter during 1985-89. Romania's exports dropped from 330,000 metric tons in 1989 to only 25,000 metric tons in 1990, apparently as the result of the government's policy of restricting food exports. Hungary, which had been the second leading CEE exporter during 1985-89, became the leading CEE exporter in 1990, followed by Poland and Czechoslovakia. Bulgaria was a minor exporter during 1985-90.

Table 37 shows that consumption of meat in the CEE countries increased irregularly between 1986 and 1990, rising from 6.2 million metric tons in 1986 to 6.7 million metric tons in 1990, or by 8 percent. The largest increase was in Romania, where consumption rose by 290 million pounds or by 35 percent. Except for Romania, per capita consumption of meat in CEE countries is generally comparable with that in other countries of the developed world (table 38).

[516] See *Estimated Tariff Equivalents of U.S. Quotas on Agricultural Imports and Analysis of Competitive Conditions in U.S. Markets for Sugar, Meat, Peanuts, Cotton, and Dairy Products*, USITC publication 2276, April 1990, ch. 3.

[517] For an explanation of the EC payments, see USITC publication 1794; for an explanation of the Canadian government programs, see USITC publication 1794 *Fresh, Chilled, or Frozen Pork From Canada* September 1989.

Table 37
Meat:[1] Consumption in Poland, Czechoslovakia, Romania, Hungary, Bulgaria, the EC, the United States, and the USSR, 1986-90

(1,000 metric tons, carcass weight equivalent)

	1986	1987	1988	1989	1990[2]
Poland	2,524	2,558	2,611	2,609	2,628
Czechoslovakia	1,253	1,253	1,336	1,390	1,402
Romania	822	893	841	546	1,112
Hungary	911	1,025	929	1,017	889
Bulgaria	666	629	606	630	625
Total CEE	6,176	6,358	6,323	6,192	6,656
EC	20,284	20,783	21,124	20,672	20,687
United States	19,075	18,788	19,323	18,897	18,511
USSR	15,322	15,998	16,540	16,874	17,034

[1] Beef, veal, pork, lamb, mutton, and goat meat.
[2] Preliminary.

Source: USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991.

Table 38
Meat:[1] Per capita consumption in Czechoslovakia, Hungary, Bulgaria, Poland, Romania, Denmark, the United States, Spain, the USSR, and Portugal, 1986-90

(Kilograms, carcass weight equivalent)

	1986	1987	1988	1989	1990[2]
Czechoslovakia	80.7	80.5	85.6	88.8	89.3
Hungary	85.7	96.6	87.7	96.1	84.1
Bulgaria	74.3	70.1	67.4	70.2	70.0
Poland	67.3	68.0	69.1	69.1	69.6
Romania	36.1	39.0	36.5	23.6	47.8
Denmark	80.7	83.0	83.9	87.2	86.2
United States	78.9	77.0	78.5	75.9	73.8
Spain	48.9	57.6	63.5	63.4	63.7
USSR	54.5	56.4	57.8	58.4	58.5
Portugal	37.6	38.0	40.6	40.8	41.2

[1] Beef, veal, pork, lamb, mutton, and goat meat.
[2] Preliminary.

Source: USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991 pp. 4-6.

Countries supplying meat exports to the world market vary with the type of meat considered. As can be determined from table 39, during 1986-90 Australia, the EC, the United States, Argentina, New Zealand, Brazil, and CEE countries accounted for about 85 percent of the world's exports of beef and veal annually. The share supplied by Australia, the United States, Argentina, and New Zealand increased while the share supplied by the EC, Brazil, and CEE countries decreased. During 1986-90, the share of world exports of pork supplied by the EC, Canada, East Germany, CEE countries, Taiwan, and China ranged from 92 percent in 1986 to 88 percent in 1989 and 1990 (table 40). The share supplied by the EC and Taiwan increased while the share supplied Canada, CEE countries, East Germany, and China decreased. The share of world exports of lamb, mutton, and goat meat supplied by Australia and New Zealand increased from 81 percent in 1986 to 87 percent in 1990, while the share supplied by CEE countries declined from 9 percent in 1986 to 3 percent in 1990 (table 41). The value of CEE trade is shown in tables 42 and 43.

Table 39
Beef and veal: Exports by major suppliers, 1986-90
(Percent of total selected countries)

	1986	1987	1988	1989	1990[2]
Australia	20	23	22	20	25
European Community[1]	28	23	18	23	20
United States	6	7	8	11	11
Argentina	6	7	8	8	10
New Zealand	8	11	11	10	9
Brazil	9	8	13	7	6
CEE	6	7	6	6	3
Other	17	14	14	14	16

[1] Excludes intra-EC trade.
[2] Preliminary.

Source: Compiled from USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991.

Table 40
Pork: Exports by major suppliers, 1986-90
(Percent of total selected countries)

	1986	1987	1988	1989	1990[2]
European Community[1]	19	22	25	23	32
Canada	15	16	16	14	14
East Germany	18	14	13	15	13
CEE	22	19	19	20	12
Taiwan	7	10	9	7	11
China	11	10	8	9	6
Other	8	8	10	12	12

[1] Excludes intra-EC trade.
[2] Preliminary.

Source: Compiled from USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991.

Table 41
Lamb, mutton, and goat meat: Exports by major suppliers, 1986-90
(Percent of total selected countries)

	1986	1987	1988	1989	1990[1]
New Zealand	57	59	58	61	56
Australia	24	25	25	23	32
CEE	9	6	6	7	3
Other	10	10	10	9	9

[1] Preliminary.

Source: Compiled from USDA, FAS "World Livestock Situation" (FL&P 2-91), April 1991.

Table 42
Meat and meat products: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	92	113	121	112	99
Czechoslovakia	2	2	3	3	2
Hungary	41	40	44	33	22
Romania	4	7	16	9	7
Bulgaria	(1)	(1)	(1)	(1)	(1)
EC imports from—					
Poland	86	101	128	145	190
Czechoslovakia	41	49	51	46	59
Hungary	146	120	115	124	185
Romania	21	25	40	33	40
Bulgaria	13	16	14	15	20
Other OECD imports from—					
Poland	12	11	22	11	18
Czechoslovakia	8	12	9	6	8
Hungary	20	16	32	14	23
Romania	1	3	11	2	2
Bulgaria	(1)	(1)	(1)	0	(1)
Total OECD imports from—					
Poland	190	225	271	268	307
Czechoslovakia	51	63	63	55	69
Hungary	207	176	191	171	230
Romania	26	35	67	44	49
Bulgaria	13	16	14	15	20

[1] Less than $0.5 million.

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 43
Meat and meat products: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	(1)	(1)	(1)	(1)	(1)
Czechoslovakia	(1)	(1)	(1)	(1)	(1)
Hungary	(1)	(1)	(1)	(1)	(1)
Romania	(1)	(1)	(1)	(1)	(1)
Bulgaria	(1)	(1)	(1)	(1)	(1)
EC exports to—					
Poland	8	6	4	46	121
Czechoslovakia	1	2	3	4	3
Hungary	3	10	4	5	11
Romania	2	45	2	(1)	69
Bulgaria	3	4	2	7	18
Other OECD exports to—					
Poland	15	(1)	(1)	(1)	3
Czechoslovakia	1	(1)	(1)	(1)	(1)
Hungary	(1)	1	1	(1)	(1)
Romania	0	(1)	1	1	(1)
Bulgaria	(1)	(1)	0	(1)	2
Total OECD exports to—					
Poland	23	56	4	46	124
Czechoslovakia	2	2	3	4	3
Hungary	3	11	5	5	11
Romania	2	45	3	1	69
Bulgaria	3	4	2	7	20

[1] Less than $0.5 million.

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports to other OECD countries.

Metalworking machine tools

Prepared by Dennis Fravel

Export potential

CEE Metalworking machine tool industries have a low to moderate potential to increase their exports. CEE firms do not produce the sophisticated machines needed by user industries. Anecdotal information indicates that although contracts negotiated in the past are being filled, there are few new contracts and exports are falling off.

Many of the machine tools produced in CEE countries lag in quality and are not always technologically up-to-date. Although many CEE machine tools are competitive in the low end of Western markets, exports of these products have been hampered by inconsistent quality and producers' lack of knowledge of foreign markets. The Soviet Union has turned more to Western machine tool suppliers for the advanced machines it needs to improve its manufacturing industries as those Western countries increasingly relax their export controls. In addition, the former East German market has shifted to advanced machine tools from the West.

To overcome their shortcomings, CEE builders are seeking access to technology, capital, and marketing organizations through tie-ups with foreign firms. Foreign investors have shown little interest to date in entering into these agreements. Although a few German firms have established manufacturing tie-ups with certain large CEE machine tool producers. CEE firms are turning to niche markets to sustain their operations and improve their product lines to meet Western standards.

Some of the strengths of the CEE machine tool industries include a workforce with high mechanical skills, a pool of competent mechanical engineers, and an available supply of low-cost labor. Also, CEE machine tool builders' are familiar with the needs of the CEE and Soviet markets and have access to strong machine tools research institutes. However, the industries also face increasing operating costs, including higher taxes. They need substantial capital infusion to modernize production equipment and also need to expand distribution channels.

Industry characteristics

The CEE metalworking machine tool industries ranked eighth in the world in terms of the value of production in 1990, as shown in the following tabulation (in million dollars):

Country	*Production*[1]	*Exports*
Japan	10,832.1	3,996.6
Germany	9,911.5	6,034.1
Soviet Union	4,580.0	380.0
Italy	3,966.0	1,983.0
Switzerland	3,183.6	2,749.5
United States	3,140.0	1,060.0
United Kingdom	1,719.7	835.3
Central and Eastern Europe	1,685.4	563.8

[1] Data are from *American Machinist*, February 1991, p. 36, and cover only metalworking machine tools, excluding parts.

CEE machine tool industries exported approximately one-third of their production in 1990. However, this high level "conceals a qualitative lag behind the West in terms of product reliability and accuracy, as well as a very low share of advanced machining technologies in the overall output of most of these countries."[518]

The high volume of exports relative to production in the CEE machine tool industries was largely due to joint production agreements—multilateral and bilateral—implemented between the Soviet Union and other CMEA members. These agreements specified long-term production and trade volumes, including the types of machines to be produced and exported, and the range of machine tools in which each country would specialize.[519] Thus, when analyzing the production, export, import, and consumption data presented in the following descriptions of the machine tool industries in each of the CEE countries, these data may not reflect the ability of these countries to compete as market economies.

Bulgaria.—The Bulgarian machine tool industry consists of about 20 to 30 firms, employing approximately 15,000 persons. The firms are under the direction of the Machine Tool Plants State Economic Corporation (ZMM). Some firms specialize in machine tools, while others are divisions of large conglomerates that produce a wide range of heavy machinery.

Bulgaria's machine tool production increased from $143.2 million in 1986 to an estimated $160.0 million in 1990, or by 12 percent (table 44). Historically, exports have accounted for almost 75 percent of Bulgarian production and exports remained high because of production goals, product mixes, and trade targets mandated in CMEA trade agreements.

In the early 1980s, Bulgaria licensed production of computer controls for machine tools from FANUC of Japan, a world leader in electronics. The agreement allowed Bulgarian machine tool builders to gain access to advanced machine tool technology to enhance competitiveness, especially within CMEA markets. Joint ventures with other Western machine tool

[518] William J. Kelly, Hugh L. Shaffer, Mason H. Soule, George W. Simmonds, and H. Louis Rees, "The Role of Eastern European Machine Tools in Soviet Industry," *Battelle*, Apr. 11, 1990, p. 10.

[519] Ibid., pp. 7-8.

Table 44
Metalworking machine tools:[1] Bulgarian production, exports, imports, and apparent consumption, 1986-90

Year	Production	Exports	Imports	Apparent consumption	Ratio of imports to consumption
	Million dollars				Percent
1986	143.2	86.3	156.5	213.4	73.3
1987	140.0	85.0	336.0	391.0	85.9
1988	195.5	157.0	123.1	161.6	76.2
1989	175.0	137.8	93.4	130.6	71.5
1990[2]	160.0	120.0	75.0	115.0	65.2

[1] Data include machine tools only; estimate based on fragmentary data. Data converted at 70 percent of the official exchange rate.
[2] Data are estimated for 1990.

Source: Compiled from statistics from *American Machinist*, various editions.

builders, however, have been rare. Although Hungary, Poland, Czechoslovakia, and even the Soviet Union have established joint ventures with foreign partners, especially with German machine tool builders, Bulgaria has been slow to do so.

Bulgaria did enter into several development and production agreements with Soviet machine tool builders in 1985 that covered the 1986-90 period. One of these agreements was between ZMM and the Ivanovo Economic Machine-Building Corporation of the Soviet Union to produce 2,700 machining centers and computerized controls. Another agreement was between Bulgaria's Beroe Research and Industrial Combine of Robotics and the Soviet Krasnii Proletarii Machine-Building Corporation to use Bulgarian components in the production of 16,000 machine tools.[520]

Czechoslovakia.—The Czechoslovakian machine tool industry consists of about 20 firms and employs about 35,000 persons. Annual production is valued at about $275 million.[521] The large firms are vertically integrated and operate foundries to produce castings for their own use and for other industries. Some large firms also produce other types of heavy machinery. However, Czechoslovakian builders are dependent upon Western suppliers for certain critical components, such as electronics, servo drives, cell computer controllers, and bearings which are frequently imported from Germany or Japan.[522]

Czechoslovakian machine tool production decreased by about 50 percent, from $383.0 million 1986 to an estimated $191.9 million in 1990 (table 45).[523] The decline in the value of production was largely the result of the appreciation of Western currencies against the Czechoslovakian crown. Other contributing factors included the decline in demand for machine tools in other CMEA markets and an increase in demand for advanced equipment from Western suppliers, in place of the types of machine tools generally available from Czechoslovakia.

The Czechoslovakian machine tool industry supplies only a small share of its domestic machine tool demand because of past CMEA trade agreements that mandated the type and volume of machine tools each CMEA member would produce. As a result of these agreements, the Czechoslovakian industry produces a wide range of manually operated machine tools which are not comparable to the advanced machines produced by Western machine tool builders. As the demand for more advanced machine tools increases in user industries in Czechoslovakia, the machine tool builders are changing their product lines to become more competitive with foreign suppliers.

Employment in the Czechoslovakian machine tool industry is relatively high compared with Western industries, but similar in that it is highly skilled. Large Czechoslovakian machine tool builders employ between 3,000 and 6,000 persons. Currently, TOS Kurim, the largest firm in the industry, employs about 6,000 persons. In contrast, the largest U.S. machine tool builders employ between 1,000 and 3,000 persons. The country has a strong national tradition of working with machinery, and families have often worked for several generations in this industry. Workers are skilled at compensating for the lack of modern production equipment, and extensive apprenticeship programs are used to train new workers.

Wage rates in Czechoslovakia for machinists, technicians, engineers with degrees, and managers are low compared with those in Germany. For example, as recently as 1990, the annual salary for Czechoslovakian engineers was reported to be about $3,000.[524]

[520] A. Nedyalkov, "A New Moment in Economic Collaboration Between Bulgaria and USSR," *Bulgarian Foreign Trade*, No. 2, 1986, p. 10.
[521] Estimate includes parts. USITC staff field interview in Czechoslovakia with Dr. Pavel Tomek, President, Trust of Factories of Machinery and Plant Equipment (TST) Research Institute of Machine Tools, July 12, 1991.
[522] Christopher Cummings, "Brno Show Reflects New Order," *Canadian Machinery and Metalworking*, November 1990, p. 15.
[523] If parts are included, then the decline in production is probably less and is estimated to be about 20 percent. USITC staff field interview in Czechoslovakia with Dr. Pavel Tomek, President, TST Research Institute of Machine Tools, July 12, 1991.
[524] Christopher Cummings, "Brno Show reflects New Order," *Canadian Machinery and Metalworking*, November 1990, p. 15.

Table 45
Metalworking machine tools:[1] Czechoslovakian production, exports, imports, and apparent consumption, 1986-90

Year	Production	Exports	Imports	Apparent consumption	Ratio of imports to consumption
	Million dollars				Percent
1986	383.0	310.3	80.7	153.4	52.6
1987	405.0	330.0	85.0	160.0	53.1
1988	450.0	266.5	189.7	373.2	50.8
1989	260.0	263.7	226.9	223.2	101.7
1990[2]	191.9	187.7	158.5	162.7	97.4

[1] Data include machine tools only; estimate based on fragmentary data. Data converted at 70 percent of the official exchange rate.
[2] Data are estimated for 1990.

Source: Compiled from statistics from *American Machinist*, various editions.

However, in the past under the Communist Government, Trust of Factories of Machinery and Plant Equipment (TST) provided many benefits and services to the workers. These included housing, either through corporation or cooperative apartments, and health and medical care. Other services included kindergartens and nurseries, dining services, and company-sponsored recreation and related facilities. Most of these benefits and services have been continued by the machine tool builders and related research organizations.

Before 1989, the Czechoslovakian Government invested heavily in its machine tool industry relative to other sectors of the economy, although investment lagged behind that of Western machine tool builders. Much of the production equipment in the factories is at least 20 years old and lengthy production cycles are not uncommon.[525] Since 1990, the Government has stopped funding the industry and the lack of capital has forced the industry to look at different ways to obtain funds. In late July 1991, TOS Kurim announced that it would launch a $59.0 million bond issue in international financial markets, the first such issue by a CEE enterprise.[526]

The large machine tool builders conduct their own in-house research and development. The industry is also supported by three research institutes, although government funding for these institutes has been drastically reduced. The institutes include the Research Institute for Machine Tools and Metal-Cutting (VUOSO), the Research Institute for Metal-Forming Machine and Technology (VUTS), and the Research Institute for Tooling (VUNAR).

Under the Communist Government, the industry was organized under the direction of the Trust of Factories of Machinery and Plant Equipment, but after a democratic Government came into power, state machine tool enterprises were converted into independent, joint stock firms. In July 1990, the industry organized a trade association called the Association of Engineering Technique Makers and Suppliers. Although the core of the association was the old TST organization, the new association is modeled after Western trade associations and represents the industry's interests before government, labor, and other industrial organizations, such as standards bodies. The association's members account for approximately 75 percent of total Czechoslovakian machine tool production. Those companies outside the association are business units of large industrial conglomerates—such as Skoda, the automobile producer—or of self-governing corporations.

Since becoming independent from the Government in their operations, Czechoslovakian machine tool builders have begun to adjust their product mix to match market demand. As an example, the Skoda machine tool production plant at Plzen has ceased production of single-purpose machine tools and is focusing on multipurpose machine tools.[527] Machine tool builders have also attempted to enter into agreements with foreign producers, but with only limited success. Two well known agreements are a joint venture between TOS Kurim and Kabelschlepp of Germany to produce parts, and a manufacturing cooperation agreement between TOS Galanta and Traub AG of Germany.

Hungary.—The Hungarian machine tool industry consists of two major machine tool companies—the SZIM Machine Tool Works and the Csepel Machine Tool Factory—and a number of small companies. A third major machine tool company, Diosgyori Gepgyar (DIGEP), declared bankruptcy in early 1991 and the company is being liquidated. Prior to the bankruptcy of DIGEP, the three major firms accounted for 98 percent of Hungary's annual machine tool production valued at approximately $100 million.[528] In early 1991, the industry employed approximately 6,000 persons, with the three principal firms accounting for about 80 percent of total employment.

[525] USITC staff field interview in Czechoslovakia with Dr. Pavel Tomek, President, TST Research Institute of Machine Tools, July 12, 1991.
[526] "Czechoslovak Firm to Sell Bonds," *The Wall Street Journal*, July 29, 1991, p. A6.
[527] "Czechoslovakia: Machine Tool Modifications," *Canadian Machinery and Metalworking*, March 1991, p. 9.
[528] USITC staff field interview in Hungary with Mr. Lajos Kantor, Commerical Director, and Mr. Gabor Lovenberg, Deputy Commercial Director, Technoimpex Foreign Trade Organization, July 2, 1990.

Table 46
Metalworking machine tools:[1] Hungarian production, exports, imports, and apparent consumption, 1986-90

Year	Production	Exports	Imports	Apparent consumption	Ratio of imports to consumption
	Million dollars				Percent
1986	180.3	138.7	94.7	136.3	69.5
1987	210.0	170.5	124.5	164.0	75.9
1988	134.1	93.6	61.0	101.5	60.1
1989	100.1	90.1	65.2	75.2	86.7
1990[2]	97.8	88.0	41.3	51.1	80.8

[1] Data include machine tools only; estimate based on fragmentary data.
[2] Data are estimated for 1990.

Source: Compiled from statistics from *American Machinist*, various editions.

Hungarian machine tool production decreased by 46 percent, from $180.3 million in 1986 to an estimated $97.8 million in 1990 (table 46). The rapid decrease in production was brought about by the collapse of the Soviet market and the subsequent difficulty in finding other foreign replacement markets. The decline in production, consumption, and trade is also due in part to the translation of Hungarian forints into U.S. dollars. Like other CEE machine tool industries, the domestic machine tool industry supplies only a small share of domestic machine tool demand because of the CMEA trade agreements, although these agreements had less of an impact on Hungary than on other CEE countries.

The Hungarian machine tool industry is dominated by SZIM, which produced from 60 to 65 percent of the industry's output in early 1991 and employed about 4,000 to 4,600 persons. SZIM consists of eight affiliated companies and operates seven factories in the country. The Hungarian machine tool industry's reputation in the West is largely associated with The Csepel Machine Tool Factory, which is related to the Csepel Industrial Works—a large conglomerate that produces metal products, heavy equipment, and vehicle parts.[529] Csepel employs about 1,500 persons and accounts for about 30-40 percent of the industry production. Prior to becoming insolvent, DIGEP accounted for about 10 percent of production and employed approximately 600 persons. The firm had previously been put up for privatization, but because of a decline in military orders, its losses were too great to attract private investors.[530]

Over the past 4 years, the industry has been converted into joint stock companies, although at present the Hungarian Government is still the majority stock holder in SZIM and DIGEP. Csepel is 60-percent owned by a German machine tool builder and 40-percent by the Hungarian Government. The Hungarian Government began privatizing SZIM, DIGEP, and Csepel in 1989.[531]

Hungary has a skilled workforce that has become accustomed to performing a wide range of operations using manually controlled machines. Recent productivity levels, measured in sales per worker, are about $41,000 per year and management is attempting to raise the level to $50,000 in the short term.[532] To achieve that goal, Csepel is sending young engineers to international management centers in Hungary and the United States for training.

The Hungarian industry produces a large number of components in-house, and to some extent this orientation has reduced the industry's international competitiveness.[533] To solve this problem and keep abreast of current factory technology, Hungarian producers are installing more computers in their factories. As an example, Csepel has installed a computer-integrated- manufacturing operations system and implemented a computerized inventory system.[534]

Hungarian machine tool builders are also adjusting their product mix to accommodate their international and domestic customers. They have apparently advanced further than other CMEA countries in the production of computer-numerically-control (CNC) machine tools. The Hungarian industry has been able to produce CNC controls that other CEE countries were unable to import from Western nations because of export controls. As an example, Hungarian machine tool builders produce five- and six-axes CNC controls that other CMEA builders cannot produce. CNC machine tools account for about 85 percent of SZIM's machine tool production and about 90 percent of Csepel's production. By equipping their machine tools with Western computerized controls, Hungarian

[529] In 1989, the Csepel Works was ranked as one of the top 15 loss makers in 1988.
[530] The company had accumulated losses of $20 million and $57 million is owed to other creditors, including suppliers. The Economist Intelligence Unit, *Hungary: Country Report*, No. 1, (1991), p. 18.
[531] Presented in a list of 50 companies for sale by Hungarian Trade Minister Beck during a visit to Germany, The Economist Intelligence Unit, *Hungary: Country Report*, No. 2, (1989), p. 24.
[532] "A Day At A Time for Csepel," *American Machinist*, March 1991, p. 27.
[533] USITC staff field interview in Hungary with Mr. Lajos Kantor, Commerical Director, and Mr. Gabor Lovenberg, Deputy Commercial Director, Technoimpex Foreign Trade Organization, July 2, 1990.
[534] "A Day At A Time for Csepel," *American Machinist*, March 1991, p. 27.

builders have been able to remain within technological proximity of Western machine tool builders.

The ability of Hungarian firms to produce computerized machine tools comparable with those produced by Western countries was related to their investments in modern production equipment and tie-ups with German machine tool companies. Without these investments, foreign machine tool builders would have been reluctant to form joint ventures with Hungarian firms and computerized manufacturing could not have been achieved. As an example, in 1989 MAN Roland of Germany and Csepel agreed to cooperate in the manufacture of CNC boring mills. Csepel also produces components or entire machine tools for other German machine tool builders—MAHO and SHW. Similarly, in 1990 SZIM began to manufacture surface grinding machines under a 5-year cooperation agreement with ZUB of Germany with part of the output then purchased by ZUB.

Poland.—The Polish machine tool industry consists of about 30 firms that employ from 20,000 to 25,000 workers. Machine tool production was valued at an estimated $200.0 million in 1990 and parts production was valued at an estimated $50.0 million. Production is concentrated in lathes, milling machines, and to a lesser extent, in grinding machines and presses.

Polish production of machine tools, excluding parts, rose from $153.5 million in 1986 to a peak of $320.0 million in 1988-89, before falling to about $200.0 million in 1990 (table 47). Exports, however, declined from $69.3 million to $27.5 million during the period. The decline in production, consumption, and trade since 1988 is attributable in part to the translation of Polish zloty into U.S. dollars. Also, important Polish export markets in CMEA countries collapsed in 1989, resulting in fewer export opportunities. Since 1990, however, Soviet machine tool orders under contract were continuing to be shipped. As funds of domestic users of machine tools have declined, these enterprises have reduced their purchases of imported machine tools from both Western and CMEA countries and production has been increasingly absorbed by domestic consumption. Poland is largely self-sufficient in machine tools and imports represent a smaller share of Polish consumption than that of other CEE countries.

Polish machine tool builders vary in size and capabilities, although some firms are large, vertically integrated enterprises that operate their own foundries. Such firms also produce castings for foreign and domestic customers, as well as other types of heavy machinery and components. Most machining operations are done in-house, but certain precision and electronic components are purchased from foreign suppliers, especially from Western Europe.[535] Some components produced by Polish companies under license from Western countries are also used.

Polish firms generally employ from 500 to 1,500 persons, although an official at one Polish machine tool firm noted that, in general, Polish factories employ too many people.[536] The workforce is relatively high-skilled, and workmanship is generally good, but often can be inconsistent. About half the workers are unionized, with about 60 percent belonging to the All-Polish Trade Unions Agreement (OPZZ) and about 40 percent to Solidarity. Many machine tool builders have reported that there have been no labor strikes over the last few years.[537]

The Polish machine tool industry has had some minor layoffs, due mainly to inflation and the collapse of the Soviet market, but one major firm, the Ponar Tarnobrzeg factory, recently announced bankruptcy.[538] In late 1990, the company employed about 530 persons, and had a production monopoly in 63-ton to 100-ton pressure hydraulic presses—both in Poland and within CMEA as a whole. Orders from the Soviet Union, which accounted for 50 to 80 percent of the company's revenues, fell to zero beginning in early 1990. The Polish Government unsuccessfully sought foreign investors to save the firm, but would not provide new loans for restructuring. Layoffs at the firm began in February 1991 and the company went into bankruptcy in March, leaving workers without unemployment benefits or pay for previous work.

[535] Task Force on Company Assistance, *Foreign Investment Opportunities In Poland*, January 1991, pp. 21-100.
[536] USITC staff field interview in Poland with Mr. Andrzej Pazdanowski, Sales Director, Hydomat, July 5, 1991.
[537] Ibid.
[538] "Machine Tool Factory Folds; USSR Market Loss", *JPRS-EER-91-091*, June 25, 1991, pp. 43-46.

Table 47
Metalworking machine tools:[1] Polish production, exports, imports, and apparent consumption, 1986-90

Year	Production	Exports	Imports	Apparent consumption	Ratio of imports to consumption
	Million dollars				Percent
1986	153.5	69.3	84.2	168.4	50.0
1987	266.0	98.1	203.9	371.8	54.8
1988	320.0	119.1	233.5	434.4	53.8
1989	320.0	28.0	55.0	347.0	15.9
1990[2]	200.0	27.5	25.0	197.5	15.2

[1] Data include machine tools only; estimate based on fragmentary data. Data converted at 70 percent of the official exchange rate.
[2] Data are estimated for 1990.
Source: Compiled from statistics from *American Machinist*, various editions.

Polish wages are relatively low, providing Polish-produced machine tools with a 30-percent cost advantage over comparable Western machine tools.[539] In 1990, wages for skilled production averaged $147.00 per month and those for engineers about $200.00 per month.[540] Wages are paid on a piece-rate basis with the rate determined by quality and production volume and bonuses are paid for overtime. Over the past few years, wages in some factories have increased from between 20 to 60 percent, to keep pace with inflation. Management recognizes that the current pay structure does not provide the incentives needed to increase productivity and quality.

Most of the production machinery used by Polish machine tool builders is old and only 10 to 15 percent of the production machinery is under 5 years of age. Many of the machine tools are manually operated. One company, Ponar Wroclaw, is using computer-aided-design/computer-aided-manufacturing (CAD/CAM), and another company is in the process of installing a CAD system.

Polish machine tools are attracting world recognition for their competitiveness. About 25 percent of Polish machine tool sales are described as being fully competitive with Western products and another 35 percent is approaching world standards.[541] A recent assessment of the Polish machine tool industry indicated that improvements are needed in the areas of design and technology, quality and reliability, marketing, reputation, and price competitiveness.[542]

The Polish machine tool industry is supported by the state-run Machine-Tool Research and Design Center (CBKO). The institute is working with foreign companies, including three U.S. companies, on research in the machine tool area. Dynapath Systems Inc., a subsidiary of Hurco Companies Inc. and a builder of computer controls for machine tools, is conducting collaborative research with CBKO. Dalton Foundries Inc., American Taccone Corp., the Polish machine tool builder Rafament, and CBKO, have formed Design Technologies International, to conduct technical and market research on certain types of machine tools in Poland.[543]

A number of Polish companies have already formed joint ventures with Western machine tool builders, particularly German companies. Most of these arrangements are for contract production, supplying partially completed machine tools and castings to German designs and standards. In some instances, nearly completed machine tools are shipped to the joint venture partner in the West, such as to Germany, where computerized controls are added. Most Polish machine tool builders are actively seeking foreign partners for future investment and production arrangements.

Romania.—The Romanian machine tool industry consists of approximately 15 machine tool builders that employ an estimated 17,000 persons. Many of these builders operate foundries that produce castings for their own consumption and outside enterprises and some produce other kinds of heavy machinery. The bulk of Romania's production is concentrated in conventional, manually-operated machines. Production of computerized machine tools is limited, but production of these types of machines is expected to grow.

Romania ranks as the largest CEE machine tool producer in terms of production value. Production increased from $307.0 million in 1986 to an estimated $530.7 million in 1990 (table 48). Exports accounted for about 25 percent of production and imports for about 25 percent of consumption. However, the country's products are not well known in Western Europe, North America, or the Far East. Romania is probably the most self-sufficient of CEE countries in terms of the range of machine tools that it produces and consumes.

[539] USITC staff field interview in Poland with Mr. Michael Sanderson, Analyst, Company Assistance Ltd., July 8, 1991.
[540] Task Force on Company Assistance, *Foreign Investment Opportunities In Poland*, January 1991, pp. 21-100.
[541] USITC staff field interview in Poland with Mr. Michael Sanderson, Analyst, Company Assistance Ltd., July 8, 1991.
[542] Ibid.
[543] USITC staff field interview in Poland with Mr. Adam Janusz Cieszewski, Director, and Mr. Janusz Kolodziej, Economic Plenipotentiary to the Director, Machine-Tool Research and Design Center (CBKO), July 4, 1991.

Table 48
Metalworking machine tools:[1] Romanian production, exports, imports, and apparent consumption, 1986-90

Year	Production	Exports	Imports	Apparent consumption	Ratio of imports to consumption
	Million dollars				Percent
1986	307.0	52.0	70.8	325.8	16.9
1987	617.8	132.9	134.5	619.4	21.5
1988	663.8	167.9	123.3	619.2	25.3
1989	635.1	160.7	118.0	592.4	25.3
1990[2]	530.7	140.6	86.5	476.6	26.5

[1] Data include machine tools only; estimate based on fragmentary data.
[2] Data are estimated for 1990.

Source: Compiled from statistics from *American Machinist*, various editions.

Data on the Romanian machine tool industry are limited because of former Romanian policies of pursuing national self-sufficiency and limiting its trade relations with Western Europe. However, the country has had to obtain access to foreign technology in order to develop its industry. Much of Romania's machine tool production is based on foreign designs. Production licenses for certain machine tools have been obtained from Japanese, German, and Italian producers. Because of its need to develop advanced manufacturing equipment, Titan Research Institute of Bucharest signed a cooperation agreement with Telemecanique of France in 1990 to produce computerized machine tools.[544]

Government policy and the nature of management structure

Government policies in the areas of taxes, privatization, and foreign trade liberalization appear to be having the greatest impact on CEE machine tool builders. Aside from Romania and Bulgaria, only firms in Poland largely depend on a Government entity for promoting exports.

CEE Governments are also increasing taxes. One Polish machine tool producer reported that such tax burdens adversely affect the financial position of a firm, and that the burden may be higher than in Western countries.[545] The average Polish company faces a corporate tax rate of 40 percent of taxable profits, according to Polish accounting standards.[546] Since higher taxes reduce profits, a firm becomes less attractive to a potential foreign investor because it is less profitable. In 1990, Polish machine tool firms began paying a turnover tax; previously, they had been exempted.[547]

Privatization programs open to foreign investment in Czechoslovakia and Poland have generally focused on industries other than the machine tool industry. Under Hungary's privatization program, a total of five machine tool companies were selected for privatization.[548]

Tax incentives to spur foreign investment in the machine tool industry have been put to use by only Hungary. Beginning in January 1991, tax holidays under Hungary's Foreign Investment Law of 1988 were made more generous and expanded to cover more sectors. Machine tool and metalworking equipment joint ventures became eligible for a tax holiday of 100 percent for the first 5 years and 60 percent for the second 5 years, provided other conditions of the law are met. These are only two of the several sectors to which the Hungarian Government is giving priority.[549]

As foreign trade regimes in the CEE countries have been liberalized, machine tool builders have been allowed to conduct their own foreign trade matters. For example, in Hungary most machine tools are exported through the Technoimpex Trading Corporation, a joint stock company. And in Czechoslovakia, Strojimport—the foreign trade organization representing machine tool builders—was privatized, with 60 percent of its shares owned by machine tool builders and the remainder by banks. Before January 1991, Strojimport was the sole exporter of Czechoslovakian machine tools; since then, however, firms have been free to do their own exporting. Currently, about 95 percent of machine tool exports continue through Strojimport, because of its established foreign channels of distribution and foreign subsidiaries.

In Poland, most machine tools are exported through Metalexport, the state Foreign Trade Organization, although an increasing number of machine tool builders no longer rely on outside support. Some companies have decided to reduce their costs by eliminating Metalexport as a middleman. Metalexport was charging commissions of 2 to 7 percent and was a contractual party in most joint ventures with foreign machine tool builders.[550] However, companies doing their own exporting are faced with a lack of knowledge about foreign customers and poor foreign language skills. In many instances, builders have reported that Metalexport will not pass on customer lists to them.

In contrast to the liberalization of foreign trade in Hungary, Poland, and Czechoslovakia, Romanian and Bulgarian machine tools are exclusively exported through state-owned foreign trade organizations. In Romania, the foreign trade organization responsible for machine tool exports is Masinexportimport, and in Bulgaria it is Machinoexport.

Adjustment issues

Major impediments to CEE countries' ability to increase machine tool exports include rising costs of production inputs and a lack of funds to purchase critical components. Other significant factors include the low levels of investment, lack of access to advanced technology, and limited development of marketing and distribution channels. A more immediate bottleneck is the lack of foreign exchange to purchase certain imported critical components. CEE countries' foreign exchange reserves have decreased

[544] *Business Eastern Europe*, Nov. 19, 1990, p. 382.

[545] USITC staff field interview in Poland with Mr. Andrzej Pazdanowski, Sales Director, Hydomat, July 5, 1991.NO TAG

[546] Task Force on Company Assistance, *Foreign Investment Opportunities in Poland*, January 1991, p. 10.

[547] USITC staff field interview in Poland with Mr. Adam Janusz Cieszewski, Director, and Mr. Janusz Kolodziej, Economic Plenipotentiary to the Director, Machine-Tool Research and Design Center (CBKO), July 4, 1991.

[548] Hungary's First Privatization Programme was announced in mid-September 1990, although the Hungarian Industry Ministry offered a list of 53 companies for sale to foreign investors to Germany's trade minister in early 1989 and included in that list were 5 machine tool companies, 2 of which showed up on a preliminary list of firms for privatization in Hungary's Second Privatization Programme. The Economist Intelligence Unit, *Hungary: Country Report*, No. 2, (1989), p. 24.

[549] *EIU Country Report Hungary*, No. 1, 1991, pp. 10-11.

[550] Task Force on Company Assistance, *Foreign Investment Opportunities in Poland*, January 1991.

since the Soviet Union began demanding trade in hard currency.

CEE machine tool builders are facing higher raw material, component, and labor costs as a result of price and wage decontrols and increased demand for quality and reliable components. Machine tool builders also face additional costs due to poor workmanship in their factories and in the domestically produced components they purchase. For example, in Poland, Western European and Japanese components are used because of the inferior quality of Polish-made components. Polish machine tool builders have rejected many of the castings and forgings from Polish steel production facilities and foundries—in some factories, as much as 50 percent is defective. Castings are typically rejected because of poor workmanship and steel composition not produced to specifications.[551] Most Polish, Czechoslovakian, and Hungarian builders are dependent on German or Japanese computerized controls. Domestic controls and electronics are unreliable or are unsuitable for export outside of CMEA markets.[552] Some CEE builders are attempting to reduce these costs by eliminating redundant jobs and boosting investments in training and modern production equipment. CEE machine tool builders do not appear to have been adversely affected by wage increases over the past few years.

During the current transition to market economies, inflation has substantially driven up the cost of capital. In Poland, machine tool builders currently have loans with interest rates of 30 to 50 percent. This inhibits firms from seeking capital for investment in new production machinery and plant maintenance. Machine tool builders in Poland, Czechoslovakia, and Hungary are beginning to obtain capital from foreign sources. For example, the Polish machine tool builder, Rafamet, has just received a $10 million loan from the World Bank for the purchase of a CAM system and computerized machine tools.[553] The company ranked 14th out of Poland's top 500 most profitable companies. As mentioned above, TOS Kurim of Czechoslovakia is going to the international financial markets with a bond offering to obtain capital.

Another concern of many CEE machine tool builders is their lack of established domestic and foreign marketing and distribution networks. Service, including customer training, support for applications, and immediate machine tool repair, is an important a factor in selling a machine tool. Most CEE machine tool companies have previously marketed and serviced their export products through foreign trade organizations. Because foreign trade organizations have provided these services, machine tool builders have not developed the necessary relationships with customers.[554]

[551] Ibid.

[552] "Machine Tool Production Continues to Increase," *JPRS-EER-90-111*, Aug. 1, 1990, pp. 24-26.

[553] Task Force on Company Assistance, *Foreign Investment Opportunities in Poland*, January 1991.

[554] "Machine Tool Production Continues to Increase", *JPRS-EER-90-111*, Aug. 1, 1990, pp. 25-26.

Foreign trade

Exports of machine tools from CEE countries have largely depended upon the CMEA market, especially the Soviet Union and former East Germany. During the 1980s, the machine tool industries in CEE countries developed significant export markets in the Soviet Union and among themselves. For example, in the late 1980s, approximately 60 percent of Bulgaria's exports of machine tools and 50 percent of Czechoslovakia's were shipped to the Soviet Union. In 1988, approximately 49 percent of Soviet imports were from CEE countries.[555]

Data on export markets are limited. Czechoslovakian exports of metal-cutting machines to certain CMEA partners—Soviet Union, East Germany, Poland, Hungary, Romania, and Bulgaria—dipped from 48 percent in 1985 to 32 percent in 1989 (in units). Exports to the Soviet Union fell by 48 percent from 1985 to 1988 and by 28 percent between 1988 to 1989. Exports to other markets rose from 1985 to 1988 and then fell in 1989 to levels comparable to those of 1985.[556] Hungary's exports of machine tools to the Soviet Union accounted for 36 percent of its total in 1990.[557]

For many machine tool producers in Hungary, Poland, and Czechoslovakia, Soviet customers have cancelled orders and failed to pay for imported products due to a lack of hard currency. Statistical data indicate that shipments to the Soviet Union continued in 1990 because products previously placed on order were finally being shipped. The leadtime on machine tools is usually 9 to 18 months, depending on the type of machine. Although shipments to the Soviet Union continued, CEE machine tool builders received few, if any, new orders from the Soviets in 1990. For example, between 1990 to mid-1991—when the Tarnobrzeg factory went out of business—Tarnobrzeg did not receive any orders from the Soviets, even though they usually purchased 50 percent or more of the plant's production.[558] Hungary's exports to the Soviet Union have also fallen. In 1989, because of the collapse of trade with the Soviet Union, Csepel lost a stable market for half of its production.[559] In 1990, the East German market also has disappeared for CEE machine tool builders, although some orders placed under the last CMEA 5-year plan were being honored.[560]

[555] William J. Kelly, Hugh L. Shaffer, Mason H. Soule, George W. Simmonds, and H. Louis Rees, "The Role of Eastern European Machine Tools in Soviet Industry", *Battele*, Apr. 11, 1990, pp. 20-22.

[556] Czechoslovak Chamber of Commerce and Industry, *Facts on Czechoslovak Foreign Trade*, 1990, p. 25.

[557] Hungarian Central Statistical Office, *Statistical Yearbook of External Trade 1990*, 1991, pp. 71-73.

[558] "Machine Tool Factory Folds; USSR Market Loss," *JPRS-EER-91-091*, June 25, 1991, p. 44.

[559] "A Day at a Time for Csepel," *American Machinist*, March 1991, p. 27.

[560] "Non-German Firms Active at East Fair", *American Machinist*, May 1990, p. 41.

Since January 1, 1991, trade with CMEA countries has been conducted in hard currency. This has substantially reduced Soviet customers' ability to purchase machinery and reduced CEE machine tool builders' orders. With trade now conducted in hard currencies and cleared in U.S. dollars, CEE builders are having to compete on the basis of world prices. For Czechoslovakian builders, the situation is worse, because of a recent bilateral agreement between Czechoslovakia and the Soviet Union which specified the types of machinery and other products the Soviets would buy.

CEE machine tool producers have sought new markets for their products outside of former members of CMEA. Some have sought to guarantee production through manufacturing cooperation agreements with German and other foreign producers, while also looking further overseas for orders. New markets include Korea, Iran, Singapore, Thailand, Algeria, and South Africa.

OECD imports of machine tools from CEE countries more than doubled from 1985 to 1989, rising from $58.9 million to $142.5 million (table 49). U.S. imports have been negligible and were valued at $8.9 million in 1989. This is in large part due to high U.S. tariffs, ranging between 30 to 45 percent, levied on machine tools from nonmarket countries. Since the tariffs increased their prices, CEE machine tool builders did not have the sales and potential market to justify establishing marketing and service centers required for further market penetration. Also, the U.S. market was quite distant from their principal markets in the EC and CMEA countries.

EC imports from CEE countries totaled $96.0 million in 1989 and accounted for 68 percent of total OECD imports. Almost half of the EC imports were from Czechoslovakia ($47.6 million), followed by imports from Poland and Hungary. Imports by other OECD countries were also primarily from Czechoslovakia. Two major Czechoslovakian markets outside the EC are Austria and Switzerland.

In contrast, OECD exports to CEE countries were almost three times as large as CEE exports to OECD countries. In 1989, CEE imports from the OECD were valued at $445.8 million, with imports from the EC accounting for 66 percent of the total (table 50).

As mentioned previously, CEE machine tool producers had sizeable exports to the Soviet Union. Only machine tool builders from Germany, Japan, and Switzerland approach the CEE builders in machine tool sales to the Soviet Union and other former CMEA country markets. For example, Polish machine tool builders have a good reputation and are fairly well established in the markets.[561] Much of the trade between the Soviet Union and Central and Eastern Europe was managed trade, however, this pattern is beginning to change with the relaxation of export controls. Soviet customers are beginning to look even more to German and Japanese machine tool vendors.

Most Western trade and tariff barriers on machine tool imports from Central and Eastern Europe have been lifted, with most-favored-nation (MFN) and Generalized System of Preferences (GSP) tariff treatment being recently granted to most Central and East European countries. CEE machine tool builders are taking advantage of these benefits. For example, in 1990, $4.9 million of total U.S. imports of $5.9 million of machine tools from Poland entered duty-free under GSP; GSP imports from Hungary were valued at $941,000, out of total imports of $1.2 million.

Even with these benefits, because of the recession in the United States and a deteriorating machine tool market in the EC, competition for CEE machine tool builders is intensifying. Although many CEE machine tools are price-competitive, customers are evaluating other aspects to purchasing machine tools, such as technology level, service, and training.

In the short term, if the United States granted MFN and/or GSP tariff treatment to Romania, Czechoslovakia, and Bulgaria, the elimination of these tariffs would result in at least a marginal increase in exports. To increase exports significantly and compete successfully in the U.S. market, producers in these CEE countries will have to produce higher quality goods and improve their marketing skills.

Motor-vehicle parts

Prepared by Adam Topolansky

Export potential

There is a relatively high potential for the CEE motor-vehicle parts industry to export its products to certain foreign markets. CEE exports of parts should increase because of the industry's cost-competitive wages, skilled workforce, proximity to Western European producers of motor vehicles, adequate reserves of raw materials, and commitment to modernization and investment.

Industry sources estimate that the CEE industry will grow at an average annual rate of 6 to 7 percent; CEE parts suppliers will not only have to meet expanding domestic demand, but they have also been preselected to supply General Motors-Opel, Volkswagen, Ford, Fiat, and other Western European producers and their affiliates. During 1989-91, Western firms invested about $600 million in the CEE industry.[562] Hungary, Czechoslovakia, and Poland have received most of this investment; partly as a result of this inflow, these countries have the strongest potential to increase exports.

[561] USITC staff field interview in Poland with various machine tool experts, July 1991.

[562] USITC staff estimates based on a compilation of 40 Western-funded cooperation agreements with CEE countries from *Business Eastern Europe*, a Business International, Inc. publication.

Table 49
Machine tools: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	2.8	1.9	2.1	4.3	4.5
Czechoslovakia	.7	.6	.8	1.9	1.5
Hungary	.2	.2	.3	.4	2.9
Romania	1.1	.1	.7	(1)	(1)
Bulgaria	(1)	(1)	(1)	(1)	(1)
EC imports from—					
Poland	4.9	12.4	12.1	11.9	16.3
Czechoslovakia	18.0	36.1	36.1	46.7	47.6
Hungary	5.4	9.4	9.9	11.1	13.9
Romania	4.5	5.0	4.3	5.7	9.2
Bulgaria	3.1	5.4	6.4	7.2	9.0
Other OECD imports from—					
Poland	2.6	6.0	7.9	6.9	9.7
Czechoslovakia	11.8	18.8	19.8	19.4	21.1
Hungary	2.7	4.6	5.6	3.1	3.9
Romania	.2	.9	.8	.6	.6
Bulgaria	.9	1.8	2.2	1.3	2.3
Total OECD imports from—					
Poland	10.3	20.3	22.1	23.1	30.5
Czechoslovakia	30.5	55.5	56.7	68.0	70.2
Hungary	8.3	14.2	15.8	14.6	20.7
Romania	5.8	6.0	5.8	6.3	9.8
Bulgaria	4.0	7.2	8.6	8.5	11.3

[1] Less than $50,000.

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 50
Machine tools: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	2.1	1.7	4.5	2.2	4.7
Czechoslovakia	1.4	.8	.2	.3	.2
Hungary	1.5	.4	1.6	3.9	4.1
Romania	(1)	.1	.1	(1)	0
Bulgaria	2.1	1.3	3.8	1.7	.2
EC exports to—					
Poland	36.8	48.2	64.8	85.2	96.6
Czechoslovakia	40.1	53.5	76.0	110.0	109.6
Hungary	20.4	27.0	35.8	27.5	36.8
Romania	5.8	2.7	1.0	1.5	1.4
Bulgaria	58.2	77.1	95.2	79.8	48.3
Other OECD exports to—					
Poland	21.6	27.6	27.6	32.2	39.3
Czechoslovakia	23.5	40.6	43.0	43.8	43.3
Hungary	8.8	10.0	7.3	15.9	19.4
Romania	1.2	13.4	(1)	.1	.1
Bulgaria	28.9	75.1	53.6	24.5	41.8
Total OECD exports to—					
Poland	60.5	77.5	96.9	119.6	140.6
Czechoslovakia	65.0	94.9	119.2	154.1	153.1
Hungary	30.7	37.4	44.7	47.3	60.3
Romania	7.0	16.2	1.1	1.6	1.5
Bulgaria	89.2	153.5	152.6	106.0	90.3

[1] Less than $50,000.

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

Industry characteristics

In order to examine the dynamics of the CEE motor-vehicle parts industry, the market for these products, the CEE motor vehicle industry, must also be described. Beginning in 1948, CMEA decrees allocated automobile, bus, truck, and parts production among CEE countries according to a planned industrial policy. The former GDR and Czechoslovakia were designated as the principal CEE producers of automobiles and certain parts; Poland was initially assigned the bulk of truck production (and later compact cars) and certain parts; Hungary was chosen as the region's premier bus producer and top supplier of motor-vehicle parts to the Soviet Union; and Romania and Bulgaria manufactured primarily trucks. Thus, motor vehicles and parts produced in CEE were principally traded among CEE countries and the Soviet Union.

In 1990, the CEE motor vehicle industry built an estimated 900,000 vehicles, including about 720,000 automobiles and 180,000 commercial vehicles (trucks and buses). CEE industry sources estimate that CEE motor vehicle production capacity will exceed 1.4 million units by the year 2000, representing an average annual increase of 4.5 percent.[563] Other sources estimate that production will rise even higher.[564] CEE officials have always considered the motor-vehicle parts industry as a subset of the motor vehicle industry; consequently, it is difficult to estimate CEE motor-vehicle parts shipments. However, based on the current average costs of producing a motor vehicle in CEE (about $6,000 for an automobile and $30,000 for a commercial vehicle), and adjusted for imported parts, the CEE original-equipment (OE) parts industry is currently estimated to be about $5.2 billion,[565] whereas the aftermarket, or replacement parts segment, is gauged at about $1.3 billion.[566] Based on production year 1990, the CEE industry's combined OE and aftermarket production capacity is estimated at $7 billion in 1991. CEE industry sources stated that, prior to 1991, CEE vehicle producers imported a relatively small portion, less than 10 percent, of the total value of the original-equipment parts they used. The primary sources for these imports were CMEA producers, Robert Bosch Gmbh, and Fiat's captive parts producers.[567]

Low production costs are a major advantage for the CEE motor-vehicle parts industry. The average cost of producing a compact automobile in CEE (about $6,000) is approximately 25-percent below the cost of producing a compact car in the United States (about $8,000). The assembly of an automobile in CEE as well as the production of its parts are cost-competitive mainly because of the relatively low wage rates, despite the relatively high skills of the workers. Even after some recent wage increases, production workers in the CEE parts industry were compensated in the range of $1.50- $3.50 an hour during the first half of 1991.[568] Adjusting for paid benefits, such as state-subsidized health care and lower productivity (about half that of Western workers), the effective wage rate would more than double. Even that would be considerably lower than the $18.86 per hour paid in the United States in 1990 and below the estimated $11.50 per hour paid in Korea in 1990. Certain privately owned, Western-oriented CEE firms have been offering higher wage rates ($3.50-$5.00) to attract skilled technicians, yet these producers have substantially reduced company-provided fringe benefits compared with those of larger, state-owned enterprises. In addition, analysts state that the CEE region could become a parts-sourcing center for Western European motor vehicle producers, and for the European subsidiaries of U.S. automakers, especially those assembling in nearby Northern Italy, Austria, and Germany, primarily because of geographical proximity and preexisting cultural and geopolitical ties.[569] However, the CEE industry is behind Western standards in many areas. Parts quality continues to be deficient, capital is scarce, and modern management techniques have not yet been adopted. On the other hand, there are signs of improvement in the CEE transportation infrastructure, and the CEE industry made some progress in the area of technology, due to recently relaxed COCOM export controls to Poland, Hungary, and Czechoslovakia.

GM, Volkswagen (VW), Fiat, and Ford already have a relatively significant investment position in the CEE automotive industry in anticipation of the likely restructuring of supplier relationships among European-based auto producers. This realignment by the large automakers in Western Europe will involve shifting some of the labor-intensive production activities from the high-cost Northwestern European region to lower-cost areas of Europe, particularly the

[563] *The East European Motor Industry*, The Economist Intelligence Unit, Special Report No. 1167, 1989, p. 189.

[564] *Ward's Automotive Yearbook*, 1990, p. 277. Other estimates are attributed to Mr. Robert Eaton, President of GM Europe.

[565] The total value of parts incorporated in an average CEE automobile is estimated to be 60 percent of a CEE automobile's total production cost of $6,000, or about $3,600. Since 720,000 automobiles were produced in CEE during 1990, the total value of the parts used in manufacturing these automobiles was estimated at $2.6 billion (720,000 x $3,600). The total value of parts incorporated in an average CEE commercial vehicle, based on the 60- percent rule, is $18,000 (60 percent of $30,000). Since 180,000 commercial vehicles were produced in CEE during 1990, the total value of parts used in manufacturing these commercial vehicles is estimated at $3.2 billion (180,000 x $18,000). During 1990, the total value of the original-equipment (OE) parts industry in CEE (after adjustment for imported parts) was valued to be about $5.2 billion ([$2.6 billion for autos + $3.2 billion for commercial vehicles] - $580 million imported parts).

[566] Since the OE parts industry generally accounts for 80 percent of total parts production (the remaining 20 percent is aftermarket parts), the aftermarket parts segment of the CEE industry was estimated at $1.3 billion.

[567] USITC staff telephone interview with CEE industry official, Aug. 13, 1991.

[568] USITC staff telephone interview with Hungarian industry official, July 25, 1991.

[569] USITC staff interviews with officials of the Hungarian, Polish, and Czechoslovak automotive parts industries, July 3-11, 1991.

Iberian Peninsula, and the CEE countries. Although Suzuki has signed an agreement with Hungarian partners to build a factory in Hungary, Japanese automakers have not shown significant interest in CEE.

During 1989-91, firms from at least 11 Western countries committed about $3 billion to the CEE automotive industry. These expenditures will increase to $6 billion during the next 5 years, according to existing agreements between CEE firms and Western partners. The CEE parts industry has drawn about $600 million in current commitments. Hungarian parts producing facilities received about $250 million; Czechoslovak parts producers received about $200 million (the BAZ transmission producing project alone amounted to $150 million); and the Polish parts industry obtained approximately $150 million.[570]

While automotive emissions control measures will add to the cost of producing an automobile, the CEE industry might be presented with an opportunity to export emissions control equipment. Ford, for example, has recently begun construction of a plant to manufacture fuel injection and other emissions-related components in Hungary. Many of these components will be exported to Western Europe. Furthermore, industry sources state that catalytic converters could be manufactured competitively by the CEE industry, using Soviet platinum reserves and Western technology.

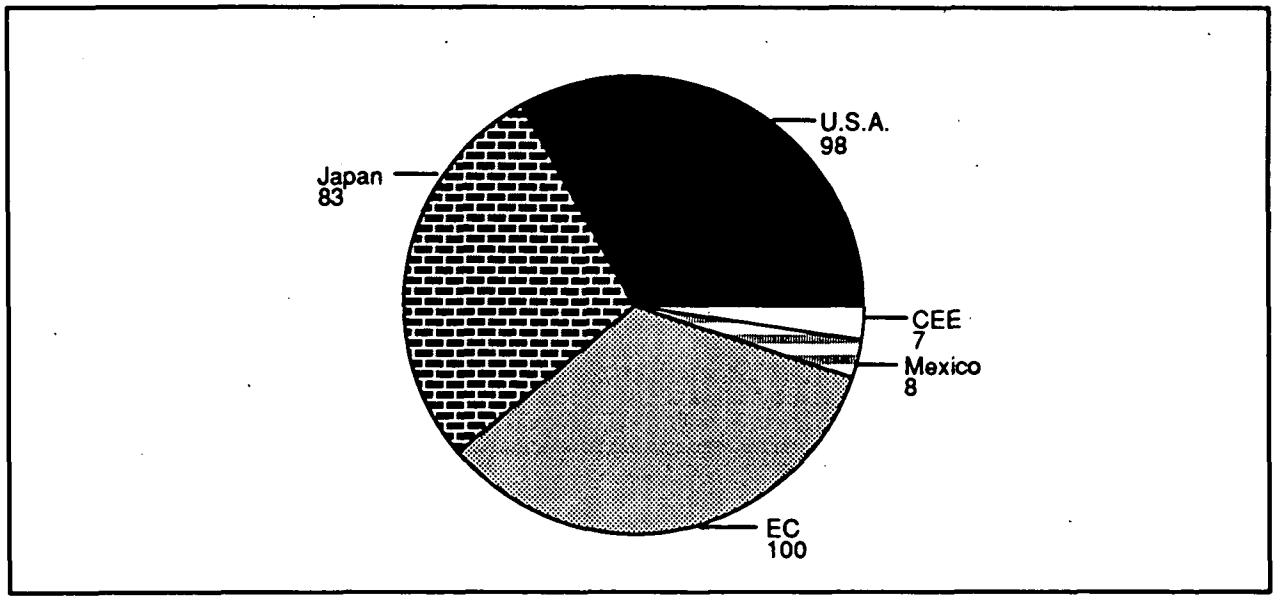
At present, the CEE auto parts industry is small compared to the EC parts industry (figure 6). The EC industry supplies approximately 29 percent of the total value of parts produced in the world, whereas the CEE industry contributes only about 2 percent. Other industry leaders, such as the United States and Japan, together produce about half of total world output of parts, or 28 and 24 percent of world production, respectively.

Certain regional investment patterns have emerged in recent years in CEE. For example, Italian firms often invest in Poland; German companies in Czechoslovakia; U.S. firms in Hungary; and French companies in Romania. Industry characteristics for Czechoslovakia, Hungary, and Poland are presented in the sections that follow.

Czechoslovakia.—Czechoslovakia has been the CEE region's leading automaker and a significant motor-vehicle parts supplier to the former CMEA countries. There are an estimated 150 to 200 parts producers in Czechoslovakia. Major Czechoslovak parts manufacturers include the following companies: Motor, PAL, PANP, Autopal, Autobrzdy, BAZ, Pikaz, and UVMV. Currently, most Czechoslovak parts production is captive; that is, most of the parts are produced by the state-owned auto companies or by parts producers tied to trade companies. The Czechoslovak industry is in traditionally well-developed industrial areas of Bohemia and Moravia. Both the Skoda and the Tatra (formerly Laurin and Klement) automobile factories have developed and secured a captive original-equipment supplier base in those regions. Today, Skoda is made up of six auto and parts producing facilities employing about 21,000 workers.

[570] Compiled from *Business Eastern Europe*, 1990 and 1991 weekly bulletins.

Figure 6
Parts production by selected regions. Estimated 1990 data in billion dollars



Sources: DOC, Boston Cons. Group, Credit Suisse, and USITC.

During recent years, Czechoslovak producers of automobile tires have exported "Barum" brand name tires to more than 80 countries, including Germany, the United Kingdom, France, Scandinavia, Italy, and the United States. Exports of Czechoslovak tires to Western markets are expected to increase in the future.[571]

VW has assumed an important role in restructuring the Czechoslovak automotive industry. The German automaker committed significant investments to the Skoda Works and set up a joint venture with BAZ. VW currently holds a 25-percent share of Skoda with an investment of about $325 million. By 1995, VW will increase its share to 70 percent at an additional cost of $415 million. VW sources claim that the German automaker is committed to invest approximately $5 billion in Skoda during 1991-2000. The VW-BAZ plant will be primarily a motor-vehicle parts producing facility. An output of 350,000 gear boxes is planned by 1994, mainly to be exported to West European suppliers. Another part of the VW-BAZ conglomerate, however, will assemble 3,000 Volkswagen Passat automobiles from imported kits by 1992, with full-scale assembly of approximately 30,000 vehicles starting in 1993. Initial capitalization of the joint venture is reported to be about $35 million. VW sources indicate that total investment allocated to the BAZ facility will eventually top $600 million.[572]

Hungary.—There are approximately 100 motor-vehicle parts producers in Hungary, most of them closely associated with one of three major Hungarian vehicle suppliers, Ikarus, Csepel, and Rába.[573] Unlike the other CEE countries, however, Hungary also has a limited number of large quasi-independent producers, including the Taurus Rubber Factory (automobile tires), MGM Roller Bearing Works (antifriction bearings), Autovill (starters and generators), Bakony Metal & Electrical Appliances Works (spark plugs, windshield wipers, horns, and distributors), SZIM (brake components and valves), ISG Industrial Fittings & Machinery Works (front axles and transmission gears), and Budamobil (car bodies). There are also a growing number of small jobbers (retailers) and family-owned shops proliferating around major industrial centers. The Hungarian industry employs approximately 30,000 workers.[574] The total value of parts produced in Hungary was estimated to be close to $1 billion in 1990. The leading Hungarian motor vehicle supplier has been Ikarus, the world's largest producer and exporter of articulated buses. Ikarus accounts for 20 percent of world trade in large-capacity buses.[575]

[571] USITC staff interviews with officials of Motokov in Prague, Czechoslovakia, July 12, 1991.

[572] Compiled from *Automotive Parts International*, vol. 5, No. 8, May 31, 1991, pp. 5-6.

[573] USITC staff interviews with officials of the Institute of Industrial Economics, Budapest, Hungary, July 1, 1991.

[574] Ibid.

[575] USITC, *Central and Eastern Europe: Export Competitiveness of Major Manufacturing and Services Sectors*, Initial report: Phase 1, USITC investigation No. 332-308, April 1991, p. 58.

The Hungarian industry received more than one-third of Western investment in the CEE motor-vehicle parts industry during 1989-91. During this period, a great portion of the total U.S. investment in the CEE industry was allocated to Hungary. General Motors and its European subsidiaries (AC Rochester and Packard Electric) and Ford invested a total of $190 million, or an estimated 75 percent of the total parts-related investment in Hungary.[576]

Poland.—Post-war automobile production in Poland began in the 1950s; however, production remained at relatively low levels, only at about 20-30 thousand units annually. A breakthrough occurred in 1965, when the first license agreement with Fiat was concluded, and Fiat has since become a major participant in the Polish automotive industry. There are two major Polish motor-vehicle producers, Fabryka Samochodow Osobowych (FSO) and Fabryka Samochodow Malolitrazowych (FSM). More than 100 Polish parts suppliers produce and ship parts to FSO and FSM.[577] In total, there are over 300 parts producing firms in Poland; the industry employs approximately 50,000 workers. The Polish industry is presumed to be one of the largest in CEE, and 1990 production of parts was estimated to be near about $2.5 billion. Most of this output went to the Polish auto manufacturing industry and little was exported.[578]

In addition to Fiat, other Western carmakers have also shown interest in the Polish automotive industry. Recently, General Motors, Hyundai, TRW, Saab-Scania, and Mannesmann Handel made new investments in various automotive joint ventures in Poland. Total foreign investment in the Polish parts industry alone was estimated at $150 million during 1989-91. This amount is likely to grow in the near future, since Fiat has indicated that its investment position in the Polish auto industry will increase significantly in the next 3 to 5 years, thereby increasing the likelihood of more parts production.

Romania.—The Romanian industry is estimated to be comparable in size with the Hungarian industry, producing a little over $1 billion annually. Parts producing facilities, however, are captives of the state-run vehicle industry and supply primarily domestic producers of motor vehicles. Romania has a number of these vehicle- and parts-producing facilities; however, the majority of the vehicles produced are exported to other CEE or developing countries. The French-financed Dacia (Renault license) model is Romania's principal automobile. Hampered by quality problems and inadequate aftermarket parts availability, the production and sale of Dacias have leveled off in recent years. Industry sources, however, expect that

[576] USITC staff estimates based on a compilation of 40 Western-funded cooperation agreements with CEE countries, from *Business Eastern Europe*, a Business International Inc. publication.

[577] Based on information contained in *The East European Motor Industry*, The Economist Intelligence Unit, 1989, pp. 69-72.

[578] USITC staff interview with officials of Pol-Mot, Warsaw, Poland, July 8, 1991.

another Romanian-produced vehicle, the Oltcit (Citroen license) will be sold in Western European markets shortly.[579] In addition, industry sources state that the Romanian industry is expected to increase its production and export capabilities once economic reforms are implemented.

Bulgaria.—The Bulgarian industry is relatively small compared with the parts industries of other CEE countries. Bulgaria's parts production facilities mainly export to the Soviet Union; principal parts produced include lighting equipment, mirrors, and filters. Bulgarian parts makers also supply Czech-owned Skoda with certain components. Rover of the United Kingdom and Ukranian-based Zaporozets have expressed interest in opening auto production facilities in Bulgaria.[580]

Government policy and nature of management structure

The automotive industry in CEE began as a market-driven and privately owned industry between the two world wars. After 1948, it became a state-regulated industry. Political affiliation had more to do with the selection of managers than did technical and entrepreneurial skills. Prices were tightly controlled by the national governments. Automotive investments were coordinated and promoted by the state in accordance with the so-called 5-year plans.

Since 1989, the CEE automotive industry has experienced rapid changes. A new entrepreneurial class has begun to take over the day-to-day management of motor vehicle and parts enterprises. During this transformation, firms are gradually being privatized, especially through foreign investment.

Adjustment issues

Some of the major challenges facing the CEE motor-vehicle industry include establishing new export markets in the West, updating of manufacturing equipment, and attracting more investment capital.

Financial constraints will limit the competitiveness of the CEE industry. Industry sources report that CEE parts makers are having difficulties obtaining commercial loans because traditional CEE legal and accounting practices create too many uncertainties for Western lenders.

Cost competitiveness, one of the fundamental advantages of the CEE industry, is likely to decline in the coming years, as higher capital and equipment costs are passed on to automakers.

Another impediment to growth of the CEE industry is the added cost of new environmental regulations. Newly introduced EC emissions regulations will render some of the products of the CEE industry obsolete. Stricter emissions standards will favor new technologies, including sophisticated fuel injection systems, lean burn engines, and the regular use of modern catalytic converters.

Foreign trade

Until 1990, the CEE industry exported its products mainly to the CMEA countries. However, with CMEA's recent disintegration, it is widely anticipated that the preexisting trade relationships in CEE will be significantly reshaped in the next 3 to 5 years.

OECD imports of parts from CEE increased at an average annual rate of 16 percent during 1985-89, from $205 million to $368 million (table 51). During the same period, OECD exports of parts to CEE increased at an average annual rate of 12 percent, from $337 million in 1985 to $536 million in 1989 (see table 52). While OECD imports of parts from CEE increased at a faster rate than OECD exports to the CEE region, OECD countries posted trade surpluses during the period; during 1989, this surplus totaled $168 million, owing mostly to strong OECD exports of aftermarket parts and accessories.

Of the CEE countries discussed, Hungary has the most export competitive industry. Hungary exported nearly one-half of its parts production in 1990, or about $450 million; one-third, or about $150 million of these exports went to Western countries. Czechoslovak exports of parts were estimated to be $500 million in 1990, but less than one-fourth of that went to Western countries. Poland's intra-CMEA exports of parts totaled about $500 million in 1990; Polish exports of parts to Western countries were about $90 million in the same year.[581]

According to official Hungarian statistics,[582] in 1989 Hungary exported about 100,000 units of motor-vehicle parts to the world (not including tires, diesel engines, and ball/roller bearings). In 1989, 579,000 truck and bus tires, and 6,858 diesel engines were exported. Exports of bearings amounted to 7,000 long tons during 1989. The combined share of these commodities in value terms accounted to 2.6 percent (about $300 million) of total Hungarian exports in 1989. About one-sixth of those exports, or $50 million, was shipped to the United States during 1989. In 1990, Hungary's motor-vehicle parts exports rose an estimated 10 percent compared with 1989, to about $330 million, and its exports to the United States totaled about $70 million.

Industry sources predict that the CEE countries will substantially increase their parts exports to Western Europe. Because of the recent investment patterns that evolved in the CEE industry, the Hungarian and Czechoslovak parts industries appear to have the greatest export potential, followed closely by Poland.

[579] *Ward's Automotive Yearbook*, 1990, p. 278.
[580] Ibid, p. 277.
[581] Trade data used for the CEE countries were compiled from official statistics of the U.S. Department of Commerce, Nimexe, and UN trade statistics.
[582] *Statistical Yearbook of Hungary*, 1989.

Table 51
Motor-vehicle parts: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	4.9	4.7	4.9	7.8	7.2
Czechoslovakia	7.9	7.2	6.9	7.1	4.7
Hungary	38.3	24.9	39.9	43.3	61.2
Romania	7.5	7.7	11.4	10.5	3.3
Bulgaria	.2	0	.1	.1	.2
EC imports from—					
Poland	30.0	38.9	46.3	53.6	58.8
Czechoslovakia	19.7	31.8	33.9	46.7	57.6
Hungary	23.2	36.2	43.3	41.8	53.7
Romania	31.4	42.5	45.9	67.2	57.7
Bulgaria	1.9	2.1	3.7	4.2	6.0
Other OECD imports from—					
Poland	14.5	11.1	12.4	7.1	18.9
Czechoslovakia	11.4	12.4	13.5	12.2	15.3
Hungary	9.5	9.2	18.6	15.7	11.4
Romania	4.6	8.4	8.9	11.5	10.8
Bulgaria	.3	.6	.5	.4	.7
Total OECD imports from—					
Poland	49.4	54.7	63.6	68.5	84.9
Czechoslovakia	39.0	51.4	54.3	66.0	77.6
Hungary	71.0	70.3	101.8	100.8	126.3
Romania	43.5	58.6	66.2	89.2	71.8
Bulgaria	2.4	2.7	4.3	4.7	6.9

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 52
Motor-vehicle parts: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	5.4	5.5	5.3	4.3	13.7
Czechoslovakia	.5	2.1	.3	2.6	1.6
Hungary	8.9	5.9	14.8	10.1	6.3
Romania	6.5	.5	.4	.5	.4
Bulgaria	1.9	1.1	1.8	.3	.7
EC exports to—					
Poland	81.9	93.1	96.2	125.8	156.9
Czechoslovakia	30.7	47.7	54.9	93.3	84.3
Hungary	67.6	98.2	112.3	105.6	121.2
Romania	37.3	33.7	18.6	19.3	13.1
Bulgaria	37.3	36.9	40.5	65.8	61.7
Other OECD exports to—					
Poland	28.3	40.8	36.5	27.8	36.1
Czechoslovakia	8.5	10.3	9.1	4.7	7.7
Hungary	9.1	13.2	14.9	12.0	19.5
Romania	2.9	3.8	1.6	1.9	1.2
Bulgaria	10.6	12.6	11.8	8.4	11.1
Total OECD exports to—					
Poland	115.6	139.4	138.0	157.9	206.7
Czechoslovakia	39.7	60.1	64.3	100.6	93.6
Hungary	85.6	117.3	142.0	127.7	147.0
Romania	46.7	38.0	20.6	21.7	14.7
Bulgaria	49.8	50.6	54.1	74.5	73.5

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports to other OECD countries.

In 1990, preliminary data indicated that total estimated CEE exports of parts to OECD countries amounted to $400 million. In comparison, this amount represented about 1 percent of U.S. imports of parts from the world in 1990, which totaled about $30 billion during the same year. During 1990, Hungary exported about $135 million of parts to OECD countries, Poland about $95 million, Czechoslovakia about $90 million, Romania about $70 million, and Bulgaria $10 million. The United States received one-fourth of all CEE parts shipped to OECD countries, or about $100 million. Of this $100 million, Hungary exported about $75 million, Poland about $10 million, Czechoslovakia about $8 million, and Romania about $7 million. Bulgaria's parts exports to the United States were negligible.[583]

Poultry

Prepared by Doug Newman

Export potential

In general, CEE poultry export potential during the next 5 years is likely to be low. CEE poultry exports declined in 1989 and 1990, and this pattern is likely to continue in the near term as the industries adapt to changing economic environments in each CEE country. In addition, the current economic problems in the Soviet Union, traditionally the primary poultry export market for CEE countries, have hurt CEE poultry exports and, consequently, hurt production. Attempts to redirect exports to other markets have been affected by declining economic conditions in these markets.

The long-term potential for the CEE poultry sector is high. Although the CEE poultry sector generally has not kept pace with new technologies developed by Western competitors, the region has developed some relatively modern poultry complexes. The region also has some experience in exporting to world markets. Once the CEE region has adjusted to economic reforms and market-driven economies, the poultry industries will be likely to recover relatively quickly. In addition, the relaxation of foreign investment restrictions will further enhance the potential of the CEE poultry sector by attracting much needed capital and technology.

The production capacity of the CEE poultry sector is currently underutilized, and production and exports can be increased relatively quickly. In addition, the capital investment needed to expand production and exports is believed to be relatively small for the CEE poultry sector compared with other sectors such as heavy industry. There is also a rising global demand for poultry. The prospect of eventual economic recovery in the Soviet Union also enhances the long-term outlook for CEE poultry exports. The CEE region possesses cost advantages in terms of land, labor, and marketing experience to potential nontraditional export markets, such as the Soviet Union, compared with other major world producers.

[583] Compiled from official statistics of the U.S. Department of Commerce, Nimexe, and UN trade statistics.

Industry characteristics

The CEE region comprises one of the world's major poultry production and exporting areas. In 1990, the CEE countries included in this study accounted for 5 percent of total world poultry meat production and 12 percent of total world poultry meat exports.[584] In 1990, the CEE region was the world's sixth-largest poultry meat-producing area, trailing the United States, the EC, the Soviet Union, China, and Brazil. It was the world's third-leading poultry meat exporting area, trailing the EC and the United States. Clearly, the CEE region is a major player in the world poultry market, and the transformation to market economies in the region is expected to have major implications for this market.

The poultry industries across the CEE countries vary in size, level of development, degree of private and public sector ownership, and market emphasis. The industry in each country is discussed separately.

Hungary.—The poultry industry in Hungary is the largest and most developed among the CEE countries and is the most export-oriented. Poultry production is concentrated in state-owned facilities. According to the U.S. Department of Agriculture, about 65 percent of poultry processing was accounted for by nine state-owned firms in 1990.[585] In addition, there were 16 plants owned by farms and agricultural and consumer cooperatives as well as 3 plants owned by joint-stock companies. Most of these entities are members of the Poultry Breeders and Producers Association. Hungarian poultry processing plants utilize modern equipment and are approved to export to the EC.[586] According to the latest available data, the Hungarian poultry and egg-processing industry employed an average of about 16,000 workers in 1988.[587]

Total Hungarian poultry production rose from 400,000 metric tons in 1985 to a peak of 470,000 metric tons in 1987 before falling to 426,000 metric tons in 1990, reflecting a similar trend in the dominant broiler sector (table 53).[588] The wholesale value of production in 1990 was about $559 million.[589] A variety of factors led to the decline in production in 1990, including rising production costs and shortages of feed; declining productivity because

[584] Including intra-EC trade. This share rises to 15 percent, excluding such trade. Based on data contained in Foreign Agricultural Service, U.S. Department of Agriculture, *World Poultry Situation*, April 1991.

[585] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU0020, U.S. Embassy, Vienna, June 13, 1990, p. 6.

[586] ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991.

[587] Hungarian Central Statistical Office, *Statistical Yearbook, 1988*, p. 121. Data are not separately available for poultry production.

[588] Specific data are available only for broilers and turkeys. A significant amount of ducks, geese, and spent laying hens are also produced and are represented by the "other" category.

[589] ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991. Value is based on liveweight production of 570,000 metric tons and a wholesale price of 62 forints ($0.98) per kilogram.

of poor feed quality and stagnant breeding and growing technology;[590] a slowdown in capital investment in poultry facilities because of inflation and rising interest rates; and declining export incentives. The Hungarian Ministry of Agriculture forecasts total poultry production will decline 12 percent in 1991.[591] Per capita consumption of poultry in Hungary was 23.2 kilograms in 1990, compared with 7.4 kilograms for beef and veal and 76.5 kilograms for pork.[592]

Data are not available on the cost structure of Hungarian poultry producers. However, total production costs are higher than those of major competing producers such as the United States, the EC, and Brazil. In 1990, production costs averaged about 47 cents per pound (liveweight basis) for the state farm and large cooperative sector and about 42 cents per pound for small producers.[593] This compared with average farm production costs of about 24 cents per pound in the United States that year.[594] The relatively higher production costs result mainly because of higher feed costs in Hungary. Feed generally accounts for more than two-thirds of total production costs, and feed costs are significantly higher in Hungary than in other major producing areas largely because higher-protein feed ingredients must be imported using hard currency, mainly from the United States and Brazil.[595] In addition, finished feed quality is generally lower in Hungary compared with Western producers. This results in higher costs because of less efficiency in feed conversion.

Productivity in the Hungarian poultry industry is considerably lower than in the United States and the EC. Productivity, as measured by the feed-conversion ratio, is reported to be about 25-30 percent lower than in the EC (as of mid-1990).[596] A recent Hungarian Government survey showed a feed conversion ratio in Hungary of 2.4 kilograms to produce 1 kilogram (liveweight) of chicken, compared with less than 2 kilograms for U.S. producers.[597] The hatchability rate for broiler chicks is about 75 percent[598], and the death loss rate for broilers during growout is reported to be 8 percent,[599] both of which are high by U.S. standards. The relatively low productivity of Hungarian poultry production results from a combination of low quality feed, insufficient application of technology and management techniques, and lack of quality incentives. According to an official of the Hungarian Ministry of Agriculture, the Hungarian poultry industry suffered losses totaling 700 million forints (about $11 million) in 1990.[600]

Availability of production inputs has been a recent problem for the Hungarian poultry industry. The current economic problems (inflation, currency devaluation, and hard currency shortages) caused by market transformation have contributed to shortages of capital for growth and modernization and feed, the primary material input. The major production factors, land, labor, and energy, are in relatively good supply. In addition, foreign poultry producers, mainly from the United States and the EC, are currently considering investing in the Hungarian poultry industry,[601] thus improving the prospects of increasing technology and production inputs.

Romania.—Romania is the second-largest CEE poultry producer, although production levels exceeded those of Hungary during some recent years. The poultry industry was targeted for growth by the Romanian Government during the past decade because of its relatively short production cycle compared with other agricultural products and the desire to export value-added agricultural products to repay foreign debt as quickly as possible.[602] Romanian poultry production is concentrated in the state farm sector. In 1990, approximately half of production was accounted for by the state farm sector, about 43 percent by the cooperative sector, and the remainder by the private sector.[603]

Romanian poultry production generally declined during 1985-89, but rebounded in 1990; production totaled 425,000 metric tons the latter year (table 53). Broilers account for the bulk of Romanian poultry production. The general decline in production during the period under review resulted mainly from reduced feed availability; domestic feed supplies have been diminished by drought conditions, and imported feed

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[590] According to a report from the U.S. Embassy, Vienna (GEDES Voluntary Report HU0020, June 13, 1990), two major Hungarian suppliers of day-old chicks have been influential in blocking competitive imports, thus limiting the quality of breeding and growout stock. However, this situation may be changing, as one of the suppliers is reportedly forming a joint venture with a leading world poultry breeder (ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991).

[591] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU1023, U.S. Embassy, Vienna, June 24, 1991, p. 1.

[592] U.S. Department of Agriculture, Foreign Agriculture Service, *World Poultry Situation*, April 1991; *World Livestock Situation*, April 1991.

[593] ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991. Costs were lower for smaller producers because of lower labor and overhead expenses.

[594] U.S. Department of Agriculture, *Livestock and Poultry Situation and Outlook Report*, May 1991, p. 8.

[595] Ibid.

[596] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU0020, U.S. Embassy, Vienna, June 13, 1990, p. 2.

[597] ITC staff interview with Dr. Lazlo Takacs, Deputy Director, Poultry Breeders and Producers Association, Budapest, July 1, 1991.

[598] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU9014, U.S. Embassy, Vienna, June 15, 1989, p. 2.

[599] Ibid.

[600] ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991.

[601] Address by Dr. György Raskó, Deputy Secretary of State, Ministry of Agriculture, at the OECD Agrarian Seminar, The Hague, April 8-13, 1991.

[602] However, the Romanian Gopvernment prohibited poultry exports in 1990. See section on trade later in this section of the report.

[603] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Agricultural Situation Report, Report #RO1004, U.S. Embassy, Belgrade, Apr. 23, 1991, p. 25.

supplies have been curtailed because of high foreign debt and lack of hard currency. The rebound in 1990 production levels resulted from the high government priority given to the poultry sector with respect to the allocation of imported feed ingredients.[604] Per capita poultry consumption was 11.5 kilograms in 1990, compared with 13.0 kilograms for beef and veal and 32.7 kilograms for pork.[605]

Data are not available on the cost structure of Romanian poultry producers. However, major competing producers such as the United States, the EC, and Brazil are believed to benefit from lower production costs. Feed costs are significantly higher in Romania compared with other major producing areas because higher-protein feed ingredients must be imported using hard currency. The aforementioned drought further diminished feed quality and supplies. Finished feed quality is generally lower in Romania than in Western producer countries, resulting in higher production costs because of lower feed conversion efficiency.

Productivity in the Romanian poultry industry is considerably lower than in the United States and the EC. Data are not available for the typical measure of productivity, the feed conversion ratio. However, the average live weight of broilers at the time of slaughter is reportedly quite low, less than 1 kilogram prior to 1990.[606] In comparison, in the United States, a live broiler at slaughter weighs about 4 pounds (1.8 kilograms). As is the case in other CEE poultry industries, the relatively low productivity of Romanian poultry production results from a combination of low-quality feed and insufficient application of technology and management techniques. However, the feed conversion ratio in the Romanian poultry sector increased from 0.8 kilograms in 1989 to 1.2 kilograms in 1990, or by 50 percent.[607] This was largely the result of improved feed quality and supplies.

A shortage of production inputs has been a recent problem for the Romanian poultry industry. The current economic problems (inflation, currency devaluation, and hard currency shortages) caused by market transformation have contributed to shortages of capital for growth and modernization and feed, the primary production input. The Romanian poultry sector relies heavily on imported feed ingredients. In addition, a prolonged drought has affected domestic feed grain supplies. Availability of other primary production inputs—land, labor, and energy—are in relatively good supply.

Poland.—Poland, which at one time was the principal CEE poultry producer, is now the third-largest producer. The Polish Government embarked on a program of rapid development of the poultry sector in the 1970's. Poldrob, the primary state-owned poultry company, modernized the industry based mainly on model technology from the EC. The development was largely complete by 1980.[608] Modern equipment, mainly from Germany, is utilized in processing plants, which meet EC standards.[609] Polish poultry production peaked in 1981 at 457,000 metric tons.[610] However, the growth in the poultry sector was not matched by growth in the grain sector; poultry production increased 47 percent during 1970-80, while grain production increased by 7 percent.[611] This required the importation of feed grains using scarce hard currency. In addition, the buildup and modernization of the poultry sector was financed largely by credit in the suppliers' foreign currencies, further straining the government budget. Beginning in 1982, the Polish Government cut back on grain imports and other hard currency purchases that curtailed the expansion of the poultry sector. The industry recovered somewhat in the mid 1980's, but contracted again in the latter part of the decade as economic reforms imposed adverse conditions.

There are an estimated 1,750 broiler farms and about 200 turkey farms in Poland.[612] The bulk of poultry processing is accounted for by the state sector. Poldrob accounts for an estimated 82 percent of broilermeat production, and the remainder is accounted for by state and collective farms and the private Dobriarz Farmers Union.[613]

During 1985-90, Polish poultry production rose from 285,000 metric tons in 1985 to 351,000 metric tons in 1988 before falling to 328,000 metric tons in 1990 (table 53). Factors contributing to the decline since 1988 include a shortage of high-quality feed, the elimination of production incentives, high interest rates, and a decline in domestic demand for poultry meat. Broilers account for the largest share of production, although there is substantial production of other poultry (mainly ducks and geese). Per capita consumption of poultry in Poland was 7.9 kilograms in 1990, compared with 20.1 kilograms for beef and veal and 48.8 kilograms for pork.[614]

Data are not available on the cost structure of Polish poultry producers. However, total production costs are higher than those of major competing producers such as the United States, France, and Brazil. Such costs are the highest among the CEE countries (about 80 cents per pound, liveweight basis)[615] mainly

[604] Ibid, p. 2.
[605] U.S. Department of Agriculture, Foreign Agriculture Service, *World Poultry Situation*, April 1991; *World Livestock Situation*, April 1991.
[606] Ibid, p. 2.
[607] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #RO1009, U.S. Embassy, Belgrade, May 9, 1991, p. 2.
[608] Poultry International, unpublished draft article, Watt Publishing Company U.K., Petersfield, England, June 1990.
[609] ITC staff interview with officials of Poldrob, Warsaw, July 5, 1991.
[610] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #PL0020, U.S. Embassy, Warsaw, May 24, 1990, p. 1.
[611] Poultry International.
[612] Poultry International. Data are not available on the number of duck and goose farms.
[613] Ibid.
[614] U.S. Department of Agriculture, Foreign Agriculture Service, *World Poultry Situation*, April 1991; *World Livestock Situation*, April 1991.
[615] ITC staff interview with officials of Poldrob, Warsaw, July 5, 1991.

significantly higher in Poland than in other major producing areas. This is largely due to the fact that higher protein feed ingredients, particularly soybean products, are not produced in large quantities in Poland and must be imported using hard currency. Finished feed quality is generally lower in Poland compared with Western producers This results in higher costs because of less efficiency in feed conversion. In addition, Poland possesses a relatively cold climate relative to both the Western poultry-producing nations and to the other CEE countries. This increases production costs, particularly in terms of energy.

Productivity in the Polish poultry industry is considerably lower than in the United States and the EC. Productivity, as measured by the feed-conversion ratio, is reported to be about 2.8 kilograms of feed per kilogram of weight gain.[616] This ratio is relatively high by U.S. and EC standards.[617] The relatively low productivity of Polish poultry production results from a combination of low quality feed, climatic disadvantages, inadequate application of technology and management techniques, and the diversion of resources away from poultry toward competing red meats.

A shortage of production inputs has caused problems for the Polish poultry industry. The current economic problems (inflation, currency devaluation, and hard currency shortages) caused by market transformation have contributed to shortages of capital for growth and modernization and feed, the primary production input. Availability of other major production inputs—land, labor, and energy—are in relatively good supply.

Czechoslovakia.—Counter to the trend in the three largest CEE poultry producers, poultry production in Czechoslovakia increased during 1985-90. The principal government aim has been to maintain self-sufficiency in the poultry sector. There are 12 state-owned poultry production units and 2 related service units in Czechoslovakia.[618] About 90 percent of broiler production is accounted for by state farms and cooperatives.[619]

Czechoslovakian poultry production increased irregularly from 183,000 metric tons in 1985 to 216,000 metric tons in 1989 before declining to 211,000 metric tons in 1990 (table 53). Broilers accounted for about three-quarters of production in 1990. Production generally increased in the face of poor feed availability and quality, as the demand for poultry is increasing in Czechoslovakia. Production declined in 1990 mainly as the result of inadequate feed supplies and lower feed quality that were affected by drought conditions and by hard currency shortages. The export market for Czechoslovakian poultry products is relatively minor (about 5 percent of production annually), and production is driven by the domestic market. The poultry sector also benefited from various incentives during the period of expansion, including consumer price incentives that aided the growth in demand. Per capita consumption of poultry in Czechoslovakia was 13.5 kilograms in 1990, compared with 29.8 kilograms for beef and veal and 59.1 kilograms for pork.[620]

Data are not available on the cost structure of Czechoslovakian poultry producers. However, production costs are higher than those of major competing producers such as the United States, the EC, and Brazil, mainly because of relatively higher feed cost and lower feed quality. Recent production costs for broilers are reported to be about 51 cents per pound (liveweight basis).[621]

Productivity in the Czechoslovakian poultry industry is considerably lower than that in the United States and the EC, but is comparable to that in Hungary. The feed-conversion ratio was 2.54 kilograms of feed for 1 kilogram of weight gain in 1989,[622] and the average live weight at slaughter was about 1.7 kilograms.[623] In poultry processing plants, productivity, as measured by throughput per unit of labor, is reportedly about 120 metric tons (liveweight) per worker per day compared with about 900 tons in the United States.[624] As is the case in other CEE poultry industries, productivity is hurt by poor feed quality, lack of labor incentives, and insufficient application of technology and management techniques.[625] The level of technology employed by the Czechoslovakian poultry processing industry is lower than Western standards. Electronics (such as computers) are not used, and equipment breakdowns are reportedly common.[626]

Availability of production inputs has not been as large a problem for the Czechoslovakian poultry industry as in other CEE poultry producers. This situation is changing, particularly in light of current economic reforms that are eliminating producer and consumer incentives. Czechoslovakia's foreign debt, however, is not as extensive as that in other CEE countries and may not pose a major constraint to

[616] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #PL0020, U.S. Embassy, Warsaw, May 24, 1990, p. 2.

[617] The higher the ratio, the lower the productivity.

[618] U.S. Department of Agriculture, Foreign Agriculture Servicve, Annual Poultry Report, Report #CZ1009, U.S. Embassy, Vienna, June 11, 1991, p. 1.

[619] ITC staff interview with Mr. Kvetoslav Kosar, Research Institute of Animal Production, Prague, July 12, 1991.

[620] U.S. Department of Agriculture, Foreign Agriculture Service, *World Poultry Situation*, April 1991; *World Livestock Situation*, April 1991.

[621] ITC staff interview with Mr. Kvetoslav Kosar, Research Institute of Animal Production, Prague, July 12, 1991.

[622] U.S. Department of Agriculture, Foreign Agriculture Service, USDA, FAS, Annual Poultry Report, Report #CZ1009, U.S. Embassy, Vienna, June 11, 1991, p. 1.

[623] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Poultry Report, Report #CZ0007, U.S. Embassy, Vienna, May 30, 1990, p. 2.

[624] ITC staff interview with Mr. Kvetoslav Kosar, Research Institute of Animal Production, Prague, July 12, 1991. Although these data are imprecise, they are representative of the relative position of productivity in the two countries.

[625] Ibid.

[626] ITC staff interview with Mr. Kvetoslav Kosar, Research Institute of Animal Production, Prague, July 12, 1991.

necessary imported inputs during the period of market adjustment.

Bulgaria.—Bulgaria has the smallest poultry industry of the CEE countries. The Bulgarian Government, like that of Czechoslovakia, has followed a policy of self-sufficiency in agriculture in general and has attempted to restrict imports while facilitating exports.[627] There are 14 state farms and 4,000 private flocks that supply 10 processing plants in the Bulgaria broiler sector.[628] Turkeys are grown on three state farms as well as on an indeterminate number of private farms.[629]

Bulgarian poultry production increased during 1985-87, before stabilizing at about 170,000 metric tons annually (table 53). Broilers account for about three-quarters of production. Data are not available on per capita consumption of poultry in Bulgaria.

Data are not available on the cost structure of Bulgarian poultry producers. However, production costs are believed to be higher than those in major competing producers such as the United States, the EC, and Brazil, mainly because of relatively higher feed cost and lower feed quality.

Government policy and nature of management structure

Poultry production in CEE countries has been centrally controlled since the end of World War II. State management of the poultry sector generally has involved centrally mandated production and marketing targets, input and credit allocations, price controls, marketing monopolies, and incentives.

State control has become less effective, as the overall agricultural sector experienced increasing capital investment and technological improvements. The nature and extent of state involvement has evolved differently in each of the CEE countries, however, as described below.

Hungary.—The Hungarian poultry sector is subject to oversight by the Coordinating Committee for Agricultural Market Regulations (CCAMR). The CCAMR was established in January 1991 to determine and implement agricultural policy, including production, trade, and fiscal measures.[630] The CCAMR is authorized to intervene in the domestic market; change export incentives; and offer export tenders for surplus production. In addition, the CCAMR may propose price changes, export/import license suspensions, production quotas, changes in tariffs, and any other agricultural policy or legislative changes. However, according to an official of the Hungarian Ministry of Agriculture, decisions on poultry production have not been directly influenced by state planning organizations for many years.[631]

One of the major issues facing the Hungarian agricultural sector, including poultry, is land reform. There are three primary laws addressing this issue: the Compensation Act, the Land Law, and the Cooperative Law.[632] The Compensation Act, which is being prepared, provides for the compensation of citizens whose property was expropriated following May 1, 1939. Compensation certificates will be issued to be redeemed for land, buildings, or shares in private companies. Land will be provided from either common land of agricultural cooperatives or from state agricultural land that has been designated for privatization. The Land Law, which has not yet been enacted, will provide for land valuation, documentation, and mapping. The Cooperative Act provides for the restructuring of the agricultural cooperative system and will provide individual cooperatives with the option of privatization.

Hungary has the most aggressive privatization plan of the CEE countries. Two types of privatization programs were recently introduced. Under one program, a firm initiates the privatization proposal to the State Property Agency (SPA); under the other program, the SPA solicits bids for groups of firms.[633] Hungary has also taken the lead among CEE countries with measures to allow and attract foreign investment.[634] However, some impediments to foreign investment have been noted, particularly with respect to unclear property rights, timely approval by the SPA, and price valuation of assets. Hungary reportedly is attempting to privatize in excess of 30 percent of its gross domestic product within 3 years.[635] Privatization in the food processing sector, including poultry, is proceeding more slowly than in the economy as a whole. Only 1 percent of the output of the food processing sector is from privately-owned firms.[636] Factors limiting privatization in this sector include low or negative profits, market disruptions, and uncertain property ownership. One promising development is the entry of U.S. fast food firms in the Hungarian market. McDonald's Corporation has opened five restaurants during the past 3 years and is reportedly planning to open as many as a dozen more during the next 2 years.[637] In addition, interest has reportedly

[627] U.S. Department of Agriculture, Economic Research Service, *Global Review of Agricultural Policies*, May 1988, p. 44.
[628] Poultry International.
[629] Ibid.
[630] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Agricultural Situation Report, Report #HU1025, U.S. Embassy, Vienna, July 19, 1991, pp. 9-10.
[631] ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991.
[632] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Agricultural Situation Report, Report #HU1025, U.S. Embassy, Vienna, July 19, 1991, p. 12.
[633] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 20.
[634] Nicholas Denton, "Hungary takes the lead on foreign investment," *Financial Times*, May 14, 1991.
[635] Bob Koopman and Mark Lundell, p. 20.
[636] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Agricultural Situation Report, Report #HU1025, U.S. Embassy, Vienna, July 19, 1991, p. 4.
[637] "McGoulash to go," *The Economist*, Apr. 6, 1991.

been expressed by other U.S. fast food franchising firms, including one chicken-oriented chain.[638] Hungarian poultry officials are hopeful that this development will benefit the poultry sector, particularly in terms of increasing production of further-processed, value-added items.[639]

Investments in the Hungarian poultry processing sector benefit from tax credits; however, these credits have been diminished. Prior to 1991, 40 percent of infrastructure investments in poultry farms were exempt from income tax over a period of 6 consecutive years.[640] In 1991, this credit was reduced to 20 percent, but the eligibility was expanded to include technical investments in poultry processing facilities.[641] In addition, 50 percent of the interest paid on poultry processing investments is eligible to be withheld from income tax.

The Hungarian Government historically has provided export incentives to poultry producers. These incentives were divided by market destination, depending on whether exports were to CMEA countries under transferable ruble accounts or to convertible currency destinations. The ruble account incentives were terminated recently with the dissolution of CMEA. The convertible currency account incentives overall were substantially lowered in 1991 to 35 percent (of the Free Hungarian Border export price) for chicken and 10 percent for other poultry.[642] These incentives are now subject to change at any time by the CCAMR.

Since January 1991, producer prices for poultry have been set by the market rather than mandated or guided by the Government.[643] However, the CCAMR may practice market intervention to support prices if necessary.

Romania.—Agricultural reform is not as advanced in Romania as in the other CEE countries. Privatization and land reform are being phased in more slowly and generally on a smaller scale. The most radical reform to date has been the loosening of controlled prices and the lifting of the monopoly of state marketing. Economic reforms in Romania are occurring more slowly than in other CEE countries mainly because of the political upheaval in 1989 associated with the ouster of the Ceausescu regime and the provisional nature of the successor regime that lended less certainty to the direction of economic reform. However, it is reported that one-half of Romania's capital stock will be privatized within 3 years of the beginning of reform efforts in 1990.[644]

Producer prices of agricultural commodities procured by the state, including poultry, were raised in February 1990.[645] However, retail prices were not raised at that time and the Government resorted to increasing consumer incentives. In some cases, the increase in producer prices was transacted using input incentives rather than cash payments. On April 1, 1991, the Government again raised producer prices and also raised retail prices. Controlled prices apply to state enterprises only. Cooperatives and private producers may sell at higher, open market prices. This dual price structure likely will contribute to an eventual shift toward private ownership in the poultry sector.[646]

The monopoly on marketing by the state was liberalized as well in February 1990. Private and cooperative producers are now allowed to sell products in open markets rather than to the state.[647] However, as most poultry production is controlled by the state, this liberalization had a limited effect on the poultry sector.

Land reform measures are currently being enacted in Romania. Limited measures were taken in 1990 as a result of a provisional decree; a more extensive land reform law is currently being enacted.[648] Current land reforms are relatively limited with respect to the poultry sector, as they mainly affect small, private household garden plots. Problems associated with land title and ownership are a major issue in current land reform efforts.

Poland.—Although large farms were nationalized following World War II, forced collectivization generally was unsuccessful in Poland because of resistance by peasant farmers. Thus, more than three-quarters of Polish agricultural land remained in the hands of small, private farms.[649] This structure led to an erosion in the viability of the agricultural sector, as small, private farms were neglected in favor of the larger, state-owned farms when allocating inputs, financing, and incentives. The Polish Government began to rectify this situation in 1981 by introducing a variety of programs to increase the efficiency of small farms. However, the inherent inefficiencies generated by the small scale of the bulk of Polish farms remains a problem, including in the poultry sector.

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[638] Ibid.

[639] ITC staff interview with Mr. Peter Foldi, Ministry of Agriculture, Budapest, July 2, 1991.

[640] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Poultry Report, Report #HU1023, U.S. Embassy, Vienna, June 24, 1991, p. 4.

[641] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Agricultural Situation, Report #HU1025, U.S. Embassy Vienna, July 15, 1990, p. 11.

[642] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU1023, U.S. Embassy, Vienna, June 24, 1991, p. 5.

[643] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Agricultural Situation, Report #HU1025, U.S. Embassy Vienna, July 15, 1990, p. 8.

[644] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 21.

[645] U.S. Department of Agriculture, Foreign Agriculture Service, *Annual Agricultural Report*, Report #RO1004, U.S. Embassy, Belgrade, Apr. 23, 1991, p. 12.

[646] U.S. Department of Agriculture, Foreign Agriculture Service, *Annual Poultry Report*, Report #RO1009, U.S. Embassy, Belgrade, p. 3.

[647] U.S. Department of Agriculture, Foreign Agriculture Service, *Annual Agricultural Report*, Report #RO1004, U.S. Embassy, Belgrade, Apr. 23, 1991, p. 13.

[648] Ibid., p. 2.

[649] U.S. Department of Agriculture, Economic Research Service, *Global Review of Agricultural Policies*, May 1988, p. 56.

The Polish Government was the first of the CEE region to institute many elements of economic reform, precipitating an immediate impact on the poultry sector. Government-directed poultry feed (input) allocations, relatively high incentives for poultry production, and government-imposed meat rationing have been eliminated. The Government has not controlled poultry prices since August 1989, and incentives for poultry feed and meat were eliminated in October 1989.[650] In addition, meat rationing was discontinued on August 1, 1989.[651] Thus, the poultry industry is now subject almost entirely to free market conditions; this will likely result in at least a short-term decline in poultry demand in Poland, as consumers traditionally have preferred red meat (particularly pork). One indication of this trend is the six-percent decline in Polish poultry production in 1990 (table 53).

[650] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Poultry Report, Report #PL0020, U.S. Embassy, Warsaw, May 24, 1990, p. 3.
[651] Ibid.

The Polish Government established the Ministry of Ownership Transformation in July 1990 to address the privatization of the state-owned economy.[652] The Government recently announced a sweeping plan that calls for the privatization within 6 months of 400 state-owned enterprises that represent about one-quarter of the country's industrial sales and 12 percent of total employment.[653] The plan would organize the enterprises into 5 to 20 investment funds called National Wealth Management Funds. Every adult (born after January 1, 1974) would be given ownership certificates in the funds that account for about 60 percent of the total share value. The remaining shares would be retained by the state and fund managers. Foreign investment in and management of the funds would be allowed.

[652] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 20.
[653] Christopher Bobinski, "Poland outlines mass privatization scheme," *Financial Times*, June 28, 1991.

Table 53
Poultry: Central and Eastern Europe production, by type, 1985-90
(Thousands of metric tons)[1]

Country and type	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*
Broilers:						
Hungary	340	365	400	368	330	290
Romania	355	365	330	300	290	400
Poland	150	185	192	210	210	180
Czechoslovakia	155	158	162	184	164	160
Bulgaria	120	127	129	129	129	129
Total, broilers	1,120	1,200	1,213	1,191	1,121	1,159
Turkeys:						
Hungary	4	24	26	27	29	33
Romania	23	23	21	19	18	18
Poland	8	14	15	15	15	15
Czechoslovakia	11	12	13	15	15	15
Bulgaria	5	8	8	9	9	9
Total, turkeys	51	81	83	85	86	90
Other:						
Hungary	56	56	44	70	61	103
Romania	72	67	74	51	57	7
Poland	127	133	136	126	123	133
Czechoslovakia	17	6	6	12	39	36
Bulgaria	33	32	32	32	32	32
Total, other	305	294	292	291	312	311
Total, poultry:						
Hungary	400	445	470	465	420	426
Romania	450	455	425	370	365	425
Poland	285	332	343	351	348	328
Czechoslovakia	183	176	181	211	216	211
Bulgaria	158	167	169	170	170	170
Grand total	1,476	1,575	1,588	1,567	1,519	1,560

[1] Ready-to-cook equivalent.

Source: Foreign Agricultural Service.

This plan is an accelerated step in the overall goal of the Government to privatize half of the 7,000 state-owned enterprises in about 3 years.[654] However, privatization of the poultry sector is proceeding slowly in Poland. Most farms have been privately owned, as discussed above. About 80 percent of agricultural land in Poland is already in private hands, easing any land reform concerns.[655] The processing and market sector currently is undergoing privatization; however, this process has not been completed. Animex, a foreign trade firm, was converted from state ownership to a limited liability stock company in 1988 and will be 100-percent privatized by the fall of 1991.[656] The relatively slow pace of privatization in the agricultural sector (including poultry) is the result of similar factors affecting the Hungarian market, namely low or negative profits, market disruptions, and uncertain property ownership.

Foreign trade in poultry was demonopolized by the Polish Government as of January 1, 1990. In the past, producers were required to trade through state and cooperative foreign trade organizations. The organizations that marketed poultry included Poldrob (specializing in poultry), Animex (animal products), and Polcoop (processed food products). These firms, which handled virtually all poultry trade prior to demonopolization, have lost market share to hundreds of new trading companies.[657] However, the state trading companies still market the bulk of trade, with Poldrob and Animex handling exports of duck and goose to Germany, and Polcoop handling exports of fatty livers to France and Belgium. Imports are handled by these agencies as well as by numerous small, private firms.[658]

Pressure from farm groups has prompted the Polish Government to reintroduce some relief measures, particularly input incentives, intervention purchases, and increased import duties.[659] The extent and duration of these measures will depend on future economic conditions.

Czechoslovakia.—Czechoslovakia, more than any other CEE country, stressed industrialization at the expense of agriculture after World War II. In addition, the Government tolerated virtually no private enterprise: Czechoslovakia traditionally has exhibited the lowest share of private agricultural enterprise among the CEE countries under review. In 1990, the private sector accounted for only about 6 percent of total Czechoslovakian agricultural output and an even smaller share of agricultural land ownership.[660]

In the past, Czechoslovakia's agricultural policy stressed domestic self-sufficiency. However, this emphasis has recently shifted to the transformation to a free market economy.[661] Recent market reform efforts include a move towards privatization of state enterprises, the initiation of land reform, and the elimination of incentives and price controls. The Czechoslovakian poultry sector will be affected by five major laws that address market reforms—the Small Privatization Law, the Large Privatization Law, the Land Use Law, the Law on Transformation of Cooperatives, and the Restitution Law.[662] The issue of land reform is still controversial and is addressed under several different laws.

The Small Privatization Law provides for the auction of small businesses, such as restaurants and small retail food stores. The initial auction occurred in January 1991, and the privatization process likely will continue for more than a year.[663]

The Large Privatization Law, passed on November 1, 1990, provides for the reimbursement of assets that were nationalized after February 25, 1948, by distributing government stock through the issue of investment coupons with which stock shares can be purchased by the general public; former establishment owners will be issued stock shares outright.[664] Compensation for confiscated land not covered under the Land Use Law is also being provided under the Large Privatization Law, both to former owners and to current users. Compensation will be in the form of shares in company stock. State-owned poultry production units were to be transformed into a stock company as of January 1, 1991.[665] The stock is to be owned by the state at first but will eventually be distributed to the private sector.

The Land Use Law, which was enacted in April 1991, and the Law on Transformation of Cooperatives, enacted in May 1991, address the issue of land reform and privatization. However, land ownership rights remain ambiguous under each law, and the Government is drafting additional legislation to further define land rights.[666]

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[654] Steve Lohr, "Poland to Privatize Industry By Giving Stake to All Adults," *New York Times*, June 28, 1991.

[655] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 20.

[656] ITC staff interview with Wlodzimierz Drozdz, Deputy Managing Director, Animex, Warsaw, July 8, 1991.

[657] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Agricultural Situation, Report #PL1010, U.S. Embassy, Warsaw, March 3, 1991.

[658] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Poultry Report, Report #PL1025, U.S. Embassy, Warsaw, May 29, 1991.

[659] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Agricultural Situation, Report #PL1010, U.S. Embassy, Warsaw, p. 2.

[660] Economic Research Service, U.S. Department of Agriculture, CPE Agriculture Report, vol. III, No. 6, November/December 1990, p. 29.

[661] U.S. Department of Agriculture, Foreign Agriculture Service, *Annual Agricultural Situation*, Report #CZ1011, U.S. Embassy, Vienna, July 19, 1991, p. 6.

[662] Ibid.

[663] Ibid.

[664] Economic Research Service, U.S. Department of Agriculture, CPE Agriculture Report, vol III, No. 6, November/December 1990, pp. 31-32. The coupons are valued at somewhat less than the par value of the stock.

[665] U.S. Department of Agriculture, Foreign Agriculture Service, , Annual Poultry Report, Report #CZ0007, U.S. Embassy, Vienna, May 30, 1990, p. 2.

[666] Economic Research Service, U.S. Department of Agriculture, CPE Agriculture Report, Volume III, No. 6, November/December 1990, pp. 30-31.

The Restitution Law, passed on October 2, 1990, permitted the reclamation by private citizens (original owners and heirs) of property confiscated by the state between 1955 and 1959.[667] Property includes land as well as other assets such as shops.

After joining the International Monetary Fund and the World Bank in 1990, the Czechoslovakian Government decontrolled wholesale and retail prices for most food items. However, the Government still maintains retail price ceilings on certain food items, including broilers.[668]

The Czechoslovakian Government eliminated the state monopoly on foreign trade in 1989.[669] However, export restrictions were reportedly introduced for poultry.

Bulgaria.—The move toward a market economy has been difficult in Bulgaria largely because of its conservative socialist past. Efforts at reform in the agricultural sector have been described as "piecemeal," as the Government attempts to impose relatively harsh measures that are unpopular.[670] Recent reform measures include steps toward price liberalization, privatization of state enterprises, land reform, and foreign trade liberalization.

The Bulgarian Government liberalized market prices for most items on February 1, 1991. However, price ceilings were maintained for essential food products.[671]

The Bulgarian Government issued Decree 56 on Economic Activity in 1989. This decree generally provided for the privatization of state-owned enterprises. However, the Government has not yet announced a framework for large-scale privatization efforts such as those in Poland and Hungary. The Bulgarian Government made an agreement with the International Monetary Fund in January 1991 regarding small-scale privatization efforts.[672] A substantial portion of the agricultural sector has reportedly been privatized.[673]

Private ownership of land was legalized by the Bulgarian Government in February 1991. In addition, land that was confiscated by the Government in 1946 will either be returned to former owners or the owners will be compensated.[674]

The Bulgarian Government eliminated the state monopoly on foreign trade in 1989. However, all trading transactions must be registered with the Government's Ministry of Foreign Economic Relations, and licensing may be required.[675]

Adjustment issues

The poultry industries in the CEE countries generally are affected by similar impediments that likely will limit economic growth and performance, at least in the short term. Perhaps the most prominent impediment is the disruption resulting from economic reform measures throughout the region. The CEE poultry industries have been operating under nonmarket economic conditions for more than 40 years, during which time modern poultry production technology and methods have been developed in the West. Economic reform measures will cause distortions to established CEE industry and market structures and likely will adversely affect CEE poultry production and exports in the short term. Specific impediments include the unavailability of sufficient amount of inputs; uneven modernization within the industry; inadequate and decaying infrastructure; and a deficiency of investment capital.

The unavailability of inputs is a particularly acute constraint on CEE poultry industries. A combination of chronically insufficient domestic production of feed ingredients, current high foreign debt, and low hard currency reserves that limit imports of inputs (including capital) have led to a general decline in poultry production and exports in the region, particularly since more radical economic reforms were introduced in 1989. Poultry feed consists primarily of relatively low-protein (about 12 percent by weight) grains such as corn, wheat, barley and oats. To obtain an ideal feed protein content of about 16 percent, most poultry feed is supplemented by high protein additives, such as soybean meal, fish meal, and rapeseed meal. The CEE region does not produce a sufficient quantity of these supplements, mainly because of climate and tradition, and must import the bulk of their needs. The recent shortage of hard currency has limited such imports and has led to declines in poultry production and exports. However, CEE poultry producers may be able to retain hard currency earnings in the near future, potentially relieving this constraint.

Another constraint is the existing structure of the poultry industries throughout the CEE region, although this varies by country. In general, a substantial portion of output is accounted for by small operations that lack economies of size.

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[667] Ibid., p. 31.

[668] U.S. Department of Agriculture, Foreign Agriculture Service, *Annual Poultry Report*, Report #CZ1009, U.S. Embassy, Vienna, June 11, 1991, p. 4.

[669] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 20.

[670] Economic Research Service, U.S. Department of Agriculture, CPE Agriculture Report, vol. IV, No. 2, March/April 1991, p. 23.

[671] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 20.

[672] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*, U.S. Department of Agriculture, May 1991, p. 20.

[673] Economic Research Service, U.S. Department of Agriculture, CPE Agriculture Report, vol. III, No. 6, November/December 1990, p. 21.

[674] Bob Koopman and Mark Lundell, "East European Reform Accelerates," *Agricultural Outlook*,, U.S. Department of Agriculture, May 1991, p. 20.

[675] Ibid., p. 21.

The infrastructure throughout the CEE region generally is not adequate to enable the various poultry industries to sustain domestic and export growth and attract foreign investment; improvements to the infrastructure are limited by current economic conditions.

The availability of capital for investment is limited by the macroeconomic disruption caused by market reforms; foreign investment capital has not substantially increased.

Foreign trade

The CEE countries constitute the world's third major poultry-exporting area, accounting for 12 percent of global exports of poultry products. The region comprises two distinct tiers—Hungarian and Romanian export levels are an order of magnitude greater than those of the remaining CEE countries. This divergence results from various factors, including relative industry focus (domestic versus export), industry size, and internal domestic economic conditions.

CEE countries have been net poultry exporters for many years and such exports have earned the countries valuable hard currency. Although the emphasis on poultry exports varies by individual CEE country, poultry generally provided advantages over other agricultural items because of a relatively short production cycle, the rising world demand for the product, and its relatively high value-added nature. Thus, poultry was targeted in some CEE countries for export development. However, with the advent of economic reforms in the region, the environment affecting poultry exports is rapidly changing. One of the primary indicators of the ability of CEE poultry exports to compete in world markets will be price—in the past, there was virtually no link between CEE domestic poultry prices and the world price. Data on CEE poultry exports are given in table 54.

CEE poultry imports are minor compared with production and exports. Most imports consist of live poultry breeding stock. There is a small amount of intra-CEE trade in poultry meat, and recent internal price liberalizations have created a temporary market for increased imports of both live poultry and poultry meat in some CEE countries. However, CEE poultry imports are not expected to account for a significant share of consumption. Data on CEE poultry imports are given in table 55. CEE poultry trade with OECD countries is shown in tables 56 and 57.

Table 54
Poultry: Central and Eastern Europe exports, by type, 1985-90
(Thousands of metric tons)[1]

Country and type	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*
Broilers:						
Hungary	130	150	165	180	96	95
Romania	45	60	95	95	75	0
Poland	0	0	0	0	0	4
Czechoslovakia	20	18	15	15	10	10
Bulgaria	27	28	21	25	20	21
Total, broilers	222	256	296	315	201	130
Turkeys:						
Hungary	2	22	15	17	19	22
Romania	0	0	0	0	0	0
Poland	0	0	0	0	0	2
Czechoslovakia	0	0	0	0	0	0
Bulgaria	0	0	0	0	0	0
Total, turkeys	2	22	15	17	19	24
Other:						
Hungary	24	9	30	37	59	33
Romania	0	0	15	30	45	30
Poland	14	13	15	18	18	15
Czechoslovakia	0	0	0	0	0	0
Bulgaria	3	1	3	5	10	9
Total, other	41	23	63	90	132	96
Total, poultry:						
Hungary	156	181	210	234	174	189
Romania	45	60	110	125	120	0
Poland	14	13	15	18	18	21
Czechoslovakia	20	18	15	15	10	10
Bulgaria	30	29	24	30	30	30
Grand total	265	301	374	422	352	250

[1] Ready-to-cook equivalent.

Source: Foreign Agricultural Service.

Table 55
Poultry: Central and Eastern Europe imports, by type, 1985-90
(Thousands of metric tons)[1]

Country and type	1985	1986	1987	1988	1989	1990
Broilers:						
Hungary	0	0	0	0	0	0
Romania	0	0	10	5	5	50
Poland	7	0	0	0	0	1
Czechoslovakia	0	0	5	5	5	5
Bulgaria	0	0	0	0	0	0
Total, broilers	7	0	15	10	10	56
Turkeys:						
Hungary	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Poland	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Bulgaria	0	0	0	0	0	0
Total, turkeys	0	0	0	0	0	0
Other:						
Hungary	0	0	0	0	0	0
Romania	0	0	0	2	2	3
Poland	0	0	0	0	5	0
Czechoslovakia	0	0	0	0	0	0
Bulgaria	0	0	0	0	0	0
Total, other	0	0	0	2	7	3
Total, poultry:						
Hungary	0	0	0	0	0	0
Romania	0	0	10	7	7	53
Poland	7	0	0	0	5	1
Czechoslovakia	0	0	5	5	5	5
Bulgaria	0	0	0	0	0	0
Grand total	7	0	15	12	17	59

[1] Ready-to-cook equivalent.
Source: Foreign Agricultural Service.

Table 56
Poultry: OECD imports from Eastern Europe, 1985-89
(Value in thousands of dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	0	0	0	0	0
Czechoslovakia	0	1	0	0	0
Hungary	1	0	0	0	0
Romania	0	0	0	0	0
Bulgaria	0	1	2	0	0
EC imports from—					
Poland	33,616	34,062	65,877	55,248	54,062
Czechoslovakia	6,258	8,754	10,859	15,657	18,211
Hungary	81,498	85,121	106,523	146,841	166,718
Romania	7,824	9,242	7,370	6,466	4,736
Bulgaria	2,044	4,482	4,375	6,326	9,257
Other OECD imports from—					
Poland	238	813	1,824	853	1,062
Czechoslovakia	3,156	6,236	10,271	5,987	4,086
Hungary	27,435	40,448	51,480	45,499	45,147
Romania	3,329	5,294	4,429	3,645	2,886
Bulgaria	19	62	149	97	165
Total OECD imports from—					
Poland	33,854	34,875	67,701	56,101	55,124
Czechoslovakia	9,414	14,991	21,130	21,644	22,297
Hungary	108,934	125,569	158,003	192,340	211,865
Romania	11,153	14,536	11,799	10,111	7,622
Bulgaria	2,063	4,545	4,526	6,423	9,422

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 57
Poultry: OECD exports to Eastern Europe, 1985-89
(Value in thousands of dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	1	1	1	0	2
Czechoslovakia	4	4	0	0	0
Hungary	11	785	0	234	295
Romania	0	0	1	0	0
Bulgaria	0	0	34	0	0
EC exports to—					
Poland	1,889	482	276	630	1,182
Czechoslovakia	723	1,621	1,767	1,811	2,025
Hungary	639	638	858	1,227	2,579
Romania	393	153	275	170	283
Bulgaria	699	1,008	822	1,351	2,722
Other OECD exports to—					
Poland	0	0	42	114	108
Czechoslovakia	0	0	3	0	0
Hungary	159	197	228	637	740
Romania	0	0	3	0	177
Bulgaria	159	197	279	751	1,039
Total OECD exports to—					
Poland	1,890	483	319	744	1,292
Czechoslovakia	727	1,625	1,770	1,811	2,025
	809	1,620	1,086	2,098	3,614
Romania	393	153	279	170	460
Bulgaria	699	1,008	859	1,351	2,736

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

Inasmuch as the importance of trade differs among CEE countries, the foreign trade for each country is discussed separately.

Hungary.—Hungary is the prominent CEE poultry exporter. Hungarian poultry exports were driven by the Soviet market for most of the past decade. Since an agreement to export poultry to this market expired in 1990, changes in the general trading framework between the Soviet Union and the other CMEA countries (including a conversion to hard currency sales and Soviet economic hardship) have severely restricted the Soviet market for Hungarian poultry. In addition, Hungarian officials have indicated that U.S. and EC food aid to the Soviet Union has adversely affected Hungarian agricultural exports.[676] With respect to poultry, the Export Enhancement Program of the U.S. Department of Agriculture provides export incentives to U.S. poultry exporters. Targeted markets include the Soviet Union and Middle Eastern countries, areas to which Hungary also exports poultry. As a result of the decline in the Soviet market, Hungary is attempting to expand poultry exports to other markets, particularly the EC, the Middle East, and the United States. According to the U.S. Department of Agriculture, the Hungarian poultry processing sector has started the approval process for export to the U.S. market.[677]

Hungarian poultry exports mirrored the trend in production during 1985-90 (table 54). The share of production that was exported averaged 43 percent. The decline in exports since 1987 was caused mainly by reduced purchases by the Soviet Union, traditionally Hungary's major poultry export market. Hungary has faced increasing competition in the Soviet market from the United States and France. In addition, Hungarian export incentives generally have been lowered in recent years, making poultry (especially broiler) exports less competitive in the world market. Hungary's major poultry export markets include the Soviet Union, the EC (mainly Germany and Italy), the Middle East (mainly Kuwait), and other CEE countries (mainly Romania and Yugoslavia).

The Hungarian poultry industry faces substantial barriers to exports, particularly in the large markets of the United States and the EC. To export poultry to the United States, a foreign government must request an eligibility determination from the Food Safety and Inspection Service of the U.S. Department of Agriculture that basically certifies that the foreign poultry inspection system is comparable to that of the U.S. system. As noted earlier, Hungary has taken this step. A country also must be certified by the U.S. Agricultural Plant and Health Inspection Service to be free of Newcastle Disease to export to the U.S. market. Hungary has not been so certified. In addition, the U.S. tariff rate for poultry meat was about 6 percent ad valorem in 1990. This tariff rate presents a further obstacle to Hungarian poultry exports since the U.S. poultry industry is generally considered the world's

[676] Tim Carrington, "East Looks West and Sees Trade Barriers," *Wall Street Journal*, July 25, 1991.
[677] Telephone conversation with an official of the Food Safety and Inspection Service (FSIS), U.S. Department of Agriculture, May 22, 1991.

lowest cost producer, and U.S. market poultry prices are among the world's lowest.

The EC market also presents substantial barriers to Hungarian poultry exports. Under the Common Agricultural Policy (CAP), EC duties on poultry products are relatively high (mostly 18 percent ad valorem), and the EC imposes additional variable levies on imports to protect domestic poultry prices.[678] Hungary recently received preferential tariff treatment in the EC for goose and duck products.[679] Plant inspection standards of EC member states must also be met by Hungarian poultry exports; these standards are being harmonized under EC economic integration. Discussions regarding the possible future accession of CEE countries to the EC are addressing the reformation of the CAP to lessen barriers to trade among the EC and CEE. Hungary, along with Poland and Czechoslovakia, is negotiating an "Agreement of Association" with the EC; the negotiations are expected to encounter difficulties with respect to the CAP.[680]

Beginning in 1992, Hungarian exporters will be able to retain hard currency export earnings. This is a result of measures taken by the National Bank of Hungary to make the forint convertible.[681]

There are virtually no imports of poultry products into Hungary except for breeding stock.

Romania.—Romania is the second-leading CEE exporter of poultry. As discussed above, the Romanian Government encouraged the export of poultry products as a means of repaying foreign debt relatively quickly. Romanian poultry exports rose from 45,000 metric tons in 1985 to a peak of 125,000 metric tons in 1988 before falling to 120,000 metric tons in 1989. An export ban was in effect in 1990 (table 54). The primary markets were the Soviet Union, other CEE countries, the Middle East countries, Italy, and Japan.[682] The decline in exports in 1989 occurred as the Soviet market contracted and domestic economic reforms led to production declines. In addition, the Romanian Government imposed an export ban in 1990 to curtail domestic unrest with respect to food shortages. The ban continued in effect during 1991.

Romania imported 53,000 metric tons of poultry in 1990 (table 55). Of this amount, 26,000 metric tons were sourced from former CMEA countries, 22,000 metric tons from the United States (the first-ever U.S. poultry exports to Romania), and 5,000 metric tons from the EC. The bulk of such imports consisted of chicken (broilers).

Bulgaria.—Bulgaria is the third-leading CEE poultry exporter, although exports are substantially below those of the two leading countries. Bulgarian poultry exports were stable during 1985-90 at about 30,000 metric tons annually (table 54).

Poland.—Although Poland is a major CEE poultry producer, it exports a relatively small share of its production. Polish exports of poultry rose irregularly from 14,000 metric tons in 1985 to 21,000 metric tons in 1990 (table 54). The great bulk of Polish poultry exports are duck and goose products destined to European markets, mainly Germany. Poland is the world's leading exporter of goose products.[683] According to Polish poultry industry officials, there currently is ample excess capacity that can be used to increase production and exports of all poultry products.[684] One example is the recent success of Konsopol, a private meat-processing company, in developing a chicken-based sausage. Konsopol is pursuing Saudi Arabia as an export market.[685]

The possible future accession of Poland to the EC may provide greater access for Polish agricultural exports. The Polish Government recently requested that the EC eliminate CAP barriers to agricultural trade during the next 10 years under an "Agreement of Association" currently being discussed.[686] Poland has not yet requested an eligibility determination by the U.S. Government to certify its inspection system for poultry exports to the U.S. market.

Czechoslovakia.—Czechoslovakia exports the least amount of poultry among the CEE countries. The Czechoslovakian poultry industry is the most domestic oriented in the region and is a relatively high-cost producer. Czechoslovakian poultry exports declined from 20,000 metric tons in 1985 to 10,000 metric tons in 1990 (table 54). Most exports are destined to Western markets to earn foreign exchange.

The Government of Czechoslovakia is exploring methods of increasing poultry exports to the Soviet Union. One option is barter agreements directly with the Soviet republican governments rather than with the Soviet central government.[687] In addition, the Czechoslovakian Government has suggested that the U.S. agricultural credit proposal recently approved for the Soviet Union include terms for the procurement of agricultural products, including poultry, from CEE countries.[688]

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[678] However, Hungarian exporters are eligible to receive a write-off of 50 percent of the variable levy for a quantity of exports up to a quota limit. (U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU0020, U.S. Embassy, Vienna, June 13, 1990, p. 6).

[679] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #HU0020, U.S. Embassy, Vienna, June 13, 1990, p. 4.

[680] "Too Many Friends," *The Economist*, Aug. 3, 1991, p. 52.

[681] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Agricultural Situation, Report #HU1025, U.S. Embassy, Vienna, June 13, 1990, pp. 2-3.

[682] U.S. Department of Agriculture, Foreign Agriculture Service, Annual Poultry Report, Report #RO9010, U.S. Embassy, Belgrade, May 18, 1989, p. 3.

[683] ITC staff interview with officials of Poldrob, Warsaw, July 5, 1991.

[684] Ibid.

[685] Shawn Tully, "Who's Who in the East," *Fortune*, July 29, 1991.

[686] Christopher Bobinski, "Poland urges Brussels to lift agricultural import barriers," *Financial Times*, June 20, 1991.

[687] ITC staff interview with officials of the Division of Agriculture and Food and the Federal Ministry of Economy, Prague, July 12, 1991.

[688] Ibid.

Although Czechoslovakia does not export a significant amount of poultry to the EC, its export potential is constrained by the CAP. Czechoslovakia, like Hungary and Poland, is currently negotiating an "Agreement of Association" for possible future accession to the EC.[689] Czechoslovakia has indicated an interest in cooperating with the U.S. Department of Agriculture Food Safety and Inspection Service and Animal and Health Inspection Service to improve its poultry health and sanitary system. This cooperation could eventually lead to Agriculture approval of Czechoslovakian poultry exports to the U.S. market.[690]

Scientific and Medical Instruments

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Export potential

The international market for scientific and medical instruments is highly competitive, with U.S., Japanese, and European suppliers dominating the upper end of the market and low-cost producers in less developed countries dominating the low end. This situation is likely to continue. For the most part, production of these products in Eastern Europe is not extensive and is sold domestically or in other centrally planned economies. Much of the production in these countries is not up to Western standards or is more expensive than what is produced by Asian manufacturers.

Compared with Western, industrialized countries, the CEE countries are relatively competitive in terms of labor costs. In addition, the workforces in Hungary, Czechoslovakia, and Poland exhibit relatively high average levels of education and technical training. Professionals holding university degrees comprise a significant share of the workforce. However, lower average labor productivity tends to offset lower labor costs. Productivity gains have been hampered by inefficient management structures and insufficient worker incentives as well as by lack of access to state-of-the-art production technology.

Currently, there are no significant trade barriers that affect the exports of Eastern European producers with the exception of the lack of MFN status for Romania and Bulgaria. In the short run, companies in Poland, Hungary, and Czechoslovakia that currently export to markets outside of Eastern Europe and the Soviet Union should be able to retain their respective shares of the market. A significant expansion of trade (particularly involving producers that currently have no established markets in the Western industrialized or developing countries) will likely require an infusion of new capital and new production technologies from abroad.

Industry characteristics

The CEE medical instrument industry generally produces low-and medium-technology goods ranging from x-ray apparatus to clamps, thermometers, and stethoscopes. Production of scientific instruments is more limited; it consists mainly of low- and medium-technology electrical measuring and controlling instruments, analytical machines and appliances, and other physical and chemical testing instruments. Industry analysts suggest that East European-produced scientific and medical instruments are often of lower quality and sophistication than those produced internationally and tend to be more expensive than their imported equivalents.[691] However, major efforts by Czechoslovakia and Poland have resulted in the production of some articles that meet international standards (i.e., those established by the United States and West Germany).

Czechoslovakia, Hungary, and Poland are the major CEE suppliers of scientific and medical goods. Trade data suggest that production of these goods in Bulgaria or Romania is quite limited. Exports from Romania and Bulgaria totaled less than $3 million each in 1989 (table 59). Czechoslovakia and Poland benefit, to some degree, from the application of more advanced technology developed for the defense industry. Some industry analysts have indicated that the most significant products, in terms of technological sophistication, are lasers and direction-finding equipment. Industry characteristics for all five countries are presented in the sections that follow.[692]

Bulgaria.—Except for Albania, Bulgaria has the least developed CEE medical and scientific equipment industries. Most of Bulgaria's production of goods consists of very low-technology, commodity-type hospital supplies such as bandages, textile products, and physician utensils.

Czechoslovakia.—The medical instrument industry in Czechoslovakia is highly concentrated with a large portion of medical equipment manufactured or distributed by Chirana Medical Technologies Enterprise.[693] Chirana produces a variety of medical products in Prague, Brno, Bratislava, and other cities. Chirana has been particularly renowned for its complete medical systems for hospitals incorporating many advanced technologies. Dental equipment has also been a particular area of concentration for the company. Another Czechoslovak company, Tesla,

[689] Tim Carrington, "East Looks West and Sees Trade Barriers," *Wall Street Journal*, July 25, 1991; ITC staff interview with officials of the Division of Agriculture and Food and the Federal Ministry of Economy, Prague, July 12, 1991.

[690] U.S. Department of Agriculture, Foreign Agriculture Service, *Annual Poultry Report*, Report #CZ1009, U.S. Embassy, Vienna, June 11, 1991, p. 3.

[691] Interviews by USITC staff with U.S. industry officials, June 1991.

[692] For the most part, the CEE government data series are not sufficiently disaggregated to show comparable production or employment data for these products. Thus, the following sections are based primarily on anecdotal information and trade data.

[693] U.S. Department of Commerce, "Business Contacts and Market Overview: Czechoslovakia — The Pharmaceutical and Medical Equipment Industry," *Medical and Related Industries in Eastern Europe*, Washington, DC, 1991.

produces medical equipment such as electronic monitoring instrumentation and x-ray equipment. Laboratory Instruments Works in Prague manufactures similar types of equipment.

Other scientific and medical equipment is manufactured by a number of small and medium firms. Much of the equipment produced by these firms consists of low-technology goods such as scientific measuring and testing equipment that is not considered to be internationally competitive. However, Czechoslovakia has established a reputation for more sophisticated instrumentation in certain niches, such as aviation instruments and certain analytical equipment, including mass spectrometers and chromatographs.[694]

Czechoslovakia is considered to have fairly advanced technologies and a relatively good capital and labor base for producing x-ray equipment for medical purposes.[695] However, it remains to be seen whether the country's technologies in x-ray products have kept up with the those of other countries that specialize in this equipment such as Germany, Japan, and the United States. Czechoslovakia will likely need to acquire new technologies from Western producers if it is to advance beyond x-ray technology into advanced imaging modalities such as computerized tomographic scanners and magnetic resonance imaging. There is some evidence that Czech firms have already engaged in some production-sharing activities with Germany in this area.

Hungary.—Hungary's medical and scientific equipment industry is highly concentrated, with four firms responsible for much of the production.[696] One of the firms, Qutexz, produces mostly scientific and laboratory equipment and is associated with the country's academy of sciences. Qutexz initially obtained the rights to import equipment for the use of academy scientists, and imports still constitute most of the firm's activities. However, the company now has permission to export and license scientific equipment and instruments developed by the various institutes of the academy. The principal medical instrument producer, Medicare, is owned jointly by the Hungarian Government and a German medical firm. Other major producers in these industries include a shareholding firm that produces laboratory equipment (Labormin) and a cooperative that manufactures analytical equipment (Rodelkisz). Two smaller firms produce dental instruments and optical equipment used for medical purposes.

Hungary produces medical and scientific instruments used for various diagnostic, therapeutic, and analytical purposes. Although such equipment is of a much lower quality and level of specialization than that of developed countries, the Hungarian products are generally much less expensive and adequate for most routine procedures and practices.[697] About 80 to 90 percent of the production of these industries is for domestic consumption.[698]

Poland.—Poland has the most advanced CEE scientific and medical instrument industries. Companies spread throughout the country produce a large range of products including gas meters, automatic control instruments, electric measuring equipment, laboratory apparatus, and various surgical, dental, and veterinary instruments.[699] The 20 largest firms employ between 300 and 1,500 employees each. One of the companies has been privatized and the others are currently seeking privatization.

Poland's former Communist government provided the scientific equipment industry with tax and other incentives to generate foreign exchange.[700] Consequently, this industry oriented itself more to Western markets and became more competitive than producers in the other CEE countries. Many of these firms have remained competitive and have developed close technological and manufacturing relationships with producers in the West, including U.S. and EC firms.

Most of Poland's producers of scientific and medical equipment utilize a large trading organization, Metronex, to export their products to foreign markets. Although the trading company recently lost its monopoly for handling imports and exports of such equipment, most of the companies still use Metronex to export their goods.

Romania.—Romania's scientific and medical equipment industries are among the least developed of the CEE countries. Three firms account for much of the medical and scientific equipment produced in Romania. They principally produce commodity type medical and scientific implements and apparatus.

Government policy and nature of management structure

In general, the central planning system has resulted in the production of a narrow range of goods. In addition, product quality is often deficient by Western standards. Industry officials indicate that change is underway, although inefficiencies will likely affect these industries for some time.

Bulgaria.—The Bulgarian Government still controls much of the production, distribution, and trade of medical and scientific instruments.

Czechoslovakia.—Production and trade of medical instruments is organized by the Chirana State Corporation. The enterprise currently handles pro-

[694] Interviews by USITC staff with industry and government officials in Czechoslovakia, July 1991.
[695] Ibid.
[696] Interviews by USITC staff with government and industry officials in Hungary, July 1991.
[697] Ibid.
[698] According to the Statistical Yearbook 1989, Hungarian Central Statistical Office, production of principal commodities in 1988 included 945 medical x-ray units, 298 industrial x-ray units, and 539,000 electric supply meters. Production data covering all of the digest products are not available.
[699] Interviews by USITC staff with industry and government officials in Poland in July 1991.
[700] Interviews by USITC staff with industry and government officials in Poland in July 1991.

duction, import/export, marketing, distribution, and research and development of medical equipment.[701]

Hungary.—Although the government provides financing for academic and other basic research, it does not intervene in the pricing, allocation, or trade of Hungary's scientific and medical equipment industry.

Poland.—The Polish Government has identified the medical equipment industry as a top priority for attracting investment from Western firms.[702] Investors in this industry are eligible for a 3-year extension of the usual 3-year holiday granted to foreign investors in Poland.

Romania.—Romanian producers of medical and scientific equipment rely principally on a government trading company, Electrotrade, to distribute and export their products. Although companies are now allowed to sell directly to domestic and foreign customers, they may continue to use the company because they lack marketing expertise and international contacts.

The Romanian Government previously subsidized imports of important raw material inputs used in producing medical and scientific equipment, though the government has now discontinued this practice. Firms are now required to balance international payments and credits.[703]

Adjustment issues

The most significant impediment to the production of scientific and medical instruments in CEE is the combined lack of technology and a shortage of capital. Economic austerity measures and the resulting credit squeeze have worsened the financial condition of the industry.

Additionally, the world market for scientific and medical instruments has been highly competitive over the last several decades. To develop a profitable niche in which CEE products can compete will require substantial effort on the part of the companies involved as well as the national governments.

Bulgaria.—Bulgaria lacks the necessary research capacity, technological knowhow, manufacturing facilities, and marketing capabilities to establish a competitive medical and scientific equipment industry. It also lacks the skilled professionals, engineers, and technicians.

Czechoslovakia.—Czechoslovakia's medical and scientific industries have been poorly organized for efficient production and distribution. Particularly in the medical field, there has been overproduction and inefficient utilization of equipment. There may be some potential for increasing exports if production inefficiencies and resource misallocations are reduced.

Hungary.—Although Hungary has a large number of scientists and research institutions with a tradition for developing innovative medical and scientific products and prototypes, the country lacks the infrastructure and managerial know-how required to produce quality products in large quantities.[704] In particular, expertise for organizing efficient production lines is lacking and capital equipment is generally obsolete. Hungary also has to import many of the inputs required for production.

Poland.—The Polish industry has to import many of the components and materials used as inputs into the production of medical and scientific equipment. Because of high tariffs on many of these items in the past, the cost of producing these goods in Poland was higher than that for major foreign competitors. However, Poland recently liberalized its import regime, and the industry is now able to import better quality inputs at world market prices.

Foreign trade

The Soviet Union and the EC, principally Germany, are the major markets for exports of CEE-produced scientific and medical instruments. Such exports to the EC rose from $20 million in 1985 to $39 million in 1989 (table 58). Poland and Hungary were the dominant suppliers, accounting for an average of 72 percent of the total during the period. CEE exports to the United States totaled about $3 million in 1989, and accounted for less than 1 percent of total U.S. imports of scientific and medical instruments during the period. During the last several years, CEE exports to the EC were the result, in large part, of EC outward processing. Such items are exported from the EC for further processing or assembly and then returned to the EC for consumption. Total EC imports of outward processed scientific and medical instruments rose from $17 million in 1985 to $130 million in 1988, of which $23 million came from CEE nations, principally Poland and Hungary.

Bulgaria.—Bulgaria's exports of medical and scientific instruments are negligible and have previously gone to other less developed countries. The best opportunity the country has to develop an export industry is to attract foreign investment in facilities for the assembly of commodity-type medical instruments and textile supplies.

To develop its antiquated health care infrastructure, the Bulgarian Government is currently encouraging Western investment and imports of high-quality medical instrumentation.[705]

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[701] U.S. Department of Commerce, "Business Contacts and Market Overview: Czechoslovakia — The Pharmaceutical and Medical Equipment Industry," *Medical and Related Industries in Eastern Europe*, Washington, DC, 1991.

[702] U.S. Department of Commerce, "Business Contacts in Poland: Medical Products and Pharmaceutical Companies," *Medical and Related Industries in Eastern Europe*, Washington, DC, 1991.

[703] Interviews by USITC staff with government and industry officials in Romania, June 1991.

[704] Interviews by USITC staff with government and industry officials in Hungary, July 1991.

[705] U.S. Department of Commerce, "Bulgaria: Medical Equipment," *Medical and Related Industries in Eastern Europe*, Washington, DC, 1991.

Table 58
Scientific and medical instruments: OECD imports from Eastern Europe, 1985-89
(Value in thousands of dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	983	705	1,448	1,760	1,558
Czechoslovakia	31	97	31	1	17
Hungary	397	570	864	530	957
Romania	33	0	155	10	0
Bulgaria	46	22	4	119	55
EC imports from—					
Poland	5,426	8,003	8,989	11,354	12,238
Czechoslovakia	3,880	5,718	8,041	9,161	8,712
Hungary	8,613	9,357	10,473	13,804	12,563
Romania	1,335	2,454	1,654	2,104	2,372
Bulgaria	562	872	1,042	2,622	2,672
Other OECD imports from—					
Poland	1,798	2,036	2,502	1,508	3,031
Czechoslovakia	2,012	1,663	2,151	1,816	1,893
Hungary	1,011	1,483	2,005	1,570	2,453
Romania	53	196	200	181	230
Bulgaria	70	89	97	325	95
Total OECD imports from—					
Poland	8,207	10,744	12,939	14,622	16,827
Czechoslovakia	5,923	7,748	10,223	10,978	10,622
Hungary	10,021	11,410	13,342	15,904	15,973
Romania	1,421	2,650	2,009	2,295	2,602
Bulgaria	678	983	1,143	3,066	2,822

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports by other OECD countries.

Czechoslovakia.—The Chirana trading organization is attempting to increase the export competitiveness of Czechoslovak equipment, which now is exported to all of the current and former non-market states and to more than 60 nonsocialist countries. OECD data show exports of scientific and medical equipment from Czechoslovakia to OECD countries rose by 79 percent during 1985-89, to $10.6 million (table 58). The EC was the major market for Czech-made instruments and accounted for over 80 percent of such exports in 1989.

Czechoslovakia has a large number of well-trained technicians and scientists working in a wide range of areas. Although this expertise is not currently being utilized effectively, these professionals could conceivably become drivers of technological innovation and production in the future, which might lead to better export opportunities in the scientific and medical areas.[706]

However, the modernization of Czechoslovak health services will require a temporary reduction in the export of medical equipment and priority given to domestic demand.[707] Satisfying this goal also will require an increase in imports of more sophisticated medical and scientific instrumentation from Germany, Japan, and the United States.

Hungary.—OECD data show that exports of scientific and medical instruments by Hungary to OECD countries rose by 59 percent to $16 million during 1985-89 (table 58). However, industry sources in Hungary reported that scientific and medical instruments and equipment have been exported primarily to the Soviet Union and other CEMA countries, as well as to various underdeveloped countries. Exports to the Soviet Union and CEMA countries, however, have greatly diminished over the past year and a half due to deteriorating economic conditions in those countries.[708]

However, in an effort to improve its medical and scientific capabilities, Hungary imports much more western-produced scientific and medical equipment than it exports. According to OECD data, imports of scientific and medical goods from OECD countries more than doubled to $137.5 million in 1989 (table 59).

Poland.—Industry officials reported that Poland has exported about 40 percent of its production of scientific and medical equipment in past years, with a much higher proportion of its exports going to the EC and other non-CEMA regions than is the case for the other CEE countries. This ratio has increased to an

[706] Interviews by USITC staff with industry and government officials in Czechoslovakia, July 1991.

[707] U.S. Department of Commerce, "Business Contacts and Market Overview: Czechoslovakia — The Pharmaceutical and Medical Equipment Industry," *Medical and Related Industries in Eastern Europe*, Washington, DC, 1991.

[708] Interviews by USITC staff with government and industry officials in Hungary, July 1991.

Table 59
Scientific and medical instruments: OECD exports to Eastern Europe, 1985-89
(Value in thousands of dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	5,351	5,011	5,992	7,956	12,781
Czechoslovakia	2,574	2,848	2,670	5,189	4,858
Hungary	4,205	3,348	3,817	5,748	7,772
Romania	2,731	2,090	1,277	648	650
Bulgaria	5,079	1,850	2,002	3,969	2,534
EC exports to—					
Poland	58,386	79,014	96,982	104,019	121,105
Czechoslovakia	75,920	86,547	115,863	136,401	119,438
Hungary	46,469	60,786	71,998	82,300	99,492
Romania	13,900	19,068	19,757	15,773	9,166
Bulgaria	34,943	58,576	57,176	53,259	48,529
Other OECD exports to—					
Poland	10,691	13,973	15,006	18,934	27,826
Czechoslovakia	9,723	12,412	14,347	24,246	25,653
Hungary	11,077	13,900	18,263	19,793	30,194
Romania	1,680	1,395	803	5,766	1,624
Bulgaria	4,409	6,845	6,576	10,607	16,381
Total OECD exports to—					
Poland	74,428	97,998	117,980	130,909	161,712
Czechoslovakia	88,217	101,807	132,880	165,836	149,949
Hungary	61,751	78,034	94,078	107,841	137,458
Romania	18,311	22,553	21,837	22,187	11,440
Bulgaria	44,431	67,271	65,754	67,835	67,444

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

and other non-CEMA regions than is the case for the other CEE countries. This ratio has increased to an estimated 50 percent in the past 2 years due to a softening in domestic demand. The strongest areas of export have included electric measuring equipment and medium-quality analytical instruments for scientific and medical purposes. Such equipment has been exported to Germany, the United Kingdom, Czechoslovakia, and Southeast Asia.[709] OECD data show that exports of scientific and medical instruments by Poland to OECD countries increased steadily during 1985-89, to $16.8 million in 1989 (table 58). Export data reported by the Polish Government also show a 43-percent increase in total exports of such goods, from $37 million in 1986 to $53 million in 1989.[710]

Romania.—About 40 percent of total Romanian production of medical and scientific instruments has been exported in recent years, mostly to other CEE countries and less developed countries in Africa and Asia. Due to the lower quality of the Romanian-made products, these industries have not been very successful in marketing their products in more sophisticated markets such as Europe or the United States. Exports of medical and scientific equipment have decreased dramatically in the past year due in part to the shift to dollar-denominated trade among former CEMA countries, which has caused Romania's sales to major customers in former East Germany and the USSR to fall.[711]

As the Romanian Government has attempted to modernize its antiquated health care infrastructure in recent months, it has increased its imports of higher quality foreign equipment. Last year the Government announced its intention to allocate $75 million for imports of medical equipment and pharmaceuticals. Because of urgent domestic needs, imports appear to be more of an overriding concern to the Government than promoting exports at the present time.[712]

Romania's best potential for developing its medical and scientific equipment industry lies in attracting foreign investment by firms that wish to use Romania's relatively skilled but low-cost labor to assemble medical and scientific equipment in that country.[713]

[709] Interviews by USITC staff with industry officials in Poland in July 1991. These estimates cover the top 20 producers within Poland and may not accurately represent trade patterns for the entire Polish industry.

[710] Calculated from statistics supplied by Government of Poland and period average exchange rates compiled by the International Monetary Fund.

[711] Interviews by USITC staff with government and industry officials in Romania, June 1991.

[712] U.S. Department of Commerce, "Romania: Medical Equipment and Supplies," *Medical and Related Industries in Eastern Europe*, Washington, DC, 1991.

[713] Interviews by USITC staff with government and industry officials in Romania, June 1991.

Steel

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Export potential

While CEE steelmakers have demonstrated a certain amount of success in marketing steel to non-CMEA countries, there are a number of structural problems that may hinder any significant increase in exports, and, in fact, may result in a reduction in exports. The success that CEE countries have had in exporting in the past was under a regime in which prices and costs were managed by governmental authorities, making comparative analysis difficult. Input prices are reportedly rising to levels paid in most Western countries and are payable in hard currency. As discussed below, the industry also has to contend with relatively low productivity and equipment that is not as efficient as that used in most Western countries. Rising labor costs would therefore adversely affect the industries' competitiveness. Moreover, the industries are reportedly far from meeting the types of pollution control standards in force in Western countries, the cost of which could be significant. In addition, the availability of critical raw materials used in steelmaking is in question, at least in the short term, in light of the events in the Soviet Union, a major supplier. While the economics for exporting may not be favorable, governments may, however, choose to support exports as a means to generate hard currency.[714]

Trade statistics indicate that CEE countries exported over half of their combined exports[715] (including intraregional trade) to non-CMEA countries in 1989. While the primary destination was Western Europe, substantial tonnages were also shipped to the Middle East and Asia (including Japan). Much of the steel exported appears to have comprised less sophisticated commodity grade products[716] that are sold in highly price-competitive markets. The potential to export higher value flat-rolled (e.g., sheet and strip) products, used in critical automotive and machinery applications appears to be limited, as the CEE producers reportedly are not able to compete effectively with other producers on the basis of metallurgical precision, dimensional and shape tolerances, surface quality, and presentation and packaging.[717]

[714] For example, most capital expenditure plans will apparently have to be realized with hard currency. (Warren L. Deverel, "Daunting times ahead for East Bloc Steel," *Metal Bulletin Monthly*, April 1990, p. 18.)

[715] Excluding Romania, for which data are not available from the sources used.

[716] Commodity grade (or commercial quality) products are products designed for uses in which wide variations in mechanical and chemical properties are acceptable.

[717] Deverel, "Daunting times," p. 18.

The ability of the steel industries in CEE countries to improve their competitive position in the short run appears to be limited. According to industry experts, these countries will need to invest approximately $30 to $60 billion or more during 1990-2000[718] to bring productivity, quality, and environmental standards to Western levels. Industry officials estimate that approximately 25 percent of CEE steelmaking and finishing facilities would need to be closed.[719] Estimates of the magnitude of needed investment suggest that the countries will have to be selective in their investments, and that pressures to close the least efficient mills will be strong.

In the short term, the ability of the CEE countries to increase exports will undoubtedly be affected by conditions in the global steel market. During the late 1980s, world consumption was relatively strong. Markets in the EC and the United States weakened during 1990 and 1991, however, which could diminish export opportunities or diminish the prices for steel exports in the short term. Moreover, opportunities could well be affected by steel trade policies of OECD countries. Both the United States, which has been a relatively small export market for CEE countries, and the EC have maintained import restraints. While both have indicated their intention to liberalize their quota programs overall, and with regard to the CEE countries specifically, it is not yet clear how far such liberalization will go. The CEE countries, however, have not filled their restraint limits to either the EC or the United States in recent years.

Industry characteristics

Following World War II, the steel industry was viewed by many industrialized countries as critical to both national security and economic growth. Its importance reflected not only the volume of steel that was consumed, but also its diverse use in military armaments, machinery and equipment, containers, transportation equipment, and construction. While steel's relative importance has declined over time in most industrialized countries, it remains one of the most important materials. Reflecting an historic emphasis, steel remains an important sector in CEE countries. For example, the industry employed approximately 500,000 workers in 1990,[720] which represented more than 3 percent of the industrial workforce in four of the five countries.[721]

Structure.—The steel industry encompasses integrated companies that process raw materials, such as iron ore and coal, into steel, and other companies that process and refine scrap metal into steel products. Steel produced via the integrated process accounts for

[718] Annual Report of the Secretary General Lenhard J. Holschuh to the Twenty Fourth Annual Conference of the International Iron and Steel Institute, Sydney, Australia, Oct. 7-10, 1990, pp. 11-12.

[719] Holschuh, *Annual Report*, p. 11.

[720] International Labor Organization, unpublished statistics.

[721] The ratio was lowest in Bulgaria with 2.6 percent of industrial workers employed by the iron and steel industry; Czechoslovakia had the highest proportion with 4.4 percent.

the predominant share of production in CEE countries, as in other major producing regions. The steel industry in each of the larger CEE countries comprises two or three large independent complexes with capacities ranging from 4 to 10 million tons per year, and 5 to 15 relatively small mills with capacities of 1 million tons or less.

The steel industry in CEE countries relies on imports to supply much of its iron ore and energy needs (excluding coking coal). The primary source has been the USSR; the small remaining balance of regional needs for iron ore has been met from domestic sources or by imports from Brazil, Liberia, and Venezuela.[722] With respect to coking coal, the USSR, Poland, and, to a much lesser extent, Czechoslovakia, have been the principal sources of supply to CEE steelmakers.[723] As indicated above, the costs of raw material inputs now have to be paid in hard currencies and at prices comparable to those paid by Western steelmakers.[724] Supplies have been disrupted during 1990-91 because of economic and political problems in the Soviet Union and Iraq; such short-term problems may continue until new, more stable, sources may be developed.[725]

Production and consumption.—The mix of steel products produced in the CEE countries differs somewhat from that produced in OECD countries comprising a higher percentage of long products (i.e., bars, rods, and structural shapes), which are used widely in construction, shipbuilding, and heavy machinery and equipment. Integrated producers in the OECD countries tend to produce more higher-valued flat-rolled sheet products, which are used widely in automotive applications, appliances, and machinery and equipment.

As data in table 60 indicate, steel production is divided fairly equally among Czechoslovakia, Poland, and Romania, with Bulgaria and Hungary each accounting for slightly more than 5 percent of total production in recent years. Production began to decline during 1988-89, and fell 15 percent between 1989 and 1990.

Apparent consumption of finished steel in the five CEE countries, which was relatively stable during 1984-1988, declined in 1989 to 33.6 million tons (table 61). With the recession and the restructuring that is occurring in many of these countries, a much sharper decline of 21 percent, was experienced in 1990.

Technology.—Available information suggests that steelmaking technology in CEE countries lags behind that used in other countries in certain key areas. For example, production in open-hearth furnaces accounted for about 36 percent of total steel production in the five countries in 1989 (table 62), compared to less than 5 percent in the United States, Japan, and the EC, where this production process has been largely phased out and is utilized mainly for swing capacity. Moreover, the share of steel produced using continuous casting, which reduces processing costs and improves product quality, totaled 23 percent in 1989, compared with more than 91 percent in Japan and the EC, and 65 percent in the United States.[726] Finishing processes are also reportedly disadvantaged vis-a-vis OECD steel mills with respect to dimensional and shape tolerances and surface quality.[727]

The use of older production technologies is likely to limit the technical capabilities and the relative cost competitiveness of CEE producers. These older processes consume more energy and raw materials; for example, approximately twice as much fuel is required to produce a ton of steel in CEE as in the OECD.[728] With energy prices rising to market levels in CEE countries, this could pose significant problems as

[722] Ocean Shipping Consultants, *East Europe to 2000*, p. 51.

[723] Ibid., pp. 83 and 90-91 and telephone discussion with Chief, Coal Committee, Economic Commission for Europe, Mar. 26, 1991.

[724] For example, a Hungarian steelmaker estimates that on the basis of a switch from trade denominated in Transferable Rubles to hard currency, purchase costs for coking coal, coke, ferroalloys, and energy would rise approximately 15 to 20 percent. (Richard Serjeantson, "West meets East by the Danube," *Metal Bulletin Monthly*, February 1991, p. 62.)

[725] Several CEE countries also had petroleum supply arrangements with Iraq and experienced supply disruptions and cost increases when economic sanctions were imposed on that country.

[726] International Iron and Steel Institute, *Steel Statistical Yearbook 1990*, Brussels, Belgium.

[727] Deverel, "Daunting times," p. 18.

[728] Deverel, "Daunting times," p. 49. Data on energy use per unit of output, in general, indicate that production in CEE countries uses approximately twice as much as in the OECD. ("The Entrepreneurial Approach," *The Banker*, September 1990, p. 6.)

Table 60
Steel: Central and East European crude steel production, 1986-90
(In thousands of metric tons)

Country	1986	1987	1988	1989	1990[1]
Bulgaria	2,898	3,045	2,880	2,889	2,401
Czechoslovakia	15,112	15,416	15,380	15,465	14,813
Hungary	3,715	3,622	3,582	3,315	2,962
Poland	17,144	17,148	16,873	15,094	13,553
Romania	14,276	14,962	14,314	14,415	9,690
Total	53,145	54,189	52,029	51,188	43,419

[1] Estimated by Commission staff on the basis of data from the ***.

Source: Compiled from statistics of the International Iron and Steel Institute, except as noted.

Table 61
Steel: Central and East European finished steel consumption, 1986-90
(In thousands of metric tons)

Country	1986	1987	1988	1989	1990[1]
Bulgaria	2,379	2,483	2,121	2,108	2,703
Czechoslovakia	8,730	8,599	8,464	8,611	7,876
Hungary	2,938	2,902	2,680	2,371	1,945
Poland	12,523	12,405	12,155	10,567	7,793
Romania	9,869	10,261	9,789	9,951	6,200
Total	36,439	36,650	35,209	33,608	26,517

[1] Estimated by Commission staff on the basis of data from the ***.

Source: Compiled from statistics of the International Iron and Steel Institute, except as noted.

Table 62
Crude steel: Production by furnace type and share continuously cast, 1989
(In percent)

Country	Production, by furnace type			Continuously cast
	Open hearth	Basic oxygen	Electric	
Bulgaria	10.0	50.2	39.8	14.4
Czechoslovakia	40.1	46.8	13.1	9.2
Hungary	42.6	46.5	11.0	55.6
Poland	35.7	47.8	16.4	7.7
Romania	28.0	48.0	24.0	34.2
Average[1]	33.9	47.6	18.5	19.0

[1] Weighted on the basis of production.

Source: Compiled from statistics of the International Iron and Steel Institute.

production costs increase for steel producers in the region. One Polish steelmaker reportedly commented that as a result of a recent increase in coal prices, he would no longer be able to compete in West European markets.[729] Production and finishing processes are reportedly not as automated in CEE steel industries as they are in OECD steel mills, thereby making the production process more labor intensive, less continuous, and more costly. With respect to technical capabilities, discussions with U.S. and EC industry executives suggest that while CEE producers would probably have little difficulty producing commodity grade steel (which is used widely in construction), they probably could not compete effectively in markets for higher quality steel, at least in the short to medium term. As discussed above, these commercial grade steels compete in price-sensitive markets; their primary competitors are highly efficient steel minimills and low cost producers in developing countries, most of whom have relatively modern equipment.

In addition, CEE steel plants for the most part lack modern pollution-control equipment and continue to be a major source of pollution, exacerbating serious environmental problems currently existing in this region. For example, a group active in environmental issues has advocated closing several mills in Poland if pollution controls are not installed.[730] Retrofitting the mills with pollution controls would be expensive and could limit the ability of steelmakers to finance other projects.

Labor.—Information on the technologies being employed and data on industry employment suggest that labor productivity of steel producers in the region may be one-third (or less) of that in OECD countries. For example, the number of production workers in the U.S. steel industry is approximately one-half that in the CEE as a whole, while U.S. steel production is approximately double. This may reflect past social policies of CEE governments as well as relatively lower levels of capital investment. Wages are reportedly low, partially offsetting low productivity, but are rising; on the other hand, as discussed below, the restructuring programs envision a fall in total employment.

Restructuring initiatives.—The efforts of CEE countries to adjust and modernize is taking various forms. All are pursuing technical improvements, such as increasing the amount of steel poured through continuous casters or phasing out open hearth steelmaking (which would improve steel yields and reduce production costs). An analysis of equipment currently in place suggests that additional investment in process equipment will also be necessary if the product mix is to be expanded or shifted to higher quality steels.[731] The total cost of restructuring production in

[729] Based on Commission staff discussion with industry consultant, Mar. 11, 1991.
[730] Staff interviews with industry officials, June 1991.
[731] ***

the region, with respect to investment and modernization, may exceed $30 billion during the decade of the 1990s.[732] Certain national and local CEE governmental entities have commissioned studies by a variety of engineering firms to provide an assessment of the requirements for such restructuring. Several governments and international organizations, including the World Bank, IMF, United States Trade and Development Program, and the EC Phare Program, have made efforts to promote reform and extend training and technical assistance as well.[733]

Restructuring of the steel industry in Czechoslovakia, Poland, and Hungary will entail substantial reductions in industry capacity and employment (although no facilities have been closed as yet). Up to 5 million metric tons of capacity (approximately 11 percent) might be closed in the three countries, chiefly obsolete open hearth (OH) steelmaking units.[734] Some other OH units in mills in those countries might be replaced by electric-arc furnace(EAF)-based or basic oxygen furnace (BOF) based units. On the other hand, capacity was recently expanded in Bulgaria by 900,000 metric tons to 5.1 million metric tons when a new minimill became operational at Burgas; its capacity may be doubled to 1.8 million metric tons during 1992-95.[735] Romania plans to expand its steelmaking capacity by about 6 million metric tons at Calarasi by 1995; the first stage, a modern 3 million metric ton BOF unit, is scheduled to become operational in 1992.

There are some efforts to privatize mills in the region. This appears to have been implemented in Hungary to a greater extent than in the other CEE countries. Restructuring plans in that country have included efforts to establish joint ventures with foreign firms who could inject new capital and managerial and marketing expertise. For example, the Ozd works planned to install an energy-optimizing furnace with German assistance and the Diosgyor works will receive a continuous caster through similar arrangements.[736] In Poland, a Japanese steel minimill, Kyoei Steel, is to provide technological assistance to improve the efficiency of electric furnaces at Ostrowiec, Stalowa and Warsaw. This venture will be financed with Japanese grants pledged by Prime Minister Kaifu on his visit to Poland in early 1990. In addition, Poland's Stalexport (the state steel trading company) is reportedly well advanced in discussions with potential Japanese and European joint venture partners for assistance in selling steel to Western markets, securing raw materials, and providing technical assistance on plant modernization.[737]

[732] Holschuh, *Annual Report*, p. 21.

[733] Remarks by Pedro Ortun, Director, Steel Division, EC Commission, at *Steel Survival Strategies VI*, June 19, 1991.

[734] World Steel Dynamics, *Communist World Capacity Monitor*, No. 8, Mar. 15, 1991, p. 34.

[735] Ibid., pp. 22-25.

[736] Based on Commission staff discussion with a Hungarian steel executive from the Miskolc Rolling Mill, Ltd., Jan. 23, 1991.

[737] Interview with Stahlexport's general manager, as reported in *Metal Bulletin*, Oct. 4, 1990.

Unresolved issues concerning the corporate governance of steel mills in the region have delayed many restructuring efforts. Corporate management of CEE steel mills is nascent and the degree of operational control is unclear. Uncertainties concerning the locus of decision-making functions appear to have delayed restructuring efforts in several of the CEE countries, led to management turnover in several mills in Poland, and caused the joint venture in Hungary with two Western companies, referred to above, to come apart.[738]

As adjustment proceeds, steel industry employment levels will decline; however, estimates of the magnitude of reductions, vary as does the time frame for such reductions. Some sources estimate that the number of steel workers in the region may be reduced by at least 60 percent.[739] In Hungary, statements by steel industry executives suggest that the labor force will be cut by an estimated 40 percent by the end of 1991.[740] In Czechoslovakia, Ministry officials recently announced a forthcoming reduction of some 50,000 steelworkers (which appears to represent about 40 percent of the steel workforce), to be effected over an unspecified time period.[741] In Poland, one of the largest mills, the Sendzimir Works in Nowa Huta, is reportedly planning to reduce its 27,000 work force by one-third.[742] Some of the reductions have already occurred in Hungary and Poland.

Government policy and nature of management structure

Government involvement in the steel industries in CEE countries continues to be significant. Such involvement has taken the form of ownership, as well as oversight and management of operations. With respect to the management of operations, various government ministries have traditionally been responsible for coordinating both the supply of raw material inputs to the mills, as well as the delivery of finished steel products to domestic and foreign customers. In addition, investment and the selection of management teams was centrally coordinated.[743] Managers at the firm level, for example, were chosen by the government from a list of nominees proposed by the communist party. Government involvement also included the determination of input prices and wage rates, as well as selling prices for finished products.

[738] "Korf and MG quit Ozd," *Metal Bulletin*, June 3, 1991, p. 27.

[739] Metallurgical Engineering Production Services, Ltd., "Steel Outlook (2nd Quarter)," as reviewed in *Steel Times*, November 1990, p. 595.

[740] Based on Commission staff discussion with a Hungarian steel industry executive, Jan. 23, 1991.

[741] United States Trade Development Program Project Definitional Mission, *Restructuring of Czechoslovak Metallurgical Industry*, p. 14.

[742] Interview with the plant director, as reported in *American Metal Market*, July 24, 1990.

[743] Economic Commission for Europe, *The Importance of the Iron and Steel Industry for the Economic Activity of ECE Member Countries*, ECE/Steel/64 (New York: United Nations, 1989), pp. 52-53.

As indicated below, significant changes in the role of government are now underway in Poland, Hungary, and Czechoslovakia; the process is less advanced in Bulgaria and Romania. Governments in the first three countries have articulated objectives under which operational decision-making and financial responsibility will devolve to individual enterprises.[744] Moreover, the first three governments have indicated their intention to privatize at least some of the mills. The extent and pace of change, however, is likely to vary among countries and companies, reflecting, in part, the magnitude and complexity of the task, the lack of experience in privatizing state-owned enterprises, and the uncertainties that liberalization poses to managers not accustomed to operating in a market environment. Moreover, the skills required for successful privatization of enterprises, such as marketing, management information systems, and financial controls, are apparently not available, or are only nascent.[745]

Efforts to privatize individual steel mills may also be complicated by the difficulty in valuing their assets or finding buyers; however, privatizing firms, in the absence of changes in other government policies, does not mean restructuring because product mix, technology, quality, and management styles are unlikely to change in the short to medium term. Moreover, the sale of facilities in whole or in part to foreign-based organizations, for which examples exist only in Hungary, may be delayed until such time as investment legislation becomes effective and the domestic company's debt, equity, and income reach financially attractive levels.

Poland.—The central government in Poland has reduced the extent to which it exercises direct management control over steel enterprises; the steel producers association, which acted as an intermediary between the ministry and the mills, has been abolished.[746] Decisions concerning investment, exports, joint ventures, and operations are reportedly now being made at the local and plant levels.[747] Government operating incentives and other forms of involvement continue, however, though the degree to which they do so varies among mills. The ministry, for example, continues to approve the directors of the mills.[748] Moreover, the government continues to appoint the operating management in some of the smaller mills. A board made up of local officials nominated candidates for the position of plant manager at the Huta Sendzimira mill, near Krakow, while the labor union made the final selection.[749]

[744] Ibid., p. 92.
[745] Nickolas L. Rickard & Assoc., Consultant, U.S. Trade and Development Program, Project Definitional Mission Report, TDP Project 90-7A, Oct. 20, 1990, p. 1.
[746] Economic Commission for Europe, *The Steel Market in 1989*, ECE/Steel/70, pp. 32 and 44.
[747] Ibid.
[748] Based on Commission staff discussion with consultants to the Polish steel industry, Mar. 8, 1991, and staff interviews in Poland, July 1991.
[749] Ibid.

The government has reduced financial assistance, reportedly ending subsidies on interest rates, energy, and other inputs in 1990.[750] Operating incentives continued to some extent, however, to prevent cash flow and liquidity problems from causing several steel mills to shut down. The government reportedly has relinquished control over the setting of prices, which are now subject to negotiation between the mill and its customer, and based on the mills' production costs. The mills raised prices on steel products in 1991 to reflect increased costs of fuel (primarily coal).[751]

While the role of the government has diminished, it still performs a number of important functions for the steel mills. Iron ore, for example, continues to be imported by a state-run organization; the mills apparently continue to use the government purchasing entity to obtain the advantages of buying in bulk.[752] With respect to foreign trade, although the mills now have the right to manage their own exports, the state foreign trade organization, Stalexport, continues to be used because of its knowledge of customers and markets. Although the mills continue to utilize Stalexport's domestic distribution services, they are increasingly selling directly to end users.[753]

Hungary.—While the national government does not set prices for the industry, it provides nonbinding "guidelines" that indicate a range of acceptable prices for the domestic market.[754] The government no longer establishes production quotas or sets distribution channels for most sales.[755] State subsidies were reduced by about 75 percent from the 1988 level to 3.25 billion forints (about $61 million) in 1989, and were apparently phased out, for the most part, in 1990.[756]

Hungary appears to be further along than other CEE countries in its efforts to withdraw from the industry through privatization and to attract foreign direct investment. Foreign equity investment in Hungary,[757] encouraged by tax incentives, has been

[750] The Polish Government adopted a stabilization and restructuring program at the end of 1989 that imposed credit controls and relaxed exchange and trade controls. The program relies on increased enterprise decentralization (although there was continued government involvement in the allocation of inputs, the licensing of imports and exports, and determination of prices). Government policy changed somewhat as of Jan. 1, 1990 when quantity controls on imports were replaced by tariffs and export quotas were reduced on basic commodities. Enterprises may raise prices on certain goods within specified guidelines. (Based on Commission staff discussion with industry officials, Mar. 7, 1991.)
[751] The increased costs of coal stem from reduction of government supports to the coal industry. (Based on Commission staff discussion with consultants to the Polish steel industry officials, Mar. 7 and 8, 1991.)
[752] Ibid.
[753] Staff interviews in Poland, July 1991.
[754] Based on Commission staff discussion with a Hungarian executive from the Miskolc Rolling Mill, Ltd., Jan. 23, 1991.
[755] Certain exports to CMEA countries, however, are restricted pursuant under the terms of an IMF restructuring program.
[756] Staff interviews in Hungary, July 1991.
[757] *Steel Times*, August 1990, p. 432, cites a figure of 172 association agreements that were reached between Hungarian steel companies and foreign companies.

made in several semi-privatized steel mills, and may be the catalyst in bringing about a further shift toward a market orientation among domestic producers. A foreign investor may be able to provide the management and marketing know-how, export and foreign distribution channels, and foreign market information, as well as the funds for modernization to his Hungarian counterpart. As a result, the foreign trade organization which was designated by the government to handle steel exports may be bypassed to a greater extent in Hungary than in Poland and Czechoslovakia. With respect to imports of raw materials, Hungarian steel mills continue to purchase imported raw materials as a group through a government agency.

Czechoslovakia.—Government officials in Czechoslovakia have announced they will seek to privatize the state-owned steel industry within three years, beginning in 1991. Foreigners are to be allowed to make equity investment in the new privatized firms.[758] Certain forms of assistance, such as debt guarantees, operating incentives, and credit assistance, may, however, be continued for a period of time after privatization to restructure the industry financially and to modernize methods and practices.[759] Press reports indicate the majority of enterprises are not prepared for privatization and restructuring at this time, and that the managers prefer the continuation of present state policies and financial assistance.[760]

All steel plants became nominally independent from the government in 1989 when the Iron and Steel Works General Directorate was abolished,[761] although the extent to which management is operationally independent from government intervention is not clear. Enterprise managers will apparently have greater latitude over employment than before, although wages are being controlled during the transition.[762] The government reportedly does not establish prices on steel products although it imposes guidelines covering price increases.[763] The two state trading organizations continue to dominate the domestic distribution of steel.[764]

[758] Enterprises in the steel industry have the right to enter into domestic joint ventures with foreign partners; even 100-percent foreign ownership is allowed. ("Information for Enterprises on Economic Conditions in 1991," in Prague *Hospodarske Noviny*, translated in *JPRS-EER-91-022*, Feb. 20, 1991, p. 28.)

[759] Nicholas L. Rickard & Assoc., Consultant, U.S. Trade and Development Program, Project Definitional Mission Report, TDP Project 90-7A, Oct. 20, 1990, p. 1.

[760] Central Economic Research Institute, "Hesitation, Caution, Lack of Preparedness," in Prague *Hospodarske Noviny*, translated in *JPRS-EER-91-007*, pp. 32-37.

[761] *Steel Times*, August 1990, p. 424.

[762] "Information for Enterprises," *JPRS-EER-91-022*, Feb. 20, 1991, p. 29.

[763] Based on Commission staff discussion with industry officials at Ferromet, the foreign trade organization, Mar. 11, 1991. Other industry officials have questioned the extent of enterprise independence or government disinvolvement in pricing. According to a Czechoslovakian government publication, prices will gradually be decontrolled, beginning Jan. 1, 1991, but price increases may not exceed certain guidelines. ("Information," *JPRS-EER-91-022*, Feb. 20, 1991, p. 22.)

[764] Staff interviews in Czechoslovakia, July 1991.

The Government of Czechoslovakia continues to establish quotas covering exports specified by continuing bilateral trade treaties (e.g., to the Soviet Union); it has also established an export licensing procedure for steel products to fulfill its obligations under bilateral trade treaties as well as to protect the domestic market from shortages.[765] Although the Government has given export rights to the mills, and enterprise managers reportedly profess a desire to establish their own foreign trade contacts, the mills continue to use the state foreign trade organizations as their export channel as a practical matter.[766] The mills also continue to import raw materials through the former foreign trade organization.

Bulgaria.—While the stated aim is to work towards a market economy, all of the steel works are owned and continue to be operated by the state, although the formal organization is unclear.[767] Most prices are fixed by the state. The mills are legally free to conduct foreign trade, subject to the availability of foreign exchange.

Romania.—Legislation that might reduce ownership by the state is being considered,[768] although a state-owned holding company, Siderom, apparently will exercise operational control during the period of restructuring.[769] Government financial assistance is reportedly being continued for investment in environmental safeguards and modernization. Price controls are apparently being relaxed, and may take the form of price guidance in the future.[770] The mills apparently continue to utilize the services of the former foreign trade organization, although the requirement that import and export operations be conducted through the foreign trade organization has been eliminated; the import license requirement is, reportedly, not restrictive.

Adjustment issues

Individually and collectively, the steel industries of the five CEE countries represent a relatively small part of the world steel industry. Raw steel production in the CEE countries totaled approximately 45 million metric tons in 1990, which represented about 6 percent of the world total. The steel industries, nonetheless, have been important to the economies of the 5 CEE countries as a source of employment and point of industrialization, and in terms of their contributions to GNP and a favorable balance of trade.

The ability of the steel industries in CEE countries to compete will depend in large part on their ability to overcome a number of impediments. These include uncertainty with respect to demand in major consuming industries in their countries or for exports; a potential

[765] "Information for Enterprises," *JPRS-EER-91-022*, p. 28.

[766] "Hesitation," *JPRS-EER-91-007*, p. 34.

[767] ***

[768] Statement by the Romanian Commercial Councilor to the United States Trade Commission on July 16, 1991.

[769] "New Romanian steel body starts up," *Metal Bulletin*, June 20, 1991, p. 21.

[770] ***

lack of resources to finance modernization or upgrade environmental controls; social problems caused by employment reductions; supply disruptions, rising labor and materials costs, and rising transport costs.

Low demand for steel, both in the region and at the local level, could be a problem that limits opportunities for growth. Globally, CEE steel producers will find themselves competing in a slow growth industry,[771] with a number of newer, more efficient producers. Moreover, structural adjustments in the region will likely mean that previous domestic end-users (e.g., the automotive, machinery, and consumer goods industries), will demand far less of the industry's output in the future as they improve their own efficiencies (i.e., consumption becoming less steel intensive). Moreover, such consumers may require higher quality steel.

The enterprises are burdened by debt[772] and may lack the necessary resources to modernize. The requisite modernization of technology and facilities to produce low-cost, higher quality products necessitates capital investment and managerial expertise, most of which must be attracted from abroad. Under the previous bureaucratic-administrative system, capital was relatively low-cost, the central banks made the lending decisions, and the enterprises possessed relatively high levels of debt; with economic reforms, interest costs are rising and debt service could impose a significant burden for a number of highly leveraged companies aggravated by the relatively large current costs of production.[773] Moreover, there is the possibility that the enterprises will not adjust to reforms, putting the industry in danger of bankruptcy or putting pressure on the governments to expand the money supply. Also complicating the issue of foreign investment, the CEE is but one of several regions in which restructuring and privatization programs for the steel industry are occurring. Brazil and Mexico, among other developing countries, both announced similar programs in 1990. Whether capital will be drawn to CEE steel industries rather than other competitors is unknown because of the uncertainties of economic and investment reform in the region.[774]

Another problem faced throughout the industry worldwide is the need for environmental controls. Few countries, however, have been faced with the cumulative degree of environmental degradation present in certain CEE areas. The concerns of local residents and Western European countries affected by the pollution are likely to have a conspicuous impact on the rate and means by which the industry is restructured; some closures may be a direct result of such concerns. Environmental concerns may direct capital from investment in new equipment to projects designed to control pollution, and the potentially large environmental liabilities may deter investors from purchasing the existing facilities.

Some of the difficulties faced by steel producers in the CEE countries are similar to obstacles faced by the steel industry in virtually all countries, though perhaps to a different degree. Reducing costs through reductions in the steel labor force (to meet competition from new suppliers with modern facilities) has been necessary in the industries in many Western countries. Employment in the steel industries of the United States and the EC decreased by almost 50 percent between 1975 and 1986, and required substantial government assistance. The necessity of eliminating large numbers of workers in a relatively short time, as may be the case in the CEE industries, is likely to be even more difficult, since alternative employment opportunities for jobless steel workers may be limited.

Other problems are more regional in nature. Raw-material bottlenecks may develop as a result of modifications in CMEA sourcing arrangements. In the past, the Soviet Union has been a major supplier of primary inputs (e.g., coking coal, iron ore, and energy in the form of petroleum products or natural gas), often on a barter or soft-currency basis. With changing terms of trade, however, supply agreements will be negotiated that may no longer be as secure as in the past. The sites of many of the steel mills were chosen because of intra-CMEA sourcing arrangements. Under changed sourcing arrangements and rising transportation costs, the steel mills are not well located with respect to access to raw materials or key steel-consuming markets in the West. Moreover, the elimination of supports for the transportation sector will undoubtedly result in increased costs that in turn will affect the competitiveness of the steel industry.[775]

Foreign trade

Foreign trade is important to CEE steel industries, although it varies among countries in its degree of importance. The CEE steel industries exported an estimated 27 percent of their shipments of steel products in 1989, approximately the same as the world average. This ratio rose to nearly 31 percent in 1990.[776] Imports, on the other hand, accounted for about 11 percent of 1989 apparent consumption in the five countries, although the percentage varied widely

[771] World steel production grew only 9 percent between 1973 and 1986, compared with 66 percent for manufacturing of machinery and equipment.

[772] This has been termed "their defective financial structure;" debt would apparently remain excessive despite efforts to alleviate a liquidity squeeze by liquidating all unnecessary assets.

[773] Jan Vanous, "Nuts Bolts of Economic Reform in Central and Eastern Europe," and Manuel E. Hinds, "Comment on Jan Vanous' article, in *Transition*, vol. 2, No. 6 (The World Bank, June 1991), pp. 7-9.

[774] The joint-venture outlook is not promising; the worldwide "demand" for alliance partners exceeds the "supply" of able partners with the necessary managerial, financial, and technical skills. ***

[775] The transportation infrastructure is more extensive in Czechoslovakia, Hungary, and Poland than it is in Romania and Bulgaria. Even in the first three countries, road and railroad densities, and the apparent availability of rail cars are lower than they are in Western Europe. Moreover, if railroads and rail cars are not properly maintained, a development that some foresee and for which some evidence exists, the industry's competitive position would be further affected. (Deverel, "Daunting times," p. 51; Bozena Zulawnik, "Carriers," Warsaw *Gazeta Bankowa*, translated in *JPRS-EER-91-056*, April 30, 1991, pp. 38-39.)

[776] The devaluations in Hungary and Poland assisted those countries' export efforts, according to industry experts.

among countries (table 63). Each country recorded a net surplus in steel products' trade on a quantity basis in 1989, although for Bulgaria this apparently was an exception. Poland, Romania, and Bulgaria were the largest importing countries in 1989 and 1990, while Czechoslovakia, Romania, and Poland were the largest exporters (table 64). Imports increased and exports decreased for the five CEE countries between 1989 and 1990, affecting the ratios and the trade balance. These changes were most pronounced for Bulgaria and Hungary, the two smaller steelmaking countries. Data for 1988 are shown for comparison.

The Soviet Union was the single largest export market for steel products from CEE[777] accounting for about 21 percent of exports by quantity in 1989 (table 65). Trade between CEE countries accounted for another 8 percent (or 13 percent including the former GDR), some of which is reportedly based on processing arrangements (e.g., tolling) that exist between mills.[778] The geographic distribution of exports reflects, to some extent, obligations under bilateral trade treaties negotiated by CMEA countries. The significant level of exports to Western Europe and the Middle East, which together accounted for 43 percent of exports in 1989, in all likelihood reflects

[777] Excluding Romania, for which data are not available from sources used.

[778] For example, the Bulgarian mill at Burgas has an agreement to roll imported slab and return hot-rolled and cold-rolled sheet to the Soviet mill at Donetsk; there is also a tolling arrangement between the Polish mill at Katowice and steel producers in the Soviet Union and West Germany that involves imports of Soviet slab into Poland and the export of hot-rolled coils to Germany. (Staff conversations with industry experts in New York and New Jersey, May/June 1991.)

Table 63
Steel: Central and East European imports as a share of apparent consumption, and exports as a share of shipments, 1988, 1989, and 1990

(In percent)

Country	Imports as a share of apparent consumption			Exports as a share of shipments		
	1988	1989	1990	1988	1989	1990
Bulgaria	39.8	32.0	54.0	44.0	32.6	30.9
Czechoslovakia	6.5	3.8	2.8	35.6	31.3	30.6
Hungary	39.4	39.9	69.7	37.9	48.7	75.0
Poland	11.7	11.4	3.0	18.7	20.2	24.5
Romania	13.8	5.1	9.1	28.1	24.9	25.0
All countries[1]	15.0	10.9	14.5	28.9	27.5	30.7

[1] Average weighted on the basis of apparent consumption and shipments.

Source: Compiled from statistics of the International Iron and Steel Institute (IISI), the United Nations Economic Commission for Europe, and the ***.

Table 64
Steel: Central and East European imports, exports, and trade balance, by country, 1986-90
(In thousands of metric tons)

Type of trade and country	1986	1987	1988	1989	1990
Imports:					
Bulgaria	1,003	883	800	674	1,460
Czechoslovakia	918	692	512	326	221
Hungary	1,111	1,075	1,170	946	1,355
Poland	1,324	1,219	1,271	1,200	236
Romania	1,335	1,199	1,271	503	562
Total	5,691	5,068	5,024	3,649	3,834
Exports:					
Bulgaria	959	792	528	694	557
Czechoslovakia	3,890	4,128	4,027	3,776	3,376
Hungary	1,284	1,407	1,546	1,350	1,770
Poland	2,230	2,280	2,316	2,382	2,458
Romania	3,060	3,100	3,100	3,134	1,882
Total	11,513	11,707	11,517	11,336	10,043
Trade balance:					
Bulgaria	(44)	(91)	(272)	20	(903)
Czechoslovakia	2,972	3,436	3,515	3,450	3,155
Hungary	173	332	376	404	415
Poland	906	1,061	1,045	1,182	2,222
Romania	1,725	1,901	1,829	2,631	1,320
Total	5,732	6,639	6,493	7,687	6,209

Source: Compiled from statistics of the United Nations Economic Commission for Europe and the International Iron and Steel Institute.

Table 65
Steel: Central and East European exports of semifinished and finished steel products by selected markets, 1989[1]

Market	Bulgaria	Czecho-slovakia	Hungary	Poland[2]	Average
	(In thousands of metric tons)				
Quantity	693.93	3,776.4	1,349.81	2,382.65	8,202.79
	(Percentage share of total exports)				
Eastern Europe:					
Bulgaria	([3])	1.28	3.22	0.52	1.27
Czechoslovakia	5.24	([3])	1.90	3.81	1.86
Hungary	([4])	1.62	([3])	0.58	0.92
Poland	([4])	5.63	1.10	([3])	2.78
Romania	5.05	([4])	0.62	1.67	1.15
Subtotal	10.38	8.82	6.84	6.57	7.97
Albania	1.22	0.58	([4])	0.56	0.56
East Germany	0.68	7.03	1.94	3.68	4.68
U.S.S.R	13.63	19.66	9.07	33.35	21.39
Total	25.91	36.09	18.01	44.16	34.60
West Europe:					
EC:					
West Germany	9.64	9.63	11.35	13.43	11.02
Other	18.04	12.51	14.35	11.06	12.86
Subtotal	27.68	22.15	25.70	24.49	23.88
Other	16.22	20.28	26.10	14.90	19.33
Total	43.90	42.42	51.79	39.40	43.21
Africa	([4])	5.40	7.24	([4])	3.71
North & South America:					
United States	([4])	0.48	2.10	2.24	1.22
Other	5.69	0.78	([4])	([4])	0.91
Total	5.69	1.26	2.14	2.48	2.13
Asia:					
Near and Middle East	8.87	3.88	12.34	6.69	6.51
Japan	([4])	([4])	1.86	([4])	([4])
Other	15.64	10.94	6.60	7.16	9.53
Total	24.50	14.83	20.81	13.86	16.35
Oceania	([4])	([4])	([4])	([4])	([4])

[1] Average weighted by quantity.
[2] Sum of available data.
[3] Not applicable.
[4] Less than 0.5 percent.

Note.—Because of rounding, figures may not add to the totals shown.

Source: United Nations Economic Commission for Europe, *Statistics of World Trade in Steel, 1989.*

the need to sell merchandise to generate foreign exchange and traditional commercial ties. Moreover, there were reportedly some arrangements with Iraq, Syria, Iran, and Kuwait to barter steel and other products for crude petroleum.

The product mix of exports from CEE countries has been concentrated in relatively low-value carbon steel long products that are typically used in construction. CEE steel industries compete in their export markets on the basis of price with similar exports from many developing and developed countries.

Until the recent privatization and market-oriented measures were instituted, there was little or no link between domestic and foreign prices. Trade policy measures under central planning tended to isolate the domestic industry from the world market. Most, if not all, raw materials and steel products were purchased in

transferable rubles within CMEA.[779] Government officials in Poland, Hungary, and Czechoslovakia have articulated policy objectives, and instituted programs which, if fully implemented, would decentralize and liberalize trade. Certain traditional forms of government intervention are to be abolished. If fully implemented, such policies would have the effect of making the steel enterprises more market-oriented, cost conscious, and perhaps more export-oriented.[780] Until recently, the exchange of steel products within CMEA was organized under the auspices of Intermetall;[781] with the breakup of CMEA and the decline of Intermetall, the importance of CEE exports to the OECD countries could rise.

The absence of most-favored-nation (MFN) treatment for Romania and Bulgaria constitutes one of the most significant impediments to exports to the United States for those countries; column 2 tariffs (typically applied to imports from Communist countries) average about 20 to 25 percent and may reach 40 percent for steel products, while column 1 MFN tariffs, which apply to most non-Communist, developed countries, average less than 5 percent *ad valorem* for steel products. U.S. GSP benefits are not applicable to most steel mill products. The EC and the United States currently limit imports of steel products from CEE countries. In the case of the EC, the limits apply to all the countries and were set at approximately 2.3 million metric tons in 1990. In the case of the United States, the limits are set at approximately 300,000 metric tons and apply to all countries except Bulgaria. With regard to the U.S. system of voluntary restraint agreements, import data for 1989 and 1990 suggest that the four CEE country quotas were only filled 25 to 50 percent in the 2 years.[782] According to industry sources, prices in the U.S. market were not as attractive as those in other areas, such as the Middle East.

Textiles[783]

Prepared by Kimberlie Freund

Export potential

There is some potential for an increase in exports of certain textile products from CEE countries, though total amounts will probably be relatively small compared with textile exports from Asian countries. Overall, the yarns and fabrics produced are not competitive with Western or Asian-produced fabrics in terms of quality and variety. In many instances, CEE production of textile products is also not cost-competitive with that of Asian or Western companies. Further, there is little potential for increased CEE demand for these products by downstream industries. Any increases in exports of apparel, at least in the short run, will likely be in the form of outward processing, in which foreign fabric is used to produce the apparel for reexport.

In general, firms that are able to modernize through joint ventures or cooperation agreements with foreign firms should have the most success in increasing exports. Certain products should have more export potential than others. For example, Czechoslovakia may increase its exports of linen fabrics, which it already exports to the United States, and to a lesser extent, wool and some cotton fabrics. Best prospects for increased exports from Poland are those products for which Poland already has established markets—linen fabrics for household textile products and cotton fabrics, particularly for bed linen. Poland may also increase its exports of woolen fabrics, though the type of woolen fabric it produces—heavyweight woolens—is not currently popular in Western markets. Hungary may have more potential in exports of yarns than of fabrics.[784] Rayon fabrics also reportedly have some export potential.[785] Romania and Bulgaria have little export potential in the near future. It is unlikely that Romania would have the capability of penetrating one former market, the United States, until it receives MFN status. Further, Romania currently is limiting the export of textile products because of shortages in the domestic market.[786]

Industry characteristics

In terms of capacity, the CEE countries generally had less spinning capacity than many major textile producers (figure 7). Of the five CEE countries, Poland and Romania had the largest spinning capacity and the highest level of employment in 1989. Employment data are presented in following tabulation:

Country	*Number of Employees*
Bulgaria	105,000
Czechoslovakia	152,000
Hungary	75,800
Poland	321,771
Romania	412,400

The economic structure in place in the CEE countries to date rewarded production for the quantity produced. As a result, quality suffered as producers allocated inputs to get maximum outputs. These textile products sell at the low end of the market in the West,

[779] See Martin Schrenk, "The CMEA System of Trade and Payments: Today and Tomorrow," The World Bank SPR Discussion Paper No. 5, January 1990, pp. 6-9 for a discussion of prices and exchange rates.

[780] Based on Commission staff discussion with an official of Ferromet, the Czechoslovak steel export organization, Mar. 11, 1991.

[781] United Nations Economic Commission for Europe, *The Steel Market in 1989*, p. 56.

[782] See U.S. International Trade Commission, *Quarterly Report on the Status of the Steel Industry*, USITC publication 2364, March 1991 for tables indicating quotas and imports under the VRAs.

[783] Defined for the purposes of this section as yarns and fabrics. This definition does not include manmade fibers or knit apparel.

[784] Mr. Istvan Jankovits, Hungartex, USITC staff interview, Budapest, July 2, 1991.

[785] Ibid.

[786] Information supplied by the Romanian Commercial Office, New York, Aug. 2, 1991.

where demand is limited, but supply is abundant. As a result, these products generally compete on price. For the most part, however, CEE countries are not cost competitive with the Asian producers, which have lower wage rates, such as China, or which have similar wage rates, but operate more efficiently than the CEE industry. For example, the unit value of U.S. imports of heavyweight cotton fabric from Czechoslovakia was $1.31 per square meter in 1990, compared with $0.76 from Korea and $0.65 from China.

Most of the CEE industry is characterized by significant inefficiencies in the use of inputs, particularly human resources. The level of employment in 1989 in Romania and Poland was higher than that for Korea, a major world producer and exporter of textile products. Yet the number of spindles in Romania and Poland were roughly one-half of those in Korea, suggesting that the production process in Poland and Romania is much more labor-intensive than that in Korea. Further, the level of yarn production in Korea is almost five times that in the two CEE countries. The productivity of yarn manufacturing in Poland and Romania, as measured by the kilograms of yarn produced per spindle, was roughly one-third of that for Korea. The productivity of yarn production in Czechoslovakia, the third-largest yarn producer of the CEE countries was also about one-third of that for Korea. Hungary and Bulgaria were more productive than their CEE counterparts in terms of the productivity ratio, but they are both small producers overall (table 66).

Table 66
Textiles: CEE production of yarn and fabric, 1987-89

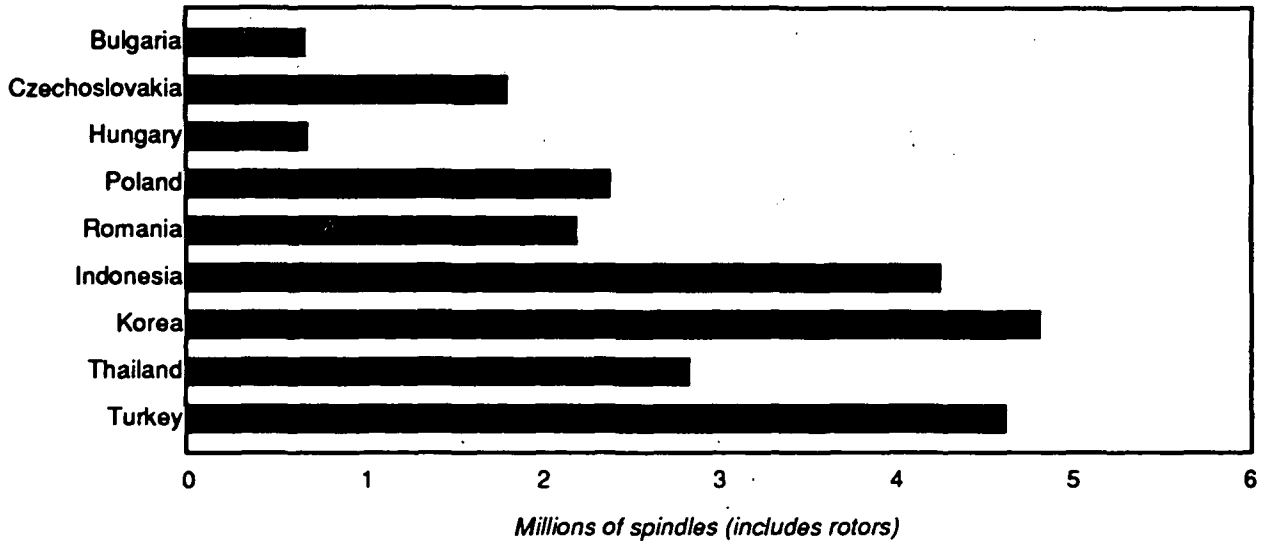
Item	Yarns			Fabrics		
	1987	1988	1989	1987	1988	1989
	Million kilograms			Million square meters		
Bulgaria	118	121	119	499	507	509
Czechoslovakia	204	206	206	996	1,003	1,005
Hungary	104	101	95	415	410	357
Poland	278	282	277	1,088	1,135	991
Romania[1]	323	304	219	1,073	1,151	1,206

[1] Romanian production of yarn, which is used for fabric and knitwear production, decreased from 1987 to 1989. Fabric production increased during this period, but knitwear production decreased even more, explaining the decline in yarn production.

Note: Data for 1989 for Bulgaria, Czechoslovakia, and Romania (for yarn only) were estimated.

Source: Compiled from *Statistical Yearbook* 1988 and 1989, Hungarian Statistical Office, *The Fibre and Textile Industries of the U.S.S.R., Eastern Europe and Yugoslavia to 1992*, International Wool Secretariat, 1990; "The Textile and Clothing Industry in Romania," *EIU Textile Outlook International*, March 1991, p. 22; Donald E. deKieffer, *Doing Business With Romania*, Peter E. Randall Publisher, 1990; and data supplied by the Polish Ministry of Foreign Economic Relations, Warsaw, 1991.

Figure 7
1989 installed spinning capacity



Note.—China had 38 million spindles and the United States had 13 million spindles in 1989.
Source: Compiled from ITMF statistics.

Much of the CEE textile industry is currently operating at very low capacity utilization levels—less than 50 percent in some instances—which raises the marginal cost of the products manufactured under such circumstances.[787] The low-capacity utilization in part results from a loss of traditional markets both home and abroad. The industry is facing increasing competition from imports in their home markets, while at the same time their major export market, the Soviet Union, has collapsed. Because of the inefficiencies in the industry, many firms are unable to generate sufficient revenue to invest in new machinery. Unless firms adapt to market conditions by using their resources more efficiently and removing redundant workers, many firms could go bankrupt.

Most of the spinning and weaving machinery in CEE countries is from the Soviet Union and CEE countries. This machinery is considered inferior to machinery produced in the West (including Japan). Even the machinery produced in Czechoslovakia—the inventors of air-jet weaving and open-end spinning—is less refined than Western-produced machinery, which is primarily used in Asian and Western countries. The CEE machinery operates at slower speeds and produces products with more flaws than machinery produced in the West.

Unlike apparel, textile production has become relatively capital intensive. Given the overcapacity that already exists in global production, combined with the generally low value added of the product, it is unlikely that foreign investors will attempt to revitalize the unproductive firms or bring on new capacity. The exception would be niche products such as linen and certain woolen fabrics for which these countries appear to have some advantages.

Bulgaria will be excluded from the remainder of the analysis on textile products because of its low level of textile production, capacity, and exports to the United States and EC. While Romania was also a relatively insignificant exporter to the United States and EC in 1989, Romania has significantly larger production capacity and historically has exported larger quantity of goods to the United States and EC. Hungary, a relatively small producer, will also be included because it was the second largest exporter of the CEE countries to the West.

Czechoslovakia.—In 1989 there were 57 textile firms in Czechoslovakia, almost all of which employed over 1,000 workers.[788] More than one-half of the firms employ more than 2,500 workers[789] and some of the larger Czechoslovak factories, particularly in the cotton spinning and weaving sector, employ as many as 7,500 people.[790] The average wage for textile industry workers was $1.21 per hour, below the national average of $1.40 per hour for all of industry in Czechoslovakia.[791] The Czechoslovak textile wage rate is less than Korea's rate at $3.33 per hour.[792] However, productivity is significantly lower in the Czechoslovak industry in comparison with that of Korea.

So far the textile industry has not been very successful in attracting foreign investment. As of March 1991, there were only two joint ventures with foreign firms, with the total foreign capital outlay valued at $300,000. Like other CEE countries, it is unlikely that the industry will attract significant amounts of new foreign investment because of the lack of profitability in the industry.

Although hard currency shortages have limited access to state-of-the-art textile machinery manufactured in Western Europe, technical research institutes in Czechoslovakia have played a large role in developing modern spinning and weaving equipment for use in Czechoslovak mills. Pioneering research efforts aimed at developing air-jet weaving and open-end spinning systems were conducted in Czechoslovakia during the Communist era.[793] After basic research was completed, licensing agreements were reached with major textile machinery makers, including Toyoda, Sulzer Ruti, and Rieter.[794] As a result of this research and development, the level of technological modernization in Czechoslovakia is quite high in relation to its CEE neighbors. Nevertheless, the machinery is still considered inferior to machinery produced in the West.

Czechoslovakia was the third-largest producer of yarns and fabrics for the region in 1989, but the largest exporter to OECD countries. Czechoslovakia also has the largest weaving capacity of the CEE countries, even though it has the third-largest spinning capacity, next to Poland and Romania (table 67). Czechoslovakia has a smaller spinning industry relative to Poland and Romania, because it devotes less yarn than Poland and Romania to the knitting industry. Traditional areas of competitive success include the production of heavyweight fabrics made of natural fibers, especially wool and wool/manmade-fiber blended fabrics. Czechoslovakia is also a significant producer of linen fabrics and the second-largest CEE producer of cotton fabrics, next to Romania. Despite some success in export markets, Czechoslovak textile goods have recently lost domestic market share to imports from Asian countries.[795] Czechoslovak consumers reportedly have become more discriminating, demanding better quality goods.[796]

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[787] Polish capacity utilization rates are estimated to be at 30-40 percent and Hungarian rates at roughly 50 percent. Dr. Pal Pakaki, interview by USITC staff, Budapest, July 1, 1991, and Andrzej Stasinski, Witold Rakowski, Zdzislaw Czaplicki, and Edward Szucht, Instytut Wlokiennictwa, USITC staff interview, Lodz, July 9, 1991.

[788] *Statistical Yearbook of the Czech and Slovak Republic* 1990.

[789] Ibid.

[790] Zdenek Marsicek, "Czechoslovak Privatization," *Textile Asia*, November 1990, p. 116.

[791] *Statistical Yearbook* 1990.

[792] "Werner Labor Cost Comparison, Summer 1990," Werner International, New York, July 1990.

[793] "Czechoslovakian Textile Machinery: On the Brink of a New Challenge," *Textile Leader*, June 1990, p. 90.

[794] Ibid., p. 90.

[795] Mr. Jiri Koutnik and Vladimir Wiedermann of Centrotex, interview by USITC staff, Prague, July 12, 1991.

[796] Ibid.

Table 67
Textiles: Number of installed looms in CEE in 1989

Item	Looms for weaving on the cotton system[1]	Looms for weaving on the wool system[1]
Bulgaria	11,000	(2)
Czechoslovakia	25,000	(2)
Hungary	7,300	[3]870
Poland	24,450	5,200
Romania	14,000	(2)

[1] The primary difference between the "cotton system" and the "wool system" is the length of the fiber used. Cotton fibers tend to be shorter than wool fibers. Manmade fibers can be cut to size to use in either system.
[2] Not available.
[3] 1988 data.

Source: *International Textile Machinery Shipment Statistics*, vol. 13, 1990.

Czechoslovakia probably has the most potential of the CEE countries to increase its fabric exports to the West. Although the industry is still inefficient, its relatively higher technological base should provide greater opportunities for growth and development. It will be necessary, however, for the industry to improve its efficiency by reducing the workforce and, in some cases, breaking up some of the huge textile firms into smaller, more manageable units. The products which would likely be most successful are those intended for niche markets, such as linen and some wool fabrics.

Hungary.—Many large firms were created in the late 1960s as part of a state program to encourage mergers and to facilitate centralized control of industry. Most textile firms integrated all aspects of the production process, from yarn spinning to fabric finishing. In 1988, 1 large firm employed more than 5,000 workers, and 4 textile firms were among Hungary's 100 largest industrial companies.[797] Nevertheless, the management has started breaking up the industry into smaller units. A total of 240 companies were active in 1990, up from 67 in 1985.[798] Employment dropped from an average of 1,600 workers per company in 1985 to roughly 315 per company in 1990, though some companies still employ significantly larger number of workers. Employment for the industry overall declined by 29 percent during this same period to roughly 75,800 workers.[799] This drop in employment was largely due to decreased production. Yarn production declined by 15 percent during this period and fabric production fell by 34 percent.

Average wages in the Hungarian textile industry were $1.24 per hour in the summer of 1990, approximately 12 percent of the U.S. industry average.[800] This placed Hungary well below many export-oriented textile manufacturing nations such as Taiwan, which had an average hourly wage rate of $4.56. However, Hungarian labor costs were significantly higher, in dollar terms, than those in Malaysia, the Philippines, China, and Indonesia.[801] Productivity was believed to be lower than other major producers because of the poor quality of the machinery and the low-capacity utilization rates in the Hungarian industry. In addition, the textile industry is reportedly losing some of its skilled workforce, particularly managers and engineers, to other industries that pay higher wages.[802] If the industry intends to keep these workers, it will have to improve productivity so that it can increase wage rates.

The level of technical sophistication in the industry is not high.[803] Nearly three-quarters of Hungary's textile machinery was purchased prior to 1980.[804] Hungary lagged behind both Czechoslovakia and Poland in its purchase of modern equipment over the last decade.[805] Inability to obtain credit or hard currency has forced many Hungarian firms to purchase or lease second-hand equipment.[806] In addition, interest rates of 40 to 45 percent have made the cost of financing new machinery prohibitively high. Even some of the newer equipment, particularly the looms, employ older technology.[807] Almost 65 percent of equipment in place was purchased from other Central and East European countries.[808]

As of January 1990, there were 15 joint ventures with foreign firms in the textile sector, with a foreign direct investment valued at $13.5 million.[809] German, Austrian, and Italian companies continue to express the most interest in Hungarian-based manufacturing.[810]

[797] Sandor Fulop, "Profile of the Textile Industry in Hungary," *Textile Outlook International*, Economist Intelligence Unit, November 1989, p. 75.
[798] *Hungarian Industry and Trade 1980-1990*, Ministry of Industry and Trade, Budapest (hereafter referred to as "*Hungarian Industry and Trade*").
[799] Ibid.
[800] "Werner Labor Cost Comparison, Summer 1990," Werner International, New York, July 1990.
[801] Ibid.
[802] Pakaki interview.
[803] Pakaki interview.
[804] EIU, p. 82.
[805] Based on ITMF, "International Textile Machinery Shipments," 1989.
[806] Fulop, "Profile of the Textile Industry in Hungary," p. 82.
[807] Dr. Frigyes Geleji, interview by USITC staff, Budapest, July 2, 1991.
[808] Fulop, p. 72.
[809] "Database on Joint Ventures," Economic Commission for Europe, January 1990.
[810] Hungarotex representative, USITC staff telephone interview, Mar. 5, 1991.

Hungary has a relatively small textile industry compared with those of Czechoslovakia, Poland, and Romania. Although steps have been taken to split up huge companies into smaller, more manageable operating units, the industry is still inefficient. The spinning industry appears to be more productive than that of the other CEE countries, and it is possible that it could increase its exports of yarn. It is unlikely that Hungary will become a major exporter of fabrics, though it could boost exports of those products that are currently in high demand in Western markets, such as rayon fabric.

Poland.—Employment in the Polish textile industry totaled 285,000 workers in 1989, down significantly from 342,000 workers in 1987.[811] Currently the industry consists mostly of large, vertically integrated firms, employing up to 4,000 workers.[812] In general, the companies are overstaffed and are top heavy with administrative staff.[813] Capacity utilization in the textile industry is quite low—estimated at only 30-40 percent by a textile research institute in Poland.[814] One reason given for the low capacity utilization is increasing competition with imports from Asian countries.[815] Another reason is the loss of a major export market, the Soviet Union. The industry has begun reducing capacity as part of a broad industrial restructuring program initiated by the Polish Government in January 1990. Nevertheless, significant shrinkage is still required if the textile industry is to become more competitive.

Poland is the largest yarn and fabric producer in the region. It is known particularly for its production of linen, heavyweight wool, and knit fabrics. However, the quality of the yarns, particularly acrylic yarns, and cotton fabrics is considered low by international standards.[816] Much of the apparel exported from Poland uses foreign fabric imported for use in outward processing.[817]

Most of the textile machinery is 10 to 20 years old. The weakest links in the textile production process are the spinning and finishing technology. For example, the technology in continuous dyeing equipment was geared towards very-high-volume runs of fabric.[818] In comparison, weaving technology in Poland is more modern. Roughly 50 percent of the looms is less than 10 years old.[819] In addition, many Polish workers were trained in special textile technology programs in technical institutes around the country.[820] The level of technical competence among Polish textile workers is considered quite high by CEE standards.

One means of obtaining new technology and capital for new equipment is through joint ventures. However, there were only 10 joint ventures with foreign firms as of October 1989, with the total amount of foreign investment valued at only $700,000.[821] Until the large companies split into more manageable units and eliminate redundant employees, it is improbable that significant amounts of foreign capital will be attracted to the textile industry.

The Polish Government commissioned a private study[822] to determine how the textile and apparel industry might restructure in order to become more competitive. The authors recommended that the industry break up into smaller, less vertically integrated units that would act as individual profit centers. Breaking up the huge enterprises would improve the flexibility of production and make the plants more attractive targets for privatization. They also recommended reducing the levels of staff, particularly administrative staff. If the industry fulfills these key recommendations, Poland could become a more competitive exporter of some fabrics, particularly linen, woolen, and certain manmade-fiber fabrics, such as rayon.

Romania.—Textiles represent about 6 percent of Romania's industrial output. Roughly 412,400 people were employed in the Romanian textile industry in 1989.[823] The Romanian textile industry is characterized by very large state enterprises, almost two-thirds of which employ 2,000-5,000 people, and another 20 percent that employ 5,000-18,000 people.[824] Romania is the second-largest textiles producer in the region, and is one of the larger producers of linen fabric. Employment levels have been relatively stable throughout the 1980s, but they are expected to decline as Romania switches to a market economy. Romania has announced its intentions to create smaller firms by splitting up existing state enterprises. Currently, these large firms hinder Romania's export competitiveness. They are inflexible, inefficient, and overstaffed.

Virtually all of Romania's spinning and weaving machinery is of domestic origin and is considered obsolete by Western standards.[825] Even mills with foreign machinery employ tool fitters to manufacture their own spare parts. One mill reportedly has not imported any spare parts for 15 years.[826] The

[811] Data supplied by the Polish Ministry of Foreign Economic Relations, Warsaw, 1991.
[812] Mr. Janusz Zgorzysnski, Ministry of Industry, USITC staff interview, Warsaw, July 4, 1991.
[813] ***
[814] Stasinski, Rakowski, Czaplicki, and Szicht interview.
[815] Ibid.
[816] Mr. Charbel Ackermann, Boston Consulting Group, USITC staff telephone interview, July 25, 1991.
[817] Elzbieta Kaczmarek, Polcotex, USITC interview, Warsaw, July 8, 1991.
[818] ***
[819] ***
[820] "Cultivating the East Bloc," *Women's Wear Daily*, Aug. 7, 1990.
[821] "Database on Joint Ventures," Economic Commission for Europe, January 1990.
[822] ***
[823] *Statistical Yearbook of Romania*, Bucharest, 1990.
[824] Ibid.
[825] "ITMF Newsletter," International Textile Manufacturers Federation, Zurich, Switzerland, November 1990.
[826] Ibid.

equipment in the knitting sector is also very outdated. The inferiority of the machinery is reflected in the quality of the end product. Apparel produced for export primarily uses imported rather than Romanian-produced fabric.[827] The major non-CMEA market for Romanian fabric in 1989 was Iraq.

While Romania is a large producer of yarns and fabrics, it is unlikely to be a major exporter in the near future. The production is generally of poor quality. Until the industry is able to invest in new equipment, the product quality will continue to be low and would sell at the bottom end of Western markets. These products currently are not competitive in the U.S. market because Romania does not receive MFN treatment. Therefore, imports of textile products from Romania receive much higher rates of duty than similar products from other major textile producers.

Government policy and nature of management structure

Overall, the CEE textile industry is highly concentrated in a small number of very large state-owned companies. Typically production is vertically integrated, from the raw fiber to the finished fabric, and sometimes extends to the final made-up good, such as knit apparel. Under the outgoing CEE economic system, heavy state involvement in every phase of the manufacturing process has allowed enterprises to operate unprofitably. Instead of relying on relative prices to determine the proper mix of inputs in the production process, East Bloc factories made decisions based upon central planning targets. Raw materials such as cotton, wool, and man-made fibers were generally used inefficiently, resulting in a great deal of waste.[828] As a general rule, maximization of output rather than quality was the primary objective of state-run enterprises. As in other CEE industries, the conduct of foreign trade was the responsibility of the central authorities. Plant managers had little or no say in decisions concerning imports of raw materials and equipment.

The CEE countries have recently abandoned centralized industrial planning and in some instances have begun to break up the huge textile companies that dominated under the Communist regimes. Currently, most of the enterprises are still state-owned, but managed at the firm level. Government incentives and price controls have been dropped for the most part, so firms are now operating under conditions closer to a free market. Operating in a market environment will force firms to make better decisions regarding their use of inputs and target outputs, or they will go bankrupt. Already in Poland there are signs that firms are confronting the need to adapt to a market system. One firm complained of high overhead costs[829] that are exacerbated by low capacity utilization rates, and another firm discussed difficulty in forecasting future production costs.[830]

Firms in the CEE countries are now permitted to conduct their own foreign trade. For the most part, however, foreign trade is still conducted by the large state trading organizations, mostly because these firms have foreign contacts and established markets. In Czechoslovakia, for example, CENTROTEX, the state trading firm for the textile and apparel industry, managed about 90 percent of Czechoslovakia's foreign trade in textiles and apparel.[831]

Adjustment issues

Availability of natural fibers is a particular problem across the region. With the exception of Bulgaria, which produces about 20,000 bales of cotton annually, and Romania, which produces most of its own wool, CEE textile firms rely on imports to meet their natural fiber needs.[832] Historically, the Soviet Union has been the principal supplier of cotton to the region. Now countries are forced to pay world prices for their cotton, and are subject to fluctuations in the price of cotton. In the 1970s and 1980s CEE countries did take steps to limit their reliance on imported raw materials by boosting production of man-made fibers. However, this switch to petroleum-based man-made fibers is also complicated, as Soviet oil supplies to the region must now be purchased in hard currency. Currently a major obstacle to purchasing raw materials is the cost of financing imports. High interest rates have added to the cost of financing imported raw materials. In Hungary, for example, interest rates ranging from 40 to 45 percent have made imports of wool for one textile firm very expensive.[833] Importing inputs requires a much larger amount of working capital compared with using domestic inputs.

A credit squeeze characterized by high interest rates has also inhibited the purchase of new machinery and spare parts. The credit squeeze has been further exacerbated for some firms because customers have failed to pay their debt. A shortage of hard currency has also inhibited the purchase of new machinery from the West, which is considered more efficient and reliable than that produced in the CEE countries.

Foreign investment, another source of capital, has not been overwhelming. Significant foreign investment in the textile industry is unlikely in the near term, until there is more shrinkage in the industry and the huge state enterprises are broken up into more manageable and profitable units.

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[827] Ibid.

[828] For a description of inefficiencies in the fiber market, see *The Fibre and Textile Industries of the U.S.S.R., Eastern Europe and Yugoslavia to 1990*, International Wool Secretariat, 1990.

[829] Kaczmarek interview.

[830] Iwinska interview.

[831] Koutnik interview.

[832] *Cotton: World Statistics*, Bulletin of the International Cotton Advisory Committee, 1990.

[833] Mr. Peter Benda, Mrs. Kate Blasko, and Mrs. Kate Bella, of Hungarian Worsted Factory LTD, USITC staff interview, Budapest, July 3, 1991.

Foreign trade

Potentially, the most profitable markets for CEE textile and apparel makers are Western Europe and the United States. Czechoslovakia demonstrated the greatest competitive strength in textile export markets during the latter half of the 1980s (figure 8). Most of these exports went to the EC, where MFN treatment is granted to the exports of all the CEE countries.

U.S. imports of yarns and fabrics from CEE countries are very small compared with total U.S. imports (figure 9). Hungary and Poland, both of which have MFN status, accounted for 80 percent of U.S. imports in 1990 (figure 10). The United States currently does not grant MFN treatment to exports from Romania and Bulgaria.[834] Without MFN treatment, U.S. import duties on textile products are as high as 80 percent. Czechoslovakia's exports to the U.S. market should increase as it was recently granted MFN status. Major imports from CEE countries in 1990 included cotton and manmade-fiber yarns from Hungary; linen fabrics from Poland, Czechoslovakia, and Romania; wool fabric from Poland and Czechoslovakia; and cotton printcloth from Romania.

Both the EC and the United States maintain quantitative restrictions on imports of textile products through quotas administered in accordance with the Multifiber Arrangement (MFA). Currently, the United States and the EC have existing bilateral textile agreements under which quotas are implemented with Czechoslovakia, Hungary, and Poland.

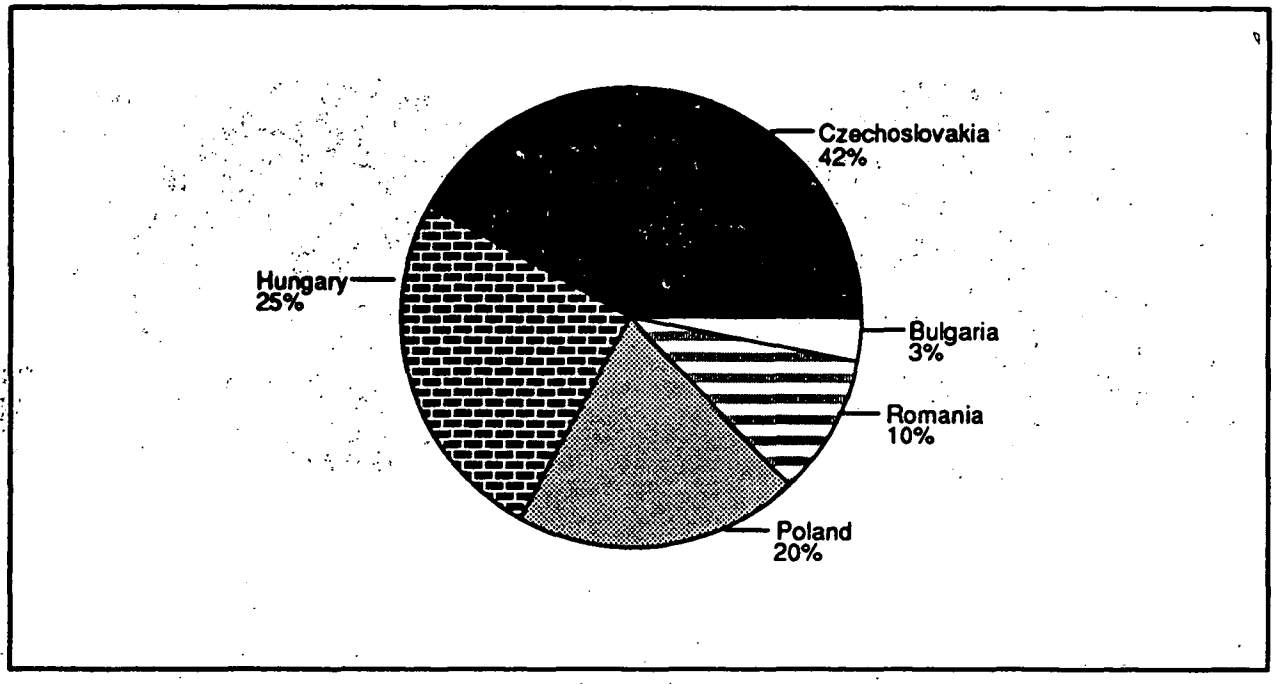
The effect of U.S. quotas on Central and East European exporters is limited, however, since most quotas are consistently underutilized. For example, fill rates on U.S. quotas for textile products from Hungary did not exceed 50 percent for 1990. Those quotas that were highly utilized were wool and wool/manmade fiber-blended fabric from Czechoslovakia, and artificial staple-fiber fabric from Poland. The President's Trade Enhancement Initiative for Poland, Hungary, and Czechoslovakia promised to examine measures to adjust the bilateral agreements to enhance CEE trade. Such measures that could be examined include increased flexibility in the use of quotas and more broadly defined quotas, such as a quota on "fabrics" rather than "cotton printcloth." In addition, quotas could be expanded.

In late 1990, the EC liberalized quotas on imports from Poland, Hungary, and Czechoslovakia in conjunction with broad efforts by the West to encourage market-oriented reform in these three countries.[835] In all cases, the EC and its three trading partners agreed that the quota increases would be considered "exceptional." Market access for CEE suppliers was expanded for woven fabrics, and for Poland for knit fabrics. All quota adjustments apply only to 1990 and 1991. It is not evident at this time whether the quota adjustments have helped the CEE countries.

[834] Bulgaria is expected to be granted MFN status in the near futu

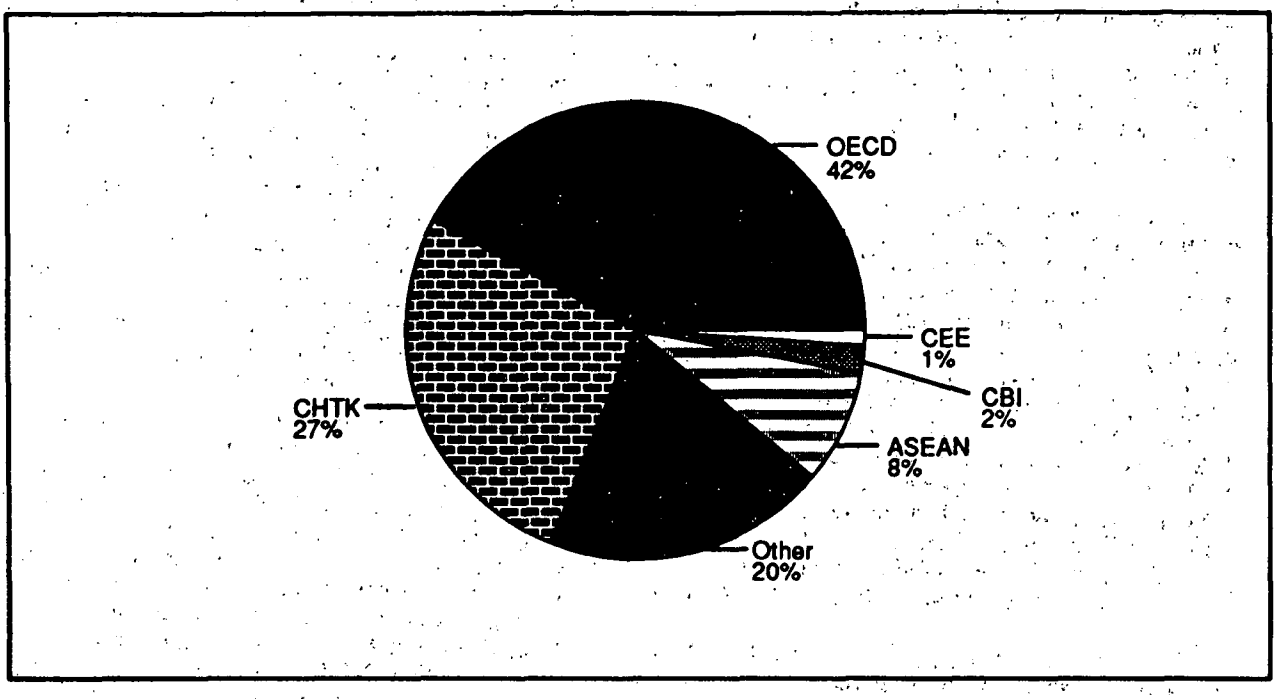
[835] See *Official Journal of the European Communities*, Brussels, No. L 285, Oct. 17, 1990 and No. L/13, Jan. 18, 1991 for more detail on the adjustment of these quotas.

Figure 8
OECD imports from CEE countries, 1989



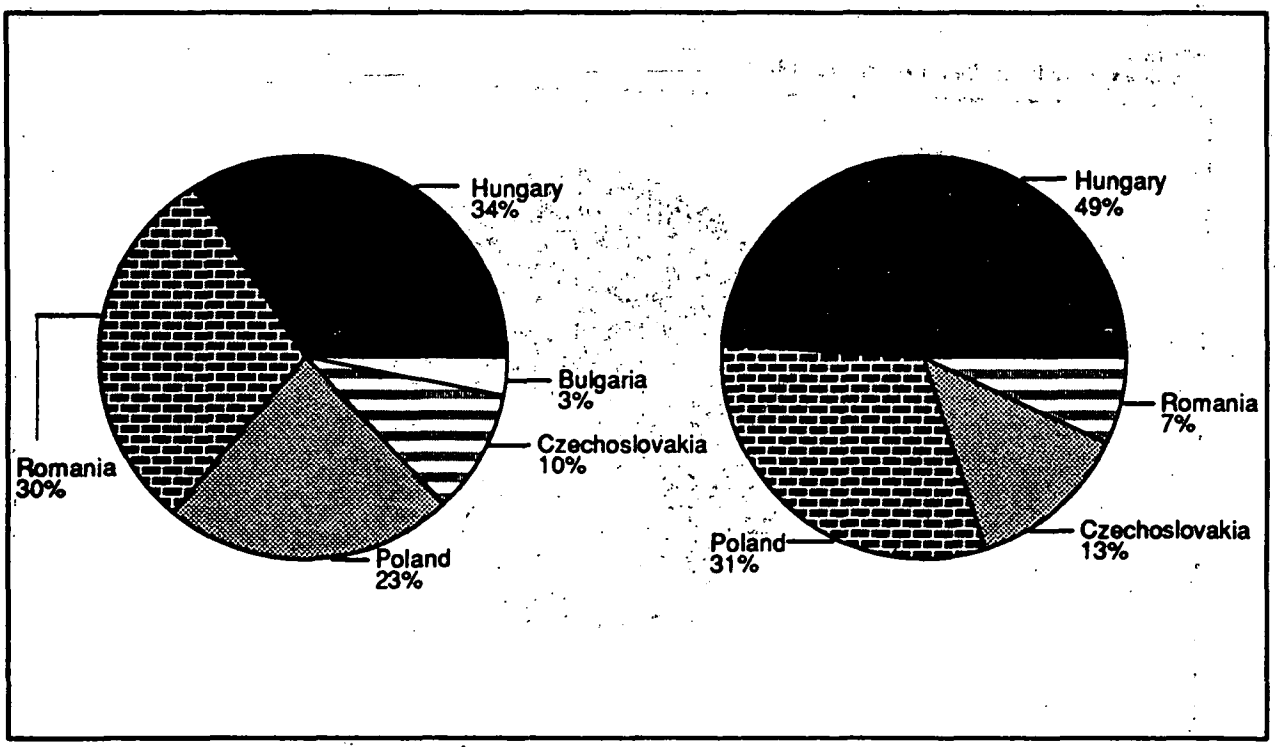
Source: Based on UN, U.S., and EC value trade data.

Figure 9
U.S. textile imports from the world, 1990



Source: Based on U.S. DOC quantity data.

Figure 10
U.S. textile imports from CEE countries, 1987 and 1990



Note.—Imports from Bulgaria in 1990 were less than 0.1 percent.

Source: Based on UN value data.

Table 68
Textiles: OECD imports from Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. imports from—					
Poland	7,965	6,278	9,811	17,027	10,810
Czechoslovakia	4,081	3,373	4,277	5,689	4,565
Hungary	4,839	3,373	14,565	18,240	17,150
Romania	10,355	10,665	12,582	6,858	2,291
Bulgaria	45	254	1,385	55	36
EC imports from—					
Poland	21,827	28,204	31,739	39,403	40,546
Czechoslovakia	67,859	91,081	97,081	93,928	90,305
Hungary	22,970	31,578	39,544	47,761	49,779
Romania	27,501	30,852	25,692	16,997	13,565
Bulgaria	5,359	8,875	8,321	8,521	10,249
Other OECD imports from—					
Poland	10,219	12,500	14,798	15,745	18,220
Czechoslovakia	35,758	37,164	43,711	48,052	54,094
Hungary	14,117	17,412	22,542	21,591	19,928
Romania	10,416	14,786	17,041	20,396	17,318
Bulgaria	2,314	2,366	2,338	3,074	1,695
Total OECD imports from—					
Poland	40,011	46,982	56,348	72,175	69,576
Czechoslovakia	107,698	131,618	145,069	147,669	148,964
Hungary	41,926	52,363	76,651	87,592	86,857
Romania	48,272	56,303	55,315	44,251	33,174
Bulgaria	7,718	11,495	12,044	11,650	12,025

Source: U.S. Department of Commerce for U.S. imports, Nimexe data base for EC imports, and UN trade data base for imports from other OECD countries.

Table 69
Textiles: OECD exports to Eastern Europe, 1985-89
(Value in million dollars)

	1985	1986	1987	1988	1989
U.S. exports to—					
Poland	1,040	742	723	2,159	5,383
Czechoslovakia	112	153	148	418	477
Hungary	647	271	673	1,634	1,135
Romania	1,730	881	264	343	348
Bulgaria	52	10	25	96	130
EC exports to—					
Poland	114,893	139,481	168,238	217,660	257,741
Czechoslovakia	40,618	54,305	65,173	72,199	77,158
Hungary	144,241	197,533	229,086	237,420	244,565
Romania	86,493	106,373	126,799	149,282	162,035
Bulgaria	21,842	22,898	23,555	31,642	38,583
Other OECD exports to—					
Poland	16,381	24,847	21,001	20,534	34,972
Czechoslovakia	8,560	15,835	20,917	22,748	21,639
Hungary	28,362	31,741	35,001	29,284	39,276
Romania	3,815	4,134	2,509	587	3,395
Bulgaria	10,878	14,441	8,816	11,097	7,949
Total OECD exports to—					
Poland	132,314	165,070	189,962	240,353	298,096
Czechoslovakia	49,290	70,293	86,238	95,365	99,274
Hungary	173,250	229,545	264,760	268,338	284,976
Romania	92,038	111,388	129,572	150,482	165,778
Bulgaria	32,772	37,349	32,396	42,835	46,662

Source: U.S. Department of Commerce for U.S. exports, Nimexe data base for EC exports, and UN trade data base for exports from other OECD countries.

Firms in Czechoslovakia and Poland expressed concern that U.S. and EC restrictions limit their ability to expand their markets. In a study for the Polish Government, the Boston Consulting Group observed that fragmentation of EC quotas among the individual member states resulted in small quotas, which reduced Poland's export potential. Poland has not filled its textile quotas, in part because of this subdivision of quotas.[836] According to a Polish textile institute, quotas in the United States and EC impede the development potential of the textile industry in Poland.[837] CENTROTEX, the Czechoslovak state trading company for textiles and apparel, claimed that some previous CEE markets in Africa and South America are now also restricted by those countries since they have been developing their own light industries.[838]

Tourism

Prepared by Gail Burns

Export potential

Since many CEE countries have natural tourist attractions such as breathtaking vistas, diverse flora and fauna, a wide range of climates, and ethnic and cultural diversity, analysts believe there is major potential in the long run for development of tourism from Western Europe and North America. People with East European extraction in particular, who may wish to visit the country from which they or their ancestors emigrated, offer promising possibilities for growth in tourism. Overall, however, the potential for increasing tourism earnings in the short run is limited because of the lack of an extensive tourist infrastructure, including modern hotels and motels, especially outside the major cities; the absence of adequate foreign language assistance; and the limited range of entertainment choices.

Industry characteristics[839]

Few Western tourists traveled to the CEE countries other than Hungary prior to 1989. They viewed the region as being too risky politically and plagued by poor infrastructure, inadequate hotel facilities, dismal shopping possibilities, and a lack of standard tourist amenities. Travel was undertaken mainly by businessmen and the more curious and determined travelers. Registrations with the police and restrictions on movement inside these countries were among common means used to control the inflow of noncommunist visitors. Moreover, tourism was not widely developed or promoted within the CEE countries. Some governments perceived tourism as a "non-productive" sector that merited only minimal investment. Tourism received only whatever money remained after the needs of heavy industry and other priority sectors were met. Although Western tourists brought much needed hard currency, most governments in the region were reluctant to seek foreign tourists for fear of exposing their citizens to Western political and economic ideologies.[840]

In the 1970s, mounting economic problems and the recognition that tourism could generate much needed income encouraged some CEE leaders to start promoting foreign tourism. Hungary and Poland, for example, allowed tourism organizations to become at least partly self-financing, and their governments sanctioned greater investment in foreign tourism. Despite such efforts, recurrent internal political strife prevented tourism from expanding significantly until the mid- and late 1980s. As the nations of Eastern Europe took decisive steps towards democracy, Europe entered an era of major growth in East/West tourism in both directions in the late 1980s.

There are several impediments to the tourism industry in the CEE countries. Tourism facilities throughout these countries are inadequate, and apart from hotels, are generally neglected. The infrastructure in most of the region's cities is fairly run down, although public transportation is efficient and inexpensive in most places. Evening entertainment is often difficult to organize and foreign language assistance, usually prepared by the national tourism offices, is insufficient or nonexistent. In most of the CEE countries, the personnel employed by hotels, as well as by the travel agencies, are inadequately trained to assist foreign guests. The real potential of earning convertible currency from foreign tourism has not yet been clearly recognized, and investment in tourism has been treated as a residual.[841]

The ability to attract foreign tourists into CEE countries differs significantly among the various countries, as does the short term potential to improve their tourism industries. Future tourism into this region will depend not only on the level of investment and the amount of favorable changes in regulations in the tourism industry, but also on the general economic and political developments. In addition, environmental degradation because of industrial pollution will greatly limit the appeal of many areas of CEE countries for tourists.

Bulgaria.—Bulgaria has long sandy beaches on the Black Sea with temperatures similar to the Mediterranean countries; mountains suitable for skiing and hiking; old and relatively well-preserved towns spread throughout the country; monasteries dating back to the seventh century; and over 500 sources of curative mineral water, making for a variety of health resorts. Bulgaria also has a growing number of events

[836] ***

[837] Stasinski interview.

[838] Koutnik interview.

[839] The primary source for the individual country analysis was Kerpel, Eva, *Tourism in Eastern Europe and the Soviet Union*, The Economist Intelligence Unit, October 1990.

[840] Kerpel, Eva, *Tourism in Eastern Europe and the Soviet Union*, The Economist Intelligence Unit, October 1990, p. 4.

[841] Ibid.

featuring folk arts and dances. In addition, Bulgaria has developed into one of Europe's major wine-growing areas to complement the region's unique cuisine.

Although the more recently built five-star hotels meet international standards, most of the tourism facilities are of a much lower quality. Three quarters of the available lodging in Bulgaria belong in the two and three star category, which are generally not suitable for Western tourists. The tourism infrastructure, as well as the general infrastructure, is underdeveloped. The number of hotels and other lodging facilities totaled 639 (with approximately 200,000 beds) in 1988, of which 394 belonged to the Bulgarian state travel agency, Balkantourist. In 1988, there only were four five-star hotels in the country: the Sheraton and New Otani in Sofia, the Novotel in Plovdiv, and the Grand Hotel Varna in Varna on the Black Sea.

Socialist policies in Bulgaria have inhibited development of tourism. In the past 15 years, the objective of government policy was primarily to satisfy domestic demand and demand from fellow socialist countries. The government officials responsible for the tourism sector are reportedly part of a bureaucratic, nonprofit oriented system in which the fulfillment of the central plan is the most important goal. According to industry analysts, employees in the tourism industry receive a set salary regardless of the success of the operation, resulting in a work force that is not highly motivated. Because the government prefers organized tourism to individual tourism, most international tourism is in the form of organized tours. Individuals on these organized, pre-paid package tours to Bulgaria have little chance to spend extra money, which greatly limits the currency earning potential of foreign tourism. Foreign tourist spending is believed to be quite low, although artificially high currency exchange rates boost the amount in terms of U.S. dollars. Tourism receipts in Bulgaria account for less than 1 percent of the national income.

Private investment was not allowed until the 1980's and still occurs on only a very limited scale. Private individuals are now allowed to operate restaurants and bars, and to build and rent rooms and apartments at holiday resorts.

The number of foreign visitors arriving in Bulgaria is relatively low, considering the country's attractions and tourism potential. Although the number of arrivals showed a steady increase between 1965 and 1988, from 1.1 million to 8.3 million, this compares poorly even with other socialist countries (table 70). Until recently, Bulgarian citizens' freedom to travel abroad was strictly limited. In 1988 the total outbound tourism was 505,000 (table 71).

Table 70
Foreign visitors arrivals in Bulgaria by country of origin, 1985-88
(In thousands)

Country	*1985*	*1986*	*1987*	*1988*
Turkey	2,675	2,897	2,950	3,231
Yugoslavia	1,435	1,916	1,436	1,455
Poland	478	528	747	922
USSR	364	304	384	472
Czechoslovakia	445	384	398	426
East Germany	268	260	283	310
United States[1]	18	10	13	17
All other	1,614	1,270	1,382	1,463
Total	7,295	7,567	7,594	8,295

[1] The United States is not a leading source of foreign tourists to Bulgaria; data on U.S. tourists are provided for the purpose of comparison.
Source: Central Statistical Office, *Tourism*, Sofia, 1988; Central Statistical Office, *Statisticheski Spravochnik*, Sofia.

Table 71
Bulgarians traveling abroad by country of destination, 1980, 1985, 1987-88
(In thousands)

Country	*1980*	*1985*	*1987*	*1988*
USSR	161	144	154	137
East Germany	90	65	61	64
Yugoslavia	53	44	43	44
Czechoslovakia	29	29	42	36
Greece	23	27	28	35
Romania	130	49	57	34
Poland	22	14	20	20
Hungary	34	35	33	18
United States[1]	1	1	1	2
All Other	214	124	102	116
Total	757	533	540	505

[1] The United States is not a leading destination for Bulgarian tourists; data are provided for the purpose of comparison.
Source: Central Statistical Office, *Statisticheski Spravochnik*, Sofia, 1989.

With the tourist attractions Bulgaria has to offer, the potential for international tourism is very good. However, the Bulgarian Government has done little to develop international tourism. Major political and economic changes will be needed if the tourism sector is to develop into a major source of foreign currency income.

Czechoslovakia.—According to tourism professionals, Czechoslovakia is one of the most beautiful countries in Europe, with mountains, fast rivers, attractive lakes, tranquil forests, and busy medieval towns that experienced relatively little damage during World War II. There are a large number of musical and folklore festivals organized annually, and contemporary performing and visual arts are growing. Prague—the destination of 75-80 percent of all tourist arrivals—is one of the few CEE cities that has not only been well preserved, but also survived World War II in good condition. Some visitors believe it is the most beautiful capital on the continent. Because of Czechoslovakia's beauty and its central location in Europe, it attracts about 20 million visitors annually. However, less that 10 percent of all tourists are from the West. The drastic changes in the country's political system and in the government's attitude towards tourism are likely to make Czechoslovakia more popular to Western tourists. As a result, tourism is expected to grow considerably in the next decade.

In 1988, there were approximately 120,000 beds available in hotels in Czechoslovakia. Nearly 70 percent of all foreign visitors and 91 percent of all Western visitors stayed in hotels. Demand for lodging usually exceeds supply. The demand is heaviest in Prague, where most of the hotel capacity is more than 50 years old and in need of basic reconstruction. Almost 90 percent of tourism revenues are drawn from hotel services because of low domestic prices and limited opportunities for increased foreign spending.

The majority of recent investment in hotels and other tourism facilities has been concentrated in Prague and Bratislava (the capital of Slovakia) through joint ventures with foreign firms. Western construction firms are considerably interested in participating in joint ventures. Almost every major hotel chain in the United States has shown an interest in investing in Czechoslovakia. However, the number of joint ventures and especially the amount of convertible currency to be borrowed were limited by the government until the beginning of 1990. In 1991, there were 55 joint ventures with Western participation in Czechoslovakia, of which 13 were related to tourism. Officials in the country expect that investment in the tourism industry overall will account for more than 50 percent of foreign investment in Czechoslovakia over the next 2 years.[842]

Foreign investment is likely to remain limited until the process of privatization, which does not begin until October 1991, is underway. In the future, local governments may also pose a stumbling block to the development of tourism and the attraction of foreign investment in Czechoslovakia. According to Czech officials, local governments in Czechoslovakia generally do not appreciate the value of promoting the creation of new businesses and developing tourism.[843]

In the 1980s, several four- and five-star hotels were constructed in Prague and Bratislava: Hotel Panorama, a joint venture between Cedok and an Austrian firm, Vairmpex; Hotel Forum Prague, a joint venture with Varimpex and the Yugoslav Union Engineering Beograd; Hotel Forum of Bratislava, built by CBC Paris (France) and Montinvest Beograd (Yugoslavia); Hotel Tesnov, built by Tourinvest, a joint venture between CBC and Cedok; Hotel Palace, a joint venture formed by Cedok and Varimpex Vienna (Austria), with the participation of Unioningeniering Zagreb (Yugoslavia). A second Panorama hotel is planned in Prague, and several old hotels are under reconstruction. In total, hotels representing 12,000 beds are scheduled to open by 1995, increasing to 20,000 beds by the year 2000. Nevertheless, this projected capacity is likely to be insufficient given that the current demand in Prague is estimated at about 20,000 beds, up from a demand of 7,000 in 1988.

Czechoslovak tourism officials estimate the occupancy rates of hotels for Western tourists to be 90-100 percent. In 1990, when regulations on private activities and income became more liberal, several travel agencies began renting private lodging as a way of meeting demand.

Domestic tourism has always been very popular and supported by the Czechoslovakian Government. Foreign tourism, on the other hand, was intentionally neglected. As in other socialist countries, investment in foreign tourism related projects was kept low until the 1980s, and this situation changed in 1987 when tourism was named one of the priority areas of the economy. A higher level of central investment in the tourism industry followed along with a liberalization of regulations regarding the entry of foreign visitors to the country. A joint venture law was introduced that allowed up to 99-percent foreign ownership.

Czechoslovakia's tourism officials estimated that receipts from international tourism were $600 million in 1988. Following a steady increase in the number of foreign arrivals in the 1980's, almost 25 million foreigners visited Czechoslovakia in 1988 (table 72). Although this number is one of the highest of the CEE countries, Czechoslovakia's tourism receipts have never exceeded 1 percent of the national income and correspond to less than 2 percent of exports. Over 90 percent of the foreign arrivals in Czechoslovakia came from other former Eastern bloc countries. Out of 26.4 million arrivals in 1988, almost 24.6 million came from other CEE countries (table 73). Only 2.3 million

[842]Interview by USITC staff with Ministry of Commerce and Tourism of the Czech Republic in Prague, Czechoslovakia, July 12, 1991.

[843] Ibid.

Table 72
Foreign arrivals in Czechoslovakia from centrally planned economies, 1985-88
(In thousands)

Country	1985	1986	1987	1988
East Germany	(1)	8,636	9,333	9,396
Hungary	(1)	3,104	4,099	6,389
Poland	(1)	4,281	5,052	4,775
Yugoslavia	(1)	708	746	824
USSR	(1)	434	518	684
Bulgaria	(1)	384	393	473
Romania	(1)	179	181	190
Total	15,203	19,525	22,132	24,595

[1] Data for individual countries are not available.

Table 73
Foreign arrivals in Czechoslovakia from Market Economies, 1985-88
(In thousands)

Country	1985	1986	1987	1988
West Germany	(1)	511	529	619
Austria	(1)	234	250	317
Italy	(1)	74	106	127
United States	(1)	41	60	75
France	(1)	32	35	42
All other	(1)	408	492	627
Total	1,323	1,300	1,472	1,807
Grand total	16,526	20,826	23,605	26,401

[1] Data for individual countries are not available.

Source: Federal Statistical Office, Prague; *Historicka Statisticka Rocenka CSSR*, 1985.

Czechoslovaks visited foreign countries in 1988. The most popular destination was Hungary, followed by East Germany and Poland. Czechoslovak trips to the West were less than 10 percent of the total foreign travel.

Tourism will most likely be Czechoslovakia's largest generator of foreign receipts in the near term. During the last year, tertiary or service industries, particularly those catering to tourists, have shown the greatest growth. It is believed that a large portion of this increase in tourism has been driven by a curiosity to discover what life behind the Iron Curtain was like. However, if the growth in tourism is sustained, Czechoslovakia's tourism infrastructure will need to be improvement. Banking, hotels, and restaurants, in particular, need to be developed. Related to the tourism industry is the growth in foreign receipts from services and sales of general manufactures (e.g., furniture) in Czechoslovakia's border regions with Austria and Germany. This type of activity is expected to continue to flourish as a natural product of the integration of these areas.[844]

Hungary.—Even under communism, Hungary demonstrated what could be achieved with modest tourist resources. Of all the CEE countries, Hungary—without the usual tourist attractions of mountains or seaside resorts—probably has the least tourist attractions to offer. Nevertheless, with political stability, greater openness, economic reform, and a determination to capitalize on the benefits of both political and economic changes, Hungary now attracts the highest number of tourists overall of all CEE countries. Hungary's residents also account for the fastest growing number of tourists traveling abroad, and to the West in particular.

Hungary is regarded by many as the most "Westernized" of the CEE countries. The country's two main attractions are Budapest, the capital, and Lake Balaton, the biggest inland lake in Europe. Budapest, with many mineral and thermal springs, also attracts spa/health tourism. There are still several Turkish baths in the city and international hotels have been built in conjunction with some of the mineral springs. The occupancy rate for "thermal" hotels was over 90 percent in 1990. Although the industry concentrates on Budapest, the Hungarian tourism industry is also trying to promote business conventions, cultural tours, and theme tourism such as hunting and riding.

In 1990, the tourism industry in Hungary reportedly generated more than $800 million, over a tenth of Hungary's hard-currency earnings, yielding a tourism surplus estimated between $400 and $500 million.[845] In the late 1980's, about 3 percent of

[844] Interview by USITC staff with Managing Director, Research Institute for Foreign Relations, Czechoslovakia, July 11, 1991.

[845] "Hungary—Tourism: on course for a record year," *Financial Times*, Sept. 17, 1990, p. VI.

the total labor force was involved in tourism-related activities. In 1988, there were 607,700 rooms available for tourists. Over 70 percent of these rooms were privately owned, reflecting the high number of rooms and apartments rented by private persons rather than a large number of privately owned hotel chains. However, the Hungarian legislation now allows privately owned hotels.

Tourism has a definite importance for the Hungarian economy and is treated accordingly by the government. International tourism receipts were 1.2 percent of the national income in 1975, 1.8 percent in 1980, 3.0 percent in 1985, and 4.0 percent in 1988. Tourism receipts as a percentage of exports increased from 3.6 percent in 1975 to 5.5 percent in 1986, and 9.7 percent in 1988.[846]

The significance for the tourism industry of the shift from the central planning system to a basically market-oriented economy include: (1) the increased openness of the country; (2) the extended room for entrepreneurial activity and private investment; and (3) the active interest of the population in earning money.[847] Since the late 1970's, there has been large scale use of foreign capital in tourism-related projects in Hungary. This resulted in a 50-percent increase in hotel capacities in Budapest (20-percent in the whole country), as well as in the general improvement of tourism infrastructure by 1985. Further developments towards a market economy led to the legalization of unlimited private investment, in which tourism has been one of the major beneficiaries. This has led to increased competition in the tourism industry and the improvement in the supply of accommodations and other tourism-related services. The monopoly of the state travel agency, Ibusz, over foreign tourism was abolished in the late 1980s. By 1989, there were over 100 travel agencies in Hungary, including seven joint ventures with foreign participation.

In accordance with the government's desire to attract a larger number of higher spending tourists, several international hotels were built in Budapest in the 1980's. Forum Budapest was voted the best Forum hotel in the world by American Express. Other major international chains represented in Budapest include Ramada, Intercontinental, Hyatt, Novotel, Penta, and Hilton. In 1988, nearly 60 percent of the income spent for lodging came from four- and five- star hotels. All hotels belonging to international hotel chains were built with foreign credit and, to a large degree, with foreign participation in ownership.

In 1988, there were 18 tourism-related joint ventures in Hungary, and that number is estimated to have doubled in 1990. With the favorable political changes that have occurred in the country, the number of joint ventures with foreign participation increased to about 2,000 in 1990; foreign capital investment is estimated to be approximately $1 billion, with about 8-percent related to the tourism industry.

Although certain sectors of the tourism industry in Hungary are less developed than in the West, the shortages characteristic in most CEE countries are generally unknown in Hungary. Hungary's telecommunications and transportation network, however, do not meet Western standards. Except for the major hotels in Budapest and other key locations, air conditioners are lacking, as are the number of high-quality restaurants and other attractions needed to satisfy tourists. Lodging, although in short supply in the most traveled areas, is not a serious problem.[848]

One significant impediment affecting the tourism industry in Hungary, however, is its inconvertible currency. Although the Hungarian currency has a realistic and regularly adjusted exchange rate, selling foreign currency to the Hungarian population remains the right of the Central Bank. In 1988, the convertible currency spending by Hungarians abroad was equivalent to more than 90 percent of Hungary's tourism earnings. In 1989, tourism showed a deficit for the first time despite a 30-percent increase in the number of foreign visitors to Hungary.

The total number of foreign visitors reached nearly 25 million in 1989, 31 percent of whom were from the West (table 74). The number of Hungarians traveling abroad increased from 5.5 million in 1985 to 14.5 million in 1989.

Poland.—Much of Poland was badly damaged in World War II, especially in the capital, Warsaw, where almost all of the buildings were destroyed. However, the Poles completely restored the Old Town of Warsaw, which is now the most attractive district of the capital. Poland has spectacular lake areas suitable for water sports, mountains suitable for winter sports, and beautiful historic towns with old castles and palaces. Art and culture tours are regularly organized by Poland's national travel bureau. Nevertheless, Poland is one of the CEE countries where foreign tourism suffered most from the unstable political situation. In the last decade, Poland has had a determined interest in increasing the number of Western visitors, not only to earn convertible currency, but also to enhance the country's reputation for nature beauty and rich culture. However, because of the controversial political events and food shortages, the general image of Poland as a tourist destination is still not favorable and remains a significant impediment to the tourism industry. In 1988, only 1.3 million Western visitors traveled to Poland. In the 1980s, tourists from the other CEE countries fluctuated between 1.4 million and 6 million annually, also reflecting the political instability.

[846] KSH, *Idegenforgalmi Evkonyv (Tourism Yearbook)*, Budapest, 1987; KeM, *Jelentes oz Idegenforgalmorol (Tourism Report)*, December 1988; KSH, *Statisztikai Havi Kozlemenyek (Monthly Bulletin of Statistics)*, Nos. 2 and 3, 1990.

[847] There are no serious shortages of goods and services in Hungary as in many CEE countries, and travel abroad has been allowed for some time, although within limits to the West until 1989.

[848] Interview by USITC staff with Hungary's Deputy General Manager of Commerce, Budapest, July 1, 1991.

Table 74
Foreign arrivals in and domestic departures from Hungary, 1985-89
(In thousands)

Year	Foreign arrivals		Hungarians traveling abroad	
	Total	Tourist	Total	Tourist
1985	15,126	9,724	5,533	4,936
1986	16,646	10,613	6,278	5,632
1987	18,953	11,826	7,197	6,509
1988	17,965	10,563	10,797	[1]
1989	24,919	14,236	14,476	[1]

[1] Not available.

Sources: *Tourism Yearbook*, 1987; *Monthly Bulletin of Statistics*, Budapest, 1989.

Although lodging facilities for domestic tourism are relatively abundant, there is a shortage of accommodations suitable for foreign visitors. In 1988, there were 458 hotels in Poland. Only one was a five-star hotel and 45 were four-star hotels (many of these are reportedly four star in name only). The majority of the four-star hotels are owned by Orbis—the national travel agency, and were built with foreign capital. A number of hotels belong to large international hotel chains, such as Intercontinental, Forum, Holiday Inn, and Novotel. Several new international hotels were built in Warsaw in the 1980s with foreign credit and more are planned in the 1990s.

International tourism plays a negligible role in the Polish economy. Tourism receipts are reportedly less than 1 percent of GDP. Although tourism is supposed to receive priority among the government's central projects, there are no domestic resources available for investment. Orbis invests part of its profits in tourism projects, but this is inadequate to meet the industry's needs.

Data on international tourism receipts in Poland are not published. However, foreign tourism expenditure is believed to be low given the relatively small number of Western tourists. Foreign arrivals in Poland have shown a steady upward trend since 1985, with arrivals reaching 8.2 million in 1989, 20 percent of whom were from the West (table 75). In 1988, nearly 7 million Poles traveled abroad (table 76).

Table 75
Foreign arrivals in Poland, 1985-89
(In thousands)

Year	Total	From socialist countries[1]	From non-socialist countries
1985	3,436	2,556	881
1986	3,848	2,916	932
1987	4,776	3,647	1,129
1988	6,196	4,899	1,296
1989	8,233	6,397	1,836

[1] Excludes Yugoslavia.

Source: Institute of Tourism, Warsaw.

Table 76
Polish nationals traveling abroad, 1985-88
(In thousands)

Year	Total	To socialist countries[1]	To non-socialist countries
1985	[2]	2,585	[2]
1986	4,327	3,213	1,114
1987	[2]	3,920	[2]
1988	6,912	5,057	1,855

[1] Excludes Yugoslavia.
[2] Not available.

Sources: Romana Kuzewska, Institute of Tourism, Warsaw, based on data from Central Statistical Office; Institute of Tourism.

Romania.—Romania has many tourist attractions, from sand and sea to high hills, nature reserves, unique folk culture (Transylvania), and monasteries. In spite of its scenic beauty and other attractions, Romania is the least promising country in Eastern Europe with regard to the development of foreign tourism. The country is currently serving the low-end or budget traveller. The ability to develop higher spending tourism is hampered because of the lack of facilities meeting Western standards and inefficient transportation and communications infrastructure. For example, most of the country's roads are not paved; a mail package takes 7 to 10 days to leave the country; and placing a fax requires about 2 hours.[849] The business and banking infrastructure in Romania is also very underdeveloped. Although certain heavy industries do not suffer substantially from political disturbance, tourism is particularly sensitive to the political situation, which is currently more uncertain in Romania than other CEE countries.

In addition to the very unsettled political situation, the state of the Romanian economy is not capable of supplying the population with sufficient goods. International tourism receipts were estimated at $178 million in 1986, or 0.3 percent of the national income.

There are no data available on the number and category of hotels and other accommodations in Romania. Although the total number of hotels and beds in Romania may be sufficient for an increased number of foreign tourists, most are of low quality and highly overpriced. Reportedly, the quality of service is bad in most lodging facilities but somewhat better in the expensive hotels. Many of the older hotels, especially those in the provinces, were allowed to deteriorate badly, and renovation and updating of services will require substantial investment. This is reported to be unlikely to occur in the near future because tourism is not a high priority for the new government.

Romanian legislation has allowed foreign joint ventures since 1972. However, only four joint ventures with foreign participation had been formed by the end of 1989, none in the tourism industry. In March 1990, the Government passed new policy on foreign direct investment allowing up to 100-percent foreign ownership, although government approval is necessary for total foreign ownership. Nevertheless, even in the best political circumstances, Romania would have to compete for foreign investment with other CEE countries.

[849] Interview by USITC staff with Commercial Officer, U.S. Embassy, Bucharest, Romania, June 28, 1991.

According to the publication of the World Tourism Organization, *1989 Yearbook of Tourism Statistics*, approximately 5 million foreign visitors arrived in Romania in 1989. Arrivals from Eastern Europe, including Yugoslavia, accounted for about 90 percent. Yugoslavia accounted for 24 percent of total arrivals in 1988. West Germany, with 118,000 arrivals and 2 percent of the total, is the most important Western generating market, followed by Turkey (54,000), Italy (30,000), Greece (30,000), the United States (23,000), and the United Kingdom (21,000). The estimated number of Romanians traveling to other East European countries, including the Soviet Union, is under 1 million annually, with the largest number going to neighboring Bulgaria, Hungary, and the Soviet Union.

Foreign exchange

In 1990, the World Tourism Organization (WTO) reported that international tourism receipts worldwide were approximately $250 billion. Europe was the largest earner, accounting for 55 percent (figure 11) of the total. The Americas made up 26 percent, followed by East Asia/Pacific with 15 percent. Africa, South Asia, and the Middle East each accounted for 2 percent or less.

As shown in figure 12, the CEE countries accounted for a very small portion of international tourism receipts in Europe. Western and Southern Europe accounted for 45 percent and 36 percent, respectively, of the total; Northern Europe represented 17 percent and CEE accounted for 2 percent.[850] Tourism earnings in 1990 for CEE countries covered in this report were about that of Portugal. For comparison purposes, table 77 shows the main earners in Europe's tourism industry in 1990.

Given the current low level of tourism in CEE countries, even a modest transfer of tourists from other parts of Europe to Eastern Europe[851] would result in a significant growth in tourism in CEE countries and an important contribution to their foreign exchange earnings. This assumes the development of a tourism infrastructure sufficient to accommodate this growth.

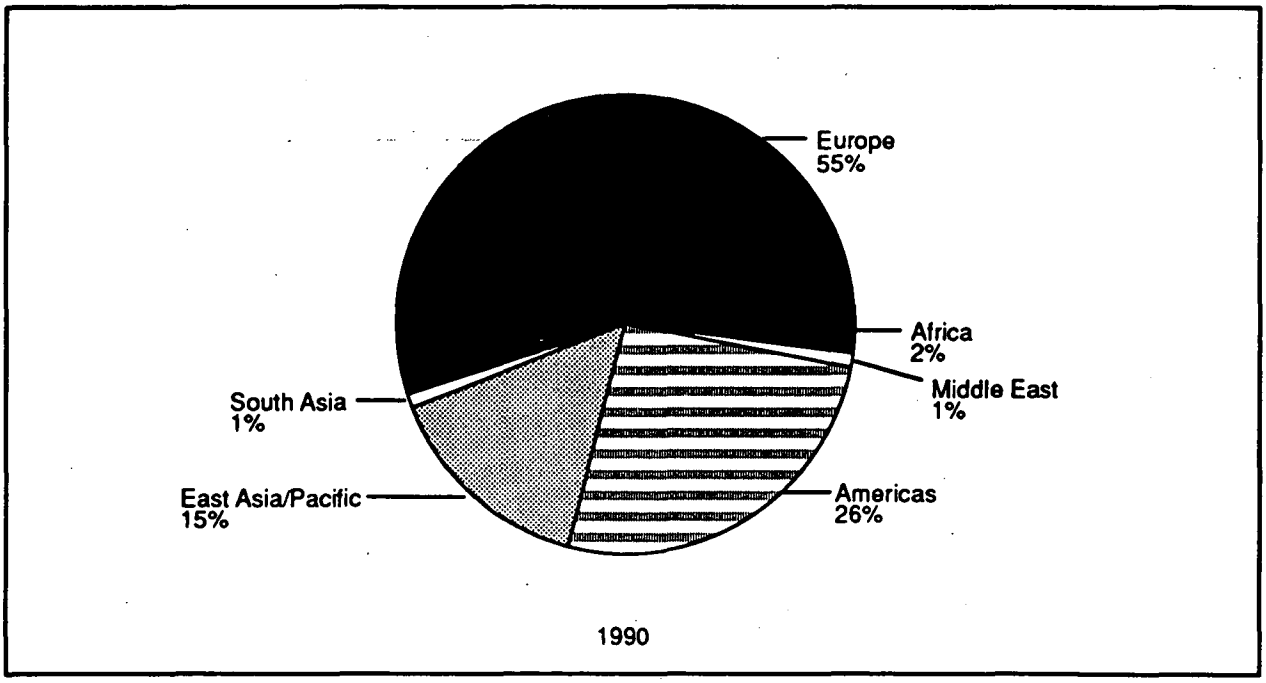
[850] The WTO defines Western Europe as Austria, Belgium, France, Germany, Liechtenstein, Luxemburg, Monaco, the Netherlands, and Switzerland; Southern Europe as Gibraltar, Greece, Italy, Malta, Portugal, San Marino, Spain, Yugoslavia, Cyprus, and Turkey; Northern Europe as Denmark, Finland, Iceland, Ireland, Norway, Sweden, and the United Kingdom; and Eastern Europe as Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and the USSR.

[851] Ibid.

Table 77
European countries' and CEE tourists receipts

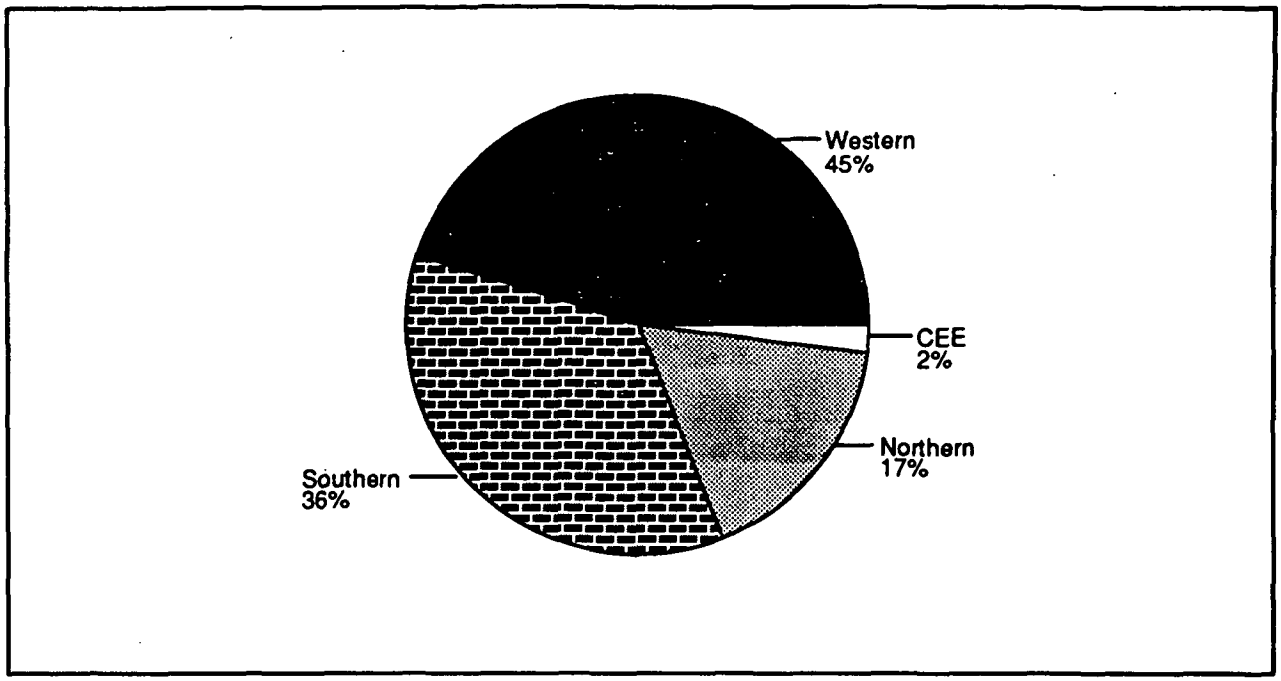
Country	Share of tourism receipts	Share of receipts in Europe	Tourism receipts worldwide	Receipts per capita
	(in million US$)	(in percent)	(in percent)	(in US$)
France	21,651	15.9	8.7	386.63
Spain	18,593	13.6	7.5	476.74
Italy	16,488	12.1	6.6	284.28
Austria	14,171	10.4	5.7	1,771.38
United Kingdom	13,260	9.7	5.3	232.63
Germany	10,603	7.8	4.3	171.02
Switzerland	7,179	5.3	2.9	1,025.57
Netherlands	3,693	2.7	1.5	246.20
Belgium	3,575	2.6	1.4	357.50
Portugal	3,400	2.5	1.4	309.09
CEE countries	3,000	2.0	1.0	7.80

Figure 11
Regional breakdown of international tourism receipts, 1990



Source: World Tourism Organization (WTO).

Figure 12
International tourism receipts in Europe, sub-regional performance, 1990



Source: World Tourism Organizaiton (WTO).

Chapter 6
Conclusion

As requested by the Office of the U.S. Trade Representative, this report assesses the potential export competitiveness of specific CEE manufacturing and services industries. As a framework for this assessment, three factors influencing industrial performance in the CEE region were first analyzed in detail. These three factors are: (1) the status of economic reform initiatives undertaken by each of the five CEE countries; (2) the level of economic aid and direct investment provided by the West; and (3) the current characteristics of the CEE manufacturing and services sectors and the impact of an underdeveloped physical and financial infrastructure on the modernization of CEE industry.

The progress of economic reform in Central and Eastern Europe will play a critical role in enhancing the region's export competitiveness and its ability to attract foreign tourists. All five countries have laid the foundations for the creation of a market economy. Each is reducing the state's ownership of industrial assets and its active role in resource allocation. Progress is being made in creating the legal frameworks and institutions necessary to carry out privatization of state-owned firms. All five countries have expanded and liberalized their foreign economic relations, and have assigned an important role to attracting foreign capital. In general, Hungary and Poland appear to have made the most progress in implementing reforms, followed by Czechoslovakia. Although Bulgaria and Romania have stepped up their reform efforts during 1991, they currently appear to have advanced less than the other three countries in the region.

The United States and other Western nations provide aid and investment assistance in a variety of forms to CEE countries. Direct aid and investment can enhance the region's industrial competitiveness primarily by helping these countries stabilize their economies and increase industrial productivity through improved access to Western technology and expertise. During the 18 months from July 1989 through December 1990, the cumulative value of all aid and assistance offered by OECD member states and the EC as a separate body to the five CEE countries was $27 billion. Aid and assistance by multilateral organizations during the same period amounted to $5.5 billion. As of April 1991, total foreign capital outlays in CEE joint ventures were estimated at under $3 billion. Generally, the amount of Western aid and investment in the CEE countries up to this point has been lower than originally hoped by governments in the region.

In recent years, the pace of CEE economic activity has slowed dramatically, with real industrial output falling sharply in 1990 and the first half of 1991. The level of activity in the CEE economies, and particularly the growth of export-oriented industrial sectors, is constrained by the inefficient industrial structure which resulted from central planning, the CMEA trading system, and deficiencies in financial and credit institutions. This study has focused on shortcomings in three areas—telecommunications, the computer network, and transportation—which are often cited as structural obstacles to the enhanced competitiveness of exports from the CEE countries.

In response to the CEE reform steps being taken, OECD countries have unveiled several trade policy initiatives to enhance the CEE region's export competitiveness. OECD countries have made tariff concessions to CEE products, while reducing quantitative restrictions on certain imports from the region and lowering barriers to the transfer of Western technology. Whereas Western policies to lower import barriers vary considerably, measures aimed at liberalizing export controls on the transfer of technology to the CEE countries have been harmonized through the 17-nation Coordinating Committee on Multilateral Export Controls.

USITC staff performed analyses of the export competitiveness and income-earning potential of CEE industries, based upon a preliminary assessment of the sources of comparative advantage in specific sectors. In providing this assessment, staff kept in mind the progress of CEE economic reform, the level of Western aid and investment, as well as structural impediments to industrial development. In response to the USTR request letter, 11 manufacturing industries and 1 services sector (tourism) were selected for detailed study. Conclusions regarding the competitiveness of each industry are summarized below.

- Apparel: CEE apparel firms, capitalizing on plentiful labor, uniformly low wages, and relatively easy access to modern manufacturing equipment, possess a high potential for increased exports to Western markets. Existing relationships with Western firms, which supply cut parts for final assembly in CEE countries, should facilitate the development of an export-oriented industry—particularly in Hungary and Poland.

- Coal: Poland, currently the primary coal producer and exporter in CEE, is undertaking a major restructuring and price reform program, which will raise domestic coal prices to world market levels and shut down unproductive mines. Poland's exports of coal are now being negotiated on a hard-currency basis. Exports are unlikely to increase until the domestic market stabilizes.

- Copper: The copper industry in Poland, the only CEE country with sufficient copper reserves to be a major exporter, has little or no potential to increase export volume unless it can attract investment capital to upgrade operating facilities and environmental safeguards.

Because investment decisions are based on expected income generated by a project, decreasing world copper prices in recent years provide little incentive for potential investors to commit the funds that would be necessary for the Polish industry to increase exports under a market-based economic system.

- Fertilizers: The change from centrally planned economies to a market-oriented system without government supports has caused a decline in both indigenous CEE fertilizer production and consumption. It is unclear how the CEE fertilizer industry will be rationalized as a result of privatization of both industry and agriculture. However, there is high potential for continued exports of Polish sulfur, moderate potential for significant exports of nitrogenous fertilizers from Romania and Poland, and some potential for nitrogenous fertilizer exports from Hungary, Czechoslovakia, and Bulgaria. There is little or no export potential for potassic or phosphatic fertilizers from any country in the CEE region.

- Meat: Overall, it appears that the CEE countries have moderate potential to increase exports of meat (beef, veal, pork, lamb, mutton, and goat). A significant increase in meat exports is unlikely in the short term because of a general lack of infrastructure and investment funds; however, in the longer term (10 years or so) there could be meaningful export increases, especially in Poland and, to a lesser extent, Hungary and Czechoslovakia.

- Metalworking machine tools: The potential for exports from CEE countries is low to moderate due principally to product quality problems and weak distribution channels. At present, the metalworking machine tool industries in CEE countries are facing additional financial burdens due to the recent collapse of sales to major markets in former CMEA countries and the high cost of capital.

- Motor-vehicle parts: There is a relatively high potential for the CEE motor-vehicle parts industry to export its products to certain foreign markets. CEE exports of parts should increase because of the industry's cost-competitive wages, skilled workforce, proximity to West European producers of motor vehicles, adequate reserves of raw materials, and commitment to modernization and investment.

- Poultry: In general, it appears that the short-term potential for CEE poultry exports is low because of unfavorable macroeconomic conditions since 1989 and 1990. The long-term potential for the CEE poultry sector is high, as the region has developed relatively modern poultry complexes and has experience, although somewhat limited, exporting to world markets. Once the CEE region has adjusted to economic reforms and the economies are market driven, the poultry industry is likely to recover relatively quickly.

- Scientific and medical instruments: The export potential for scientific and medical instruments that are produced by CEE countries is somewhat limited. For the most part, CEE producers face significant competition from U.S., German, and Japanese producers in terms of technologically-sophisticated scientific and medical products. In terms of price, CEE producers may not be able to compete with producers in lower-wage countries that have already gained a share of the international market for lower-technology products. Export opportunities do exist for a limited range of products that currently are produced to meet international standards and have gained a share of foreign markets.

- Steel: CEE steel industries possess a low-to-moderate capability to expand exports to Western markets. While the state-owned enterprises have successfully sold certain types of products to Western countries, rising input costs, inefficient equipment, and low productivity are likely to limit their ability to expand market share. Governments may choose to support exports to Western markets, however, as a means of generating hard currency revenues and as a way to offset reduced exports to other CEE countries and the Soviet Union.

- Textiles: There is some potential for an increase in exports of certain textile products from CEE countries, though total amounts will probably be small. Most CEE textiles are not competitive in terms of cost, style, or quality with those manufactured by major Asian producers and exporters.

- Tourism: There is significant long-term potential for the development of tourism in the CEE countries. The potential for increasing tourism earnings in the short run, however, is limited because of the lack of an extensive tourist infrastructure, including modern hotels and motels, especially outside major cities. Other limiting factors include the absence of adequate foreign-language assistance and the limited range of entertainment choices.

Based upon USITC staff analysis, two CEE industries—apparel and motor-vehicle parts—possess a high degree of export potential. Two more industries—fertilizers and meat products—show signs of moderate export competitiveness. Analysts regard export potential over the next 5 years as low in the remaining eight industries—coal, copper, metalworking machine tools, poultry, scientific and medical instruments, steel, textiles, and tourism. However, of the latter, export potential is expected to improve significantly in the long term for three of these industries—metalworking machine tools, poultry, and tourism. The long-term potential of these as well as all other industries in CEE, however, will depend on the progress of the economic reforms and the availability of adequate capital investment.

APPENDIX A
USTR REQUEST LETTER, FEDERAL REGISTER NOTICE, AND CALENDAR OF PUBLIC HEARING

THE UNITED STATES TRADE REPRESENTATIVE
Executive Office of the President
Washington, D.C. 20506

JAN 30 1991

The Honorable Anne E. Brunsdale
Acting Chairman
U.S. International Trade Commission
500 E Street, S.W.
Washington, D.C. 20436

Dear Chairman Brunsdale: Anne:

In light of the dramatic economic and political reforms of the past year, our trade relations with Eastern Europe are an increasingly important aspect of our economic and political relationship with the countries of that region. As part of U.S. efforts to encourage and facilitate the market-oriented reforms of these economies, the United States recently proposed to the OECD that the OECD Trade Committee undertake a study of barriers to trade with Eastern Europe. The OECD study will include an inventory of OECD and newly-industrialized-country tariff and non-tariff barriers to East European exports, analysis of the economic effects of removing or reducing these restrictions, analysis of steps OECD countries could take, and a preliminary analysis of the structural constraints within the East European economies that may inhibit their ability to competitively produce goods and services for the export market.

I understand that the staff of the International Trade Commission has already undertaken a preliminary analysis of the likely competitiveness of East European exports and of the challenges faced by these countries in taking advantage of new export opportunities. I request that you make that information available for use as part of the U.S. contribution to the OECD study, along with any additional analyses on key sectors of the economy, as noted below. The OECD is planning to organize a seminar with representatives from Eastern Europe in June to discuss, among other subjects, the preliminary results of its study. I therefore request that you provide a preliminary report to me by April 1, 1991 and a final report by October 1, 1991.

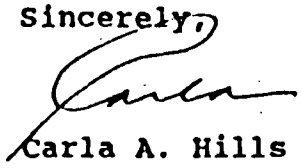
Under authority delegated by the President, pursuant to Section 332(g) of the Tariff Act of 1930, I request that the Commission provide a report to me on the likely export competitiveness of the major manufacturing and services sectors in Central and Eastern Europe, (e.g., textiles, steel, agriculture, heavy industry, chemicals, and transportation equipment), including an assessment of structural impediments affecting these industries (e.g., supply bottlenecks of vital industrial inputs,

infrastructure deficiencies, distribution problems, underdeveloped financial and credit institutions and instruments, etc.) that might impede these sectors from reaching their full export potential.

In accordance with USTR policy, I direct you to mark as "Confidential" such portions of the Commission's report and its working papers as my Office will identify in a classification guide. Information Security Oversight Office Directive No. 1, Section 2001.21 (implementing Executive Order 12356, Sections 2.1 and 2.2) requires that classification guides identify or categorize the elements of information which require protection. Accordingly, I request that you provide my Office with an outline of this report as soon as possible. Based on this outline and my Office's knowledge of the information to be covered in the report, a USTR official with original classification authority will provide detailed instructions.

The Commission's assistance in this matter is greatly appreciated.

Sincerely,



Carla A. Hills

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

(Investigation No. 332-308)

Central and Eastern Europe: Export Competitiveness of Major Manufacturing and Services Sectors

AGENCY: United States International Trade Commission.

ACTION: Institution of investigation and scheduling of hearing.

SUMMARY: Following receipt on January 30, 1991, of a request from the U.S. Trade Representative (USTR) for an investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)), the Commission instituted investigation No. 332-308, Central and Eastern Europe: Export Competitiveness of Major Manufacturing and Services Sectors. As requested by the USTR, the Commission will submit preliminary information as available to USTR by April 1, 1991, and a final report by October 1, 1991.

As requested by the USTR, the Commission will provide information in its report relating to the likely export competitiveness of the major manufacturing and services sectors (e.g., textiles and steel) in Central and Eastern Europe (Bulgaria, Czechoslovakia, Hungary, Poland, and Romania), including an assessment of structural impediments affecting these industries (e.g., supply bottlenecks of vital industrial inputs, infrastructure deficiencies, distribution problems, underdeveloped financial and credit institutions and instruments, etc.) that might impede these sectors from reaching their full export potential.

EFFECTIVE DATE: March 12, 1991

FOR FURTHER INFORMATION CONTACT: Dennis Rudy (202-252-1460) or William Warlick (202-252-1459), Office of Industries, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. For information on the legal aspects of the investigation contact William Gearhart of the Commission's Office of the General Counsel (202-252-1091). The media should contact Lisbeth Godley, Acting Director, Office of Public Affairs (202-252-1819). For information on a product basis, contact the appropriate member of the Commission's Office of Industries, as follows:

(1) **Agriculture, Fisheries, and Forest Products, Mr. Fred Warren (202-252-1311)**
(2) **Textiles, Leather Products, and Apparel, Ms. Linda Shelton (202-252-1467)**
(3) Energy and Chemicals, Ms. Cynthia Foreso (202-252-1348)
(4) Minerals and Metals, Mr. Charles Yost (202-252-1442)
(5) Machinery and Equipment, Mr. Michael Hagey (202-252-1392)
(6) General Manufactures, Mr. Carl Seastrum (202-252-1493)
(7) Services and Electronic Technology, Mr. Andrew Malison (202-252-1391)

BACKGROUND: In her letter the USTR made reference to the "dramatic economic and political reforms" of the past year in Eastern Europe. She said that, as part of the U.S. efforts to encourage and facilitate the market-oriented reforms of the Eastern European economies, the United States recently proposed to the OECD that the OECD Trade Committee undertake a study of barriers to trade with Eastern Europe. She said that the OECD study will include an inventory of OECD and newly-industrialized-country tariff and non-tariff barriers to East European exports, analysis of the economic effects of removing or reducing these restrictions, analysis of steps OECD countries could take, and a preliminary analysis of the structural constraints within the East European economies that may inhibit their ability to competitively produce goods and services for the export market. She said that the OECD is planning to organize a seminar with representatives from Eastern Europe in June to discuss, among other subjects, the preliminary results of its study.

PUBLIC HEARING AND PREHEARING BRIEFS: A public hearing in connection with the investigation will be held in the Commission Hearing Room, 500 E Street SW., Washington, DC 20436, beginning at 9:30 a.m. on July 16, 1991 and continuing on July 17 if necessary. Persons wishing to appear at the public hearing must file a request with the Secretary to the Commission not later than 5:15 p.m., June 28, 1991. Prehearing briefs (an original and 14 copies) should also be filed with the Secretary to the Commission not later than 5:15 p.m., July 9, 1991. Any information which the submitter wishes the Commission to treat as confidential business information must be submitted in accordance with the procedures set forth below under "posthearing briefs and other written submissions."

All persons having an interest in this matter have the right to appear at the hearing, either in person or through counsel, to present information and to be heard. Testimony and briefs should relate only to the areas that the Commission will address in its advice to USTR.

POSTHEARING BRIEFS AND OTHER WRITTEN SUBMISSIONS: In lieu of, or in addition to, appearance at the public hearing, interested persons are invited to submit written statements concerning the investigation. Commercial or financial information contained in such statements or in prehearing or posthearing briefs that a submitting party desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. All submissions requesting confidential treatment must conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). All written submissions, except for confidential business information, will be made available for inspection by interested persons. To be assured of consideration by the Commission, all posthearing briefs and other written statements should be submitted at the earliest possibly date, but not later than July 22, 1991. All submissions should be addressed to the Secretary, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436.

Hearing-impaired individuals are advised that information on this matter can be obtained by contacting our TDD terminal (202-724-0002).

By order of the Commission.

Kenneth R. Mason
Secretary

Issued: March 12, 1991

CALENDAR OF PUBLIC HEARING

Those listed below are appeared as witnesses at the United States International Trade Commission's hearing:

Subject	:	CENTRAL AND EASTERN EUROPE: EXPORT COMPETITIVENESS OF MAJOR MANUFACTURING AND SERVICE SECTORS
Inv. No.	:	332-308
Date and Time	:	July 16, 1991 - 9:30 a.m.

Sessions were held in connection with the investigation in the main Hearing Room 101, United States International Trade Commission, 500 E Street, S.W., Washington, D.C.

WITNESS AND ORGANIZATION:

Embassy of Romania
Office of the Economic Minister-Counselor
New York, New York

Valeriu Velciu, Acting Minister Counselor

Romanian-American Chamber of Commerce, Inc.
New York, New York

Mark A. Meyer, Chairman

APPENDIX B
REFORMS

BULGARIA: STATUS OF SELECTED REFORM ACTIVITIES

AREAS OF ECONOMIC ACTIVITY	CURRENT STATUS OF REFORM
Enterprise autonomy:	
• State intervention	• In principle, enterprises are free from operative management by state agencies.
• Prices for industrial goods	• Firms have complete authority over setting these prices in transactions among themselves. Most of the country's regulations on prices were eliminated in February and May 1991 pursuant to Decree #8.
• Prices for consumer goods	• Firms have complete authority over setting these prices; however, the Government has retained control over the prices of certain basic food products and industrial goods.
• Capital investment allocation	• Enterprises, even those that are state-owned, determine how to invest their own capital. In order to reduce the country's budget deficit, capital investments in the public sector have been severely limited.
• International trade	• The monopoly of state enterprises over trade has been eliminated, and firms are free to contract directly with foreign clients and suppliers. In addition, restrictions on imports have been eliminated and those on exports limited to some basic food products and raw materials that are in short supply domestically.
• Foreign exchange	• Except for the purposes of repatriating profits, private firms can obtain foreign exchange at an interbanking rate that is set through an open market bidding system. Current account convertibility does not meet GATT standards in so far as private citizens are limited to exchanging about $50.00 per year.
Economic institutions:	
• Private and independent banking	• Except for the central bank, banks are operated autonomously from the state, and a number of the country's 60 banks are private.
• Accounting practices	• An accounting system similar to that used in the European Communities was adopted by law in April 1991.
• Financial markets	• Legislation to provide for these is expected to be drafted after the passage of the Law of Privatization (see procedures for divesting state property).
• Bankruptcy laws	• Bankruptcy procedures were provided for in the Business Law of May 1991, but their implementation is not expected until a privatization law is passed (see procedures for divesting state property below).
• Commercial code	• A Business Law that was enacted in May 1991 created a commercial code that is more supportive of a market economy.
• Anti-trust and fair competition law	• Anti-trust legislation and measures to prevent unfair competition were provided for in the Law of Protection of Competition that was enacted in May 1991,
• Uniform tax code	• Uniform systems for collecting corporate taxes have been in place since before the 1989 change in political regime and the government is drafting legislation to introduce a income tax system that is more effective than the one that is currently in place.
Ownership laws:	
• Private property	• Except for restrictions that bar foreigners from owning real-estate and certain natural resources and limitations on nationals on the size of agricultural property holdings, legislation provides for full ownership rights.
• Procedures for divesting state property	• Residential properties have historically been privately held, and procedures for divesting agricultural lands and most of the country's smaller firms were introduced during the first part of 1991. Approval of a Privatization Law to divest large enterprises is expected before the end of August 1991.
Enlargement of private sector:	
• Creation of private enterprises	• Thousands of small new firms have emerged but account for only a marginal proportion of the country's economic activity. The government is seeking to increase the proliferation of these firms by creating a fund to promote such economic development.
• Divestiture of state enterprises	• The divestiture of large enterprises is awaiting the passage of a Privatization Law. A number of small enterprises have been divested but account for a marginal portion of the country's economy.

- Divestiture of residences and state land

- The Law of Ownership and use of Agricultural Lands, which was introduced in February 1991 and provided for returning expropriated lands to the original owners of these properties, is expected to be implemented after the fall harvest of 1991. Most residential property is already privately owned.

CZECHOSLOVAKIA: STATUS OF SELECTED REFORM ACTIVITIES

AREAS OF ECONOMIC ACTIVITY	CURRENT STATUS OF REFORM
Enterprise autonomy:	
• State intervention	• In principle, enterprises are free from operative management by state agencies.
• Prices for consumer and industrial goods	• The share of market-determined prices, based on transaction value, is projected to rise from virtually 0 in 1989 to 70 percent by the end of 1991. Authorization to align controlled prices to cost increases can be sometimes obtained but can require up to six months.
• Capital investment allocation	• Enterprises, even those that are state-owned, determine how to invest their own capital. In order to reduce the country's budget deficit, capital investments in the public sector have been severely limited.
• International trade	• Very few firms are still required to work through state trading companies. Export and import licenses are required for only a few strategic and high-tech goods in compliance with Western export controls.
• Foreign exchange	• In January 1991, a unified exchange rate was established, and companies can conduct unlimited business with foreign partners through banks, but requires the exchange to crowns of all hard currency earnings. Citizens are limited to exchanging 5,000 crowns (about $150) per year.
Economic institutions:	
• Private and independent banking	• Banking legislation is being drafted. Under the Private Enterprise Law private commercial banks may be established. Reportedly two have done so but it is uncertain if they are yet operating.
• Accounting practices	• Regulations to provide for use of accounting systems supportive of a market system economy have been adopted.
• Financial markets	• Two stock exchanges are expected before the end of 1991.
• Bankruptcy laws	• Legislation to codify rights in business, contract law, bankruptcy, and commercial law has been introduced.
• Commercial code	• The commercial code that was in place during the previous regime has been modified to better address the country's new economic environment.
• Anti-trust and fair competition laws	• Demonopolization is in the planning phase; and some divestitures have taken place.
• Uniform tax code	• Sales, corporate and agricultural tax laws have been amended to reflect the new forms of business that were now allowed under the previous regime. Plans are to institute a sales and personal income.
Ownership laws:	
• Private property	• Limited ownership of homes and farms is allowed.
• Procedures for divesting state property	• 3,000 industrial enterprises will be available for domestic and foreign investors under a mass divesture program. Under law of restitution, businesses and other properties confiscated by the former regime during 1948-89 will be returned to their former owners or their heirs. Service sector is being divested and legislation has been adopted to return confiscated property to former owners or heirs.
Enlargement of private sector:	
• Creation of private enterprises	• Thousands of small new firms, about a dozen medium-size manufacturing firms, and 1200 joint ventures have been created.
• Divestiture of state enterprises	• Slow progress is reported in initiating major divestiture of the state sector.
• Divestiture of residences and state land	• Slow progress is reported in initiating major divestiture of the state sector.

HUNGARY: STATUS OF SELECTED REFORM ACTIVITIES

AREAS OF ECONOMIC ACTIVITY	CURRENT STATUS OF REFORM
Enterprise autonomy:	
• State intervention	• In principle, enterprises are free from operative management by state agencies.
• Prices for industrial goods	• Over 90 percent prices, based on transaction value, have been liberalized. Some firms relying on energy inputs may still benefit from subsidies.
• Prices for consumer goods	• Firms have complete authority in setting these prices.
• Capital investment allocation	• Private firms determine how to invest their own capital.
• International trade	• Foreign trade now open to private individuals and businesses that register with the government. State trade is being phased out.
• Foreign exchange	• Currency is freely convertible internally for firms, but access to foreign exchange for the importation of consumer goods is limited.
Economic institutions:	
• Private and independent banking	• Legislation has been adopted to establish a more independent central bank and a network of commercial banks. Regulators seek to boost capitalization of commercial banks to ensure their independence and financial health. Over 40 private commercial banks had been established by mid-1991.
• Accounting practices	• A comprehensive accounting law passed in May 1991 has instituted procedures used in market economies, and requires companies to undergo regular audits and publish financial statements.
• Financial markets	• Markets are operating with a limited number of listed companies and a generally low level of capitalization.
• Bankruptcy laws	• Legislation was enacted in 1986, and the first bankruptcy proceedings initiated in 1990.
• Commercial code	• The commercial and contract law has updated dispute settlement procedures.
• Anti-trust and fair competition law	• Antitrust office has been set up, and the state's trading monopoly has been abolished.
• Uniform tax code	• Parliament is considering legislation to establish uniform tax codes.
Ownership laws:	
• Private property	• Few if any limitations remain on private property holdings.
• Procedures for divesting state property	• Procedures in place to ensure sell-off of most state-owned property. State Property Agency set up to speed privatization, but government has retreated somewhat from earlier commitment by excluding certain firms--including large energy and transport companies--from majority private ownership.
Enlargement of private sector:	
• Creation of private enterprises	• Number of small private firms has increased dramatically--14,000 new firms created in 1990.
• Divestiture of state enterprises	• At the end of March 1991, 400 enterprises were involved in the divestiture process. Within this group, state ownership fell below 50 percent in 31 enterprises.
• Divestiture of residences and state land	• Procedures exist but sell-off is going very slowly.

POLAND: STATUS OF SELECTED REFORM ACTIVITIES

AREAS OF ECONOMIC ACTIVITY	CURRENT STATUS OF REFORM
Enterprise autonomy:	
• State intervention	• In principle, enterprises are free from operative management by state agencies.
• Prices for consumer and industrial goods	• Over 90 percent of prices, based on transaction value, have been liberalized.
• Capital investment allocation	• Both private and state firms have full authority over investment allocations; however, the investment plans of management in state firms are subject to approval by worker councils.
• International trade	• The monopoly of state enterprises over trade has been eliminated, and firms are free to contract directly with foreign clients and suppliers. Customs duties have been abolished or reduced on a broad range of products.
• Foreign exchange	• In principle, currency is convertible for current account transactions.
Economic institutions:	
• Private and independent banking	• There are about 60 private banks in the country. While there are only 10 state-owned banks they account for about 5 percent of the country's banking activity.
• Financial markets	• The first transactions at the Warsaw Stock Exchange were made on April 16, 1991. While there is no formal commodity exchange, organized commodity auction houses have proliferated across the country since the end of 1989.
• Bankruptcy laws	• 300 to 500 firms are in the process of being liquidated but none or only a few have been actually liquidated.
• Commercial code	• The arbitration system for business disputes that was in place during the previous regime has been modified to better address the country's new economic environment.
• Anti-trust and fair competition law	• Antimonopoly legislation has been enacted. An office to enforce this legislation has been established. State procurement monopolies are to be broken up. The ability for anyone to conduct foreign trade already has eliminated most monopolistic positions.
• Uniform tax code	• VAT and income tax laws are being developed and are expected to be implemented on January 1, 1992.
Ownership laws:	
• Private property	• Legislation has been adopted to remove limitations on private ownership of businesses, land, and residences.
• Procedures for divesting state property	• Legislation has been adopted that establishes procedures for selling or granting ownership of state enterprises and collective farms. No program yet has been established to sell state-owned residential property. It is expected that an initiative to compensate citizens for property confiscated during the Communist era will be enacted in October 1991.
Enlargement of private sector:	
• Creation of private enterprises	• There has been an explosive proliferation of small private firms. The government has established a Bank for Socioeconomic Initiatives that provides grants loans for start-ups that create employment in small manufacturing, retail, and service firms.
• Divestiture of state enterprises	• Twelve large and medium industrial enterprises have been divested. The country is on the verge of implementing a mass-divestiture program. Most retail outlets have been divested or leased.
• Divestiture of residences and state land	• About 85 percent of agricultural and the majority of residential property was private (or owned by cooperatives) under the previous regime.

ROMANIA: STATUS OF SELECTED REFORM ACTIVITIES

AREAS OF ECONOMIC ACTIVITY	CURRENT STATUS OF REFORM
Enterprise autonomy:	
• State intervention	• In principle, enterprises are free from direct state intervention.
• Prices for industrial goods	• Except for some firms that are dependent on subsidized imports of some primary and energy products, firms have complete authority over setting prices in transactions themselves.
• Prices for consumer goods	• Except for suppliers of some basic food products and utilities that are in short supply domestically and generally subsidized, firms have complete authority over setting these prices.
• Capital investment allocation	• Enterprises, even those that are state-owned, determine how to invest their own capital.
• International trade	• The monopoly of state enterprises over trade has been eliminated, and firms are free to contract directly with foreign clients and suppliers. In addition, restrictions on imports have been eliminated and those on exports limited to some basic food products and raw materials that are in short supply domestically.
• Foreign exchange	• Private firms have access to foreign exchange at an interbanking rate that is set through an open market bidding system. State firms, excluding those that are subject to state planning, have full access foreign exchange at an official rate that is pegged close to the interbanking rate.
Economic institutions:	
• Private and independent banking	• Five of the country's 15 banks are private.
• Accounting practices	• The country's system always retained a large degree of compatibility with market accounting practices. Some administrative changes are being implemented to adjust the system to the country's new economic environment.
• Financial markets	• Laws to create a stock market are being drafted. These laws are expected to be implemented next summer and followed by the introduction of a commodity exchange.
• Bankruptcy laws	• Legislation to allow for, and administer, the liquidation of firms is being drafted by the country's Ministry of Justice.
• Commercial code	• The arbitration system for business disputes that was in place during the previous regime has been modified to better address the country's new economic environment.
• Anti-trust and fair competition law	• A law to prevent unfair competition is already in place, and anti-trust legislation is being drafted with assistance of the U.S. Treasury through a program of the U.S. Agency for International Development.
• Uniform tax code	• Uniform systems for collecting corporate and individual income taxes have been in place since before the 1989 change in political regime. In April 1991, the government introduced a progressive individual income tax with rate ranging from 6 to 45 percent.
Ownership laws:	
• Private property	• Except for restrictions that bar foreigners from owning real-estate, legislation provides for full ownership rights.
• Procedures for divesting state property	• Procedures for divesting agricultural lands and most of the country's firms were introduced respectively through a land reform act passed in 1990 and the Privatization Law of August 1991. Residential properties have were mainly privately held under the previous regime.
Enlargement of private sector:	
• Creation of private enterprises	• About 98,000 new private enterprises--most of them very small--had been created during 1990. These firms are mostly service firms that employ less than 10 persons.
• Divestiture of state enterprises	• Legislation passed in August 1991 has targeted 19,500 commercial firms to be privatized over an undetermined period.
• Divestiture of residences and state land	• Most residential property was private under the previous regime and the state is seeking to divest its remaining residential property holdings. 70 percent of agricultural land was privatized by mid-1991 (up from 10 percent in 1989).

APPENDIX C
JOINT VENTURES IN CEE, BY COUNTRY

Bulgaria

Companies involved	Investing country	Type of Business	Type of investment	Market	Comments
FANUC-MACHINEX LTD. Fujitsu Framuc (Japan) w/ FTO Machinoexport; ZMM Production Enterprise; Izot Production Enterprise	Japan	service & maintenance of machine-tool units & development of CNC machining centers	JV 50/50	European Socialist Countries, Greece, Turkey Yugoslavia	founded 1981
TANGRA Tangra S.A. (Switzerland) w/ Neftochim Burgas; Chimimport	Switzerland	manufacture & export plastic & metal goods i.e., ball-point pens	JV 20% Swiss.		founded 1981
SOFIA MITSUKOSHI Maruichi Shoji trading house; Mitsuhishi department store (Japan) w/ 4 FTOs: Industrialimport Vinimpex, Intercommerce, & Corecom; 2 retail chains; 5 manufacturers	Japan	design, development manufacture, export & distribution of consumer goods	JV 49% Japan		founded 1982; also operates as an agent with foreign trade rights
FUTEX LTD. Fukazawa Chemical Laboratory (Japan) w/ Tekhnika	Japan	manufacture, sales & export of liquid fuel oil additives	JV 50/50		founded 1984
CHIMTRADE LTD. Dow Chemical Co. (US) w/ FTO Chimimport; FTO Chimkomplekt	US	manufacture, trade, technical assistance, engineering, marketing & representation for chemical & pharmaceutical industries	JV		founded 1984
ESE/ELPROM-SORMEL-ELECTRONIMPEX Sormel (France) w/ SEC Elprom; SEC Electroimpex	France	design, engineering deliveries, erection, start-up, servicing, staff training, & sales in the electrical & electronic industries	JV		founded 1984
APV-BIOINVEST APV-Parcel Intl. (UK) w/ Bioinvest	UK	engineering & consultancy services in biotechnology, refrigeration, air-conditioning & food engineering	JV 55% UK	Bulgaria & other	founded 1985

Bulgaria--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SYSTEMATICS Honeywell (US) w/ Ministry of Chemical Industry	US	design, manufacture & market automation & control systems	JV 40% US		founded 1984
MEDICOM SYSTEMS Tokyo Maruichi (Japan) w/ Technika; Institute for Technical Cybernetics & Robotics of the Bulgarian academy of Sciences	Japan	develop, produce & market medical equipment	JV 49% Japan		founded 1987
BIMAX Hollis Industries (UK) w/ Bulgarian Industrial Association; Economic Bank	UK	trade in machinery & equipment; identify investment projects	JV	Bulgaria & other	founded 1987
BIOCHEM Billy Brothers International (UK) w/ Biotechnical and Chemical Industry	UK	trade in materials, spare parts & new technologies	JV		founded 1987
FESTO-MACHINEX Festo Maschinen (Austria) w/ Hidraulika	Austria	development & manufacture of machine control systems	JV		founded 1987
MEDATEK BIK Gulden Lomberg (W. Germany) w/ Medical Academy	W. Germany	development & manufacture of medical apparatus	JV		founded 1987
COMPSTAR-TESPOM Compstar (US) w/ Tespom	US	produce and market computer systems and software used in the textile and metallurgical industry	JV		start-up capital of L1.2 million. US firm holds 51% stake.
Molex (France) w/ a Bulgarian enterprise	France	produce plug connectors for printed circuits		domestic and export	holding talks for a joint venture. Foundation capital would be $2-3 million. The French firm would have 51-60% share.

Bulgaria--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Perlis-Lambert Co. (Belgium) w/ Central Co-operative Union - Ko-opizkopuvan subsidiary	Belgium	supply of technology & equipment for the manufacture of juice, dyes, aromatics from fruit & vegetables by use of enzyme reactions	JV		founded 1987
Rover (subsidiary of British Aerospace)	UK	assembly of the small "Maestro" car	negotiating		
Perkins (engine manuf.) w/ Balkanean (one of world's largest fork-lift truck manuf.)		manufacturing	JV plans		licensed its products in Yugoslavia, Poland, & Bulgaria for 20 years
Akai Electric w/Electron of Bulgaria	Japan	assembly of video recorders			
Sperry-Marine (Netherlands) w/ Electron Kombinant	Netherlands	design, manufacture & sale of radar equipment for ships	JV	other	founded 1987
Systemco-Bulgarian Committee of Geology, Professional Geophysics (US)	US	marketing oil exploration packages	JV		
BALKAN FILM ENTERPRISES Maxwell Communication and its subsidiary Pergamon Media (UK) w/ National film enterprise; Bulgarian Electronics Bank	UK	to produce films, including cartoons & television features; provide film-making services	JV	other	1990
Maxwell Communication (UK) w/ chemicals, electronics, & machine building production associations	UK	management school	JV 50/50		Foundation capital $2 million.
Lufthansa (W. Germany) w/ Balkan Air	W. Germany	to modernize & operate Sofia's airport	negotiating JV		proposed consortium of companies including AEG, Flughafen Munchen, & a W. German Bank

Bulgaria--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SPORT CENTER KUTINA Rudolf Gebler und Andre Gebler (W. Germany) w/ a Bulgarian enterprise	W. Germany	to build & operate sport centers	JV 80% W. Germ.		plan to import sporting equipment for tennis courts, swimming pools & golf courses
Rover Group (UK) w/ Vamo	UK	produce the "Maestro" model automobile	JV		diesel engines for the automobile would be produced at the Vamo plant under a Perkins (UK) license
Porr (Austria) w/ Balkan Air	Austria	to build a 523-bed hotel			1990
BULTRANSAVTO Bulgarfrukt (W. Germany) w/ Bulgarplodexport, Avtoprevozi	W. Germany	local & international transport of goods & passengers	JV 14.3% W. Germ.		
SATELLITE G. Farris & Partners (UK)	UK	development, production & marketing of integrated circuits	subsidiary		1990
HUMANA-SLUNCHO Humana (W. Germany) w/ Sluncho enterprise	W. Germany	to produce baby food	coop		1990
MEGA SOFIA MEGA Services (Lichtenstein)	Lichtenstein	consulting & engineering services for the cultural, artistic, educational, tourist & health sectors	subsidiary		1990; foundation capital - $50,000
BURDA/BULGARREKLAMA Burda (W. Germany) Bulgarreklama	W. Germany	publication of fashion magazine		Bulgaria	Negotiating as of 6/25/91.
Rank Xerox (UK) w/ Program Products and Systems	UK	manufacture of computers, software, and office equipment			Preliminary agreement as of 6/18/91.
Club Mediterranee w/ Balkantourist	France	tourism--luxury 600-bed resort village, golf course, and cruise ship on the Danube		Bulgaria	Plans to open in 1991.

Bulgaria--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
AWT, subsidiary of Creditanstalt (Austria) w/ Bulgarian Foreign Trade Bank	Austria	Trading, leasing and other financial activities	JV 49% Austria		Start up capital of L250,000.
Scirrio (Lichenstein)	Lichenstein	Trading subsidiary	subsidiary		Capital foundation of L80,000
Dom Sicherheitstechnik (Austria) w/ Investkomplekt and Stakhanov factory	Austria	Manufacture of safety door locks	coop		Austrian firm will provide technology and knowhow
Bruckner & Nowak (Austria)	Austria	hotel and chain of stores for homebuilding tools and materials		Bulgaria	negotiations with several Bulgarian enterprises as of 4/23/90.
Maxus Oil (US) w/ Bulgarian authorities	US	prospect and extract oil and gas			Negotiating on possible cooperation agreement (as of 4/23/90)
Conoco w/ Bulgarian authorities	US	prospect and extract oil			Negotiating on possible and gas cooperation agreement (as of 4/23/90)
MTV (US) w/ BulgarianTelevision	US	music video	coop		Negotiating as of 4/23/90
IES Computer (Singapore)	Singapore	production, marketing and service of calculators, computers, and measuring equipment	subsidiary		foundation capital of $500,000
Nicomac (Italy) w/ Benacoop	Italy	Organize the transfer of technology and licenses for the production of machinery used in food, pharmaceutical and cosmetic industries	JV 49% Italy		Foundation capital of L50,000
Turkmen (Lichtenstein) w/ Bulgarian collective farms	Lichtenstein	produce and market agricultural products	JV		

Bulgaria--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Citroen (France) w/ Valmo	France	produce automotive components and market Citroen cars	coop		5-year agreement
Pirelli (Italy) w/ Kapitan Mamarchev enterprise	Italy	production of automotive hydraulic brake tubes	licensing		The Italian firm will supply the technology
Maxwell (UK) w/ National Film enterprise	UK	build a hotel for actors and staff involved in film production	coop		UK company will supply film equipment to rebuild movie theaters.
Mintech (US) w/ Mineralbank	US	lease agricultural to private farmers			negotiating a joint venture as of 5/3/90.
DBS Databrain Establishment (Lichtenstein)	Lichtenstein	market computer technology and information systems	subsidiary		capital foundation of Sfr50,000
Hardy (UK), Danbrew (Denmark), Kirin (Japan) w/ Bulgarsko Pivo	UK, Denmark, Japan	modernization of brewery industry including building a new plant			Negotiating as of 8/3/90
INTERNATIONAL TOURIST CONGRESS ORGANIZATION IBG and Horst Rabus (Austria) w/ Festival Complex	Austria	reconstruction of a hotel, casino, and night club	JV		Arranged $21 million credit from Austrian bank.
Mintech (US)	US	produce and market foundry machines and related equipment	subsidiary		$50,000 foundation capital
Express Color (France) w/ Avangard-Vision	France	express photo servicing shop			1990
EAST-WEST EUROPEAN AIR SERVICES HBG (Austria) w/ Hemus Air and Balkantourist	Austria	air transportation services	JV		1990

Bulgaria--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
MATECO Danieli (Italy) w/ Metals Technology State Enterprise, Elprom, Radomirmetal, EC Machinbuilding, the Economic Bank and Teknoimport-Eksport	Italy	engineering, production, and trade services for the metallurgical, machine-building and environmental sectors	JV		Start up capital of L10 million. The Metals Technology State enterprise holds a 25% stake and the remaining partners each hold 5%
Nuova Simonelli (Italy) w/ Mourgan-Kremikovyzi cooperative	Italy	produce coffee machines	coop		1990
Smart (UK) w/ Metalchim	UK	manufacture and market razors and razor blades			holding talks to form a joint venture as of 7/90.
Cagiva (Italy) w/ Mototekhnika	Italy	market motorcycles			Negotiating to form a joint venture as of 7/90. Motorcycles to sell for hard currency.

Czechoslovakia

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
BREL (British train maker) w/ CKD Tatra	UK	manufacturing & marketing rail vehicles	Coop agreement signed 5/90	Other	CKD Tatra-world's largest manufacturer of trams & light rail vehicles - supplies almost all of Comecon needs
Renault (France) w/ Bratislava Automobile Zavodi/BAZ	France	assembly of light commercial vehicles	negotiating JV	CEE	initial output of 15,000 vans/yr rising to 30,000/yr
Volkswagen; GM; BMW; Ford; Renault; Fiat; Daimler-Benz w/ Skoda	Europe US	automobile production	JV	West	Skoda - largest industrial firm in EE w/ sales of $1.25b in 1989 - plan to double production and exports - maintain 25-25% of production to exports
Yamaha; Kawasaki w/ Skoda	Japan	automobile production	JV discussions	West	
TESSEK Association AS Senetek (Denmark) w/ Tesla Laboratory Equipment	Denmark	development, manufacture, sales & exports of products used for liquid chromatography	JV 49% Denmark		equity $2.0m; founded 1987
AVEX AS N.V. Philips (Netherlands) w/ Tesla Consumer Electronics; FTO Transakta	Netherlands	manufacture, sales & export of video recorders	JV 20% Neth.		equity $9.0m; founded 1987
HOTELINVEST AS Warimpex (Austria) w/ Cedok Travel	Austria	tourism, construction of hotels	JV 49% Austria		equity $3.2m; founded 1988
UWEX AS	Austria	projects & engineering, import & export of pneutechnical equipment	JV 49% Austria		equity $0.7m; registration 1988
BALNEX AS	Austria	medical care, construction of medical establishments	JV 49% Austria		equity $1.0m; registration 1988
TERRA STROJ Terra Baumaschinen (Austria) w/ Hydrostav	Austria	to manufacture machinery for the construction, agricultural & forestry sectors	JV 51% Austria		

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
BALNEX I. AS	Austria	medical care, construction of medical establishments	JV 31% Austria		equity $0.4m; registration 1988
RECOOPTOUR AS	Austria	tourism, construction of hotels	JV 49% Austria		equity $1.0m; registration 1988
MSZ AS	W. Germany	breeding of fur animals	JV 45% W. Germ.		equity $0.8m; registration 1988
TOURINVEST AS	France	tourism, construction	JV 49% France		equity $3.2m; registration 1988
DANCCO Association	Denmark	production of material for and construction of gas lines	JV 49% Denmark		equity $8.8m; registration 1988
AGROTOP G. Topham & Co. (Austria) w/ Agropodnik Hodnin	Austria	wood processing	JV 40% Austria		equity $1.3m; registration 1988
POZIMOS AS	Yugoslavia UK	projects, construction and reconstruction - housing	JV 39% Yugo. 10% UK		equity $0.1m; registration 1989
HALDEX	Hungary	processing of residual coal	JV 50/50		equity $4.2m; registration 1983
ROBOT Association	USSR	R&D & production in robotics	JV 50/50		equity $0.7m; registration 1985
CINSKO-CESKOSLOVENSKY PODNIK PRO NANORNI DOPRAVU	Peoples Rep. of China	ocean shipping	JV 50/50		equity $10m; registration 1987
INTERKOMPRESOR Association	USSR	production of compressors	JV 50/50		equity $0.7m; registration 1988
SKODA URALMAS	USSR	R&D projects of steel production & supplies	JV 50/50		equity $0.6m; registration 1988
BIOINTER AS	Belgium	research & production in biotechnology & agriculture	JV 33.3% Belgium		equity $0.3m; registration 1989

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
AQUACOOP	USSR	investment consulting	JV 50/50		registration 1989
PLAUTATONIKA	USSR	ginseng growing	JV 50/50		equity $1.3m; registration 1989
ELLAB Vistratart (UK) w/ JZD Kunstatna Morave	UK	production of electronic equipment & special tools	JV 49% UK		equity $1.3m; registration 1989
AUTOTUR AS	France	tourism & construction of hotels	JV 49% France		equity $1.9m; registration 1989
TATRACOOP AS	Austria	tourism & construction of hotels	JV 40% Austria		equity $0.6m; registration 1989
ELTECO Ferras (France) w/ UVTT Zilina; ZPT Presov	France	research & production of watering systems	JV 20% France		equity $0.2m; registration 1989
INTERTERMAL A.S.	Austria	reconstruction & modernization of health facilities	JV 49% Austria		equity $0.7m; registration 1989
ELK Elk (Austria) w/ JZD Kosice (40%); Kardasova Recice (5%); JC drevarske zavody (10%); Tradex (5%)	Austria	production of windows & wooden family houses	JV 40% Austria		equity $0.3m; registration 1989
INTERTOUR AS	France	tourism & construction if hotels	JV 49% France		equity $3.2m; registration 1989
General Electric (US) w/ LET - Czech aircraft	US	manufacture turboprop engines		CZ	to produce up to $3000m; will supply engines for a Czech commuter aircraft being developed for the world market
Austrian Industries w/Czech Govt.	Austria	modernization & restructuring projects in chemicals, iron & steel, heavy machinery pulp & paper, etc. industries	letter of intent JV 50/50		Austrian Industries, formerly OIAG

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Renault Vehicles Industriels (France) w/ Avia	France	modernize production of Avia trucks	signed coop agreement		Renault - provide production equipment & knowhow; Czech payments in finished vehicles
Marzotto (Italy) w/ Odeivne Zavody S.P.	Italy	to modernize clothing factory	contract signed		$4.3m contract to up grade production line
Linde (W. Germany) w/ Technoplyn Sp.	W. Germany	industrial gas	JV plans 50/50		Linde - provide training & improvement of staff & improve technical equipment; Technoplyn Sp will provide all of its industrial gas activities.
INTERTERMAL AS	Austria	reconstruction and modernization of medical establishment	JV 49% Austria		equity $0.7m; signed 1989
BOHEMIA FILM Megatrend (W. Germ.) w/ Kratky Film (50%) Filmexport (10%)	W. Germany	production of motion pictures & TV programs, sales of copyrights	JV 40% W. Germ.		signed 1989
GESTIN AS	Austria	tourism & construction of hotels	JV 49% Austria		equity $1.3m; signed 1989
MVB Vigndles (France) JZD Mir. Velke Bilovice	France	production of portal carriers, tools	JV 50/50		equity $0.1m; signed 1989
PRESTO AS	Austria	fast shoe repair shops	JV		signed 1989
OTES SHL (W. Germ) w/ Prerovske strojirny	W. Germany	environmental protection equipment	JV 50/50		equity $1.0m; signed 1989
CASINO CEDOK SUN GOLD Coil Financial Group (US); Sun Gold Development International (Canada) w/ Cedok	US Canada	casino	JV 49% US, Canada		signed 1989
DIALOG A.S.	US USSR	R&D & assembly of computer & measuring technology	JV 52% US, USSR		equity $4.6m; signed 1989

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
PRAGOHOTEL Association	Austria	tourism, construction of hotels	JV		equity $1.0m; founded 1989
FATEX AS	UK	production & sales of textiles	JV 50/50		equity $0.2m; signed 1989
PRAGA-CANG-COU	CLR	Chinese restaurant	JV 49% CLR		signed 1989
VUTMATIC A.S.	NSR	production of models of small machines	JV 49% NSR		equity $0.05m; signed 1989
SPARTAN Ikano Holding (Neth.) w/ Zapadoslovenske nabytkarske zavody Bratislava (89.1%); Transakta (6%)	Netherlands	production of furniture and household items	JV 4.9% Neth.		equity $6.5m; signed 1989
DUNAVIA Ingka Holding (Netherlands) w/ zapadoslovenske nabytkarske zavody (39%); Transakta (10%)	Netherlands	unspecified business activity	JV 51% Neth.		equity $0.06m; signed 1989
ARCUS Michael Seleny (W. Germ.) w/ JZD Pod horou	W. Germany	production of software for IBM compatible PCs	JV 60% W. Germ.		signed 1989
CHIPA BWC (W. Germ) w/ Statni statek	W. Germany	breeding of fur animals	JV 49% W. Germ.		K13.0 mn foundation capital
Montedison (Italy)	Italy	chemical production	JV plans		
Bell Atlantic, US West (US) w/ Czech Ministry of Post & Telecommunication	US	establish a cellular telephone service & modernize existing phone system	JV plans 49% US		construction scheduled fall 1990; service scheduled summer 1991
Sokolor Chemical Works; American Cyanimide (US)	US	flocculants & water treatment chemicals	negotiating JV 50/50		
3E PRAHA ENGINEERING Emexco (W. Germ) w/ Energoproject, Prague	W. Germany	software and hardware service, engineering, trade activity	JV 49% W. Germ.		K1.0 mn foundation capital

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
BLATINIA Danish Project Development w/ JZD Budoucnost Blatnice (48%); Agroprojekt, Prague (7%)	Denmark	hotel, tourism, construction	JV 45% Denmark		
EKOS Porr International (39%), Simag (10%) (Austria) w/ CKM Prague	Austria	tourism and hotel construction	JV 49% Austria		
FIMAT K.H. Matthes (W. Germ.) w/ JZD Druzba	W. Germany	breeding and sale of fish	JV 48.75% W. Germ		
FOMEX Autraco Holding (51%), G. Topham (5%) (Austria) w/ Lachema (39%); Fotografia (5%)	Austria	film processing, production of equipment for photography	JV 56% Austria		K5 mn foundation capital
FREECORP M. Peeters (Belgium); Simtex Future Technologie (Austria) w/ Vcelpo, Skalice n. Svitavou (22.2%); JZD Bobrava (22.2%); JRD Druzba (22.2%)	Belgium Austria	biotechnology, services, and construction	JV 22.2% Belgium 11.2% Austria		
GEMIAL Proso (Switz.) w/ JZD Miere Sarovce (5%); Mraziarne (5%); Nitratex (1%); Univerzal (1%)	Switzerland	food industry investment and production	JV 88% Switz.		K100 mn foundation capital
HERTZ-TRADEX Hans Zink (W. Germ.) w/ Autodruzstvo (25%); Tradex (35%)	W. Germany	auto rental agency	JV 40% W. Germ.		
HOETRA Holter (W. Germ.) w/ ZOZO Tradex	W. Germany	environmental consulting	JV 85% W. Germ.		

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
JVIC Fiatgeotech w/ JZD Slusovice	Italy	construction of systems for agricultural production	JV 40% Italy		
LIWAC Cosmo (W. Germ.) w/ JZD Cs-bulh	W. Germany	breeding of fur-bearing animals	JV 18.2% W. Germ.		
MICROMEN Microwin (Austria) w/ VD Dolment Prague	Austria	calculation systems, production of programs	JV 55.5% Austria		
PILSNER TOUR Elk (Austria) w/ JZD Doubrava Kosice (40%); JZD Rozhled Kardasova Recice (10%); Jihoceske devarske zavody (5%); Tradex (5%)	Austria	tourism construction	JV 40% Austria		
PRINTEX	W. Germany	printing and	JV		K5 mn foundation capital
Burda Verlag (W. Germ.); Wagenhofer (Austria) w/ Polygraficky prumysl (45%); Artia (10%); Transakt (10%)	Austria	distribution of Burda magazine	15% W. Germ. 20% Austria		
TATRATRANS Almeta Holding (Austria) w/ VZ Kosice (30%); Keremetal a.s. Bratislava (15%); Komunalne sluzby Kosice (5%)	Austria	freight forwarding and transportation services	JV 50% Austria		
VTN TECHNOPACK Franz Baumann (Switz.) w/ JZD Zalesi (51%); Technopol (30%)	Switzerland	production and sale of precision forms for injection presses	JV 19% Switz.		K10 mn foundation capital
VUTMATIC Farmatic Silotechnic w/ Vysoke uceni technicke	W. Germany	metal products	JV 49% W. Germ.		

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
TESOS A.S.	Bulgaria	use of computer equipment software application	JV 50/50		equity $0.7m; registration 1989
McDonald's (Canada) w/Prague Nr.1 State Resteurant	US	fast food restaurant	negotiating JV		
IGM/Industriegerate - und Maschinenfabrik (Austria) w/Stas	Austria	production of robots	coop		
SURTEC Hanzer Techno (Neth.); A. Furrer (Switz.) w/ Sluzba Prague VD	Netherlands Switzerland	surface coating of machine parts	JV 10% Neth. 10% Swiss		equity $1.7m; signed 1989
ESIT Essverk (Sweden) w/ ZEZ (30%); Zenitcentrum UVSSM (19%)	Sweden	R&D for electronic heating systems	JV 51% Sweden		equity $0.6m; signed 1989
AGROIMPEX A.S. Franz Knes (W. Germ.) w/ JZD Kokorin	W. Germany	environmental protection, services, and construction	JV 33% W. Germ.		equity $0.1m; signed 1989
ABB EJF ASEA Brown Boverl (Sweden); ABB (Switzerland) w/ Elektro Technicke Zavody Julia Fucika/EJF	Sweden Switzerland	manufacture switching equipment for the transfer & distribution of electric power	JV		venture would start operating in April
BLUE DANUBE TRAVEL/ EDT Erste Donau Dampfschiffahrts Geselschaft/DDSG (Austria) w/ Ceskoslovenska Plavba Dunajska	Austria	to establish a joint travel agency to provide cruises on the Danube from Bratislava	JV		foundation capital of K1 mn
DRM EUROPE BRNO Exakta Reinhardt & NOVP (Austria)	Austria	to provide legal & economic consulting services	JV 75% Austria		

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
EUROTEL Bell Atlantic & US West (US) w/ Bratislava Postal & Telecommunication Administration	US	to establish public data & telecommunication networks	JV 49% US		
HYDROSTAV-HAUPLER BAU Haupler Anlagen (Germany) w/ Hydrostav Enterprise of Bratislava	Germany	to carry out projects in steel construction	JV 51%	Germany	foundation capital is set at Dm100,000, but will be raised to Dm1 mn in Feb. 1991
IMCO-HEROLD BUSINESS DATA Herold Fachverlag fur Wirtschaftsinformation	Austria	to set up a joint business information venture	JV		partners expect to finalize the deal by yearend 1990
INTERSTAV Porr International (Austria) w/ Interstav	Austria	will design & carry out construction work of all types in the country	JV		foundation capital is K3 mn
KOOPERATIVE TSCHECHOSLOWAKISCHE VERSICHERUNG Wiener Stadtische Wechseseitige Versicherungsanstalt (Austria) w/ Slovak Cooperatives	Austria	to form a joint insurance venture	JV		foundation capital of K323 mn K40 was provided by the Austrian insurance firm; venture is scheduled to start operations in 1991
LACTOPROT SOUTH BOHEMIA DAIRY CO. Lactoprot (Austria) w/ a dairy factory	Austria	to deliver cleaning materials based on whey in exchange for concentrated whey	JV		partners plan to form a joint venture by mid-1990 which will be active in all sectors of the dairy industry
MEDIPHARM CZECH. VENTURE Medipharm (Sweden) w/ Zemedelske Druzstvo	Sweden	to produce enzymes incl. bacteria used in milk fermentation	JV 51% Sweden		

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
OMV OMV (Austria) w/ Benzinol	Austria	to set up a network of petrol stations	JV		partners will contribute Sch10 mn & K10 mn respectively to the foundation capital; first six gas stations are planned for next year; Austrian talks with Slovnaft on a pipeline connection between Bratislava & Schwechat
MG-TATRAGAS Messer Griesheim (Germany) w/ Chemika	Germany	to produce industrial gases	JV 51% Germany		letter of intent for JV was signed in 1990; Messer Griesheim will provide production equipment, & knowhow
LEP/ETM LEP (UK) w/ Ekotrans Moravia	UK	to form a joint freight transport venture	JV 70% UK		foundation capital is K2 mn
LSH-POROBETON Ytong (Austria) w/ Lahnke Stavebne Hmoty	Austria Germany	for producing porous concrete	JV 60% Austrian 40% Germany		Ytong will provide production technology & marketing knowhow
LINKOMET Voest-Alpine Industrieanlagenbau (Austria) w/ Kosice Ironworks & Huttenprojekt Kosice	Austria	to modernize the East Slovakian metallurgical industry	JV 35% Austria		
OTES Lurgi, Halter & SHU (Germany) w/ Prerovske Strojirny	Germany	to manufacture desulphurization equipment	JV 50% Germany		start up capital of K16 mn
PILSEN TOUR Arla Int'l. & JOUX (France) w/ Plzenske Pivovary	France	to build hotels	JV 45% France		foundation capital of K30 mn, construction of first hotel, a four-star, 250 bed establishment in Plzen, is expected to be completed within 18 months
PROFIFOTO Bron Elektronik, Foba, & Sinar (Switzerland)	Switzerland	a shop to market photographic equipment	JV		shop will also sell Nikon (Japan) equipment

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
PROFISOMS Kalkgesellschaft (Austria) w/ Cementarny	Austria	to build a factory for the production of plaster & mortar mixtures	JV 50% Austria		foundation capital of K1 mn production is scheduled to start in 1992, output is expected to reach 60,000 t of plaster & mortar compounds
PROGRESS PROMOTION Sport Marketing Services SMS & Progress (Austria) w/ Pragosport	Austria	have formed a joint advertising venture	JV 85% Austria		will specialize in advertising for the sports sector & in sponsorship activities
RECA Lusiana do Brasil (Brazil) w/ Dopravny Podnik Bratislava Enterprise	Brazil	a joint advertising agency	JV 60% Brazil		partners are planning to oversee promotion campaigns as well as advertising billboard space on local transport & in restrooms
SALZBURG-BUDWEIS-WIRTSCHAFTSFORDERUNGS GESELLSCHAFT Salzburger Betrieb-sansiedlungsgesel-lschaft (Austria) w/ Sigma Budejovice	Austria	to build a 4,000 sq m production hall	JV 50% Austria		partners plan to lease the building to companies from the Austrian province
STROMAG BRNO Stromag (Austria) w/ Zavody Vseobecneho Strojirenstvi/Gen'l Machinery Plant (Brno) Adamovske Machine Works, Elitex (Liberec), TOS Hostivar, Kovo Prague & Strojimport Prague	Austria	to manufacture electronic control drive units for printing, cutting, & weaving machines	JV 51% Austria		
TATRA AIR Slovair & Grossair (Switzerland)	Switzerland	establishment of a new JV airline	JV		will have regular daily flights to Zurich & Munich beginning in
UNISOFT Dutch Computer Consultants (Netherlands) w/ Charles Univ.	Netherlands	to develop & market software	JV 50% Netherlands		

Czechoslovakia--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
TEGIOTEX Carlo Giovanardi (Italy) w/ Technolen, Lomnice, & Popelkou	Italy	to manufacture & market canvas	JV		
ZELEZARNY-ANNAHUTTE Stahlwerk Annahutte (Germany) w/ Zelezarny Prostejov Enterprise	Germany	to manufacture & market iron products	JV		foundation capital of k15 mn German partner supplied both new technology & equipment & will market the output

Hungary

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Doza Cooperative Farm	Western	duty free zone to attract foreign capital & import high technology		Hungary	starting capital of $700,000
MULTIPLAN Avimpex (Austria) w/ Flaco wood processing works; a Hungarian credit bank	Austria	manufacture & market chipboard	signed agreement		starting capital of $2m
Universal Bau of Austria, Alba of Switzerland w/Pest-Buda Catering; Interbank	Austria Switzerland	build & manage a 100 bed, 3 star hotel in Budapest	JV	Hungary	
Back-Ring-Union of (W. Germany) w/ Mister Coop	W. Germany	manufacture bakery ovens	JV		start capital of $350,000
Pragma Investimenli e Finanza of Italy w/ 3 Hungarian cooperative farms	Italy	breed and market edible snails	JV		start up capital of $200,000
HCH Pharma (Swiss) w/Chinoin; Medimpex	Switzerland	produce vitamin concentrate, vitamin C, fever reducers & pain killers	JV 30.5% Swiss		Total investment estimated at $2m. (annual turn over expected at $11-16m)
DHL BUDAPEST LTD. DHL Worldwide Express w/ Hungarocamion (parent company of Hungarosped)	US	EE "hub" streamlining "hub" streamlining distribution of express delivery service	JV 49% US		DHL Worldwide Express 1984 had agreements w/EE major companies for delivery service. Founded in 1988 with capital of $80,000.
CITIBANK BUDAPEST LTD. Citibank Overseas Investment Corp. (US) w/ Central Draft and Credit Bank Ltd.	US	commercial banking operations	JV 80% US		1985 - original investment $10m
LEVI STRAUSS BUDAPEST CO. Levi Strauss (US)	US	manufacture jeans		Europe	rents porion of Texcoop building (state owned knitting plant)
General Electric (US) w/Tungstram Co.	US	manufacture light bulbs	JV 51% US	Hungary W. Europe	paid $150m - 12 plants

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
General Motors Corp. (US) w/ RABA (Railway Carriage Machinery Factory)	US	manufacture engines, assemble automobiles (Opel Kadets)	JV 67% US	EE, Hungary	GM will invest up to $300m in JV -starting capital $50m (1/3 by H firm) total $150m, & will buy most of the engines, cars will be exported
SCHWINN-CSEPEL BICYCLES Schwinn Bicycle Co. (US) w/ Csepel heavy industry complex; Institute for Energetics	US	manufacture bicycles	JV 51% US	Hungary, other	initially capitalized at $2.1 m.
Purina Co.		make animal feed		Hungary Romania	
SCHWARZKOPF COSMETICS CO Schwarzkopf (W. Germany) w/ Caola Cosmetics and Chemical Co.; Chemo-Caola Foreign Trading Company and Household Chemicals	W. Germany	production of hair-care products	JV 51% W. Germ.		founded 1985
C. Itoh, Furukawa Co. Ltd. (Japan) w/ Hungarian Plastics Processing Co.	Japan	manufacture up-to-date synthetic products	JV	Hungary	
Sam Sung Electronics (S. Korea) w/ Hungarian Orion	S. Korea	manufacture color TVs	JV 50/50		1990; $3.3m founding capital
BABOLNA-MCDONALD'S RESTAURANT McDonald's Restaurant (US) w/ Babolna Agricultural Cooperation	US	fast food restaurant	JV 50/50		1986 agreement signed
McDonald's (Canada) w/ MAV Railways	US	to open a fast food restaurant in a train station	JV		plan to open restaurants in railway stations across the country
Krupp (Western TNC)	Western		JV	developing countries	involved in investment projects w/ developing countries delivery

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Renault (France)	France		JV	developing countries	involved in investment projects w/ developing countries delivering vehicles
ICI Imperial Chemical Industries (UK)	UK		JV	developing countries	involved in investment projects w/ developing countries delivering chemicals
Apple			JV		
Philips (Netherlands), Kroll (W. Germany) w/ Videoton, Hungarian Credit Bank	Netherlands W. Germany	production of compact discs	JV	Western	founded 1987; Kroll will supply the technology; initial production expected at 2m CDs a year, which will increase to 6m pieces, 90% exported
Rockerfeller & Company			JV		
Suzuki, C. Itoh Trading House (Japan); IFC (World Bank) w/over 20 Hungarian firms & banks	Japan	to assemble Suzuki Swifts (70 percent of components from	JV majority Hungary	Hungary W. Europe	Equity of $70m
Borregaard (Norway) w/ Hungarian contracting firm & a chemical group	Norway	production and sale of lignir (chemical substance used in construction industry)	negotiating 51% Norway		to expand presence in EE, Norwegian company will be the major supplier of raw materials
Borregaard (Norway)	Norway	production of leaf fertiliser	negotiating		
Primary Industries w/ Miskolc			JV		
Thyssen-Stahlunion (W. Germany) Dunaferr (Danube iron & steel works)	W. Germany	build & operate a cold rolling mill	negotiating JV		
Dunaferr	Austria		JV		

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Fiat (Italy)	Italy	automobiles	JV	developing countries	involved in investment projects in developing countries delivering vehicles
OZDER STAHL AG Metallgesellschaft AG; Korf AG (W. Germany) w/ Ozki Kohaszati Uzemek (OKU) steelworks	W. Germany	production of billets, wire rod	JV 60& W. Germ.	Hungary other	asset increase by $28.9m eventually
DIGITAL EQUIPMENT (HUNGARY) LTD. Digital Equipment Corp. (US) w/ KFKI (Central Research Institute for Physics of the Hungarian Academy of Science); Szamalk (Computer Technology Applications Enterprise)	US	to sell and service computer system	JV 51% US		Digital - world's second largest computer company
Akzo (Dutch chemicals group) w/ Tiszai Vegyi Kombinat (TVK) (state-run chemicals group)	Dutch	manufacture paints & varnish	JV signed 51% Dutch		
Daewoo (S. Korean) w/ Hungarian Credit Bank, Ltd.	S. Korea	manufacture car parts or assemble cars from components supplied from S. Korea	JV letter of intent		starting capital $100m
Creditanstalt-Bankvereir of Austria w/ Hungarian Credit Bank	Austria	commercial banking	letter of intent JV 50/50		starting capital $30m
TNT MALEV CARGO EXPRESS TNT Masped (UK) w/ Malev Airline; Hungarian Credit Bank; Technoimpex; Babolina State Farm	UK	express & bulk air freight service for Western and Hungarian companies	signed JV 40% UK		foundation capital $2m

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Daewoo (S. Korean)	S. Korea	purchase & build hotels in Hungary	plans	Hungary	form a new company with $90m
CENTRAL-EUROPEAN INTERNATIONAL BANK, LTD. (CIB) Societe Generale (France); Banco Commerciale Italiana (Italy); Bayerische Vereinsbank (W. Germany); Creditanstalt Bankverein (Austria); The Long-Term Credit Bank (Japan); The Toyo Kobe Bank (Japan) w/ National Bank of Hungary	France Italy W. Germany Austria Japan	credit bank institute	JV 11% France 11% Italy 11% W. Germ. 11% Austria 22% Japan		operating offshore since 1979, formed a subsidiary to operate in Hungarian market in 1988
UNICBANK CO. LTD. International Financial Corporation (IFC); Deutsche Genossenschaft-bank (W. Germany); Genossenschaftliche Zentralbank AG (Austria); w/ Central Draft and Credit Bank Ltd. (KVH Rt.); National Savings Bank (OTP); National Council of Production Cooperatives (TOT); National Council of Industrial Cooperative (OKISZ); National Organi-zation of Small Craftsmen (KIOSZ); National Council of Consumer's Cooperatives (SZOVOSZ)	IFC W. Germany Austria	general commercial banking operation, primarily organization of joint ventures & financing the development of the cooperative & small enterprise sectors	JV 15% IFC 15% W. Germ. 15% Austria		founded 1986
KBC BUDAPEST KBC Loerrach w/ group of Hungarian entrepreneurs		fabric printing	JV 50/50	Hungary, Comecon	Europe's largest fabric printer (KBC); JV has most modern technology; planned sales of $35m yearly

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
WALTON COMPUTERS TECHNIQUE COMPANY Walters International Ltd. (UK) w/ Videotron Electric Works	UK	production of matrix printers, engineering & commercial office	JV 49% UK	80% Hungary, other	founded in 1984. Walters bought by Williams System PLC (assemble under IBM license - 8-10% of UK market); 90% bought by Videotron which exports, contract Videotron for assembly
US West (US) w/ Hungarian Post Office	US	cellular radio telephone systems	JV		for Budapest 1991 - $5m
Sharp's Austrian agent	Japan		plans JV		
Italy, US w/ Hungary	Italy, US	business school	plans JV		
QUALIPLASTIC KFT. ALM Corp. (US) w/ PEMU; Solymar (Pest County Plastics Processing Co.); Interag Ltd.	US	recycling of plastic wastes	JV 44% US		founded 1982
OGILVY AND MATHER-MAHAIR	US		JV		
COMPUTERWORLD INFORMATION CO., LTD. Computerworld Communication Inc. (US) w/ Lapkiado Company; Statistical Publishing Co.	US	publication of computer technique information, jobwork, advertising, etc.	JV 49% US		founded 1986
INTERNATIONAL MANAGEMENT CENTER	US		JV		
RADELCOR KFT Corning International Corp. (US) w/ Metrimpex Hungarian Trading Company for Instruments; Radelkis Production Cooperative for Electrochemical Instruments	US	manufacture blood gas analyzers	JV 49% US		founded 1973

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
APPLIED TECHNICS LTD.	US		JV		
PUSKI-ISIS LTD.	US		JV		
HUNGUARD LTD. (Guardian Industries)	US		JV		
MCCANN ERICKSON-INTERPRESS	US		JV		
KOTOELEM KFT	US		JV		
PANGUS RUBBER PRODUCTS CO. Truflex Rubber Products (US) w/ Taurus Rubber Works of Budapest	US	manufacture materials for repair of automotive tires & industrial belts	JV 50 % US	Hungary Other	founded 1987; exporting through Truflex's European subsidiary Pang International (Liechtenstein)
HEMINGWAY COMPUTING INT., Ltd.	US		JV		
FOTEX KFT American Writing Supply Corp. (US) w/ Budapest Photography Cooperative; Cooperative Skala-Coop; FORTE, Photochemical Industry	US	photographic services	JV 45% US		founded 1984
CORNING MEDICAL CORP.	US	medical instruments	JV		
ALM HOLDINGS CORP.	US	thermoplastic materials	JV		
IDG COMMUNICATIONS	US	books/periodicals on computers	JV		
COMPUMAX INC.	US	computer automation	JV		
DOW CHEMICALS Dow Chemicals (US) w/ Nitrokemia; Chemolimpex	US	manufacture extruded polystyrene foam thermal insulation	JV		

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
FIRST AMERICAN-HUNGARIAN BROKERAGE	US		JV		
INTERCOM (CAROLCO)	US		JV		
CONCORD CAMERA	US		JV		
HISLER-RADKE CORP. (GMI)	US		JV		
Unicum (US)	US		recently active		
Bear Stearns Inc. (US) (First Hungary Fund)	US		recently active		
Valmont Industries (US)	US		recently active		
Dupont (US)	US		recently active		
Estee Lauder (US)	US		recently active)		
Pepsico (US)	US		recently active		
Coca-Cola (US)	US		recently active		
UPS (US)	US		recently active		
Black and Decker (US)	US		recently active		
NCM (US)	US		recently active		
Remington (US)	US		recently active		

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Union City Body (US)	US		recently active		
Price Waterhouse (US)	US		recently active		
Seagate (US)	US		recently active		
Group 92 International (US)	US		recently active		
Mister Minit (US)	US		recently active		
VITA (Volunteers in Technical Assistance) (US)	US		recently active		
Montedisson (Italy) w/ Dunamont Polystyrene	Italy	production of polystyrene	JV		IFC assistance; project cost: $78.8m
Tetra Pak Rausing (Switzerland); IFC w/Orgzagos Takarekpenztar (OTP)	Switzerland	production of laminated milk and fruit juice cartons	JV 60% Swiss 15% IFC	Hungary	project cost: $48.4 m; OTP is a Hungarian financial institution
Wilden KG (W. Germany) Diexter Plastic Molds	W. Germany		JV		project cost: $11.8 million.
Bull International (France) w/ Videoton Electronics Group	France		JV		signed 1990, majority owned by Videoton
Ciba-Geigy (Switzerland) w/ Biogal	Switzerland	production of pharmaceutical	JV		formed 1987
Skardigln (Sweden) w/ Vepex	Sweden	production in biotech	JV		

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SICONTACT KFT Siemens AG (W. Germany) w/ Elektromodul Hungarian Trading Company for Electromechanical Components; Remix Radio-Technical Company; Intercooperation Ltd.; Computer-Technical Institute for Finances	W. Germany	services, design of equipment & joint production of electronic elements	JV 49% W. Germ.		founded 1974
VOLCOM KFT Volvo International Development Corp (SWEDEN) w/ Csepel Automotive Factory; Mogurt Hungarian Trading Company for Motor Vehicles	Sweden	representation of Volvo	JV 48% Sweden		founded 1974
BUDAPEST CASINO KFT Oesterreichische Spielbanken AG (Austria) w/ Danubius Hotel and Spa Company	Austria	operation of a casino	JV 49% Austria		founded 1980
BCR-LILLY KFT. Eli Lilly S.A. w/ BCR Works	Switzerland	services	JV 49% Swiss		founded 1980
B & Z KFT. Zyma AG (Switzerland) w/ Biogal Pharmaceutical Factory; Medimpex Joint Trading Company for Pharmaceutical Products	Switzerland	production & distribution of basic materials for the pharmaceutical industry	JV 49% Swiss		founded 1980
SKALA-LUESCHER KFT Luesche Automaten AG (Switzerland) w/ Skala-Coop	Switzerland	operation of gambling machines	JV 9% Swiss		founded 1982

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SPHERO-EVIG KFT Laing & Co (Switzerland); Gesellschaft Fur Standard Motoren GmbH; Laing Schwimmbadtechnik GmbH Remseck (W. Germany) w/ EVIG; Intercooperation Ltd.; Transelektro Hungarian Trading Company for Electrical Equipment and Suppliers	Switzerland W. Germany	manufacture of heat pumps	JV 36% Swiss 11% W. Germ.		founded 1980
ZALAFORM KFT Neue Mode Pannonia GmbH (W. Germany) w/ Cserta emti Agrarian Production Cooperative, Csomoder	W. Germany	production of garments and accessories	JV 49% W. Germ.		founded 1982
METRITECHNIK KFT Festo Maschinenfabrik GmbH (Austria); CBI Budapest w/ Metrimpex Hungarian Trading Company for Instruments	Austria	arrangement of cooperations, services	JV 2% CBI 48% Austria		founded 1982
ECONOSERVICE RT Horizont AG (Switzerland) w/ Sigma Rt.	Switzerland	financial & organizational services	JV 49% Swiss		founded 1982
HUNGAROFEDER KFT V. Bauer Bettfederfabrik (Austria) w/ Hungarotex Foreign Trading Company for Textiles; "Lenin" Cooperative Farm of Mako; Poultry Processing Company of Debrecen	Austria	feather and down processing	JV 33.4% Austria		founded 1983

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
MONOPHARM KFT Medipharm AB (Sweden) w/ Monor State Farm; Pharmatrade Foreign Trading Company	Sweden	production of Lactiferm M 74 liophylized bacteria	JV 49% Sweden		founded 1983
SKALA-ARAB TRADE PROMOTION COMPANY Saudi Caravan Transport Establishment (Saudi Arabia); Hungarian International Bank (UK) w/ Skala-Coop	Saudi Arabia UK	trade services	JV		founded 1983
TUNGSRAM-SCHREDER RT. Schreder AS (Belgium) w/ Tungsram Co. Ltd., Hungarian Aluminium Corp.	Belgium	manufacture of public lighting equipment	JV 40% Belgium		founded 1983
SG-2 HONGRIE KFT. SG-2 Societe Generale de Service et de Gestion (France) w/ Foreign Trade Bank Ltd.	France	organization, computer services	JV 49% France		founded 1983
OTP-PENTA TOURS LTD. Penta Tours Reisen GmbH (Austria) w/ National Savings Bank	Austria	travel agency	JV 40% Austria		founded 1983
CARGOPACK-HUNGARIA KFT. Cargopack (W. Germany) w/ Volanpack	W. Germany	packaging services	JV 51% W. Germ.		founded 1983
DANUBE-MAINE BUILDING CO. Beuma GmbH (W. Germany) w/ General Servicing and Sales Cooperative; Technoimpex Hungarian Foreign Trading Company for Machines	W. Germany	building abroad	JV		founded 1983

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SPHERO-EVIG KFT Laing & Co (Switzerland); Gesellschaft Fur Standard Motoren GmbH; Laing Schwimmbadtechnik GmbH Remseck (W. Germany) w/ EVIG; Intercooperation Ltd.; Transelektro Hungarian Trading Company for Electrical Equipment and Suppliers	Switzerland W. Germany	manufacture of heat pumps	JV 36% Swiss 11% W. Germ.		founded 1980
ZALAFORM KFT Neue Mode Pannonia GmbH (W. Germany) w/ Cserta emti Agrarian Production Cooperative, Csomoder	W. Germany	production of garments and accessories	JV 49% W. Germ.		founded 1982
METRITECHNIK KFT Festo Maschinenfabrik GmbH (Austria); CBI Budapest w/ Metrimpex Hungarian Trading Company for Instruments	Austria	arrangement of cooperations, services	JV 2% CBI 48% Austria		founded 1982
ECONOSERVICE RT Horizont AG (Switzerland) w/ Sigma Rt.	Switzerland	financial & organizational services	JV 49% Swiss		founded 1982
HUNGAROFEDER KFT V. Bauer Bettfederfabrik (Austria) w/ Hungarotex Foreign Trading Company for Textiles; "Lenin" Cooperative Farm of Mako; Poultry Processing Company of Debrecen	Austria	feather and down processing	JV 33.4% Austria		founded 1983

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
MONOPHARM KFT Medipharm AB (Sweden) w/ Monor State Farm; Pharmatrade Foreign Trading Company	Sweden	production of Lactiferm M 74 liophylized bacteria	JV 49% Sweden		founded 1983
SKALA-ARAB TRADE PROMOTION COMPANY Saudi Caravan Transport Establishment (Saudi Arabia); Hungarian International Bank (UK) w/ Skala-Coop	Saudi Arabia UK	trade services	JV		founded 1983
TUNGSRAM-SCHREDER RT. Schreder AS (Belgium) w/ Tungsram Co. Ltd., Hungarian Aluminium Corp.	Belgium	manufacture of public lighting equipment	JV 40% Belgium		founded 1983
SG-2 HONGRIE KFT. SG-2 Societe Generale de Service et de Gestion (France) w/ Foreign Trade Bank Ltd.	France	organization, computer services	JV 49% France		founded 1983
OTP-PENTA TOURS LTD. Penta Tours Reisen GmbH (Austria) w/ National Savings Bank	Austria	travel agency	JV 40% Austria		founded 1983
CARGOPACK-HUNGARIA KFT. Cargopack (W. Germany) w/ Volanpack	W. Germany	packaging services	JV 51% W. Germ.		founded 1983
DANUBE-MAINE BUILDING CO. Beuma GmbH (W. Germany) w/ General Servicing and Sales Cooperative; Technoimpex Hungarian Foreign Trading Company for Machines	W. Germany	building abroad	JV		founded 1983

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
CM DIEBOLD KFT. Diebold Deutschland GmbH (W. Germany) w/ Comporgan System House Joint Company; Metrimpex Foreign Trading Company for Instruments	W. Germany	organization services	JV 40% W. Germ.		founded 1983
OLYMPOS KFT. K. Arvanitis SA (Greece) w/ Kecskemet-Szikra State Farm; Hungarofruct Cooperative Society for the Export and Import of Fruit and Vegetables; Borsod Chemical Works; AGKER Kft.	Greece	friut juice production	JV 31.1% Greece		founded 1983
KEMIPUR KFT Elastorgan GmbH (W. Germany) w/ PEMU; Chemolimpex Foreign Trading Company for Chemicals	W. Germany	production of polyurethane foam	JV 49% W. Germ. materials		founded 1984
AGROVET SOWING SEED GROWING AND DICTR. CO. Royal Sluis BV (Netherlands) w/ AGKER Trading Company of State Farms; Seed Growing and Trading Enterprise	Netherlands	growing & sale of sowing seeds	JV 49% Neth.		founded 1984
CONSORG KFT. Consulting AG (Switzerland) w/ Intercooperation Ltd.; OKISZ Organization and Computer Technique Company	Switzerland	installation of computer technique systems	JV 49% Swiss		founded 1984

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
CAR-CLEANING CO. Osterreichische Eisenbahn Verkehrsanstalt (OEVA) (Austria) w/ Masped Hungarian General Forwarding Company; Komarom Crude Oil Company	Austria	cleaning of railway tank wagons, trucks	JV 43.1% Austria		founded 1984
HUNGAROKORK BUDAPEST Amorim & Irmaos (Portugal) w/ Central Hungarian Wine Cellars; Lignimpex Hungarian Trading Company for Paper; Timber and Fuel	Portugal	production of cork stoppers and other cork products	JV 25% Portugal		founded 1984
VAEV-BRAMAC KFT BRAMAC Dachsteinwerke (Austria) w/ State Building Company of Veszprem County; State Development Institute; Brick and Roof Tile Industrial Trust; Nikex Hungarian Trading Company for the Heavy Industry	Austria	production of concrete roof tiles	JV 49% Austria		founded 1984
CLUB TIHANY CO. LTD. Fritidshusfirmaet Kalmar-Export AS (Denmark); Bau AG-Negrelli (Austria); Stuag AG (Austria); Hamberger Bauges (Austria); w/ HungarHotels; Planning Company for Public (KOZTI); Building Company for Public Utilities and Civil Engineering of Central Hungary; Komplex Hungarian Trading Company for Factory Equipment	Denmark Austria	building & operation of recreation complexes	JV 6.7% Denmark 15.1% Austria		founded 1984

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
APV-UNGARO CO. LTD. APV Internatinal Ltd.; APV Parcel Ltd. (UK); w/ Tatabanya Colliery; GEPSZEV, Engineering-Servicing; Electrochemical Designing & Construction Co.; Felsopakony Komplex Foreign Trading Company	UK	manufacture of up-to-date food-processing equipment	JV 49% UK		founded 1985
PETA LTD. Cerpet Export-Import Transit Industrievertretungen (Austria) w/ PEVDI (Pest county Chemical and Fashion Articles Co.); Ferunion; Foreign Trading Company	Austria	manufacture of roof windows	JV 24% Austria		founded 1985
INTERBAU LTD. Suba; Bernhardt (W. Germany) w/ State Building Company of Gyor County; General Planning Company (AEV)	W. Germany	planning and construction of dwelling houses, & industrial objects, technical services	JV 49% W. Germ.		founded 1985
SANCELLA-HUNGARY HYGIENIC MANUFACTURING CO. Molnlyche Consumer Products AB (Sweden) w/ Hungarotex Foreign Trading Company for Textiles; Interinvest Foreign Trade Development Co.	Sweden	production of sanitary textiles	JV 49% Sweden		founded 1985
A&L GYORL AFESZ-M LEIER LTD. M. Leier OHG (Austria)	Austria	manufacture of manual walling blocks	JV 49% Austria		founded 1985

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
INTERBAU LTD. Suba; Bernhardt (W. Germany) w/ State Building Company of Gyor County; General Planning Company (AEV)	W. Germany	planning and construction of dwelling houses, & industrial objects, technical services	JV 49% W. Germ.		founded 1985
SANCELLA-HUNGARY HYGIENIC MANUFACTURING CO. Molnlyche Consumer Products AB (Sweden) w/ Hungarotex Foreign Trading Company for Textiles; Interinvest Foreign Trade Development Co.	Sweden	production of sanitary textiles	JV 49% Sweden		founded 1985
A&L GYORL AFESZ-M LEIER LTD. M. Leier OHG (Austria)	Austria	manufacture of manual walling blocks	JV 49% Austria		founded 1985
BOS-GENETIC LTD. Osnabrucker Herbuch (W. Germany) w/ Boscoop Agrarian Development Joint Company	W. Germany	quick genetic development of the Hungarian cattle stock	JV 49% W. Germ.		founded 1985
HBH-SKALA BAVARIAN-HUNGARIAN BREWERY LTD. Hopfen-und Malzgetrankevertrieb (W. Germany) w/ Skala-Coop	W. Germany	development & sales of technology for small breweries	JV 30% W. Germ.		founded 1985
IMPERIAL FUR CONFECTIONING LIMITED LIABILITY Michael Liska GmbH (Austria) w/ Boscoop; Agroindustiral Associated Co. and AGRIT; Agro-Innovation Bank Ltd.	Austria	processing of furs; production of men's and ladies' ready-made garments of all types of furs	JV 39% Austria		founded 1986

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
INTERAT INTERNATIONAL FAIR INSTALLATION LTD. Uniplan GmbH (W. Germany) w/ Interpress Publishing and Printing Co.	W. Germany	organization & installation of fairs abroad	JV 49% W. Germ.		founded 1985
HUNGAROSWISS CONSULTING AND SURVEILLANCE CO. LTD. Hungaroswiss AG (Switzerland) w/ Budapest Bank Ltd.; Chemokomplex; Hungararian Trading Company of Machines and Equipment for the Chemical Industry; Komplex; Export Import Company for Factory Equipment; Transelektro; Hungarian Trading Company for Electric Equipment and Supplies	Switzerland	consulting; capital arrangement, technical control	JV 48% Swiss		founded 1985
PLANTRONIK ELECTRONIC MANUFACTURING AND DEVELOPMENT LTD. Altro GmbH (Austria) w/ Generalplan; Industrial and Trading Cooperative	Austria	electronic & instruments technique development, hardware development, application technique. Design & sale of electronic equipment	JV 49% Austria		founded 1986
DENTALCOOP LTD. Litep AG (Switzerland) w/ Generalimpex Foreign Trading Company; Interinvest; Credit Corporation for the Development of Foreign Trade	Switzerland	manufacture & export of dental mechanic equipment and supplies	JV 49% Switzerland		founded 1985
FINNPACK-HUNGARIA CO. LTD. Halonen (Finland) w/ Milk Industrial Trust	Finland	manufacture of packing machines	JV 49% Finland		founded 1986

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
ADIDAS BUDAPEST LTD. Adidas (W. Germany) w/ Tricotex Hungarian; Subsidiary for Textile Foreign Trading; Hungarcoop; Hungarian Cooperative Trading Company; Artex; Foreign Trading Company; Hungarian Froeign Trade Bank Ltd.	W. Germany	production of branded Adidas articles in Hungary	JV 51% W. Germ.		founded 1985
KOMEX METALL LTD. Koch-Impex GmbH (W. Germany) w/ Konsumex; Foreign Trading Co.	W. Germany	manufacture of electronic copper fixtures & other precision parts	JV 49% W. Germ.		founded 1986
FERBAU BUILDING COMPONENTS CO. LTD. V. Kann Rasmussen Industri (Denmark) w/ Building Cooperative; Fertod	Denmark	manufacture of roof windows	JV 50/50		founded 1986
MECON CO. LTD. Mec-Rastor (Finland) w/ Building Management and Organization Institute	Finland	organization, consulting	JV 40% Finland		founded 1986
SELECTRONIC CO. LTD. Standard Electronic Lorenz (W. Germany) w/ Skala-Coop	W. Germany	manufacture of television sets & videos	JV 35% W. Germ.		founded 1986
LINEA LTD. Viennatex GmbH (Austria) w/ Skala Budapest; FEDOSZ Underwear Industrial Cooperative	Austria	Production & distribution of clothing branded Pop'84	JV		founded 1986

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
KOECHERT MAGYARORSZAGI SZERVEZESI KFT Koechert GmbH (Austria) w/ Softcoop	Austria	development of software	JV 49% Austria		founded 1986
INDIAN-HUNGARIAN TRADE PROMOTION CO. LTD. Chinar Export Trading House (India) w/ Consulting Company for Entrepreneurs of the Hungarian Chamber	India	promotion of the two countries' trade relationships, organization of cooperations	JV 49% India		founded 1986
REVITAL BUILDING ORGANIZATION AND CONTRACTING CO. LTD. Warimpex Finanz; IR Schertler GmbH (Austria) w/ State Development Institution; Alba Regia AEV (Alba Regia State Building Industry Company); Fovarosi VI. keruleti Ingatlankezelo Vallalat (Communal Management Enterprise of 6th District; Budapest)	Austria	renovation of dwelling-houses, maintenance of buildings, letting out of premises	JV 45% Austria		founded 1986
MIKROMED All-Federal Medico-technical Centre and Development Institute (VIIMP) (USSR) w/ Medicor Works	USSR	development & manufacture of microprocessor-controlled electronic medicotechnical devices	JV		founded 1986
Daniko (Netherlands) w/ Agriculture co-operative in Retsas; The Hungarian Agrarian Innovation Bank; and Pannonia Cespel Foreign Trading Company	Netherlands	production of frozen French fried potatoes	JV		founded 1987

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
INTERNATIONAL TRADE PROMOTION LIMITED LIABILITY CO. HIB Hungarian International Bank (UK); Roma Trading Co. (Panama) w/ Skala-Coop National Cooperative Trading House	UK Panama	commercial services, counselling, tourism, software, hardware	JV 66.6% UK Panama		founded 1983
FALCONTRAVEL PANNONIA TOURISM LTD. Falcontravel Organizzazione Turistica Internazionale (Italy) w/ Pannonia Hotel and Catering Co.	Italy	tourism	JV 59% Italy		founded 1985
ANGORA RABBIT BREEDING LIMITED LIABILITY CO. OF KAPOSVAR Scheurer und Co. (Switzerland) w/ Hungangora Angora-Wool Production and Marketing Association and Agricultural Academy	Switzerland	breeding of angora rabbits; research and development	JV 33% Swiss		founded 1986
Wagner-Bauelemente (W. Germany) w/ Polyader	W. Germany	manufacture materials for use in monument & building maintenance & conservation projects in third countries	JV		founded 1987
FERBAL INDUSTRIES LTD. LIABILITY CO. BALI Electronics Ltd. (Canada) w/ Ferunicorp; Small-Cooperative and Qualitas; Industrial and Servicing Small-Cooperative	Canada	manufacture and sales of products made of metal, wood and plastic	JV 40% Canada		founded 1986

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
FLEXYS Transmerx Import and Export (Austria) and a US Partner w/ Computer-Technical and Automation Research Center of the Hungarian Academy of Sciences; State Development Institution	Austria US	develop & install various computerized, automated production systems	JV 34% Austria US		founded 1987
SOMACK PACKAGING MACHINES TECHNOLOGY LIMITED LIABILITY CO. M.A.I.E.R. (Italy) w/ Sopiana Engineering Works of Pecs; KOMPLEX Hungarian Trading Co. for Factory Equipment; and National Bank of Hungary	Italy	manufacture of packaging machines and packaging equipment	JV 35% Italy		founded 1987
JAPANESE-HUNGARIAN FERMENTATION INDUSTRIES LTD. Kyowa Hakko Kogyo; Toyo Menka Kaisha (Japan); International Finance Corporation (World Bank) w/ Hajdusagi Agraripari Egyesules; Hungarian Creditbank; and Hungarian Wheat Trust	Japan	produce 5,000 tons per annum of lysine, a protein animal fooder additive	JV 20% Japan 15% IFC		founded 1987; project cost $45m.
HENKEL BUDAPEST LTD. Henkel Austria GmbH w/ Trading Company of Food and Chemicals; Konsumex Hungarian Foreign Trade Co. and Vegetable Oil and Detergent Manufacturing Co.	Austria	production & marketing of cosmetics & household chemicals	JV 51% Austria		founded 1987

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
KRANTECHNIK LTD. Leineweber K.G. of Wiener Neustadt (Austria) w/ Building Machines Manufacturing Co. and NIKEX Hungarian Trading Co. for Heavy Industrial Products	Austria	designing, producing & marketing special purpose cranes, lifting, hoisting & transport equipment as well as material-moving installations for high-level storage systems	JV 49% Austria		founded 1987
BIOCOR Wiener Warenhandles-gesellschaft (Austria) w/ Medicor Works	Austria	marketing of medical instruments & hospital equipment, manufactured in co-operation, on third markets.	JV		founded 1987; operates in Graz (Austria)
Knight Wendling (Switzerland) w/ Struktura Szervezesi Vallalat and Interag	Switzerland	to provide plant, management & organization consulting, software development & technical assistance on computer utilization within the framework of larger projects	JV		founded 1987
Pantrem (Italy) w/ Skala Coop and Fedosz	Italy	producing & marketing wearing apparel	JV		founded 1987
Awimpex-Eberhardt; Julius Eberhardt (Austria) w/ Pannonia hotel and a catering enterprise	Austria	to construct a tree-star, 500-room hotel in central Budapest	JV		founded 1987
Quelle A.G. (W. Germany) w/ Eoras department store	W. Germany	joint marketing of imported consumer goods	JV		founded 1987
Bucara-Cirobe (Austria) w/ Mobeltrade	Austria	to market Hungarian-made furniture in Austria	JV	Austria	founded 1987

Hungary--Continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Dete Spritz-und-Lackiersysteme (W. Germany) w/ Skala Coop	W. Germany	produce & market paint sprayers and paint-spraying lines	JV 50% W. Germ.		founded 1987
MINIBREWERIES Kaltenburg Brauerei (W. Germany) w/ Skala Coop and HBH-Skala Brewery	W. Germany	to open minibreweries & beer halls	JV 30% W. Germ.		founded 1987
BLAGUSS-VOLANBUSZ INTERNATIONAL TRAVEL AGENCY LTD. Blaguss Reisen (Austria) w/ Volanbusz; Road Transport Company	Austria	operate a travel agency in central Budapest	JV 60% Austria		founded 1987
PRO FASHION Datamonster Development (Sweden) w/ Hungarotex	Sweden	provide design systems and sewing patterns for use by the textile industry	JV 34% Sweden		founded 1987
Waimpex Export- Import- und Transit Handelsges (Austria) w/ The National Oil and Gas Industry Trust and Komarom Mineral Oil Industrial Enterprise	Austria	to produce citric acid	JV		founded 1987
FOTAV REMOTE HEATING CONDUCTS LIMITED LIABILITY CO. Isolrohr (W. Germany) w/ Metropolitan Remote Heating Works	W. Germany	to manufacture heat & water insulating elements & systems	JV 49% W. Germ.		founded 1987

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Ford (US)	US	manufacture electrical components for automobiles	100% US	other	production will be exported; Ford will ship automobiles to Hungary; imports & exports must balance by 1996
VAJAFRUCT LIMITED LIABILITY CO. Agroproduct Ltd. (UK) w/ Elektromodul; the II. Rakoczi Ferenc Agricultural Cooperative and Electrotechnical Components	UK	production of apple & fruit-juice concentrates in customs-free (off-shore) zones	JV 50% UK		founded 1987
Holsten-Brauerei (W. Germany) w/ Nagykanizsa brewery through Intercooperation	W. Germany	to produce beer & fruit-juice concentrate	JV		founded 1987
Metal Box (UK) w/ Caola Works; & Chemo-Caola	UK	to manufacture special valves used in aerosol containers	JV 50% UK		founded 1987
SHOWROOM IKEA (Sweden) w/ Butorkerskedelmi Vallalat	Sweden	to open an 11,000 sq m showroom and retail outlet in Budapest	JV		founded 1987
BIOTECHNOLOGY INTERNATIONAL CLS/Cambridge Life Science (UK) w/ Vepex	UK	develop pharmaceuticals & veterinary medicines	JV 50% UK		founded 1987
VOPA MACHINE MANUFACTURES LTD. Vorwald (W. Germany) w/ Technoimpex and a Hungarian paper industrial enterprise	W. Germany	to produce and market components for use in cellulose- and paper-making machines	JV		founded 1987

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SEMILAB GeMeTec (W. Germany) w/ private entrepreneur	W. Germany	manufacture semiconductor testing & measuring equipment	JV	world	
Nitto Boseki; Toyo Menka Kaisha (Japan); International Finance Corporation (World Bank) w/ Uvegipari Muvek industrial glass works and Skala Coop	Japan	manufacturing & marketing of glass wool insulation	JV 26% Japan		founded 1987; project cost: $20.4m
HAU-EPSZER LIMITED LIABILITY CO. Zubehor fur Schornsteinsanierung HAU GmbH (W. Germany) w/ Ganz-Epszer Building; Assembling and Servicing Affiliated Company (affiliate of Ganz-Mavag)	W. Germany	manufacture of non-corrosive pipes and inlays, steel & aluminiun; marketing	JV 51% W. Germ.		founded 1987
Gecos (W. Germany) w/ Metrimpex and Enta industrial co-operatives	W. Germany	to produce & market special machine accessories on the basis Hungarian patents	JV		founded 1987
Gutbrod-Gerate-Vertriebsges (W. Germany) w/ Veszprem Agricultural Machines Enterprise	W. Germany	production of small lawn tractors for domestic use	JV	Hungary	founded 1987
ENI (Italy) w/ Medimpex	Italy	joint production and marketing of Aprotinin and Heparin medicines	JV		founded 1987
INTERSPAN Kronospan (Switzerland) w/ Skala-Coop and Erdert	Switzerland	to produce & market wood chipboard	JV 55% Swiss		founded 1987

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Bechtel (US) w/ Energiagazdalkodasi Intezet and Eromus Halozattermelo Vallalat	US	to act as a general contractor for building & reconditioning plants & installations in the energy sector	JV		founded 1987
Occidental Petroleum (US) w/ R and D Center of the Hungarian Hydrocarbon Industry	US	to market US & Hungarian intellectual property in third markets	JV	Other	founded 1987
Poly 2000 Innova Technologie and Polyester Polyurethan Technik (W. Germany) w/ Zala Megyei Zoldseg Vallalat and Hungarian	W. Germany	production of kitchen & bathroom sinks & fixtures	JV 44% W. Germ.		founded 1987
TWINEX, LIMITED LIABILITY CO. Weltexport (Austria) w/ Mutex; Plastic and Textile Processing Homecraft Cooperative and Novotrade Ltd.	Austria	manufacture of plastic goods in custom-free (off-shore) zones	JV 49% Austria		founded 1987
CHIRONPLAST Chiron-Werke (Austria) w/ Vas County Trading enterprise; Gyor Pannon-Globus	Austria	to recycle & process plastic wastes.	JV 50% Austria	Other	founded 1987; Chiron-Werke will supply the processing equipment & production knowhow. JV will export plastic granulate to hard-currency markets
Sotheby's (UK) w/ Novotrade		house in Budapest. The JV will handle Hungarian artifacts & other products which can be auctioned through Sotheby's network			

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
MD ENTERPRISE AND COMMERCIAL LIMITED LIABILITY CO. DEUMA GmbH Wiesbaden (W. Germany) w/ Technoimpex; Hungarian Foreign Trade Company; General Banking and Trust Co. Ltd.; General Bank for Venture Financing Ltd.; Bank of Small Ventures; Plumbing and Technological Pipe Installing Company; Budapest's 11th and 22nd Housing-Estate Management Enterprise; ASZ General Servicing and Building; and Cooperative of Budapest	W. Germany	designing & construction of buildings & civil engineering projects; designing & turnkey construction of housing and public buildings; production & distribution of building materials; production & assembly of steel structures; technological, machine assembly & other expert jobs; export-commissioning & assembly; leasing of capital equipment; novation & utilization of historical buildings in Hungary with the involvement of third partners; computer services (hardware, software)	JV 49% W. Germ.		founded 1987
Arthur Young (Belgium) w/ Nikex Foreign Trade Organization; Koszig enterprise	Belgium	production of perlit-based insulating boards	JV		founded 1987
Adler, a subsidiary of Asko (W. Germany) w/ Skala Coop; Skala-Tex	W. Germany	to open department store in Budapest to retail clothing, hobby & furniture products	JV		founded 1987; planned for the JV to supply $3m worth of goods against $4m worth of countertrade in 1988
CITYRAMA-MECSEK Cityrama (Austria) w/ City Pecs	Austria	to develop tourism in the southern part of Hungary	JV 50% Austria		founded 1987
Days Inn (US) w/ Eravis	US	to set up a chain of motels	negotiating JV	Hungary	

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Ostermann (Austria) w/ Hungarocoop; "Sikk" and "Fer" clothing factories	Austria	fashion outlet	JV		founded 1987; for every Sch. 7,000 of goods sold by the firm at the new outlet, Ostermann will take delivery of Sch. 10,000 worth of CT products
INNOWELD Interweld (Austria) w/ Agrobank	Austria	specialize in welding technologies, including R&D of durable heat & corrosion-resistant welding materials & related equipment.	JV	Hungary other	founded 1987; Interweld will supply the initial production licence, Hungarian partner will provide production facilities in Godollo. Foundation capital - US $600,000. Expected sales to the Hungarian chemicals sector as well as hard-currency areas
INTERNATIONAL INVESTMENT AGENCY LTD. Girozentrale Bank; Continental Industries Co. AG (Austria) w/ Foreign Trade Bank	Austria	merchant banking, portfolio management, arranging investment credits & brokerage services for equities	JV 66.6% Austria		founded 1987
CRYSTAL Blackburn International (US) w/ Fotex; Ajka Glass Factory	US	manufacture glassware	JV 50/50		1990
Maxwell Communications	UK	newspaper	JV 40% UK	Hungary	acquired stake in the Hungarian newspaper Magyar Hirlap
Unimex (Turkey) w/ Chemolimpex	Turkey	to market chemical products	JV	Turkey other	1990
Ben Yakar Gat Engineering and Construction; Solel Boneh International, Africa Israel Investments; Diyour Laoleh; ICL Israel Chemicals (Israel) w/ Co-nexus Economic and Financial Consulting; Pannonia Catering Trade enterprises	Israel	construction of roads, railway, & sewage networks	negotiating coop	Hungary	

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
ABB/ASEA Brown Boveri (Switzerland) w/ Budapest's Instrument Engineering Cooperative; Electricity Board; private investors	Switzerland	to produce & service electric power control & transmission systems	JV 52% Swiss		1990
PRODACH Laszlo Bali, a private investor (Sweden) w/ Borsod County State Building enterprise; Machine and Elevator Repair enterprise; several cooperatives	Sweden	to add additional floors to existing buildings, insulate roofs, manufacture precast construction elements	JV	Hungary	1990
HUNGIPSOS Ipsos (France) w/ Hungexpo	France	marketing & research	JV 50/50		1990
ALFA-LAVAL AGRARIAN Alfa-Laval Agri International (Sweden) w/ Taurina Agricultural Development enterprise	Sweden	to produce agricultural machinery used in the breeding of cattle, pigs, & sheep	JV 75% Sweden		
AB-GENERALI BUDAPEST Assicurazioni (Italy) w/ Allami Biztosito	Italy	provide legal aid insurance coverage	JV		1989
LOTTO UNION Austrian Lottery (Austria) w/ Hungarian Savings Bank/ OTP	Austria	to promote & manage lotteries	JV	Hungary	1990
Gerstenberger (Austria) w/ Azur enterprise	Austria	to manage a pharmacy network throughout Hungary	negotiating JV 50/50	Hungary	
Gewista (Austria) w/ Mahir	Austria	advertising	negotiating JV		

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
GYOR TEXTILES Getzner (Austria) w/ Rabatex Textile Industry; Dunabank	Austria	manufacture cotton products (clothing, bed linen	JV	W. Europe Japan	1990
MINOLTA HUNGARY OFFICE SYSTEMS Minolta Austria (Austria), subsidiary of Minolta (Japan) w/ a private investor	Japan	to market & service business & office equipment	JV 99% Japan		1990
OBB/Osterreichische Bundesbahnen (Austria) w/ MAV Railway	Austria	to set up a high-speed railway	negotiating	Hungary	
VERTIKAL MISCHEK CONSTRUCTION Mischek Fertigbau (Austria) w/ Vertikal Construction Cooperative	Austria	construction	JV 51% Austria		1990
OMV (Austria) w/ AFOR	Austria	to build & manage filling & service stations	coop	Hungary	1990
SHOPPING CENTER SOPRON Osterreichische Landerbank (Austria) w/ Dosza Cooperative Farm	Austria	to build a shopping center	JV 89% Austria	Hungary	1990
DANUBE AIR Viennir Polsterer Jets (Austria) w/ Ibusz; Aviation Service	Austria	to establish an airline	JV 27% Austria	Hungary	1990
VIDEOTON-SEL TELECOMMUNICATIONS SEL/Standard Electric Lorenz (W. Germany), subsidiary of Alcatel (France)	France	digital telephone exchanges	JV		1990

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
LEONELL TEXTIL WIEN Schroll Heimtextilien; Interag Software Services (Austria) w/ Rabatex of Gyor	Austria	to market textiles	JV 55% Austria	Austria Switzerland	1990
Phonix-Tabor Reisen (Austria) w/ Mozaik AFESZ	Austria	travel agency	JV 50/50	Hungary	1990
Springer-Verlag (W. Germany); Ferenczy-Verlag (Switzerland) w/ Hungarian Credit Bank; private Hungarian investor	W. Germany Switzerland	private television station	JV 40% W. Germ. 10% Swiss	Hungary	1990
AXEL-SPRINGER BUDAPEST Springer-Verlag (W. Germany); Ferenczy-Verlag (Switzerland) w/ Reform newspaper; Hungarian Credit Bank	W. Germany	publishing	JV		1990
Kraftfutter-Meyer (W. Germany) w/ Hungarian Second Hand Shops; 2 private Hungarian investors	W. Germany	to sell animal food & veterinary products	JV 24.5% W. Germ.	Hungary	1990
MOWETA Werla (W. Germany); Montex (Austria) w/ Building enterprise of the Gyor City Council	W. Germany Austria	to package fittings	JV 25% W. Germ. 25% Austria		1989
Hackemack Lufttechnische Einrichtungen (W. Germany) w/ Alfa cooperatives Kisbeer	W. Germany	manufacture air-technical systems (exhaust pumps, pipes & fittings	JV	Western Countries	1990
Trebag Treuhand und Beratung (W. Germany)	W. Germany	marketing & consulting	JV 75% W. Germ.		1990

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
ANGOL CERNA Tootal Group (UK) w/ Borker	UK	market textiles	JV 50/50	Budapest	start up capital of F12 mn
ALKO SKALA FARM MACHINE MANUFACTURING & TRADING Alko-Kober (Austria); Alko-Kober (W. Germ.)	Austria W. Germany	sales of gardening equipment	JV	Hungary	founded 1989; expects a turnover of Sch30 mn
ANITA-HUNGARIA Anita Spezialmieder-fabrik Dr. Helbig (Austria) w/Hungarian foundation Againt Cancer, for Man, for Tomorrow	Austria	manufacture and retail medical prosthetic appliances	JV 30% Austria		start up capital F10 mn part of output will be exported
ARAL HUNGARIA Aral (Austria) w/ FGV/Fovarosi Garazsipari Vallalat	Austria	manage seven petrol station	JV 50/50	Hungary	foundation capital of Dm4.5 mn plan to build 30-40 new gas stations
AUSTRIA TELECOMMUNICATIONS Schrack and Kapsch (Austria) w/ Budapest Telecomm. BHG	Austria	handle export and import telephone equipment including digital	JV	Hungary	
AUTRACO-GLOBUS Autraco Holding (Austria) w/ Pannon-Globus Trade Services	Austria	provide services in property valuation bookkeeping, accounting, & preparing tax returns	JV 20% Austria		foundation capital of F1 mn
AUSTROPA VERKEHRSBURO INTERNATIONAL Osterreichische Verkehrsburo (Austria) w/ Ibusz	Austria	travel agency	JV 50/50	Hungary	

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
BABOLNA-PHARMA Banque Indosuez (France) w/ Agrarkomplex	France	produce and market veterinary vaccines drugs, vitamins, & biological products	JV 30% France	Hungary	foundation capital of F180 mn
BABOLNA-SHAVER BEEF CATTLE BREEDING Shaver (Canada) w/ Babolna Farming Complex & Kaposfarm	Canada	breed cattle	JV 30% Canada		foundation capital of C$1 mn
BHG-TELECOM Austria Telecomm./AT Northern Telecom w/ BHG Telecomm.	Austria Canada	produce & market digital telephone	JV		foundation capital of F3 bn
BP OIL HUNGARY British Petroleum (UK) w/ Mineralimpex and Mineralkontor	UK	plans to fully acquire the 11 gas stations operating under BP	JV 75% UK		foundation capital of F100 mn; agreement concluded with AFOR in 1972
BUCHMANN-MOM Buchmann Optical Holding (Belgium) w/ Hungarian Optical Works & MOM Mechanical & Optical	Belgium	manufacture & distribute eyeglass lenses	JV 50/50		foundation capital of F226 mn expects turnover of F400 mn
BUDATECH AIRCONDITIONING Karl Ewald Theiss (Germany) w/ private entrepreneurs	Germany	distribute, fit & install air-conditioning equipment	JV 35% Germany		foundation capital of F3 mn; turnover expected to reach F70-80mn
COATS HUNGARY Coats Viyella (UK) w/ Masterfil	UK	produce & market yarn	JV 60% UK		representing an investment of $6.2 mn
CALIDA UNGARN Calida (Switzerland) w/ Mokot	Switzerland	produce undergarments	JV 60% Switz.		replaces jobbing contracts between two partners over past five years

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
BUTORKER-IKEA Ikea (Sweden)	Sweden	wood, pulp & paper	JV		daily turnover of F8 mn since March 1990
COHFIN C. de Benedetti (Italy) w/ Petofi Printing House	Italy	specializes in printing packaging materials	JV 50%		total equity valued at F978 mn with a F300 mn capital increase scheduled to take place over next few years
CONSTRUCTION CHEMISTRY SKW Trostberg (W. Germ.) Mineralkontor (Austria)	Austria W. Germany	produce melment, a synthetic resin used to strengthen concrete	JV 35% W. Germany 5% Austria		start up capital of F25.5 mn plan to produce 500 t of melment to be retailed at F50 per kilogram
CONSULTATIO AUSTRO-HUNGARIAN ECONOMIC AND TAX CONSULTANCY Consultatio (Austria)	Austria	established to carry out asset valuation projects & provide tax consultancy	JV		Founded 1989, reported annual turnover of Sch2.3 mn for 1989 & expects to reach Sch5 mn; opened five offices so far
HUNGARIAN RADIO TELEPHONE US West w/ Hungarian Postal Officeu	US	develop a cellular radio system	JV		Founded 1989, encountering difficulties starting operations
CONTELL HUNGARIA Contell Cellular (US)	US	establish a radio telephone network	JV		experiencing problems with the Ministry of Transport & Communications, does not meet current legal requirements
GUNTNER-TATA Hans-Guntner (W. Germany) w/ Tata Cooling & Engineering Cooperative	W. Germany	manufacture air conditioners, air coolers & condensers	JV 50/50		1990
ABB SZERVIZ ABB Service (Austria) w/ Asea Brown Boveri	Austria	service engines, generators, and pumps	JV 66% Austria		annual turnover expected F100 mn
AEG-UNION AEG W. Germany w/ Electrical Installation Enterprise	W. Germany	produce medium-voltage switching equipment	JV 49.3% W. Germ.	Hungary	start up capital of Dm10 mn; turnover of F600-800 mn in first year.

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
CTE ROAD BUILDING Bitumen u. Baustof-findustrie Baumler (Austria) w/ Gyor Road Directorate	Austria	build & maintain roads, bridges, & railways	JV 40% Austria		foundation capital of F1 mn
EDUSCHO BUDAPEST Eduscho (Austria) w/ Alfa Mozaik Afesz Cooperative	Austria	package and market coffee	JV 50/50		foundation capital of F80 mn, will package 1,800-2,000 t of of coffee with machines provided by Eduscho (W. Germany)
ELECTRIC POWER SYSTEM AND PHOTOVOLTAIC INTERNATIONAL Furukava Electric and C. Itoh (Japan); International Display Material (US) w/ Hungarian Electrical Industry Research Institute and Industrial Development Bank	Japan US	develops, manufactures & markets inverters, rectifiers, & backup power units	JV		acquired in 1990
ELIN ELEKTRONIK BUDAPEST Elin Energieanwendung w/ Autopalya Igazgatosaq	Austria	carry out engineering projects & market, install & service emergency road telephones & radio transmission systems used in public transport & trains	JV 50/50		
ELIN-METRO Elin Hausgerate Gesellschaft w/ Skala Coop	Austria	opened an "Elin shop" in Skala Metro dept. store	JV 50% Austria	Hungary	plans to open another 70 shops, holding talks to increase stake to 51%
ENTREE Donosphere (US) w/ Szki & Szuz	US	establish a retail network for personal computers	JV 50/50	Hungary	$1 mn in start up cost; holding talks on acquisition of two enterprises, pending State Property Agency approval

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
FURUKAWA ELECTRIC INSTITUTE OF TECHNOLOGY Furukawa Electric and C. Itoh (Japan); International Display Material (US) w/ Hungarian Electrical Industry Research Institute and Industrial Development Bank	Japan	develop & manufacturer polymer composite insulators	JV 80%	Local	foundation capital of $1 mn
ERICSSON TECHNIKA Ericsson (Sweden) w/ Muszertechnika	Sweden	needed for preparatory work for development of Hungarian telephone	JV		Founded in 1990, Ericsson contributes F250 mn, remainder raised from Swedish bank credits; delivering equipment for lines to be installed 1991
ESSILOR-SWAROVSKI Swarovsi Finanz (Austria) and Essilor International France	Austria France	market optical goods, including eyeglasses, contact lenses, & optician's autorefractometers	JV	Hungary	also marketing operations in East Germany
ESSO OIL FILLING STATIONS Esso Austria & Mineralkontor w/ Afor, Mineralimpex, & Agentura	Austria	set up a network of of filling stations	JV 50% Austria	Hungary	start up capital of F250 mn plan to build over 50 filling stations
EURO-COOP Deutsche Handelskammer (Austria) w/ several private consultants	Austria	promote cooperation between small & medium sized West German and Hungarian enterprises	JV 50% Austria		foundation capital of F1 mn
EUROMEDIA PRESS Heinrich Bauer Verlag w/ Intermedia	Germany	publish youth & children's magazines	JV 50% Germany		foundation capital of F1.4 mn; negotiating over the acquisition of the Somogy Printing Industrial enterprise

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
EUROPEAN CONSULTING AGENCY FOR EAST-WEST COOPERATION Komma (W. Germany) w/ MTESZ	W. Germany	carry out market research & feasibility studies for small & medium-size firms	JV 50% W. Germ.	Hungary	foundation capital of F6 mn expect annual turnover of F20 mn in first year
GANZ ANSALDO Ansaldo (Italy) w/ Ganz Electric Works	Italy	manufacture & market electrical equipment & components for railway rolling stock	JV 51% Italy		foundation capital of F2 bn operations start in 1991
GANZ-HUNSLET Hunslet-Holdings w/ Hungarian State Railways	UK	electrical multiple rolling stock units	JV		set up in 1989
GANZ METER FACTORY Schlumberger Industries (France) w/ Ganz Electricity Meter	France	manufacture electrical equipment, incl. one & three-phase electricity meters, switch clocks & electricial energy-saving devices	JV 75% France		foundation capital F2 mn, purchase reorganized Ganz Electricity Meter on Oct. 1, 1989 & capital increased to $8 mn
GENERAL MOTORS HUNGARY CAR TRADING General Motors (US); Opel (Germany)	US Germany	plan to sell 4,000 Opel passenger cars, 17-18,000 in 1992, 15,000 assembled in Hungary	JV		founded in 1990, signed 10 dealership contracts
GERLING KONZERN UNGARN Gerling (Austria)	Austria	providing information services in risk management & insurance to joint ventures	JV	Hungary	set up early 1990
GFV-OTIS Freissler-Otis Gep-es-Felvonos-zerelo V	Austria	manufacture elevators	JV 51% Austria	Hungary	expects annual turnover of Sch108 mn
GLOBUS World Bank & American International Group w/ Worker's Trade Union	US	establish a joint insurance ventures	JV 60-65% US		foundation capital of F1 bn

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
GLORITEX Gloriette (Austria) w/ Foltex	Austria	manufacture shirts	JV 60% Austria		foundation capital of Sch4.16 mn initial turnover expected to reach Sch50-70 mn
GOETZ BUDAPEST Goetz (W. Germany) w/ private Hungarian investor	W. Germany	manufacture & market dolls	JV 92% W. Germ.	Hungary	foundation capital of Dm1.4 mn; opened retail store in 1990
GYOR BEVERAGE FACTORY Mondial Bus. Int'l. of Lichtenstein & Landesmann Trans Trade (Austria) w/ Spirits Factory of Gyor, Monimpex, Kisalfold Volan, & Duna-Lajta	Austria	produce soft drinks	JV		foundation capital of F216 mn
INTERNATIONAL WORLD LINE SPN Verlag w/ two Hungarian enterprises	W. Germany	publish pop music magazines Rocker & Disco & Hungarian version of the adult magazines Popo & St. Pauli Nachrichten	JV 50% W. Germ.		foundation capital of F4 mn; considering marketing video cassettes & opening casinos
INTEROFFICE ED. AST & CO. w/ Electrical Installation enterprises	Austria	construction of office building	JV 50/50	Hungary	foundation capital of F50 mn, construction completed in May 1991, 2,000 sq m office rented to foreign companies
INTERSILO Karl Schmidt (Germany) w/ Chemolimpex & Chemoldanzas	Germany	package, store & transport bulk freight	JV 50% Germany		foundation capital of F12 mn plan a turnover of Dm400,000 for 1990
IZOFERR Pa-ha-ge (W. Germany); Tosin (Austria) w/ Dunaferr Danube Works & Petofi Agricultural Cooperative	W. Germany Austria	manufacture fire-proof materials	JV 25%	W. Germany Austria	start up capital of F27 mn turnover expected to reach F80 mn in 1991

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
HENKEL-TAURUS Henkel Austria w/ Taurus	Austria	produce & market glues	JV 51% Austria		will provide technology, knowhow & equipment
HIRSCHMANN-BHG KOMMUNIKATION-STECHNIK Richard Hirschmann w/ Budapest Telecommunications enterprise/BHG	Germany	produce radio & tv receivers, satellite receivers & car antennae	JV		upgrading of a cooperation deal dated back to 1969
HOLIDAY TOURS Johannes Eggelaar (W. Germany) w/ four Hungarian investors	W. Germany	set up a joint travel agency	JV 30% W. Germ.		foundation capital of F1.2 mn
HORSEMEN AND HUNTERS Gorex (Austria) w/ Tata State Farm & Pegazus	Austria	organize riding, hunting & other leisure activities for tourists	JV 30% Austria		start up capital F27 mn; expect annual turnover of F20 mn
HUENERMANN & PARTNER Huenermann (Germany) w/ Borsod Chemical Works/BVK & two private investors	W. Germany	establish a joint consulting venture	JV 50% W. Germ.		start up capital of F1 mn
HUNGARHOTELS-OBEROI Iberiu Hotels (India) w/ Hungary's local authorities	India	palace will be converted into a five star hotel	JV 40% India		foundation capital of F30 mn; an estimated total investment of $60 mn
HUNGARIAN MOTOR RENT AND TRAVEL SERVICES Alpine Motor Homes (Switzerland) w/ Hungarian Air Traffic & Airport Administration Ferihegy	Switzerland	rent motor homes	JV 50% Switz.		foundation capital of F1 mn motor homes will be available at the Ferihegy 1 Airport, will be rented for $360 weekly

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
HUNGARIAN RADIO TELEPHONE COMPANY Ericsson (Sweden); US West (US) w/ Hungarian Postal	Sweden US	supply a network for a mobile telephone system	JV		$2 mn financed by the World Bank; AXE mobile telephone switch radio base stations & 200 mobile telephones, system expected to start operating in December 1990
HUNGARIAN TERRANOVA BUILDERS Terranova Industrie (Austria) w/ Pilisvorosvar Mines Office	Austria	produce & market plasters	JV 50/50		foundation capital of F700 mn
HUNGARINOX Ugine (France) w/ Metalimpex & Ferroglobus	France	manufacture steel plates	JV		foundation capital of F600 mn deal expected to be finalized in 1991
HUNGAROPRESS NESWPAPER DISTRIBUTORS Springer-Verlag (Germany) w/ Hungarian Post Office & Vinton	Germany	sell West European Newspaper distributors	JV 50% Germany		foundation capital of F1.5 mn, considering selling Hungarian newspapers at a later stage; publishing JV in operation since 1989
HUNGARO SEGHERS Seghers Hybrid (Belgium) w/ Pig-Breeding Meat-Processing Enterprise	Belgium	introduce hybrid pig breeding	JV 50/50	Hungary	foundation capital of F160 mn
HUNGARO-WEISS Gebruder Weiss (Austria) w/ Depo	Austria	establish a joint storage & shipping operation	JV 60% Austria		foundation capital of F30 mn
HUNITAL Eastital (Italy) w/ Technika & System Consulting	Italy	extend the M7 highway that would connect Budapest with Trieste	JV majority Italy		foundation capital of F1 bn, credits from Italian & European Development Banks
KEMPINSKI BUDAPEST Kempinski (W. Germ.)	W. Germany	build & manage a five-star hotel	JV		Dm100-110 mn hotel expected in second half of 1992

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
HUSS-MACHINE MANUFACTURING Dr. Norbert Kless (W. Germany) w/ Huss Maschinenfabrik	W. Germany	produce heavy steel structures	JV 20% W. Germ.		start up capital of F14 mn, F300 mn expected 1990 turnover
JACOBS KAFFEE BUDAPEST Jacobs Suchard (Switz); Philip Morris	Switzerland	produce & market coffee & chocolate products	JV 50/50		foundation capital of Sfr3 mn
JOENT PHB Stahlgub (W. Germ.) w/ Apritogepgyar	W. Germany	modernize the enterprise's foundry & produce alloyed castings	JV 50/50	W. Germany	foundation of F50 mn, plan to invest over F100 mn in project W. German firm will provide technology & equipment
JUPITER Vog (Austria) w/ Csepreg State Model Farm	Austria	produce & market pet food	JV 95.2% Austria		foundation capital of F280 mn, produce 25 mn packs of cat & dog food per year, 5 mn will be marketed locally
DELTA-GEBETSROITHER Gebetsroither (Austria) w/ Delta	Austria	rent mobile homes	JV 75% Austria		foundation capital of F6 mn, Gebetsroither contributed mobile homes; Delta provided the premises & workforce & will be responsible for leasing vehicles; planned annual turnover for 1991 is F10-12 mn
DETE-SKALA Dete-Noricas (Germany) w/ Auras Car Spare Factory	Germany	manufacture packaging car repair & surface treatment	JV 25% Germany		foundation capital of F55 mn; plan annual turnover of F200-220 mn in 1991; except turnover of F500 mn in 1992
KAPOS SUGAR Agrana (Austria) w/ Kaposvar Sugar Factory	Austria	produce sugar	JV 31% Austria		foundation capital of F2.7 bn, plant to double present daily output of 3,000 t of sugar by 1994; Agrana set up two JVs, one to produce starch & dextrose and one to produce sugar from beets
KUWAIT-AFOR Kuwait Petroleum International (UK) w/ AFOR	UK	set up & manage a network of petrol stations	JV 50% UK		start up capital of F40 mn, will modernize 17 filling stations that will operate under the name of Q8; negotiations started in 1990.

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
KERLANE Saint-Gobain Pont-a-Mousson (France) w/ Motim	France	produce ceramic fibers mixed with aluminum silicon, & zircon for use in heat insulation in the automotive, steel, and ceramics industries	JV 50% France	Hungary others	plant expected to start operation at end of 1991
FIBERGLASS Nitto Boseki Paramount Glass Toyo Menka (Japan) w/ Skala Coop & Uvegipari Industrial Glass Works	Japan	produce Therwoolin insulating material	JV 26% (Japan)	Hungary West	reported turnover of F7.7 from sales for last quarter of 1989, output for 4,629 t of Therwoolin, 900 t will be marketed in the West
FIGYELO PUBLISHING Euroexpansion (France) w/ Hungarian Newspaper Publishing	France	modernize the editing facilities & improve Figyelo's information network	JV 45% France		foundation capital of F16 mn
FIRST AMERICAN-HUNGARIAN INSURANCE American Life Ins. (US) w/ Hungarian Savings Cooperative Bank; Alliance of Iron, Steel, Metal & Electrical	US	be active in all insurance sectors but specialize in health and old-age pension	JV 52% US		foundation capital of F1 bn
FJORD-FORSTE Forste (Finland) w/ Fjord Cooperative & Agroker	Finland	manufacture refrigerators	JV 34% Finland		start up capital of F30 mn
LINE UP BUDAPEST Line Up Aviation (UK) w/ Pestvideki Engineering Factory	UK	carry out structural maintenance of ageing widebodied jets	JV 85.5% UK		
MASTER PIECE Eisenberg (Israel) w/ Masterfil Enterprise	Israel	yarn spinning mill	JV		

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
MD-DRUCK PRINTING SES Klementbau (W. Germ.) w/ private investors	W. Germany	to print periodicals & newspapers	JV 49% W. Germ.		foundation capital of F479 mn
MOBIL OIL-AFOR Mobil Oil Austria w/ Mineralimpex & Afor	Austria	to operate Mobil service stations & to market the oil & gasoline products	JV 50%	Hungary	foundation capital was set up at F90 mn initially, but raised to F650 mn at a later date.
NEW Ilva Deutschland (Italy) w/ Iron and Steel Works of Salgotarjan	Italy	to produce cold-rolled alloys, steel plates & straps	JV		signed letter of intent
NOVO-PUB Allied Breweries (UK)	UK	to build & manage English style pubs	JV	Hungary	opened John Bull Pub at a cost of F30 mn
OBUDA DEVELOPMENT Baltic, JPC, & Kieler Architects w/ Ganz Danubius	Denmark	to develop the shipyard area of Obuda Island into a tourist site	JV		plan to invest $800 mn in the project
PACKARD ELECTRIC GM/General Motors w/ Villszov Cooperative	Germany	to build a plant for the manufacture of of electrical cables	JV 60% Germany		has foundation capital of F1 bn, plant expected to be completed in 1991
PALETTA Chematec (W. Germany) w/ Gyor-Sopron County Chimney Sweepers	W. Germany	to manufacture pallets & wooden boxes	JV 47% W. Germ.		start up capital of F4.82 mn, 1990 turnover expected to reach F40 mn
PANNONIA-FUSSION RESTAURANTS Fussion (US) w/ Pannonia Hotel and Catering	US	to build & manage fast-food restaurants	JV 50% US		foundation capital of F10 mn, venture will franchise "Burger King"; total investment by US firm will reach $5 mn.
PANNON-WOLF Wolf Systembau (Austria) w/ Somogygep Construction Enterprise	Austria	to build prefabricated private homes	JV		foundation capital of F570 mn, with Austrian company providing the equipment, knowhow, and heat & sound insulation materials; F400-450 mn turnover expected annually

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
PHARMAVIT MEDICINE AND FOOD Genericon (Austria)	Austria	to produce & market pharmaceuticals as well as food products	JV		foundation capital raised from F66.5 mn to F105 mn; acquired from HCH Pharma
PLAKET Tonjes (W. Germany) w/ Gyor Car Repair Enterprise; Energy Management Institute	W. Germany	manufacture reflective automotive license plates	JV 35% W. Germ.		capital foundation of F62 mn, Tonjes will provide technology and knowhow; also plan to produce street and traffic signs
POLARKEM Swiss investors w/ Kemobile	Switzerland	to produce & market household chemicals	JV 50% Switz.		foundation capital of F33 mn
PRIMATOURS Aviatour (Italy)	Italy	travel agency; business mediation & investment consulting for Western and Hungarian firms	JV		through existing travel agency joint venture and in cooperation with the Hungarian Chamber of Commerce
RAICHLE HUNGARY Raichle Sportschuh (Switzerland) w/ Alfoldi Shoe Factory	Switzerland	for the manufacture of of hiking boots	JV 50%		foundation capital of Sfr2.5 mn considering the production of the sportswear
REVAI OBUDA PRINTING HOUSE Watmoughs (UK) w/ Revai Printing House and Nyombader	UK	print brochures & color magazines	JV 57% UK		start up capital of F540 mn
RADEX HUNGARIA Radex-Heraklith Industriebeteiligung (Austria) w/ Magnezitipari Muvek	Austria	produce & market magnesite	JV 60% Austria		signed letter of intent
REXROTH-DANUVIA DRIVE ENGINEERING Mannesmann Rexroth (W. Germany) w/ Danuvia	W. Germany	manufacture & market hydraulic control units	JV 80% W. Germ.		planned 1990 investment of Dm1; expected output of DM7.5 mn in 1991

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
RICHER-SABARIA CIPO INTERNATIONAL F. Richter (Austria) w/ Sabaria Shoe Mfg.	Austria	to manufacture shoes & boots for children and babies	JV 50% Austria		start up capital of Sch15 mn, Austrian partner will supply technology and knowhow and working capital; plant will produce 4,000 of shoes per day; turnover for 1991 expected to be Sch100 mn
RIES INTERNATIONAL Ries (W. Germany) w/ Zalaform	W. Germany	to manufacture & market zippers	JV 50% W. Germ.		foundation capital of F120 mn
ZALAFORM Neue Mode Pannonia (W. Germany)	W. Germany	to manufacture & market confection industry products, plastic, metal & leather products, furniture & agricultural products	JV		set up in 1982, obtained import export rights in 1990 & has an annual turnover of F600 mn
ROSONI Kuljetusliike Niinivirta (Finland) w/ Rosavtospet-soborudovanie	Finland	to provide truck freight transport services	JV 51% Finland		foundation capital of R300,000
RUF ELECTRONIC Ruf (W. Germany)	W. Germany	for the manufacture of electronic components incl. potentiometers	JV 91.88% W. Germany		start up capital of F48 mn, will operate as an off-shore operation
SAMONITE HUNGARIA Samonite (Belgium) w/ Palota Leather Factory	Belgium	to manufacture handbags & suitcases	JV 60% Belgium		foundation capital of F67 mn
SAUBERMACHER ENVIRONMENTAL PROTECTION SERVICES AND STUDY Saubermacher (Austria) w/ Mineralimpex	Austria	to provide environmental protection services	JV 50% Austria		start up capital of F1 mn
SCHINDLER GANZ LIFT Schindler (Switzerland)	Switzerland	to manufacture, maintain & repair elevators as well as escalators	JV 75% Switz.		foundation capital of F340 mn expects to make F14 mn of profit by yearend

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
SCHOLLER-BUDATEJ Scholler (Germany) w/ Budatej	Germany	to process milk & Scholler products, mainly ice cream	JV 51% Germany		start up capital of Dm21.5 mn; agreement to invest all profits into the venture for the next five years
SCHRACK TELECOM HUNGARY Schrack Telecon (Austria) w/ Datacoop & Comex	Austria	manufacture, distribute & service digital telephone exchanges, telephones & fax machines	JV 50% Austria		foundation capital of F10 mn
SCANDIC FUR APS Frederiksberg	Denmark	to manufacture & market fur coats	JV 40% Denmark		
SHELL-INTERAG Shell International Petroleum (UK)	UK	importing oil	JV		import crude oil & refine it locally to maintain competitive prices
SIMAC-KORGEP Simac (Italy) w/ Elgep	Italy	manufacture machinery	JV		
SONN-AUTO Max Sonnleitner (Austria) w/ private investors	Austria	retail Renault passenger cars	JV 50% Austria		foundation capital of F10 mn, plan to open a showroom in Tatabaya and build a servicing center
SZATMAR-RAISIO PROTEIN Raisio (Finland)	Finland	production of wheat, starch, and gluten	JV		plans to build a F1 bn factory in Matexzalka; construction scheduled to be completed in 1992
SZIVARVANY TRADE Leder Schuh (Austria)	Austria	market shoes and related accessories	JV 50% Austria		foundation cpaital of F500 mn, plans to convert some of the 49 Hungarian haberdashery outlets into shoe shops
TBT INTERNATIONAL Maruichi Shoji (Japan) w/ Boscoop Agrarian Industrial Development Agency & Tesco	Japan	supply entertainment electronics, computers food-processing equipment in exchange for fruit, breeding stock & light industry products	JV 49% Japan		start up capitalof F6 mn
TECHNIMONT BUDAPEST Technimont (Italy) w/ Vegyterv Olajterv, Agrober & Technoimpex	Italy	chemical, petroleum, packaging, pharmaceutical, & agricultural industries	JV 75% Italy		foundation capital of F30 mn

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
TELECTRON Software Technologies Trading (Israel) w/ State Construction Enterprise, Rakamaz Wood & Metal Industry Cooperative	Israel	manufacture & market computer, communications, control & alarm systems	JV 74% Israel		foundation capital of F9 mn
TRAFFIC Josef Schagerl (Austria) w/ Szechenyi Istvan Transport & Tele-communications College	Austria	to promote sales of software	JV 40% Austria		foundation capital of F1 mn
TRANSBETON Holderbank (Switzerland) w/ Civil Engineering Enterprise & the Public Buildings Construction	Switzerland	production of concrete 42% Switzerland	JV		start up capital F500 mn, concluded a similar agreement with the Gyor-Beton Enterprise in which it holds a 50% stake
TOTAL HUNGARIA Total (France) w/ Afor & Mineralimpex	France	operate Total filling stations	JV 50% France		foundation capital of F34.6 mn; plan to manage 20 renovated & 20 new petroleum stations; a letter of intent was signed in early 1990
TURUL Wagon-lits (France) w/ AP-RO, Tatabanya Oldtimer Flying Club, & MAP-KAR	France	offer flight instruction for small planes & hand-gliders, tours, & aircraft repair services	JV		foundation capital of F2.7 mn
TRANSATLANTIC MEDIA ASSOCIATED Citadel (US) w/ Hungarian Advertising Enterprise & 7 private investors	US	make feature films, documentaries & commercials	JV 41% US		foundation capitall of F7.2 mn
TRELLEBORG-TAURUS Trelleborg (Sweden)	Sweden		JV		finalized in July 1989, foundation capital of F193.6 mn, expected turnover of F1 bn for 1990

Hungary--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
TUV HANNOVER-BUDAPEST TUV Hannover (Germany) w/ Transinnov, Union of Transport Inspectorate & private investors	Germany	to provide quality insurance & energy saving technology	JV 50% Germany		foundation capital of F2 mn
VECO Elin Union (Austria) w/ Electrical Equipment	Austria	to produce medium voltage electrical equipment	JV 50% Austria		foundation capital of F60 mn, expect annual turnover of F105 mn
VETERINARIUS Waldner, Fuhrmann & & Handels Gesellschaft (Austria) w/ 6 private investors	Austria	to manage a veterinary hospital	JV 50% Austria		foundation capital of F4 mn
VT SOFT KRS EDV & VTD Computer (W. Germany) w/ Videoton)	W. Germany	develop, manufacture, & market computer software	JV 29% W. Germ.		start up capital of F26 mn; 1991 turnover expected to be F300 mn; accord for JV signed in 1990
WESTEL US West (US) w/ Hungarian Radio Telephone	US	operation of a cellular telephone network	JV		will initially serve 3,000 subscribers, expected to serve 6,000 subscribers
YOUNG & RUBICAM HUNGARIAN Young & Rubican (US) International Economic Relations	US		JV		

Poland

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Asea Brown Boveri (ABB) (Sweden-Switzerland) w/ Zemech	Sweden-Switzerland	worldwide manufacturing network	takeover majority control of Zemech		Swedish-Swiss power engineering group and a Polish turbine & generator maker
Siemens (Austria)	Austria	modernize Polish telephone system	coop		
CHASE-POLISH AMERICAN CABLE TELEVISION Chase Enterprises (US)	US	installation of cable television connectors	JV		
ALCATEL CIT POLSKA Alcatel Cit of France w/Telcom-Teletra (35%); Elektrim (5%); Eltra (5%)	France	manufacture digital switches	JV 55% France		produce telephone exchanges under French licence
Seimens (W. Germany)	W. Germany	manufacture digital switches	negotiating		
Alcatel Sesa (Spain)	Spain	manufacture digital switches	negotiating		
Ericsson (Sweden) w/ ZWUT	Sweden	manufacture electronic telephone exchanges	JV		negotiating (April, 1990)
L'Expansion (France) w/ Gazeta Bankowa	France	newspaper -Polish Financial Weekly	JV 51% France		
NorAm Capital MGT (Canada) w/ Polinia Foundation; International Business Service & Management School	Canada	business consulting & management training school	JV		
Hertic (W. German)	W. Germany	retail outlet for consumer goods			
Gold Spinners International (US) w/ Boleslaw Mining & Metal Works	US	process industrial slag heaps	JV 50/50		US provide technology, equipment & financing
Hyatt International (US) w/Holding-Wars	US	build a luxury 600-bed hotel in Warsaw	JV 51% US		

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Regon International (UK) w/Knurow Coal Mine	UK	for recovery of coal from slag heaps	letter of intent JV		
Fiat (Italy); International Finance Corp./IFC (Italy) w/FSM and FSO Automotive Works	Italy	automobile production	negotiating JV	W. Europe	preliminary agreement to restructure, modernize, and expand FSM and FSO; Fiat offered to invest $2 bn over 15 years; Fiat would acquire stake in FSM, partial acquisition of FSO is being negotiated; Polish Govt. and IFC would each provide one-third of the investment needed
STABAG-HUNGARIA Stabag Bau (Austria), W. German subsidiary	W. Germany	bid for construction of Budapest-Vienna highway	JV		
Siemens (W. German) w/ Kabelwerken Schwerin & Meissen	W. Germany	production of power transmission cables	plans JV	Poland & other	
Daimler-Benz (W. German) w/ VEB IFA Kombinant Nutzkraft-Wagen Ludwingsfelde	W. Germany	production of 14+ trucks	letter of intent JV		
Asahi Glass (Japan)	Japan	glass for building materials			
Daihatsu (Japan) w/FSO	Japan	automobile production	negotiating JV		talks terminated due to competition from Fiat
Philips w/ Polorlamp			negotiating JV		
Agri-Consulting Inc. (US)	US				currently has several plants
Feed Central Soya Inc. (US)	US				
LIM Marriott International Hotel Co. (US); Ilbau Construction Co. (Austria) w/ LOT Polish Airlines	US Austria	construction & operation of a 1,000 bed hotel, conference center & gambling casino in Warsaw	JV 24% US 24% Austria		founded 1987

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
TECHNODIAMANT FLT Metaux (Belgium) w/ Technocabel CIE IMPEXMETAL	Belgium	manufacture & sale of cutting tools incorporating natural & synthetic diamonds	JV		founded 1987
INTERKOTLIN VOS Produktenhandel (Netherlands) w/ Agropol, RSP Kotlin	Netherlands	processing, drying & packaging of fruits & vegetables for export	JV		founded 1987
CEMENT TECHNOLOGY POLAND Zement and Fasertechnik (W. Germany) w/ Budimex; Izolacja-Clicice; Izolacja-Katowice	W. Germany	manufacture of cement & wood-chip panels & related elements	JV 49% W. Germ.		founded 1987
DIGITAL LABORATORIES INTERNATIONAL Active Technologies; Anglodal Ltd. (UK) w/ LABCOMP; UNIMOR; UNITRAELTRA	UK	develop & manufacture products in field of computers, robotics & opto-electronics	JV		founded 1987
ITHK Industrie Technik Walzwerksanlagen GmbH (W. Germany) w/ Huta Kosciusko	W. Germany	processing of metallurgical waste, services & consulting for the steel industry	JV		founded 1987
POLNISSKOSHER Kearnot International Handel-und Wirtschafts-Industrie-Anlagen AG (Liechtenstein) w/ POLMOS	Liechtenstein	production of kosher alcoholic beverages & other kosher food products	JV		founded 1987
ATEMPOL ATEM-Gesellschaft fuer Automatisierungstechnik (W. Germany) w/ CENTROZAP Hutmaszprojekt-Hapelko	W. Germany	development of programs for NC & CNC machine tools	JV		founded 1987

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
EURO-KONFEX Euro-Paletten Import GmbH (W. Germany) w/ CPOLEM	W. Germany	wood processing	JV		founded 1987
HANNA-BARBERA POLAND Hanna Barbera Productions; Curtis International (US) w/ PP Studio Bielsko-Biala; PP Popular Film Studio Wroclas	US	produce animated films, manage sale of copyright for Hanna Barbera VCR films in Poland & other CMEA countries	JV	Poland CMEA	founded 1987
FURNEL INTERNATIONAL International Computers Ltd. (UK) w/ PAGED; METRONEX; Computer enterprise MERO-ELZAB; TIMBER enterprise MARCHLEWSKIEGO; Enterprise Great Proletariat; Krakow furniture enterprise; Jasle particle board enterprise; District Board for State Forests	UK	development & manufacture of furniture, computers, other electronic products	JV		founded 1987
SEMECO Svenska Corab A.B. (Sweden) SERMOTOR; METROL	Sweden	produce packaging for video cassettes, compact disks, baby sanitary products, adhesive labels, tourist products & household appliances	JV		founded 1987
INTERPRINT RMC Textile Group (Denmark) DZIANILANA; TEXTILIMPEX	Denmark	provide technical services for embossed printing on textiles	JV		founded 1987
Trusthouse Forte (UK) w/ Orbis (Polish state tourist agency)	UK	renovation & reopening of The Bristol Hotel	JV majority UK	Poland	cost of project: $35m
BRAAS-POL Braas & Co. (W. Germ.)	W. Germany	build a roof tile production plant	JV		signed a contract to establish a JV (July, 1990)

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Amoco (US)	US	study geological & geophysical data in Poland	JV	Poland	
Quelle (W. Germany) w/ Spolem	W. Germany	retail of Quelle's products (consumer electronics, textiles & food products)	coop	Poland	
ANT Nachrichtentechnik, a subsidiary of Robert Bosch (W. Germany) w/ Robotron	W. Germany	build part of Poland's new telephone network	coop		
Spie Batignolles; Accor (France) w/ Gdansk municipal authorities	France	expand & modernize the city's airport	letter of		project will be financed by the French Government and would be repaid through earnings from a hotel complex to be built by Accor
CONSTAR Epstein Engineering Export (US) w/ Animex Export-Import; Rolpasz	US	meat processing	JV		Exim Bank guarantee for $14.6 m of a $16.4 m loan on July 1, 1991
LEVER POLSKA Unilever (UK-Netherlands) w/ Pollena Bydgoszcs	UK-Netherlands	production of detergent	JV 80% UK-Neth.		agreement to buy 80% of the Polish detergent manufacturer for $20 m and plans to invest another $24 m to double capacity and upgrade technology and equipment
BELOIT FAMPA Harnischfeger Ind. (US) w/ Fabryka Maszyn Papiericzych, S.A. (FAMPA)	US	manufacture papermaking equipment	equity interest 80% US		February, 1991 - purchased 80% equity interest for $7 m and committed additional $15 m to develop products, facilities,and markets
BIAZET S&W Medico Teknik w/ Unitra; Polkolor	Denmark	produce electronic control equipment for hospitals and ambulances	JV 25% Denmark		signed an accord to establish a JV (July, 1990); startup capital of $500,000
CASINOS POLAND Casinos Austria w/ LOT (Polish airlines)	Austria	casino	JV 49% Austria		established in 1988

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
DURRPOL Durr (Germany)	Germany	production of varnishing and industrial cleaning equipment	subsidiary		
DHL INTERNATIONAL POLAND DHL Worldwide Express (US) w/ Intercam	US	express-couriers services	JV 85% US		agreement to establish a JV (November, 1990); foundation capital of $150,000
EPLAG Raiffeisen Zentralbank; Elsner (Austria)	Austria	leasing of machinery for agriculture and food processing	JV		
GWAREK RYAN POLAND Ryan International (UK)	UK	process coal waste	JV		
IKEA Ikea (Sweden)	Sweden	warehouse and retail outlet			plans to open in 1992-93
INTERCELL Intercellulosa (Sweden) w/ Ostroleka Cellulose and Paper Works	Sweden	modernize paper and cellulose production	JV 50/50		agreement to establish a JV (April, 1990); foundation capital of $20 m.
FIRST AMERICAN POLISH LIFE INSURANCE AND REINSURANCE COMPANY American Life Insurance Company (ALICO); AUI Insurance Company w/ Bank PEKAO	US	life insurance services	JV 55% US		agreement to establish a JV (December, 1990)
FIRST AMERICAN POLISH INSURANCE AND REINSURANCE COMPANY American Life Insurance Company (ALICO); AUI Insurance Company w/ Bank PEKAO	US	general insurance and personal accident insurance	JV		agreement to establish a JV (December, 1990)
FFA TRADE Finnpap (Finland)	Finland	market newsprint	subsidiary 100% Finland		wholly-owned subsidiary

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
HYUNDAI SELKO INDUSTRIES Hyundai (S. Korea) w/ Selko	S. Korea	design and produce computers, software, and semiconductors	JV		an accord to establish a JV; foundation capital of $1 m.
Levi Strauss (US)	US	production of clothing			
MANNESMANN-FSM Mannesmann Handel (Germ.) w/ FSM Automotive Works	Germany	importing and exporting in the automotive sector	JV 50/50		
OTTO-EPOKA Otto Versand (W. Germ) w/ Epoka	W. Germany	handle mail-order catalog purchases of Western consumer goods	JV 55% W. Germ.		foundation capital of Z1.5 bn.; plans to set up a chain of 90 order shops
POMONTEX Montanhandel Export w/ POWEN	Germany	manufacture and market wire products	JV 33%+ Germany		
POLTEX METHANE McKenzie (US) w/ Jastrzebie Colliery	US	prospect and extract methane from coal deposits	JV		agreement to establish a JV (December, 1990); US investment of $16 m.
POLNIPPON International E.R.T. w/ (4 private Polish investors	Japan	trade intermediary between Polish and Japanese firms and promote Japanese goods	JV 50% Japan		foundation capital of $800,000
PREBUD-GLORIT Glorit (Austria)	Austria	production of prefabricated houses	JV		
SPEDPOL Bilspedition (Sweden)	Sweden	provide goods transport to Germany and the USSR	JV		letter of intent to establish a JV; Sweden plans to invest $18 m.
TRW POLAND TRW (US) w/ FSM	US	manufacture safety belts for cars	JV majority US		preliminary accord to form a JV
Agip (Italy) w/ CPN	Italy	service stations	JV		signed letter of intent (June, 1990)
Daily Telegraph (UK) w/ Res Publica	UK	publishing	JV		holding talks (June, 1990)

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Robert Hersant (France) w/ Rzeczpospolita	France	publishing	JV		signed letter of intent (June, 1990)
Pinkington (UK) w/ Sandomierz	UK	flat glass production	JV 40% UK		signed letter of intent (February, 1991), plans to build a new plant, foundation capital of $140
Hakuhodo (Japan) w/ Agpol	Japan	advertising agency	JV		
Wang (US) w/ Main Computer Center	US	installation, information and training services for Wang computers	JV		
Compagnie Maritime d' Affretement (France) w/ Polish Ocean Lines	France	freight shipping services	JV		
Siemens (W. Germany) w/ Zwut	W. Germany	produce EWSD digital exchanges	JV 49% W. Germ.		signed letter of intent (July, 1990)
Pesclaudio (Italy) w/ Polish Agricultural Association	Italy	deep-freezing facility	JV 60% Italy		signed agreement (July, 1990), plans to build a new facility
Gruppo Agusta (Italy) w/ Polish State Aircraft	Italy	modernize aircraft manufacturing facilities	JV		negotiating a JV (July, 1990)
Samsung (S. Korea) w/ Ministry of Communications	S. Korea	manufacture telephones and telefax machines	JV		holding talks on setting up a JV (May, 1990)
Abtrust New European Investment Trust; Radiotrust (UK) w/ Radio Solidarity	UK	radio station	JV		
Philips Gloeilampen-fabrieken (Netherlands) w/ Polam-Pila	Netherlands	manufacture and market light bulbs	JV 50% Neth.		signed letter of intent (May, 1990)
Nora Industrier (Norway) w/ a Polish brewery	Norway	production and marketing of beer	JV		signed letter of intent (May, 1990)

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
Afflelou (France) w/ Polish authorities	France	produce and market eye glasses	JV 69% France	Poland	signed letter of intent (April, 1990)
ATR (Italy/France) w/ Mielec Aviation Works	Italy/France	manufacture planes and	JV		negotiating a JV (April, 1990)
Assurances Generales de France (AGF) w/ Mazowsze Foundation	France	insurance company	JV		letter of intent (June, 1990)
Burmeister & Wain w/ Adolf-Warski Shipyard	Denmark	ship building	JV		plans to establish a JV (January, 1991)
Coca Cola (US)	US	beverage sales	subsidiary		plans to open bottling plants at a cost of $30 m.
BUDEXPORT			obtained JV permit		
ELWRO 45			obtained JV permit		
WAWEL-IMOS INTERNATINAL LTD.			obtained JV permit		
POL-HOD			obtained JV permit		
TELMAR FILM INTERNATIONAL			obtained JV permit		
CANTIGA			obtained JV permit		
OSRAM-SCHWARTE			obtained JV permit		
WORLD SPOLEM			obtained JV permit		
FERROPOL			obtained JV permit		

Poland--continued

Companies involved	Investing country	Type of business	Type of investment	Market	Comment
POLMARYB			obtained JV permit		
AMPOL			obtained JV permit		
SCRAPEX			obtained JV permit		
GROMADA TOURIST			obtained JV permit		
INVESTMENT TRADING CONSULTING			obtained JV permit		
LASLAND			obtained JV permit		
CAMPEROL			obtained JV permit		
MAROLEX			obtained JV permit		
GULF INTERNATINAL CONSULTANTS			obtained JV permit		
SIECHNICE			obtained JV permit		
ADIPOL			obtained JV permit		
POLSKA TECHNODIAMENT			registered JV		founded 1987
TRANSLAMM			registered JV		founded 1988
SINAX			registered JV		founded 1988
OPOLMADOR			registered JV		founded 1988
INTERFRYS-KUSOWO			registered JV		founded 1988

Poland--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comment
FELGEX			registered JV		founded 1988
ANGORATEX			registered JV		founded 1988
ASPIAN			registered JV		founded 1988
SOPAGRO			registered JV		founded 1988
POLSIB			registered JV		founded 1988
LIPEKIM			registered JV		founded 1988
STANDARD ARMATURA OLSZNO			registered JV		founded 1988
FIMBES			registered JV		founded 1988
UNION-VIS			registered JV		founded 1988
ORBITA			registered JV		founded 1988
POMERANIA-TOUR			registered JV		founded 1988
VONKPOL			registered JV		founded 1988
BUDEX			registered JV		founded 1988

Romania

Companies involved	Investing country	Type of Business	Type of investment	Market	Comments
ROM-CONTROL DATA Control Data Corporation (US) w/ Industrial Central for Electronics, Technology and Computers	US	manufacture & marketing of peripheral equipment for computers	JV 45% US		founded 1973; capitalization - $4m
RESITA-RENK Renk A.G. (W. Germany) w/ Resita Engineering Works; Uzinexportimport	W. Germany	manufacture of gears & marine transmissions	JV 49% W. Germ.		founded 1973; capitalization - DM20m
RIFIL Romalfa (Italy) w/ Industrial Central for Synthetic Fibers	Italy	manufacture of acrylic fibers	JV 48% Italy		founded 1975; capitalization - $ 2.3m
OLTCIT Citroen (France) w/ Industrial Central for Passenger Cars and Commercial Vehicles; Auto Dacia	France	manufacture of passenger cars & replacement parts	JV 36% France		founded 1977; capitalization - FF500m
ROLISHIP National Company for Maritime Transport (Libya) w/ Navrom	Libya	maritime shipping	JV 49% Libya		founded 1973; capitalization $21m
Renault (France)	France	production of Renault 12	license		previously produced under Dacia license since 1969
NALIF, INC Nalif, Inc. (US) w/ Romania Export	US	manufacture uniforms		Saudi Arabia Iraq	Nalif, Inc. is a trading company, it provides expertise and supervises production methods
RAPID-ADMIRAL GAMES TOURISM ABM; Novomatic Automatenindustrie und Handelsges (Austria) w/ Rapid-Bucharest	Austria	gambling and leisure centers	JV 55% Austria		foundation capital $12 m.
Burmah Oil w/ Combinatul Petrochemic Pitesti	W. Germany	modernization an development of production of lubricant oils	JV		signed letter of intent (November, 1990)

Romania--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comments
Hoechst w/ Policolor	Germany	production of paints, varnishes, and other chemical products	JV		negotiating (November, 1990)
Comstat Investments w/ Ministry of Communications	US	install a satellite and cable telecommunications network	JV		preliminary agreement (September, 1990)
Sheraton; Holiday Inn w/ Intreprinderea Pentru Tourism, Hoteluri si Restaurante	US	hotel management Hotel Bucuresti	JV		US submitted a bid
ASSOCIATED AIRCRAFT/AAL British Aerospace (UK) w/ Intreprinderea de Avione Bucuresti	UK	build jet airliners	JV		signed letter of intent (November, 1990); $90 m. startup capital
Bouygues	France	build an international trade center in Bucharest, modernization of hotels	JV		holding talks (December, 1990)
GEC-Alsthom w/ IMGB	UK/France	manufacture 1000 Mw steam turbines and turbines for nuclear power plants	JV		negotiating (December, 1990)
Colgate-Palmolive	US	production of soap and toothpaste, modernization od detergent production	JV		signed preliminary agreement (December, 1990)
Maison-Pierre Bac w/ Trustul de Constructii si Montaj/TCM	France	construction of houses	JV		and accord to establish a JV (December, 1990)
IOI Agrochemicals	UK	production of hybrid grain	JV		plans to form a JV (January, 1991)
Deutsche Lufthansa w/ Tarom	Germany	passenger air service	JV		holding talks on establishing a JV (October, 1990)
Intermercato w/ Electronica Factory	Italy	tourism, electronics, marketing consumer goods	coop		held talks on possible cooperation (December, 1990

Romania--continued

Companies involved	Investing country	Type of Business	Type of investment	Market	Comments
Coca Cola	US	bottling plants			announced plans (November, 1990)
Toyota	Japan	services for automobiles	JV		negotiating with several enterprises (November, 1990)
Telemecanique w/ Titan Research Institute	France	manufacture NC machine tools	coop		signed cooperation agreement (November, 1990)
Kaufring w/ Romtrans	Germany	market consumer goods	coop		
Dow Chemicals (UK) ICI/ Imperial Chemical Industries (UK) Rhone-Paulenc (France) Mannesman (W. Germ.)	US UK France W. Germany	modernization of chemical and petrochemical production			holding separate negotiations with several chemical producers
Nouvelles Frontieres	France	travel agency			plans to open a subsidiary (June, 1990)
US International Travel & Tours	US	hotels			plans to invest $4-$5 m. in construction of 20 hotels (August, 1990)
Daimler-Benz	W. Germany	manufacture buses	coop		holding talks of possible cooperation (April, 1990)
Rheinisch-Westfalisches Elektrizitatswerk; Hochtief	W. Germany	construction of thermal coal-fired electricity generation plants	coop		holding talks on possible cooperation (September, 1990)
Pioneer Overseas w/ Fundulae Institute	Austria	development, production, and marketing of various staple seeds	coop		

APPENDIX D
REVEALED COMPARATIVE ADVANTAGE INDICES

Bulgaria
Revealed Comparative Advantage Indices, by Commodity

COUNTRY	SITC COMMODITY	1985	1986	1987	1988	1989
Bulgaria	00--Live animals	4.55	5.06	6.16	6.86	8.67
Bulgaria	01--Meat and preparations	1.11	1.38	1.59	1.65	2.39
Bulgaria	02--Dairy products and eggs	3.37	2.99	3.13	2.82	2.91
Bulgaria	03--Fish and preparations	1.79	1.73	1.65	1.94	2.46
Bulgaria	04--Cereals and preparations	0.62	0.01	0.11	0.03	0.04
Bulgaria	05--Fruit and vegetables	2.93	2.67	3.13	2.75	3.50
Bulgaria	06--Sugar and preps honey	1.96	2.02	2.41	2.36	2.15
Bulgaria	07--Coffee tea cocoa spices	0.10	0.36	0.21	0.19	0.40
Bulgaria	08--Animal feeding stuff	1.57	2.14	2.98	3.55	2.97
Bulgaria	09--Misc food preparations	0.24	0.10	0.19	1.27	0.91
Bulgaria	11--Beverages	2.54	3.01	4.23	5.22	5.58
Bulgaria	12--Tobacco and mfrs	13.68	16.05	14.55	12.17	14.39
Bulgaria	21--Hides,skins,furs undrssd	0.77	0.46	0.17	0.20	0.73
Bulgaria	22--Oil seeds,nuts,kernels	2.31	1.41	1.76	1.73	3.16
Bulgaria	23--Rubber crude,synthetic	2.22	1.27	1.64	2.67	3.23
Bulgaria	24--Wood lumber and cork	0.22	0.25	0.51	0.67	0.86
Bulgaria	25--Pulp and waste paper	0.30	0.10	0.72	1.74	2.62
Bulgaria	26--Textile fibres	1.91	2.18	2.28	1.22	0.95
Bulgaria	27--Crude fertlzr,minrls nes	0.54	0.93	0.30	0.50	0.58
Bulgaria	28--Metalliferous ores,scrap	0.97	1.25	1.16	1.43	0.98
Bulgaria	29--Crude animal,veg mat nes	2.22	2.21	2.53	2.44	2.67
Bulgaria	32--Coal,coke,briquettes	1.28	0.89	0.27	0.07	0.02
Bulgaria	33--Petroleum and products	1.31	2.06	1.85	1.62	1.35
Bulgaria	34--Gas natural and manufctd	0.33	0.10	0.00	0.00	0.00
Bulgaria	35--Electric energy	0.00	0.00	0.00	0.00	2.62
Bulgaria	41--Animal oils and fats	0.27	0.08	0.45	2.33	1.57
Bulgaria	42--Fixed vegetable oil,fat	1.58	1.57	0.00	0.02	0.13
Bulgaria	43--Procesd anml veg oil,etc	1.06	0.62	0.02	0.48	0.09
Bulgaria	51--Chem elements,compounds	1.89	1.61	1.46	2.26	1.39
Bulgaria	52--Coal,petroleum etc chems	10.19	15.66	1.41	1.38	0.91
Bulgaria	53--Dyes,tanning,colour prod	0.01	0.00	0.01	0.07	0.01
Bulgaria	54--Medicinal etc products	1.28	1.07	1.18	1.55	1.49
Bulgaria	55--Perfume,cleaning etc prd	1.71	1.50	1.66	1.80	1.82
Bulgaria	56--Fertilizers manufactured	3.58	3.33	8.32	8.50	13.72
Bulgaria	57--Explosives,pyrotech prod	0.05	0.06	0.15	0.01	0.00
Bulgaria	58--Plastic materials etc	1.23	0.76	0.50	0.61	0.60
Bulgaria	59--Chemicals nes	0.27	0.27	0.49	1.03	0.80
Bulgaria	61--Leather,dressed fur,etc	0.04	0.05	0.06	0.20	0.32
Bulgaria	62--Rubber manufactures nes	0.20	0.14	0.12	0.45	0.70
Bulgaria	63--Wood,cork manufactrs nes	0.82	0.57	0.79	0.54	0.24
Bulgaria	64--Paper,paperboard and mfr	0.25	0.24	0.23	0.25	0.13
Bulgaria	65--Textile yarn,fabric etc	0.82	0.92	1.00	1.17	1.14
Bulgaria	66--Nonmetal mineral mfs nes	0.18	0.22	0.45	0.60	0.42
Bulgaria	67--Iron and steel	5.40	4.88	3.89	2.52	2.55
Bulgaria	68--Non-ferrous metals	0.56	0.42	0.69	1.18	0.63
Bulgaria	69--Metal manufactures nes	0.20	0.29	0.40	0.23	0.32
Bulgaria	71--Machinery,non-electric	0.30	0.39	0.45	0.48	0.49
Bulgaria	72--Electrical machinery	0.21	0.26	0.31	0.30	0.35
Bulgaria	73--Transport equipment	0.02	0.01	0.03	0.02	0.03
Bulgaria	81--Plumbg,heatng,lghtng equ	0.04	0.10	0.09	0.24	0.19
Bulgaria	82--Furniture	1.90	1.76	1.67	1.68	1.45
Bulgaria	83--Travel goods,handbags	1.32	1.43	1.61	1.92	1.60
Bulgaria	84--Clothing	2.45	2.36	2.27	1.94	1.94
Bulgaria	85--Footwear	0.51	0.23	0.35	0.27	0.61
Bulgaria	86--Instrmnts,watches,clocks	0.05	0.04	0.08	0.15	0.15
Bulgaria	89--Misc manufctrd goods nes	0.14	0.30	0.27	0.33	0.33
Bulgaria	91--Mail not classed by kind	0.19	0.14	0.11	0.17	0.14
Bulgaria	93--Special transactions	0.13	0.13	0.19	1.50	1.13
Bulgaria	94--Zoo animals,pets	1.38	1.80	5.44	5.98	2.61
Bulgaria	95--War firearms,ammunition	0.03	0.22	0.15	0.06	0.33
Bulgaria	96--Coin nongold,noncurrent	0.30	0.79	1.24	13.04	12.34

Czechoslovakia
Revealed Comparative Advantage Indices, by Commodity

COUNTRY	SITC COMMODITY	1985	1986	1987	1988	1989
Czechoslovakia	00--Live animals	1.75	1.33	1.24	0.97	1.13
Czechoslovakia	**01--Meat and preparations**	**2.41**	**2.53**	**2.53**	**2.23**	**2.37**
Czechoslovakia	**02--Dairy products and eggs**	**1.70**	**1.03**	**1.51**	**1.31**	**3.13**
Czechoslovakia	03--Fish and preparations	0.12	0.13	0.18	0.11	0.12
Czechoslovakia	04--Cereals and preparations	0.76	0.85	0.81	0.81	0.93
Czechoslovakia	05--Fruit and vegetables	0.87	0.88	0.94	1.04	1.09
Czechoslovakia	06--Sugar and preps honey	0.72	0.64	0.75	0.82	0.79
Czechoslovakia	07--Coffee tea cocoa spices	0.07	0.09	0.11	0.12	0.10
Czechoslovakia	08--Animal feeding stuff	0.06	0.06	0.05	0.06	0.23
Czechoslovakia	09--Misc food preparations	0.00	0.00	0.04	0.12	0.43
Czechoslovakia	11--Beverages	0.58	0.64	0.66	0.66	0.71
Czechoslovakia	12--Tobacco and mfrs	0.03	0.00	0.00	0.00	0.01
Czechoslovakia	21--Hides,skins,furs undrssd	0.49	0.32	0.29	0.29	0.44
Czechoslovakia	22--Oil seeds,nuts,kernels	0.01	0.06	0.08	0.08	0.17
Czechoslovakia	23--Rubber crude,synthetic	1.88	1.59	1.93	1.73	1.93
Czechoslovakia	**24--Wood lumber and cork**	**6.42**	**6.71**	**6.06**	**5.95**	**4.77**
Czechoslovakia	**25--Pulp and waste paper**	**5.20**	**5.69**	**4.93**	**4.60**	**4.41**
Czechoslovakia	26--Textile fibres	0.54	0.59	0.43	0.49	0.56
Czechoslovakia	**27--Crude fertlzr,minrls nes**	**2.26**	**2.63**	**2.82**	**2.59**	**2.68**
Czechoslovakia	28--Metalliferous ores,scrap	0.50	0.47	0.59	0.73	0.73
Czechoslovakia	29--Crude animal,veg mat nes	0.80	0.59	0.58	0.62	0.65
Czechoslovakia	**32--Coal,coke,briquettes**	**4.93**	**6.02**	**5.89**	**4.94**	**5.06**
Czechoslovakia	33--Petroleum and products	0.56	0.55	0.71	0.77	0.77
Czechoslovakia	34--Gas natural and manufctd	0.33	0.19	0.25	0.30	0.32
Czechoslovakia	**35--Electric energy**	**1.55**	**0.64**	**1.24**	**0.33**	**2.55**
Czechoslovakia	41--Animal oils and fats	0.49	0.24	1.29	1.59	0.84
Czechoslovakia	42--Fixed vegetable oil,fat	0.66	0.65	0.33	0.86	0.85
Czechoslovakia	43--Procesd anml veg oil,etc	1.56	1.01	0.93	1.37	1.23
Czechoslovakia	51--Chem elements,compounds	1.80	1.64	1.74	2.00	1.92
Czechoslovakia	**52--Coal,petroleum etc chems**	**1.69**	**1.44**	**2.20**	**2.42**	**2.08**
Czechoslovakia	53--Dyes,tanning,colour prod	0.80	0.88	0.94	0.95	0.98
Czechoslovakia	54--Medicinal etc products	0.52	0.47	0.41	0.48	0.42
Czechoslovakia	55--Perfume,cleaning etc prd	0.12	0.09	0.11	0.14	0.13
Czechoslovakia	56--Fertilizers manufactured	0.89	1.08	1.33	1.21	1.00
Czechoslovakia	**57--Explosives,pyrotech prod**	**3.21**	**3.43**	**4.94**	**5.14**	**4.58**
Czechoslovakia	58--Plastic materials etc	1.97	1.53	1.41	1.81	1.72
Czechoslovakia	59--Chemicals nes	0.49	0.36	0.39	0.52	0.58
Czechoslovakia	61--Leather,dressed fur,etc	0.65	0.78	0.73	0.48	0.37
Czechoslovakia	62--Rubber manufactures nes	1.60	1.38	1.49	1.37	1.39
Czechoslovakia	63--Wood,cork manufactrs nes	2.94	2.89	2.53	2.01	1.92
Czechoslovakia	64--Paper,paperboard and mfr	0.83	0.78	0.72	0.67	0.85
Czechoslovakia	**65--Textile yarn,fabric etc**	**2.92**	**2.71**	**2.65**	**2.56**	**2.45**
Czechoslovakia	**66--Nonmetal mineral mfs nes**	**2.48**	**2.39**	**2.33**	**2.21**	**2.14**
Czechoslovakia	**67--Iron and steel**	**3.48**	**3.57**	**3.50**	**3.58**	**3.53**
Czechoslovakia	68--Non-ferrous metals	0.35	0.29	0.20	0.29	0.33
Czechoslovakia	69--Metal manufactures nes	0.67	0.68	0.63	0.64	0.75
Czechoslovakia	71--Machinery,non-electric	0.64	0.66	0.54	0.56	0.54
Czechoslovakia	72--Electrical machinery	0.31	0.33	0.38	0.31	0.32
Czechoslovakia	73--Transport equipment	0.26	0.28	0.27	0.24	0.29
Czechoslovakia	81--Plumbg,heatng,lghtng equ	2.62	2.04	1.95	1.68	1.64
Czechoslovakia	82--Furniture	2.39	2.02	1.96	1.81	1.87
Czechoslovakia	83--Travel goods,handbags	2.79	2.79	2.54	2.04	1.92
Czechoslovakia	84--Clothing	1.41	1.28	1.31	1.26	1.12
Czechoslovakia	**85--Footwear**	**2.28**	**1.71**	**2.08**	**1.92**	**2.22**
Czechoslovakia	86--Instrmnts,watches,clocks	0.20	0.18	0.19	0.19	0.15
Czechoslovakia	89--Misc manufctrd goods nes	0.74	0.73	0.73	0.68	0.60
Czechoslovakia	91--Mail not classed by kind	0.47	0.39	0.44	0.39	0.38
Czechoslovakia	93--Special transactions	0.10	0.09	0.08	0.59	0.50
Czechoslovakia	94--Zoo animals,pets	12.60	13.35	12.45	17.19	11.73
Czechoslovakia	95--War firearms,ammunition	0.25	0.36	0.47	0.27	0.87
Czechoslovakia	96--Coin nongold,noncurrent	0.13	0.21	0.21	0.38	0.60

Hungary
Revealed Comparative Advantage Indices, by Commodity

COUNTRY	SITC COMMODITY	1985	1986	1987	1988	1989
Hungary	**00--Live animals**	**9.75**	**6.73**	**9.29**	**7.47**	**7.25**
Hungary	**01--Meat and preparations**	**11.54**	**9.10**	**8.35**	**8.62**	**9.13**
Hungary	02--Dairy products and eggs	0.40	0.31	0.28	0.50	1.11
Hungary	03--Fish and preparations	0.09	0.13	0.26	0.10	0.07
Hungary	04--Cereals and preparations	1.17	1.54	1.29	1.22	1.37
Hungary	**05--Fruit and vegetables**	**2.32**	**2.45**	**2.71**	**2.51**	**3.05**
Hungary	**06--Sugar and preps honey**	**1.72**	**2.23**	**2.02**	**2.01**	**2.21**
Hungary	07--Coffee tea cocoa spices	0.31	0.40	0.50	0.65	0.71
Hungary	08--Animal feeding stuff	1.13	1.40	1.40	1.34	1.36
Hungary	**09--Misc food preparations**	**2.81**	**2.50**	**2.41**	**2.80**	**3.38**
Hungary	11--Beverages	1.14	0.97	0.91	0.88	0.83
Hungary	12--Tobacco and mfrs	0.25	0.09	0.20	0.20	0.18
Hungary	21--Hides,skins,furs undrssd	0.29	0.18	0.34	0.29	0.40
Hungary	**22--Oil seeds,nuts,kernels**	**3.01**	**2.77**	**2.49**	**2.07**	**2.52**
Hungary	23--Rubber crude,synthetic	0.32	0.59	0.43	0.43	0.24
Hungary	24--Wood lumber and cork	1.63	1.96	1.92	1.80	1.58
Hungary	25--Pulp and waste paper	0.02	0.01	0.03	0.01	0.02
Hungary	26--Textile fibres	0.82	0.97	0.87	0.91	0.82
Hungary	27--Crude fertlzr,minrls nes	0.35	0.53	0.50	0.55	0.51
Hungary	28--Metalliferous ores,scrap	1.61	1.03	1.24	1.25	1.22
Hungary	**29--Crude animal,veg mat nes**	**6.32**	**5.55**	**5.47**	**5.34**	**5.15**
Hungary	32--Coal,coke,briquettes	0.01	0.01	0.09	0.67	0.68
Hungary	33--Petroleum and products	0.63	0.94	0.83	0.74	0.66
Hungary	34--Gas natural and manufctd	11.64	7.95	5.15	4.55	1.33
Hungary	35--Electric energy	0.00	0.00	0.00	0.00	0.00
Hungary	**41--Animal oils and fats**	**3.11**	**2.64**	**3.94**	**4.14**	**5.10**
Hungary	**42--Fixed vegetable oil,fat**	**3.56**	**4.23**	**3.85**	**3.39**	**3.14**
Hungary	43--Procesd anml veg oil,etc	0.14	0.07	0.13	0.20	0.14
Hungary	51--Chem elements,compounds	2.20	1.84	1.92	1.96	1.80
Hungary	**52--Coal,petroleum etc chems**	**9.87**	**5.95**	**2.40**	**2.67**	**2.45**
Hungary	53--Dyes,tanning,colour prod	0.29	0.17	0.23	0.35	0.23
Hungary	54--Medicinal etc products	1.83	2.12	1.49	1.31	1.20
Hungary	55--Perfume,cleaning etc prd	0.30	0.36	0.21	0.23	0.25
Hungary	**56--Fertilizers manufactured**	**6.53**	**4.37**	**3.81**	**3.77**	**3.47**
Hungary	**57--Explosives,pyrotech prod**	**2.44**	**2.46**	**2.82**	**1.68**	**2.00**
Hungary	58--Plastic materials etc	0.97	0.95	0.99	1.27	1.38
Hungary	59--Chemicals nes	0.56	0.33	0.36	0.39	0.41
Hungary	**61--Leather,dressed fur,etc**	**2.03**	**2.69**	**2.88**	**2.76**	**3.64**
Hungary	62--Rubber manufactures nes	1.35	1.36	1.26	1.43	1.59
Hungary	63--Wood,cork manufactrs nes	1.32	1.69	1.58	1.62	1.51
Hungary	64--Paper,paperboard and mfr	0.17	0.20	0.21	0.19	0.26
Hungary	65--Textile yarn,fabric etc	1.16	1.15	1.29	1.37	1.23
Hungary	66--Nonmetal mineral mfs nes	0.80	0.84	0.79	0.82	0.75
Hungary	67--Iron and steel	1.34	1.62	1.84	1.96	1.65
Hungary	68--Non-ferrous metals	1.42	1.42	1.41	1.29	1.50
Hungary	69--Metal manufactures nes	0.71	0.81	1.04	0.91	0.98
Hungary	71--Machinery,non-electric	0.33	0.37	0.33	0.36	0.39
Hungary	72--Electrical machinery	0.70	0.66	0.63	0.63	0.65
Hungary	73--Transport equipment	0.19	0.10	0.15	0.15	0.17
Hungary	81--Plumbg,heatng,lghtng equ	1.14	0.94	0.88	0.98	0.91
Hungary	82--Furniture	1.63	1.64	1.85	1.89	1.77
Hungary	83--Travel goods,handbags	0.98	1.10	0.84	1.09	1.26
Hungary	**84--Clothing**	**2.83**	**2.91**	**2.74**	**2.78**	**2.62**
Hungary	85--Footwear	1.74	1.64	1.65	1.67	1.59
Hungary	86--Instrmnts,watches,clocks	0.20	0.19	0.20	0.18	0.14
Hungary	89--Misc manufctrd goods nes	0.35	0.37	0.33	0.32	0.35
Hungary	91--Mail not classed by kind	0.20	0.12	0.10	0.19	0.13
Hungary	93--Special transactions	0.16	0.14	0.12	0.60	0.64
Hungary	94--Zoo animals,pets	24.78	19.51	11.85	17.10	11.27
Hungary	95--War firearms,ammunition	0.34	0.65	0.04	0.03	0.19
Hungary	96--Coin nongold,noncurrent	0.62	0.31	0.29	1.24	2.17

Poland
Revealed Comparative Advantage Indices, by Commodity

COUNTRY	SITC COMMODITY	1985	1986	1987	1988	1989
Poland	**00—Live animals**	**11.15**	**10.02**	**12.14**	**11.17**	**13.09**
Poland	**01—Meat and preparations**	**5.71**	**5.18**	**5.53**	**4.49**	**4.08**
Poland	02--Dairy products and eggs	0.41	0.29	0.65	0.98	1.94
Poland	**03—Fish and preparations**	**2.37**	**2.23**	**3.05**	**2.53**	**2.61**
Poland	04--Cereals and preparations	0.36	0.18	0.11	0.24	0.16
Poland	**05—Fruit and vegetables**	**2.25**	**2.32**	**2.31**	**2.49**	**2.95**
Poland	**06--Sugar and preps honey**	**2.26**	**2.60**	**2.54**	**1.93**	**2.13**
Poland	07--Coffee tea cocoa spices	0.42	0.41	0.55	0.46	0.45
Poland	08--Animal feeding stuff	0.48	0.38	0.32	0.57	0.50
Poland	09--Misc food preparations	0.02	0.01	0.10	0.05	0.09
Poland	11--Beverages	0.23	0.23	0.23	0.23	0.21
Poland	12--Tobacco and mfrs	0.39	0.44	0.25	0.18	0.22
Poland	21--Hides,skins,furs undrssd	3.03	3.22	3.02	2.05	1.08
Poland	**22—Oil seeds,nuts,kernels**	**2.44**	**4.18**	**2.07**	**2.56**	**4.50**
Poland	23--Rubber crude,synthetic	1.48	1.51	1.61	1.35	1.47
Poland	**24—Wood lumber and cork**	**3.31**	**3.17**	**2.89**	**2.50**	**2.30**
Poland	25--Pulp and waste paper	0.43	0.27	0.41	0.31	0.22
Poland	26--Textile fibres	0.35	0.29	0.33	0.22	0.27
Poland	**27—Crude fertlzr,minrls nes**	**7.63**	**5.71**	**5.35**	**4.30**	**3.80**
Poland	28--Metalliferous ores,scrap	0.92	0.42	0.58	1.18	1.14
Poland	**29—Crude animal,veg mat nes**	**1.97**	**1.87**	**1.90**	**1.87**	**2.35**
Poland	**32--Coal,coke,briquettes**	**23.03**	**20.59**	**20.41**	**16.39**	**15.71**
Poland	33--Petroleum and products	0.18	0.22	0.25	0.16	0.31
Poland	34--Gas natural and manufctd	0.03	0.04	0.05	0.06	0.05
Poland	**35—Electric energy**	**5.43**	**10.94**	**7.23**	**7.65**	**3.30**
Poland	41--Animal oils and fats	0.34	0.10	0.96	1.31	1.43
Poland	42--Fixed vegetable oil,fat	0.65	0.54	1.00	0.69	0.61
Poland	43--Procesd anml veg oil,etc	1.15	0.84	0.88	1.12	1.10
Poland	51--Chem elements,compounds	0.91	1.08	1.18	1.07	1.18
Poland	**52—Coal,petroleum etc chems**	**2.70**	**2.16**	**2.34**	**3.18**	**2.39**
Poland	53--Dyes,tanning,colour prod	0.23	0.30	0.30	0.59	0.38
Poland	54--Medicinal etc products	0.05	0.05	0.13	0.09	0.07
Poland	55--Perfume,cleaning etc prd	0.08	0.10	0.08	0.07	0.08
Poland	56--Fertilizers manufactured	1.39	1.62	1.44	1.61	1.84
Poland	57--Explosives,pyrotech prod	1.35	1.30	1.54	1.08	1.33
Poland	58--Plastic materials etc	0.37	0.36	0.37	0.56	0.57
Poland	59--Chemicals nes	0.93	1.00	1.08	1.66	1.71
Poland	61--Leather,dressed fur,etc	0.33	0.41	0.52	0.46	0.59
Poland	62--Rubber manufactures nes	0.38	0.47	0.48	0.54	0.54
Poland	63--Wood,cork manufactrs nes	1.21	1.49	1.59	1.30	1.50
Poland	64--Paper,paperboard and mfr	0.41	0.41	0.49	0.44	0.52
Poland	65--Textile yarn,fabric etc	0.73	0.71	0.77	0.87	0.77
Poland	66--Nonmetal mineral mfs nes	0.72	0.91	0.94	0.90	0.91
Poland	67--Iron and steel	1.23	1.34	1.30	1.41	1.70
Poland	**68—Non-ferrous metals**	**2.72**	**2.49**	**2.45**	**2.85**	**2.43**
Poland	69--Metal manufactures nes	0.97	1.16	1.07	1.21	1.18
Poland	71--Machinery,non-electric	0.22	0.37	0.26	0.32	0.35
Poland	72--Electrical machinery	0.25	0.38	0.33	0.34	0.41
Poland	73--Transport equipment	0.43	0.25	0.46	0.51	0.35
Poland	81--Plumbg,heatng,lghtng equ	0.64	0.46	0.40	0.48	0.79
Poland	**82—Furniture**	**2.09**	**2.27**	**2.53**	**2.65**	**2.95**
Poland	83--Travel goods,handbags	0.69	0.89	0.97	1.01	1.06
Poland	**84—Clothing**	**1.75**	**1.95**	**2.04**	**2.23**	**2.04**
Poland	85--Footwear	1.84	2.00	1.68	1.55	1.43
Poland	86--Instrmnts,watches,clocks	0.12	0.14	0.14	0.12	0.11
Poland	89--Misc manufctrd goods nes	0.17	0.18	0.19	0.20	0.18
Poland	91--Mail not classed by kind	0.70	0.61	0.56	0.45	0.33
Poland	93--Special transactions	0.17	0.17	0.16	0.45	0.48
Poland	94--Zoo animals,pets	6.35	5.92	4.22	6.15	4.03
Poland	95--War firearms,ammunition	0.06	0.03	0.01	0.01	0.10
Poland	96--Coin nongold,noncurrent	0.22	0.98	0.25	5.98	1.69

Romania
Revealed Comparative Advantage Indices, by Commodity

COUNTRY	SITC COMMODITY	1985	1986	1987	1988	1989
Romania	00--Live animals	0.53	0.47	1.24	0.38	0.28
Romania	01--Meat and preparations	1.11	1.42	1.79	1.51	1.68
Romania	02--Dairy products and eggs	0.19	0.10	0.33	0.67	0.73
Romania	03--Fish and preparations	0.04	0.04	0.04	0.02	0.02
Romania	04--Cereals and preparations	0.45	0.61	0.40	0.33	0.28
Romania	05--Fruit and vegetables	0.61	0.65	0.72	0.44	0.46
Romania	06--Sugar and preps honey	0.26	0.32	0.50	0.43	0.36
Romania	07--Coffee tea cocoa spices	0.01	0.01	0.01	0.02	0.01
Romania	08--Animal feeding stuff	0.01	0.00	0.01	0.01	0.00
Romania	09--Misc food preparations	0.03	0.03	0.04	0.04	0.06
Romania	11--Beverages	0.39	0.34	0.37	0.38	0.43
Romania	12--Tobacco and mfrs	0.22	0.26	0.19	0.16	0.12
Romania	21--Hides,skins,furs undrssd	0.03	0.02	0.05	0.01	0.00
Romania	22--Oil seeds,nuts,kernels	0.20	0.26	0.14	0.10	0.10
Romania	23--Rubber crude,synthetic	0.89	0.78	0.41	0.47	0.29
Romania	24--Wood lumber and cork	1.07	1.41	1.27	0.86	0.70
Romania	25--Pulp and waste paper	0.07	0.05	0.03	0.01	0.00
Romania	26--Textile fibres	1.12	1.57	1.34	1.35	1.76
Romania	27--Crude fertlzr,minrls nes	0.09	0.16	0.16	0.20	0.22
Romania	28--Metalliferous ores,scrap	0.08	0.11	0.07	0.14	0.08
Romania	29--Crude animal,veg mat nes	0.43	0.46	0.48	0.55	0.53
Romania	32--Coal,coke,briquettes	0.00	0.00	0.00	0.00	0.00
Romania	**33--Petroleum and products**	**2.60**	**3.50**	**3.61**	**3.96**	**3.58**
Romania	34--Gas natural and manufctd	0.12	0.00	0.00	0.00	0.00
Romania	35--Electric energy	0.00	0.00	0.00	0.00	0.00
Romania	41--Animal oils and fats	0.26	0.07	0.06	0.02	0.01
Romania	42--Fixed vegetable oil,fat	0.75	0.39	0.57	0.23	0.09
Romania	43--Procesd anml veg oil,etc	0.67	0.25	0.11	0.02	0.03
Romania	51--Chem elements,compounds	1.34	1.06	0.62	0.85	0.66
Romania	52--Coal,petroleum etc chems	0.64	0.20	0.54	0.03	0.00
Romania	53--Dyes,tanning,colour prod	0.02	0.01	0.05	0.11	0.08
Romania	54--Medicinal etc products	0.16	0.24	0.20	0.16	0.13
Romania	55--Perfume,cleaning etc prd	0.09	0.13	0.05	0.02	0.01
Romania	**56--Fertilizers manufactured**	**10.93**	**13.64**	**11.00**	**10.30**	**10.54**
Romania	57--Explosives,pyrotech prod	0.11	0.59	0.75	0.43	0.41
Romania	58--Plastic materials etc	0.44	0.47	0.32	0.39	0.36
Romania	59--Chemicals nes	0.17	0.10	0.10	0.11	0.13
Romania	61--Leather,dressed fur,etc	0.37	0.38	0.36	0.40	0.37
Romania	62--Rubber manufactures nes	0.49	0.58	0.76	0.78	0.72
Romania	63--Wood,cork manufactrs nes	1.83	2.19	1.76	1.66	1.57
Romania	64--Paper,paperboard and mfr	0.47	0.54	0.47	0.53	0.50
Romania	65--Textile yarn,fabric etc	1.06	1.06	0.93	0.91	0.78
Romania	66--Nonmetal mineral mfs nes	0.64	0.75	0.92	1.12	1.05
Romania	**67--Iron and steel**	**2.10**	**1.87**	**1.91**	**2.55**	**3.78**
Romania	68--Non-ferrous metals	1.02	1.92	2.27	2.55	1.82
Romania	69--Metal manufactures nes	0.57	0.64	0.62	0.56	0.63
Romania	71--Machinery,non-electric	0.21	0.21	0.19	0.20	0.17
Romania	72--Electrical machinery	0.13	0.17	0.16	0.21	0.19
Romania	73--Transport equipment	0.16	0.21	0.20	0.18	0.13
Romania	81--Plumbg,heatng,lghtng equ	0.37	0.50	0.48	0.55	0.71
Romania	**82--Furniture**	**8.08**	**8.75**	**9.28**	**9.31**	**10.15**
Romania	83--Travel goods,handbags	1.80	1.57	1.01	1.10	1.28
Romania	**84--Clothing**	**3.52**	**3.55**	**3.46**	**3.58**	**3.45**
Romania	**85--Footwear**	**2.39**	**2.10**	**2.09**	**2.56**	**2.38**
Romania	86--Instrmnts,watches,clocks	0.04	0.05	0.06	0.05	0.04
Romania	89--Misc manufctrd goods nes	0.21	0.23	0.21	0.19	0.23
Romania	91--Mail not classed by kind	0.03	0.04	0.03	0.03	0.07
Romania	93--Special transactions	0.06	0.05	0.06	0.15	0.13
Romania	94--Zoo animals,pets	2.40	4.14	4.40	6.24	6.02
Romania	95--War firearms,ammunition	0.01	0.00	0.01	0.00	0.00
Romania	96--Coin nongold,noncurrent	0.00	0.00	0.00	0.00	0.00

APPENDIX E
SELECTED INFORMATION RESOURCES

Books/Articles/Papers

Air Transport World, 1989 Annual World Airline Report.

Krister Andersson, "Taxation and the Cost of Capital in Hungary and Poland," IMF Staff Papers, vol. 38, no. 2, June 1991, pp. 327-354.
Content: Compares the effective rates of taxation for an investor in Poland and Hungary.

Thomas Apolte, "Monetary Policy in the Transition to a Market Economy: The Case of Hungary," Intereconomics, Vol. 26, no. 3, pp. 108-114.
Content: Examines pitfalls in monetary policy to be avoided when transforming from a centrally-planned economy, using Hungary as an example.

Richard D. Bartel, ed., "Charting Poland's Economic Rebirth," Challenge, January/February 1990, pp. 22-30.
Content: Interview with Jeffrey D. Sachs, discussing the comparative economic flux in EE and Latin America.

Derek Blades, "The Statistical Revolution in Central and Eastern Europe," OECD Observer, no. 170, June/July 1991, pp. 13-19.
Content: Discusses how the statistical reporting offices should adapt their inputs, outputs and procedures to meet new policy requirements.

Eduardo Borensztein, Manmohan S. Kumar, "Proposals for Privatisation in Eastern Europe," IMF Staff Papers, Vol. 38, No. 2, June 1991, pp. 300-326.
Content: Discusses several proposals for wholesale privatization of public enterprises in Eastern Europe.

Geogios N. Boukaouris, "Joint Ventures in the USSR, Czechoslovakia and Poland," Journal of International Law, Winter 1989, pp. 1-53.
Content: A comparison of joint venture laws in USSR, Czechoslovakia, and Poland regarding creation, operation, and dissolution.

Lawrence J. Brainard, Finance and Debt in East-West Relations: Policy Challenges in an Era of Change, presented to the Japan-U.S. Joint Study Group on Trade, Finance, and Technology in East-West Economic Relations, Hawaii, January 1990. New York: Carnegie Council on Ethics and International Affairs, 1990.
Content: The debt situation in EE, the Soviet Union, and China, and new directions in private and public sector financial assistance. Makes policy recommendations for the optimal effectiveness of funds from the United States, Western Europe, and Japan to promote the growth of political pluralism and the transition to free market economies. Statistical tables are provided on debt, export, and commercial lending.

Laurie M. Brank, "Perestroika in Eastern Europe: Four New Joint Venture Laws in 1989," Law & Policy in International Business, Vol. 21, 1989, pp. 61-32.
Content: New joint venture laws and the political and economic environments in Hungary, Yugoslavia, Czechoslovakia, and Poland.

Phillip J. Bryson and Manfred Melzer, "Planning Refinement and Combine Formation in East German Economic Intensification," The Carl Beck Papers, No. 508, University of Pittsburgh Center of Russian and EE Studies.
Content: GDR policies on addressing the problems of central economic planning.

Guillermo A. Calvo, Jacob A. Frenkel, "From Centrally Planned to Market Economy," IMF Staff Papers, vol. 38, no. 2, June 1991, pp. 268-299.
Content: Examines the early stages of transformation of centrally planned economies into market economies.

Irwin L. Collier Jr., "How a Negative Income Tax Would Resolve a Dilemma in German Monetary Union," accepted for publication by Eastern European Economics, May 1990.
Content: Negative income tax schedule concept that would allow the GDR government to convert wages and salaries on a one-for-one basis without endangering the competitiveness of businesses.

Irwin L. Collier Jr., GDR Economic Policy during the Honecker Era, revised, March 1990. Original version presented at the 13th Annual Conference of the German Association in Milwaukee, October 7, 1989.
Content: Economic changes during the Honecker era that were largely, in the author's opinion, of minor significance.

Susan M. Collins, Dani Rodrik, Eastern Europe and the Soviet Union in the World Economy, Institute for International Economics, Washington, DC, May 1991.
Content: Analyzes the economic implications of likely developments in Eastern Europe and the Soviet Union for the United States, the European Community, Japan, and the developing countries, particularly focusing on trade and capital flows.

"A Conversation with Milton Friedman at the Prague School of Economics," Columbia Journal of World Business, vol. 26, no. 1, Spring 1991, pp. 15-17.
Discussion with Milton Friedman at he Prague School of Economics.

"We asked 'What is your greatest concern about expanding into Eastern Europe?'" Columbia Journal of World Business, vol. 26, no. 1, Spring 1991, pp. 18-19.
Six high level executives of discuss their concerns in investing in Eastern Europe.

"Country Profile: Bulgaria, Albania," EIU, Intelligence Unit 1986-87.
Content: Data on national accounts, employment, prices, wages, etc.

Michael Czinkota, "The EC '92 and Eastern Europe: Effects of Integrations vs. Disintegration," Columbia Journal of World Business, vol. 26, no. 4, Spring 1991, pp. 20-27.
Discusses actions the EC should take to encourage the private sector in Eastern Europe.

Deutsche Bank, "Special Eastern Europe," February 7, 1990.
Content: EC trade and cooperation agreements with EE countries and information on joint ventures in EE.

Eastern Europe and the USSR: A Guide to Foreign Investment Legislation, Klynevelud Peat Marwick Goedeler, April 1990.
Content: Investment laws in EE.

"Eastern Europe's Economies What is to be Done?" The Economist, January 13, 1990 pp. 21-26.
Content: Reform in EE, the steps necessary in the transformation to a market economy, and the role of the Western governments.

Zbigniew M. Fallenbuchl, "The Balance of Payments Problem and the Economic Crisis in Poland," The Carl Beck Papers, No 406, University of Pittsburgh Center of Russian and East European Studies.
Content: Poland's external economic relations from 1945 to 1984; current structural problems; and observations on future prospects.

Zbigniew M. Fallenbuchl, "Polish Economy in the Year 2000," The Carl Beck Papers, September 1988, University of Pittsburgh Center for Russian and East European Studies.
Content: Constraints on Poland's economic development in 1990s. No industry-specific information.

Paul Freedenberg, COCOM in a Period of Change, presented to the Japan-U.S. Joint Study Group on Trade, Finance, and Technology in East-West Economic Relations, Hawaii, January 1990. New York: Carnegie Council on Ethics and International Affairs, 1990.
Content: COCOM and its position vis-a-vis the Soviet Union and the People's Republic of China; the Toshiba-Kongsberg Affair (which involved the selling of advanced technology submarine parts to the Soviet Union) and the subsequent Japanese export-control regime and COCOM reform; and the future of COCOM.

Hilary F. French, "Green Revolutions: Environmental Reconstruction in Eastern Europe and the Soviet Union," Columbia Journal of World Business, vol. 26, no. 4, Spring 1991, pp. 28-51.
Content: Discusses environmental problems and the environmental movements in the Soviet Union and Eastern Europe.

"Future of the CMEA," World Bank Paper, March 28, 1990.
Content: Reforms and prospects for CMEA.

Gale Research, Inc., Countries of the World, 1989, A Compilation of U.S. Department of State Reports.
Content: Cultural, political, and geographic information by country.

Institute for East-West Security Studies, "Managing the Transition, Integrating the Reforming Socialist Countries into the World Economy," 1989.
Content: Analysis of, and recommendations for East/West integration process.

The Institute of International Finance, Inc., "Building Free Market Economies in Central and Eastern Europe: Challenges and Realities," Washington, D.C., April 1989.
Content: Assesses EE's prospects for successful transition from command to market economies. Analysis includes comparative statistics on living standards and data on foreign debt, trade balances, investment growth, and productivity.

Jane's Railway Guide, 1989.

Jane's Urban Transport Systems, 1989.

Bartlomiej Kaminski, The Disintegration of COMECON: Can It Survive After the Collapse of Command Economic Systems?, presented at the "Socialism and Democratic Socialism" conference organized by the Tokai University European Center, Copenhagen, March 1990.
Content: Historical background on COMECON and analysis of the reasons behind COMECON's current terminal crisis situation.

Bartlomiej Kaminski, "External Dimension of Balance of Payments Adjustment in Eastern Europe," Osteuropa, Wirtschaft, 33, Jg., February 1988, pp. 122-139.
Content: Balance of payment adjustment of the six EE economies (CMEA-6) with the dual objective of assessing the scope of external adjustment and identifying sources of improvement in the CMEA-6 external position.

Bartlomiej Kaminski, "Pathologies of Central Planning," Problems of Communism, March-April, 1987, pp. 81-95.
Content: Reviews the works of Andras Koves (The CMEA Countries in the World Economy: Turning Inwards or Turning Outwards); Janos Kornai (Contradictions and Dilemmas, Studies on the Socialist Economy and Society); David Lane (The Soviet Economy and Society); Alec Nove (Socialism, Economics and Society); and P.T. Wanless(Taxation in Centrally Planned Economies). Examines the declining growth and economic performance of the CMEA countries over the past two decades and the causes thereof. Concludes that certain symptoms such as demographic and technological lags point to potential crisis and that the CMEA countries' poor economic performance is rooted in domestic (i.e. central planning) inefficiencies.

David M. Kemme, "The Real and Monetary Impacts of Exogenous Economic Disturbances Upon Centrally Planned Economies: With an Application to Poland," The Carl Beck Papers, No. 405, University of Pittsburgh Center of Russian and East European Studies.
Content: Real and monetary impacts of exogenous disturbances on the Polish economy.

Peter B. Kenen, "Transitional Arrangements for Trade and Payments Among the CMEA Countries," IMF Staff Papers, Vol. 38, no. 2, June 1991, pp. 235-267.
Content: Discusses alternative transitional arrangements for trade and payments among CMEA countries.

Janos Kornai, The Road to a Free Economy. Shifting from a Socialist System: The Example of Hungary, New York: W.W. Norton & Company, 1990.
Content: The tasks that lay ahead for Hungary in three major areas: ownership, macroeconomic stabilization, and the relationship between the economic and political spheres in Hungary.

David Lipton and Jeffrey Sachs, "Creating a Market Economy in Eastern Europe: The Case of Poland." Paper presented at the Brookings Panel on Economic activity, Washington, D.C. April 5-6, 1990.
Content: A two-part study. The first part summarizes the prevailing economic and political conditions in EE and outlines ideas on strategy for comprehensive reform. The second part focuses on the Polish economy and reform strategy.

"Major Company Tie-ups East/West Germany Announced in 1990," Euromoney, April 1990, p. 50.
Content: Table of joint ventures and cooperation agreements between GDR and West German companies.

Paul Marer, "Dollar GNP's of the U.S.S.R. and Eastern Europe," Johns Hopkins University Press, Baltimore, 1980.
Content: Insight into the problems related to the estimation and comparison of the GNPs and GNP growth rate of East Bloc countries.

Paul Marer and John Montias, "East European Integration and East-West Trade," Indiana University Press, Bloomington.
Content: East-West integration and the role of foreign trade in the economics of CMEA.

Harriet Matejka, "More Joint Enterprises within the CMEA," Planned Economies: Confronting the Challenges of the 1980s, John P. Hardt and Carl H. McMillan, eds., pp. 171-189, New York: Cambridge University Press, 1988.
Content: Joint ventures in the CMEA (i.e., trends, development, and investment patterns).

Jeffrey R. McCord, "Global Finance & Investment Opportunities in Eastern Europe," Barron's, March 12, 1990, pp. 32-44.
Content: Foreign investment environment in six EE countries, including references to several joint venture agreements.

Joze Mencinger, "The Yugoslav Economy, Systemic Changes, 1945-1986," The Carl Beck Papers, No. 707, University of Pittsburgh Center for Russian and East European Studies.
Content: The development of Yugoslavian economy during the following periods: (1) Administrative Socialism, 1945-52; (2) Administrative Market Socialism, 1953-73; (3) Market Socialism, 1963-73; and (4) Contractual Socialism, 1974-present.

Peter Murrell, The Nature of Socialist Economies, Princeton University Press, Princeton, NJ, 1990.
Content: Examines neoclassical and Schumpeterian theories using foreign trade statistics to interpret the behavioral regularities of socialist systems.

OECD Committee on Financial Markets, "Estimate of East European Debt and Debt Service," November 1989, OECD-Note by Secretariat.
Content: OECD estimates of the hard currency debt and debt service of EE countries as of 1988; evaluation of the existing data on EE debt. No industry-specific information.

OECD Working Party of the Trade Committee - East/West Financial Experts, "Current Issues in East West Economic Relations," November 1989, OECD-Note by Secretariat.
Content: General trend of reform process in EE, including perceptions of joint ventures. No industry-specific information.

OECD Working Party of the Trade Committee - East/West Financial Experts, "Developments in East European Economies and in East/West Trade and Financial Relations, 1988-89," November 1989, OECD-Note to Secretariat.
Content: The overall economic situation in EE as well as the recent development in East-West trade and financial relations. Individual country write-ups are included on the USSR, Poland, Hungary, the GDR, Czechoslovakia, Romania, and Bulgaria.

Maurice J. Olivier, "Eastern Europe: The Path to Success," Columbia Journal of World Business, vol. 26, no. 1, Spring 1991, pp. 10-14.
Content: Examines different factors businesses should consider when investing or deciding whether to invest in CEE countries.

Kazimierz Z. Poznanski, "The Competitiveness of Polish Industry and Indebtedness," Creditworthiness and Reform in Poland, Paul Marer and Wlodzimierz Siwinski, eds., Bloomington, Indiana: 1988, pp. 45-59.
Content: Polish competitiveness during 1970-1985, the role of foreign debt, and the future of Polish export capabilities. Some industry-specific information provided.

Kazimierz Z. Poznanski, "Economic Determinants of Technological Performance in East European Industry," Eastern European Politics and Societies, vol. 2, no. 3, Fall 1988, pp. 577-600.

Content: Concludes that the failure of centrally planned economies is a systemic, rather than a latecomer-type problem. Reports statistics from EUROSTAT on technologically advanced goods, engineering products, and machinery and transport equipment.

Kazimierz Z. Poznanski, "International Diffusion of Steel Technologies: Time Lag and the Speed of Diffusion," Technological Forecasting and Social Change, 23, 1983, pp. 305-323.

Content: In the context of analyzing the diffusion of two major innovations in the steel industry, the oxygen steel process and continuous casting, the notion that latecomers are able, in all cases, to adopt new technologies and diffuse them more rapidly than the pioneers and early adopters of technological innovations is challenged. EE is cited as the slowest diffuser overall. Related industry-specific data provided.

Kazimerz Z. Poznanski, "Opportunity Cost in Soviet Trade with Eastern Europe: Discussion of Methodology and New Evidence," Soviet Studies, vol. XL, no. 2, April 1988, pp. 290-307.

Content: Author's research suggests a cyclical pattern of resource transfer with the Soviet Union and EE periodically aiding each other. Industry-specific data offered for the energy (oil and gas) and the machinery and transport equipment industries.

Kazimierz Z. Poznanski, "Patterns of Technology Imports: Interregional Comparison," World Development, vol. 14, no. 6, 1986, pp. 743-756.

Content: Compares and contrasts EE and Latin American (specifically Brazilian, Argentinean, and Mexican) patterns of borrowing money and technology from the West, Western foreign equity investment, and systemic differences; examines the implications of these factors for competitiveness in OECD markets.

Kazimierz Z. Poznanski, "Substituting Southern for Western Markets: Options Before East Europe," supported in part by the Fritz Endowment in International Studies at the Henry Jackson School of International Studies, University of Washington.

Content: The barriers to developing countries' markets faced by EE. Includes IMF statistics on EE/Soviet Union trade with the developing countries, and industry-specific data from the United Nations on machinery and transport equipment.

"Conference on the Failure of Communism: The Western Response," The Radio Free Europe/Radio Liberty Fund, November 15, 1989, Washington, D.C.

Content: Current political, economic, and ethnic situation in EE and the Soviet Union.

Holger Schmieding, "Issues in Privatisation," Intereconomics, vol. 26, no. 3, May/June 1991, pp.103-107.
Content: Discusses factors that should be considered as ex-socialist countries privatize.

Soviet Union and Eastern Europe: Trade Status, prepared for the Japan-U.S. Joint Study Group on Trade, Finance, and Technology in East-West Economic Relations, Hawaii, January 1990. Coudert Brothers, Attorneys and Counselors at Law, Washington, D.C., 1990.
Content: Data in chart form for Bulgaria, Czechoslovakia, the GDR, Hungary, Poland, Romania, the USSR, and Yugoslavia in such areas as MFN status, GSP status, OPIC, EXIM, EC Emergency Assistance, and membership in IMF, GATT, IFC, and World Bank.

Richard C. Staar, ed., "Council for Mutual Economic Assistance: Division and Conflict on Its 40th Anniversary," 1989 Yearbook on International Communist Affairs, Hoover Institution Press, 1989, pp. 413-431.
Content: Historical background and the institutional framework and functional scope of the CMEA. Examines the sources of crisis within the CMEA that have caused it to impede economic reform and restructuring.

Nobuaki Tanaka, The Implications of the Historic Changes in East-West Relations for the Security Environment in the Far East, prepared for the Japan-U.S. Joint Study Group on Trade, Finance and Technology, Hawaii, January 1990. International Institute for Global Peace, 1990.
Content: Global changes beginning to influence international relations in the Far East. Expresses concerns over the construction of a security framework adequate for the new international environment.

United Nations, Economic Commission for Europe, East-West Joint Ventures, Economic, Business, Financial and Legal Aspects, New York, 1988.
Content: Economic, business, financial, and legal aspects of East-West joint ventures.

U.S. Central Intelligence Agency, "Eastern Europe: Long Road Ahead to Economic Well Being," paper presented to the Technology and National Security Subcommittee of the Joint Economic Committee, U.S. Congress, April 16, 1990.
Content: Overview of economic reform in EE, problems encountered by the region, and support given by Western countries.

U.S. Central Intelligence Agency, The World Factbook, 1989.

U.S. Department of Commerce, "Doing Business in Poland," January 1990.
Content: Overview of the business climate in Poland.

U.S. Department of Commerce with assistance from the American Embassy Prague. 1990 Economic Trends Report: Czechoslovakia, January 1990.
Content: Overview of the Czechoslovak economy, updated January 1990.

U.S. Department of State. Country Reports on Economic Policy and Trade Practices, S. Prt. 101-85, February 1990.
Content: Economic policy and trade practices in the GDR, Hungary, Poland, and Yugoslavia.

U.S. International Trade Commission, Office of the General Counsel. U.S. Laws and U.S. and EC Trade Agreements Relating to Nonmarket Economies, March 1990.
Content: Description and text of U.S. and EC agreements with EE countries.

Christopher Wellisz, "Privatization in Poland: The Problem of Valuation," Journal of International Affairs, vol. 45, no. 1, Summer 1991, pp. 247-270.
Content: Examines privatization in Poland and the role of valuation of public property as a step towards privatization. Recommends abandoning valuation and rather privatize through a widespread distribution of shares.

Stanislaw Wellisz, "The Lessons of Economic Reform: The Polish Case," Journal of International Affairs, vol. 45, no. 1, Summer 1991, pp. 165-180.
Content: Examines the difficulties encountered in adopting market practices in East Central Europe.

John Williamson, The Economic Opening of Eastern Europe, Institute for International Economics, Washington, DC, May 1991.
Content: Focuses on Central and Eastern Europe's future external policies regarding currency convertibility, trade and exchange rates.

Arlene Wilson, "Currency Convertibility in Eastern Europe and the Soviet Union," CRS Report for Congress, April 25, 1990.
Content: The effects of currency convertibility on foreign trade, economic reform, and foreign investment in EE and the Soviet Union.

The World Bank, Country Economics Department, "Enterprise Reform and Privatization in Socialist Economies," April, 1990.
Content: An analysis of enterprise reform (macro) in EE.

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