WIIW INDUSTRY STUDIES
2002/1

Development and Prospects of the Basic Metals and Fabricated Metal Products Sector in the Central and Eastern European Countries

WIIW INDUSTRY STUDIES

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Doris Hanzl

Development and Prospects of the Basic Metals and Fabricated Metal Products Sector in the Central and Eastern European Countries

February 2002

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Executive summary

In Central and Eastern Europe, as in most other economies, the metals sector is a key part of manufacturing, highly sensitive to changes in the business cycle. It is considered a capital- (basic metals), labour- (fabricated metal products) and energy-intensive industry, producing a wide range of products (e.g. basic metals, tanks, steam generators, cutlery, tools, light metal packaging, wires etc.). In Central Europe, the sector enjoyed a priority position during communism and has maintained its important role – although declining – in production, employment and foreign trade until the present day. However, its inflated size makes it a ***'high burden industry'*** *in need of further restructuring, including cuts in capacities and employment.*

The study investigates the development and prospects of the metals sector in the following countries:

- *Bulgaria*
- *Czech Republic*
- *Hungary*
- *Poland*
- *Romania*
- *Slovakia*
- *Slovenia*

In size, the metals sector is of ***major importance*** *in the Central and Eastern European countries today, contributing between 8% and 17% of manufacturing output. It has a particularly strong position in* ***Slovakia, Romania, Bulgaria and the Czech Republic****, and is relatively smaller in Hungary. When compared with both the countries of the 'EU-North' and the 'EU-South', the CEECs generally show a larger metals sector.*

In the first phase of transition, lasting from 1989 to around 1992, a severe transformational recession hit the region, with the output of the metals sector declining even more than the rest of the economy. After 1993, production started to rise in most countries but ***growth remained weak****. This was partly due to a shift of demand towards higher-quality products on the domestic market, increasingly met by imports, to constraints in exports to the EU, and to delayed and complex privatization processes in the steel industry. By 2000, the metals sector had surpassed the 1989 level in Poland only.*

As an employer, the metals sector plays an important role and is one of the largest employment sectors in manufacturing, accounting for 10% to 17% today. During transition, employment was reduced in general. However, in most countries output shares are still larger than employment shares, reflecting the capital-intensive nature of basic metals.

As is typical for all CEECs and all sectors of manufacturing, wages, productivity and unit labour costs in the metals sector have generally been much lower than in West European countries, for which we use Austria as a point of reference. During transition, sectoral wages and productivity rose in all CEECs, the productivity increase was however less pronounced than in total manufacturing. This may point to changes in the product mix and in the sectoral structure towards higher-quality, more labour-intensive products. Estimated unit labour costs also rose but still remain at a much lower level than in Austria.

The range for CEECs' unit labour costs in the metals sector as a percentage of the Austrian level is:[1]

Bulgaria	*12% - 30%*	*Romania*	*12% - 29%*
Czech Republic	*38% - 58%*	*Slovakia*	*22% - 34%*
Hungary	*21% - 34%*	*Slovenia*	*79% - 93%*
Poland	*28% - 37%*		

*In CEECs' manufacturing **exports to the EU**, the metals sector is very important, with shares reaching between 12% and 15% today (except in Bulgaria with 32% and Hungary with 6%). Possibly due to the restrictive trade regime (i.e. anti-dumping duties), metal exports grew less dynamically than total manufacturing exports. Exports consist mainly of 'basic metals'. In CEECs' manufacturing **imports from the EU**, metal products are generally less important than in exports; import shares range between 6% and 12%. The import structure is evenly distributed between 'basic metals' and 'fabricated metal products'.*

*The metals sector was a **net exporter to the EU** in 2000, except in Hungary and Slovenia. Compared to total manufacturing, the sector shows a **revealed comparative advantage**, which is however deteriorating, and a **quite large negative but improving price/quality gap indicator**.*

*On the **EU market**, the position of CEECs' metal exports is **prominent but stagnating**: in 1995 and also 2000, CEEC(7) metal exports had a market share of 15% (all shares without intra-EU trade). This share lay significantly above total manufacturing market shares (9% in 1995 and 11% in 2000). On the **Austrian market**, CEECs' exports had a decisively larger share, accounting for 38% of Austria's non-EU imports of metal products in 1995, climbing to 50.5% in 2000. The CEECs' position as a major export destination for Austrian metal exports is however becoming smaller (32% of Austria's non-EU exports in 2000). In total, the CEECs registered a **trade surplus with Austria**.*

[1] The lower range is calculated at purchasing power parities (PPP) for GDP, the upper range at PPP for fixed capital formation; figures are for 2000, only Hungarian and Austrian figures for 1999.

*The metals sector is not a prominent target for **foreign direct investment**, mostly due to problems in privatization and restructuring of the iron and steel industry. Foreign investors are relatively more interested in CEECs' non-ferrous metallurgy, especially aluminium production.*

***Future prospects** of the CEECs' metals sector are overshadowed by delayed and complex privatization processes of large steel companies in the region and will depend on the success of subsequent restructuring, which is also necessary in light of EU accession. Growth potentials on the domestic market (pent-up demand for infrastructure and construction) as well as on export markets (CEE markets, developing countries, EU Single Market) still exist, but might be challenged by higher-quality products from the West.*

Keywords: Basic metals and fabricated metal products; iron and steel industry; manufacturing; transition countries

JEL classification: L6, L61

Doris Hanzl

Development and Prospects of the Basic Metals and Fabricated Metal Products Sector in the Central and Eastern European Countries

Part I: INDUSTRY SURVEY

The metals sector is placed among the key manufacturing sectors and is highly sensitive to changes in the business cycle. Having undergone significant restructuring in Western Europe during the 1970s and 1980s, it is still considered a sensitive sector battling with world-wide overcapacities in steel. In general, the metals sector transforms primary raw materials (e.g. coal, iron ore) as well as secondary raw materials (scrap) into metals, which are an essential input for both the investment goods industry (construction, machinery, heavy transport) and the consumer goods industry (automotive, household appliances, packaging). Products range from basic metals (ferrous and non-ferrous) to fabricated metal products such as tanks, steam generators, cutlery, tools, light metal packaging, wires, etc. The metals sector is considered a capital- (basic metals), labour- (fabricated metal products) and energy-intensive sector. It is classified as a medium-low-technology industry.

This study provides a thorough picture in two parts of the metals sector in the Central and Eastern European countries (CEECs). Part I gives an overview of the developments and prospects of the sector, while Part II presents further detailed information and selected company profiles. The first part consists of four sections: Section 1 deals with trends in the growth and structure of the sector, including characteristics of production and employment. Section 2 analyses indicators of international competitiveness, in particular wage rates, productivity levels and unit labour costs. Section 3 examines various aspects of trade performance with the European Union, while section 4 takes a closer look at foreign direct investment in the sector. A concluding section provides a summary and outlook on future prospects, the appendix presents additional tables and figures.

In the NACE rev. 1 classification system (Statistical classification of economic activities in the European Community) the term 'basic metals and fabricated metal products', thereafter called *metals sector*, denotes the sub-section 'DJ', which consists of the following industries (27, 28):

- Manufacture of basic metals (27)[2]
- Manufacture of fabricated metal products, except machinery and equipment (28)[3]

[2] Including 'basic iron and steel and ferro-alloys (ECSC)' (27.1), 'tubes' (27.2), 'other first processing of iron and steel and production of non ECSC ferro-alloys' (27.3), 'basic precious and non-ferrous metals' (27.4), and the 'casting of metals' (27.5). (ECSC = European Coal and Steel Community)

The following analysis is based on this classification. Data come from the WIIW Industrial Database – Central and Eastern Europe (IDB-CEE), which currently covers Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia (CEEC(7)). Data on foreign direct investment originate from the WIIW Database on Foreign Investment Enterprises (FIEs), data on foreign trade from the EUROSTAT Comext Database.

1 Overview: Trends in growth and structure

The metals sector in the region

The metals sector plays an important role in the economies of the CEECs with a total production volume of EUR 26.8 billion and a workforce of 857,300 persons in the CEEC(7).

Among the CEEC(7), Poland was the largest producer of metal products in terms of current production in 2000 (EUR 9.3 billion), followed by the Czech Republic (EUR 6.2 billion). In Hungary the production volume reached EUR 3.3 billion, in Romania and Slovakia EUR 2.8 billion, and it was relatively smaller in Slovenia and Bulgaria (see Table 1; compare also ranking of crude steel production, Appendix, Table A2).

Table 1

Basic metals and fabricated metal products

Overview on production and employment, 2000

	Production[1)]			Employment	
	mn EUR	% of GDP	% of manuf.	ths. persons	% of manuf.
Bulgaria	994.9	7.6	13.2	54.7	10.3
Czech Republic[2)]	6206.7	12.1	15.9	177.0	16.7
Hungary[3)]	3266.6	6.5	8.1	74.8	10.1
Poland[2)]	9333.4	6.4	10.7	274.9	11.2
Romania[2)]	2826.3	8.5	15.8	166.8	10.7
Slovak Republic	2826.3	13.6	17.0	74.3	15.3
Slovenia[2)]	1370.9	7.3	12.3	34.8	15.5
CEEC(7)	**26825.0**	.	.	**857.3**	.

Notes: 1) At current prices.- 2) Production data 1999.- 3) Employment data 1999.

Source: WIIW Industrial Database

Comparing levels of production with the levels of employment in the different CEECs reveals significant differences in output per employee (= labour productivity) in the sector. While in Hungary, for instance, the metals sector produced an output of EUR 3.3 billion

[3] Including 'structural metal products' (28.1), 'tanks, reservoirs and containers of metal; central heating radiators and boilers' (28.2), 'steam generators, except central heating hot water boilers' (28.3), 'forging, pressing, stamping and roll forming of metal; powder metallurgy' (28.4), 'treatment and coating of metals; general mechanical engineering' (28.5), 'cutlery, tools and general hardware' (28.6), and 'other fabricated metal products' (28.7).

with 74,800 persons, in Romania the sector produced only EUR 2.8 billion with more than double the number of employees (166,800). High productivity occurs not only in Hungary but also in Slovenia, low productivity is observed in Romania and Bulgaria, pointing to delayed restructuring in the latter two countries (see analysis of labour productivity below[4]).

Major importance in production - specialization in the Slovak Republic

The metals sector is one of the major sectors in the economies of the CEECs: In 2000 it reached 17% in Slovakia and was hence the largest segment of manufacturing there, 16% in the Czech Republic and Romania. In Bulgaria, Slovenia and Poland shares ranged between 13% and 11%, only in Hungary the metals sector was slightly smaller with 8% (at current prices; see Table 2).

The metals sector was considered a priority sector with regard to industrial development during the former command economy with its pronounced bias towards heavy industry and the production of raw materials and intermediate products. Also for defence reasons, investments were primarily channelled into this sector, which became heavily over-represented in turn. As natural resources were missing in most CEECs, the sector was built on the basis of cheap raw material and energy imports from the Soviet Union resulting in high energy intensity. Hence, when the CEECs opened up in 1989, the metals sector was larger than these economies could support, its technology was outdated and polluting, and its production range non-competitive. Facing the loss of the former CMEA market and growing high-quality import competition, the sector's relative size in manufacturing was scaled down in most countries (yet growing in Slovakia and staying the same in Slovenia), but nevertheless remained of great importance. Today, the metals sector has a strong position in the Slovak Republic, Romania, Bulgaria and the Czech Republic – although declining in the latter. But while the restructuring process has proceeded in Slovakia, privatization and restructuring were largely delayed in Romania and Bulgaria, making further changes necessary (see Figure 1 and Table 3).

[4] However, the analysis of labour productivity in chapter 2 uses production data at constant prices 1996 while here production figures at current prices are stated.

Table 2

Production shares of individual industries in total manufacturing (at current prices), 2000, in %

		Bulgaria	Czech Republic[1)]	Hungary	Poland[1)]	Romania [1)]	Slovak Republic	Slovenia[1)]
D	Manufacturing total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
DA	Food products; beverages and tobacco	23.6	17.2	15.2	24.8	21.0	12.5	14.9
DB	Textiles and textile products	6.8	4.4	3.3	4.8	7.7	3.6	7.3
DC	Leather and leather products	1.2	0.8	0.6	0.9	1.8	1.2	1.5
DD	Wood and wood products	1.5	2.7	1.1	3.8	3.4	3.0	3.2
DE	Pulp, paper & paper products; publishing and printing	4.3	4.7	4.3	6.4	3.5	6.3	7.1
DF	Coke, refined petroleum products & nuclear fuel	18.7	2.8	6.3	4.4	10.7	10.1	0.4
DG	Chemicals, chemical products & man-made fibres	9.8	6.7	7.2	6.5	7.8	6.4	10.0
DH	Rubber and plastic products	1.9	4.3	3.3	4.6	2.4	3.4	4.5
DI	Other non-metallic mineral products	4.3	6.4	2.7	5.4	4.7	4.6	4.8
DJ	**Basic metals and fabricated metal products**	**13.2**	**15.9**	**8.1**	**10.7**	**15.8**	**17.0**	**12.3**
DK	Machinery and equipment n.e.c.	7.2	8.0	4.1	5.5	5.1	6.8	10.4
DL	Electrical and optical equipment	4.4	7.9	27.2	7.2	4.7	7.9	8.6
DM	Transport equipment	1.6	14.3	15.4	10.3	7.7	14.5	9.9
DN	Manufacturing n.e.c.	1.7	3.9	1.3	4.6	3.7	2.7	5.3

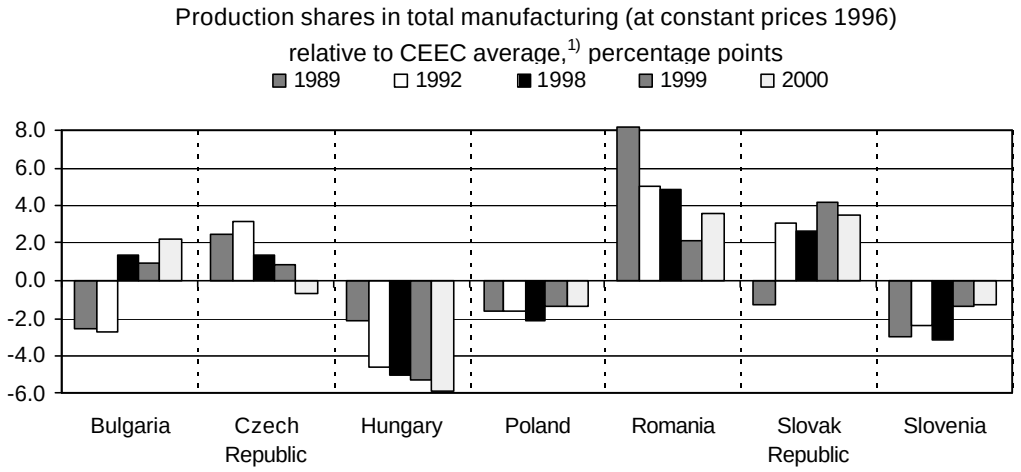
Note: 1) 1999.

Source: WIIW Industrial Database.

Figure 1

Basic metals and fabricated metal products

Relative position of CEECs' metals sectors in the region



Notes: 1) The CEE average includes all CEEC(7) countries.

Source: WIIW Industrial Database.

Table 3

Basic metals and fabricated metal products

Production shares (at constant prices 1996), in %

Manufacturing = 100

	1989	1992	1998	1999	2000
EU-North [1)3)]	.	10.9	10.5	.	.
EU-South [2)3)]	.	10.8	11.2	.	.
Austria [4)]	15.4	13.7	14.2	13.8	.
Bulgaria	12.1	11.3	15.4	13.8	15.5
Czech Republic	17.1	17.2	15.4	13.7	12.6
Hungary	12.5	9.4	9.0	7.5	7.4
Poland	13.0	12.4	11.9	11.4	11.9
Romania	22.9	19.0	19.0	14.9	16.9
Slovak Republic	13.4	17.1	16.7	16.9	16.8
Slovenia	11.7	11.6	11.0	11.4	12.0

Notes: 1) Including UK, France, Germany and Belgium. - 2) Including Greece, Portugal and Spain. - 3) At current prices. - 4) 1989 and 1992 data at constant prices 1993.

Source: WIIW Industrial Database, Eurostat.

In comparison with the more advanced industrialized countries of the 'EU-North' **and** with the countries of the 'EU-South', the CEECs generally showed a larger metals sector and thus a structural surplus, except in Hungary and probably Slovenia, which exhibited a

structural deficit (see Appendix, Figure A1). Compared with Austria, Hungary, Poland and Slovenia had a smaller metals sector, the other CEECs a larger one.[5]

Stagnation of the metals sector

During the first period of transformation, from 1989 to 1992, all CEECs experienced a severe transformational recession, and the production of the metals sector declined as well. In some countries average growth fell by more than 20% (see Table 4). In comparison to total manufacturing, the sector was typically much more affected and hence may be called a relative 'loser'[6] of this period (except in Slovakia, see Table 4, average annual changes relative to total manufacturing, 1990-92). This was due to lower demand on the domestic market caused by the declining need for investment goods as well as for military equipment and the collapse of the CMEA market, which had been not only an important target for exports but also a significant supplier of raw materials. This led to a so-called 'supply-side shock'. Especially production of crude steel plummeted during these first years of transition (see Appendix, Table A2).

Table 4

Basic metals and fabricated metal products

Production growth (at constant prices 1996)

	Average annual changes in %		Relative to total manufacturing, in percentage points		Index 2000
	1990-92	**1993-2000**	**1990-92**	**1993-2000**	**1989=100**
Bulgaria	-20.7	-5.9[1)]	-1.7	1.6[1)]	.
Czech Republic	-14.1	-1.5	0.1	-3.9	56.2
Hungary	-21.7	8.5	-6.5	-3.4	92.3
Poland	-12.9	9.0	-1.7	-0.6	131.0
Romania	-28.7	-3.1	-4.6	-1.4	28.1
Slovak Republic	-8.9	2.8	7.0	-0.2	94.3
Slovenia	-11.5	2.0	-0.2	0.4	81.2

Notes: 1) 1997-2000.

Source: WIIW Industrial Database.

During the second period of transformation, from about 1993 onwards, growth returned to the region and the metals sector participated in this general upswing. Output started to grow in most countries, except in Romania and the Czech Republic (see Table 4). When compared to total manufacturing, growth was smaller and the sector remained a 'loser' of

[5] Notably, the metals sector in Austria is larger than in other countries with a comparable level of development for historical reasons.

[6] 'Losers' of transition are here defined as industries that performed worse than total manufacturing in terms of production growth, 'winners' are those that performed better - see Urban (1999), p.22.

this period as well, except in Slovenia to some extent (see Table 4, average annual changes relative to total manufacturing, 1993-2000[7]).

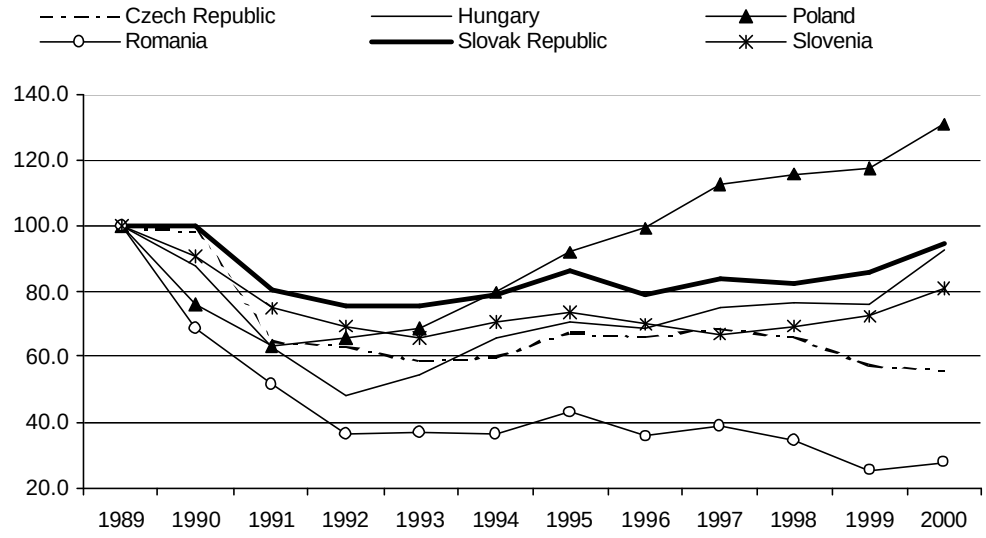
On the demand side, the relatively weak performance of the sector was partly due to a shift of demand on the domestic market (e.g. in the booming and foreign-owned automotive industry) to higher-quality products, increasingly met by imports. Export expansion to the EU has been constrained by the trade regime prevalent in the sector. On the supply side, the restructuring and privatization of former big state-owned steel enterprises with thousands of employees has started, but is difficult and often delayed, and hence growth impulses are missing. Small and medium-sized enterprises in the 'fabricated metal products' industry seem to have been developing quite dynamically in the more advanced CEECs, but less so in Bulgaria and Romania, possibly due to constraints in funding.

Looking at the production index for the metals sector, the decline of production in the first period was offset only in Poland, where production surpassed the 1989 level in 1997 and reached 130% in 2000 (see Figure 2). In the other countries production stagnated more or less, but did relatively better in Slovakia, Hungary and Slovenia (90-80% of the 1989 level in 2000) than in the Czech Republic and especially in Romania.

Figure 2

Basic metals and fabricated metal products

Industrial production index (at constant prices 1996, national currency), 1989 = 100



Source: WIIW Industrial Database.

[7] For Bulgaria, only limited comparisons can be made between data before 1996 and thereafter, due to a statistical break.

Major role in employment

In employment, the metals sector plays an important role and is one of the largest employers in manufacturing. In the Czech Republic, Slovenia and the Slovak Republic the sector even ranked first in 2000, with shares between 17% and 15%. In the other CEECs, the metals sector accounted for 10% to 11% then (see Table 5). In total numbers, about 274,900 persons were employed in the metals sector in Poland, 177,000 in the Czech Republic and 166,800 in Romania. In Hungary and the Slovak Republic about

Table 5

Basic metals and fabricated metal products

Employment shares, in %

Manufacturing = 100

	1989	1992	1998	1999	2000
EU-North[1)]	.	12.9	12.8	.	.
EU-South[2)]	.	13.5	13.4	.	.
Austria	16.7	15.7	16.2	16.1	.
Bulgaria	9.8	10.0	11.6	11.8	10.3
Czech Republic	13.9	17.6	17.5	17.3	16.7
Hungary	10.6	10.3	8.9	10.1	.
Poland	12.0	11.5	11.8	11.5	11.2
Romania	10.5[3)]	12.7	12.4	11.7	10.7
Slovak Republic	.	9.9	14.9	14.6	15.3
Slovenia	16.9	16.5	14.0	14.8	15.5

Comparisons should be made with caution due to statistical breaks.

Notes: 1) Including UK, France, Germany and Belgium. - 2) Including Greece, Portugal and Spain. - 3) 1990.

Source: WIIW Industrial Database, Eurostat.

Table 6

Basic metals and fabricated metal products

Employment

thousand persons

	1989	1992	1998	1999	2000	2000 1989=100
Bulgaria	139	88	80	73	55	.
Czech Republic	230	207	201	187	177	77.0
Hungary	124	88	59	75	.	60.3[2)]
Poland	398	318	330	302	275	69.1
Romania	362[1)]	356	237	194	167	46.1[3)]
Slovak Republic	.	52	77	73	74	.
Slovenia	63	47	32	33	35	55.6

Notes: 1) 1990. - 2) 1999. - 3) 1990=100.

Source: WIIW Industrial Database.

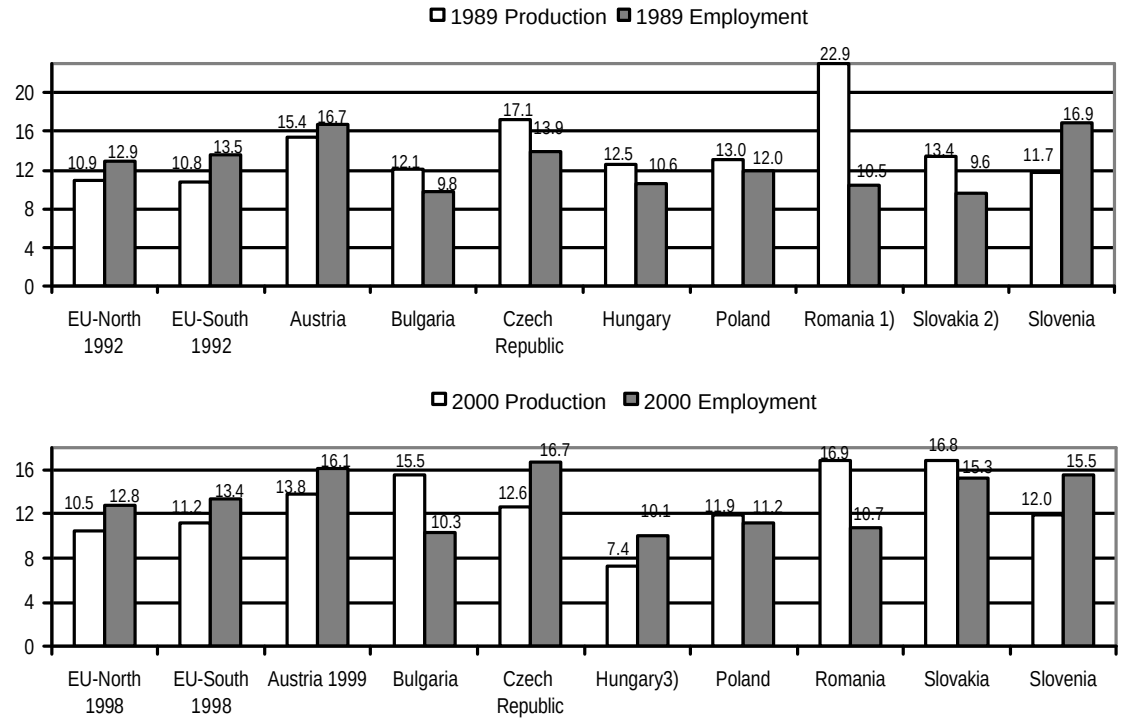
74,000 employees worked in the metals sector, while the number was somewhat smaller in Bulgaria (54,700) and Slovenia (34,800). In general, employment declined during transition and employment figures were smaller in 2000 than in 1989 (see Table 6).[8]

Both production and employment shares of the metals sector reveal its important position in the economy (see Figure 3). But in 1989, in contrast to the West European countries, production shares in the CEECs were generally larger than employment shares, except in Slovenia, due to the relatively bigger weight of the basic metals industry which is typically more capital-intensive. By 2000, proportions had turned around for the Czech Republic and Hungary, but retained the same order in the other CEECs.

Figure 3

Basic metals and fabricated metal products

Shares in production (at constant prices 1996) and employment in total manufacturing, in %



Comparisons between employment shares 1989 and 2000 should be made with caution, due to statistical breaks.

Notes: 1) Employment share 1990.- 2) Employment share 1991. - 3) Employment share 1999.

Source: WIIW Industrial Database.

[8] For Slovakia, direct comparisons of employment figures are difficult to make: For 1991, data include companies with more than 25 employees, with the metals sector counting 58,037 employees. For 2000, all companies are included, pushing the employment figure of the metals sector to 74,292.

2 International competitiveness

As is typical for all CEECs and their manufacturing industry, wages, productivity and unit labour costs in the metals sector have been generally lower than in Western countries, for which we have used Austria as a reference point. In 2000, nominal wage rates (gross wages at exchange rates per employee) hovered between 10% and 20% of the Austrian level in most countries; they were even lower (at 6%) in Bulgaria and Romania, but somewhat higher in Slovenia (31%). The estimated productivity level of the metals sector was particularly high in Poland and Slovakia (70% and 60% of the Austrian level respectively), while it was especially low in the Czech Republic and Slovenia (40%), and reached 50% in the other CEECs. Unit labour costs ranged between 10% of the Austrian level in Bulgaria and Romania and 40% in the Czech Republic, only in Slovenia they were significantly higher with almost 80%.[9]

During transition, wages and productivity rose throughout the region. Between 1993 and 2000, the wage rate increased by more than 10% in most countries, the productivity increase was relatively smaller (except in Hungary, see Table 7). Notably, when compared to total manufacturing, the productivity increase in the metals sector was less pronounced, making the sector a relative productivity loser (except in Bulgaria, Romania and Slovenia). As the wage increase was higher than the productivity increase, unit labour costs rose in all countries except Hungary and cost competitiveness of the sector decreased (see Table 7). However, weaker productivity performance of the metals sector may point to

Table 7

Basic metals and fabricated metal products

Average annual growth rates, 1993-2000, in %

	Output	Employment	Productivity (EUR basis)	Productivity relative to total manuf.	Wage rates (EUR basis)	Unit Labour Costs (EUR basis)
Bulgaria [1)]	-5.9	-11.5	6.3	5.7	11.8	5.2
Czech Republic	-1.5	-4.1	2.6	-3.7	13.5	10.6
Hungary [2)]	6.8	-4.9	12.3	-2.1	5.8	-5.8
Poland	9.0	-1.8	10.9	-0.3	11.1	0.2
Romania	-3.1	-9.0	6.5	0.7	11.6	4.8
Slovak Republic	2.8	0.9	1.9	-4.9	10.8	8.8
Slovenia	2.0	-5.4	7.9	2.3	9.5[2)]	1.4[2)]

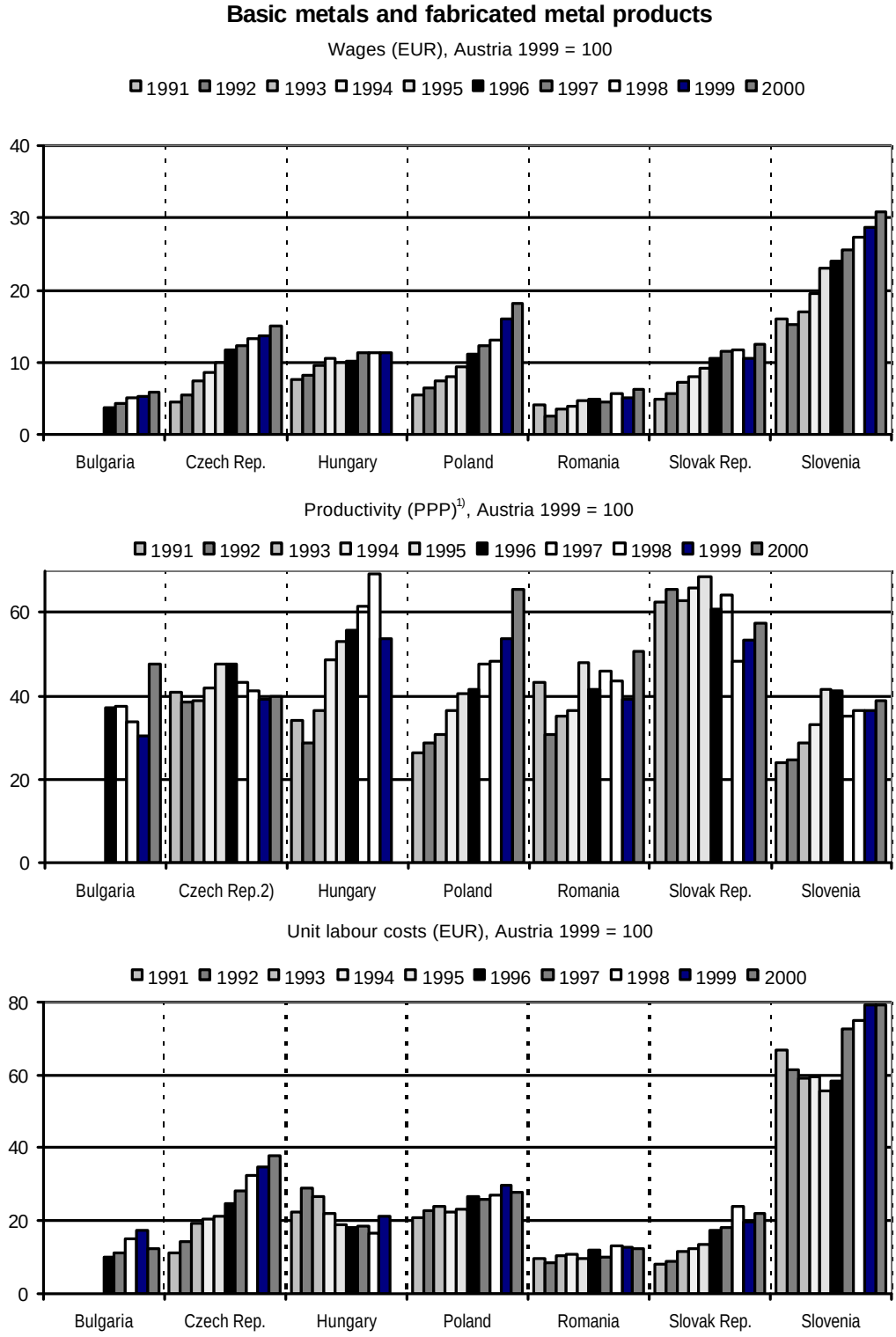
Notes: 1) 1997-2000. - 2) 1993-1999.

Source: WIIW Industrial Database.

[9] These figures are however strongly affected by different productivity measures. Table A3 in the Appendix shows the lower and upper ranges for estimated unit labour costs in 2000, using alternative measures for productivity. In the text, only the lower range (productivity calculated at PPPs for GDP) is stated. When using the upper range (productivity calculated at PPPs for fixed capital formation) unit labour costs are higher but still below the Austrian level.

changes in the product mix and in the sectoral structure towards higher-quality, more labour-intensive products (compare Part II).

Figure 4



Notes: 1) PPP = Purchasing Power Parities for GDP. - 2) Coverage of Czech industrial statistics had a break in 1996/97 due to the size of enterprises included.
Source: WIIW Industrial Database.

Looking at the wage level in the metals sector, wages lay somewhat above the total manufacturing average in 2000. Only in Hungary and Slovenia, wages were slightly lower than the manufacturing average in that year. During transition relative wages declined modestly in some countries and increased in others (see Table 8).

Table 8

Basic metals and fabricated metal products

Average monthly gross wages

Manufacturing = 100

	1992	1995	1998	1999	2000
Bulgaria	126.2	121.0	133.0	130.6	129.5
Czech Republic	112.5	112.6	108.3	105.7	104.9
Hungary	107.8	105.4	102.4	97.1	.
Poland	110.3	113.3	110.0	109.3	106.2
Romania	108.0	117.2	118.0	116.2	132.1
Slovak Republic	125.2	127.3	119.4	111.8	117.4
Slovenia	95.0	98.4	99.3	99.6	.

Source: WIIW Industrial Database.

3 Trade performance with the EU(15)

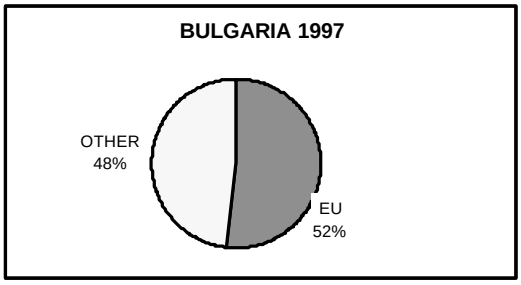
For the steel industry, the still existing special **trade regime** should be kept in mind: In the European Union, the coal and steel industry belongs to what are called the 'sensitive sectors' and is therefore more protected than others. Special treatment is provided through the European Coal and Steel Community (ECSC), set up by the Treaty of Rome in 1951 and expiring in July 2002. The regulatory framework under which the sector operates until then will be changed from mainly sector-oriented into the EU policy applied to the whole of the manufacturing industry. Until the end of 1991, trade in coal and steel between the EU and the CEECs was restricted by voluntary export restraints. Then the newly established Europe Agreements exempted the sensitive areas from early liberalization, but trade restrictions on coal and steel imports from the CEECs to the EU were finally lifted in 1996 (asymmetric opening). However, there is still the possibility of applying the safeguard mechanism and anti-dumping duties. In addition, a double licence system with certain countries acts as an early-warning system for dumping by supplying information in time.

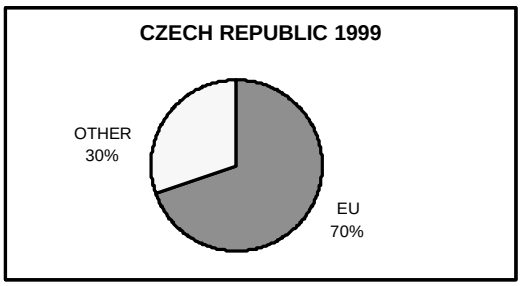
The Europe Agreements contain a Protocol on ECSC products (Protocol 2), which includes the provisions on public aid for restructuring. A five-year grace period on state aid has expired for most CEECs and a further five-year extensions has been requested.

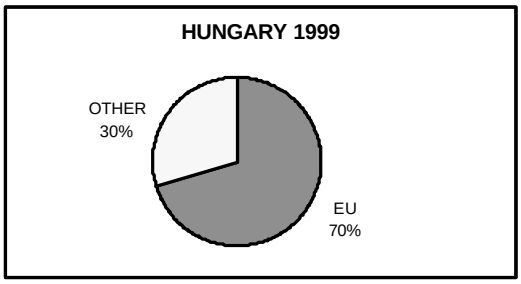
Figure 5

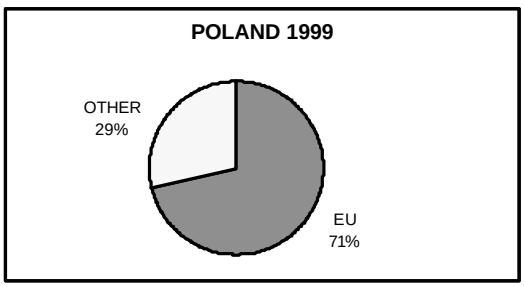
Basic metals and fabricated metal products
CEECs' exports to and imports from the world

Exports to the world

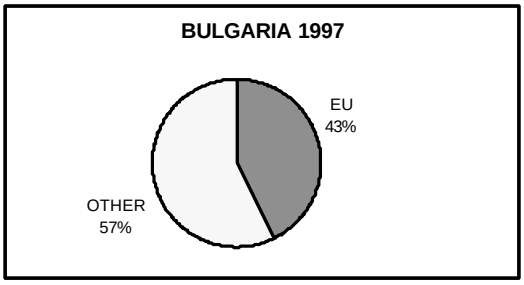


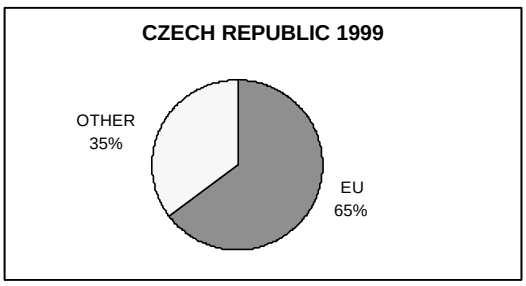


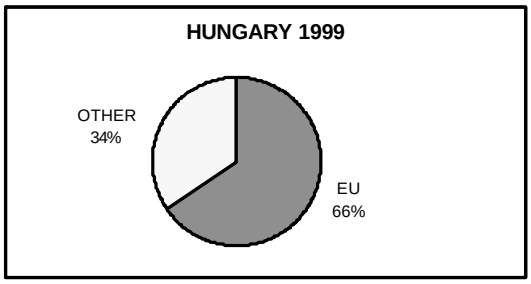


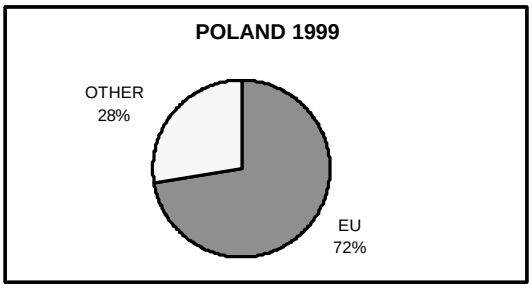


Imports from the world





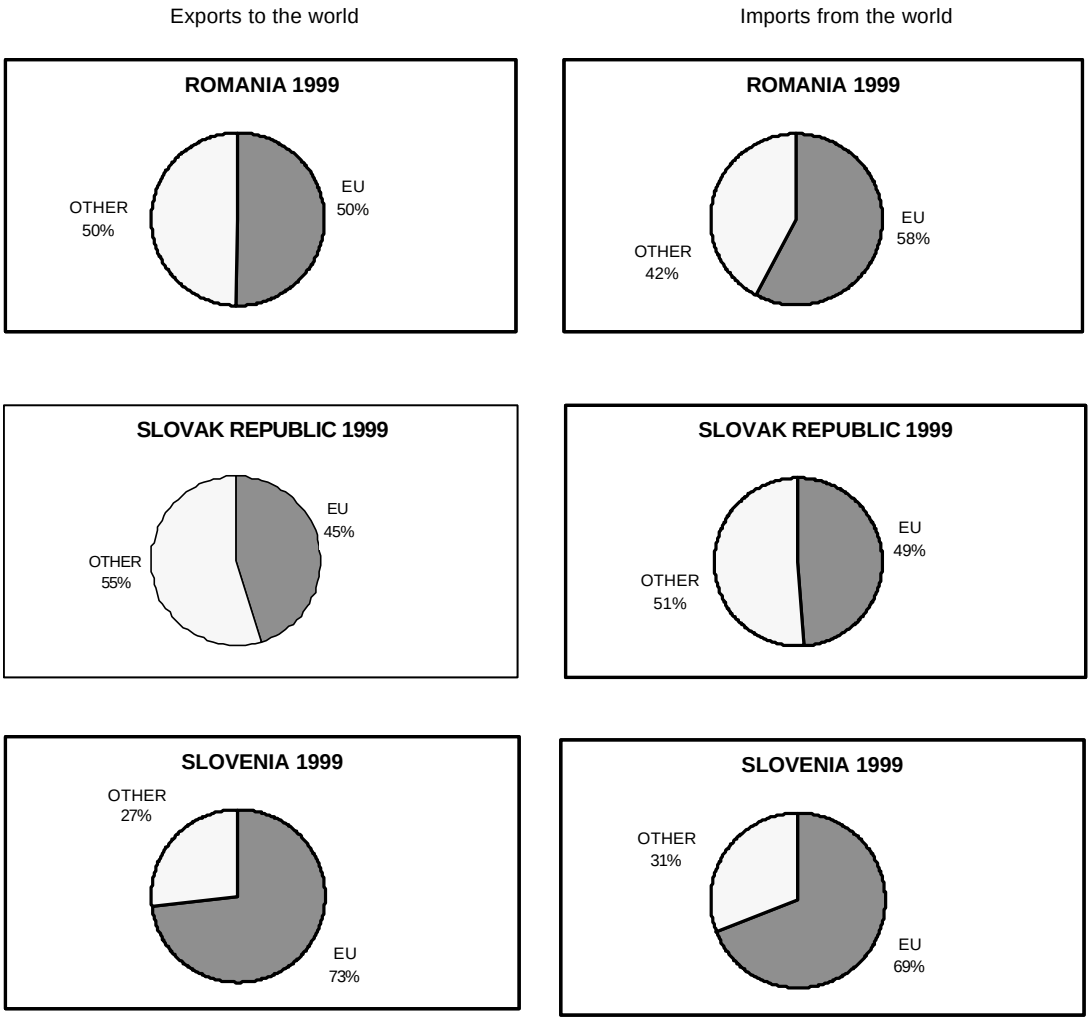




(Figure 5 contd.)

(Figure 5 contd.)

Basic metals and fabricated metal products
CEECs' exports to and imports from the world



Source: UN-Database.

However, certain conditions have to be met before extension is granted: a sound national restructuring programme and viability plans for the individual companies. [10]

Trade with the EU is investigated in detail as the EU is the dominant trading partner of all CEECs today: after the collapse of the CMEA market, CEECs' trade became heavily

[10] See European Commission (1999).

oriented towards EU markets.[11] Also in the metals sector, the EU(15) have become the major trading partner of the CEECs (see Figure 5). By the end of the 1990s, the EU accounted for about 70% of total metal exports in Slovenia, Poland, Hungary and the Czech Republic. In Bulgaria and Romania the share of exports to the EU reached 50%, in Slovakia 45%. In total metal imports the EU was important as well, accounting for 60% to 70% of CEECs' total imports, except in Slovakia and Bulgaria where shares were smaller (49% and 43% respectively).[12]

Major but declining role in exports

In total manufacturing exports to the EU(15), the metals sector is of major importance today and one of the largest exporting segments: In 2000, it accounted for almost 32% of all manufacturing exports going to the EU(15) in Bulgaria, and for 12% to 15% in the other CEECs; it was smaller only in the case of Hungary with 6%. Hence, it was the largest exporting branch in Bulgaria and ranked second in Romania (behind the textiles & textile products sector) and in Poland and Slovenia (behind the transport equipment sector) (see Appendix, Table A4 and Figure A2).[13] In 2000, export shares were larger than production shares in Bulgaria, Poland and Slovenia, indicating an above-average export orientation of the metals sector to the EU(15). In the other countries, production shares were somewhat larger.

Between 1995 and 2000, metal exports were expanding, but less than total manufacturing exports; thus export shares fell remarkably. Only in Slovenia did metal exports increase slightly more than total manufacturing so that shares remained constant. In the region, the increase of export volumes was quite strong in the last year and generally most pronounced in the Czech Republic, reaching 180% of the 1995 level in 2000 (see Figure 6).

In total manufacturing imports from the EU(15), the metals sector is less important than in exports, except in Hungary: In 2000, the sector measured shares from 6% in Romania and Bulgaria to 11% in the Czech Republic and 12% in Slovenia and thus ranged in the (upper) middle field of total manufacturing imports. Between 1995 and 2000, imports grew, but shares remained fairly constant (see Appendix Figure A2).

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[11] By 1999, more than 70% of total Hungarian exports went to the EU(15), for Poland and the Czech Republic the levels were about 70%, for Romania and Slovenia somewhat below 70%, for the Slovak Republic 60%, and for Bulgaria around 50% (40% in 1997). On the import side, Slovenian and Polish imports from the EU(15) accounted for roughly 70%, in the Czech Republic, Hungary and Romania EU(15) imports had a share of about 60%, and in Slovakia and Bulgaria of 50% (Bulgaria: 40% in 1997).

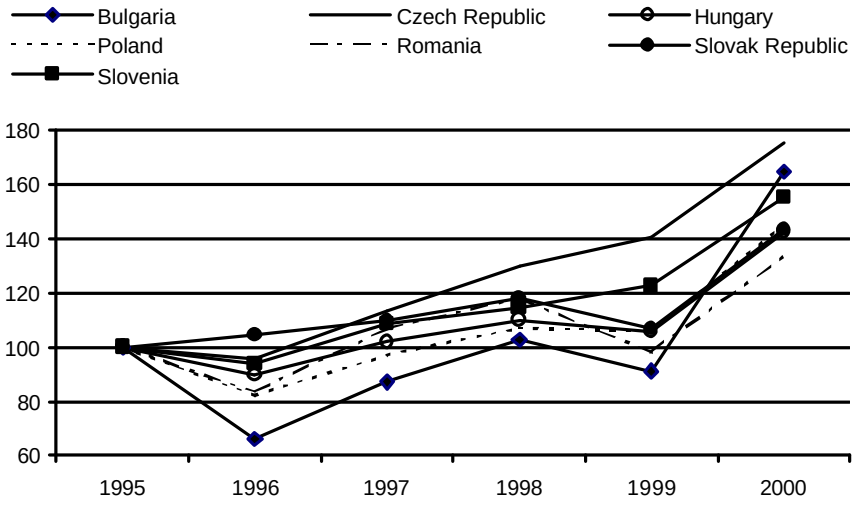
[12] For Slovakia, the main export targets for flat-rolled products of iron ore and non-alloy steel (hot-rolled, cold-rolled and plated or coated) are the Czech Republic and Poland.

[13] In the Czech and Slovak Republics the metals sector ranked third behind the transport equipment and the electrical & optical equipment sectors.

Figure 6

Basic metals and fabricated metal products

Export index EU(15), 1995 = 100



Source: Eurostat, WIIW calculations.

Higher exports than imports led to a moderate sectoral trade surplus in most CEECs in 2000, except in Hungary and Slovenia. In Bulgaria, the trade surplus was largest and reached EUR 700 million. In Hungary and Slovenia, the former trade surplus turned negative from 1997 onwards. Poland temporarily experienced a sectoral trade deficit in 1998 and 1999 (see Appendix Figure A2).

Exports concentrated on 'basic metals', imports evenly distributed

At a more detailed three-digit NACE level (see Table 9), in 2000 exports of the CEECs to the EU(15) were concentrated on 'basic metals' (between 60% and 95% of the sector's exports), except in the Czech Republic (44%), where exports of 'fabricated metal products' (56%) were more important in the sectoral structure. The concentration on 'basic metals' was most pronounced in Bulgaria (95%) and Romania (85%) and least in Poland (58%) and of course the Czech Republic. Exports came mainly from the sub-branches 'basic precious and non-ferrous metals', 'basic iron and steel, ferro-alloys (ECSC)' and also from 'other fabricated metal products' (see Table 9).

Between 1995 and 2000, the concentration on 'basic metals' in the export structure declined remarkable in many countries and there were also certain changes at the level of sub-branches: Looking at the gaining and losing industries, 'basic iron and steel,

Table 9

Detailed export structure of the metals sector, 2000, in %

		Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
27	**Basic metals**	**94.9**	**43.7**	**62.4**	**58.0**	**84.7**	**73.0**	**62.7**
27.1	Basic iron and steel, ferro-alloys (ECSC)	32.8	19.2	20.2	20.4	31.7	34.8	13.5
27.2	Tubes	1.6	5.4	3.6	3.5	5.7	6.4	3.2
27.3	Other first processing of iron and steel	0.5	6.5	1.7	3.0	4.8	5.6	8.1
27.4	Basic precious and non-ferrous metals	59.9	12.6	36.9	31.1	42.5	26.2	37.9
28	**Fabricated metal products**	**5.1**	**56.3**	**37.6**	**42.0**	**15.3**	**27.0**	**37.3**
28.1	Structural metal products	0.4	12.5	9.7	12.1	2.3	5.6	6.0
28.2	Tanks, reservoirs, central heating radiators and boilers	0.2	3.9	3.5	2.6	1.3	3.1	1.6
28.3	Steam generators	0.1	0.6	1.8	2.4	0.3	0.8	0.1
28.6	Cutlery, tools and general hardware	1.4	10.8	5.9	3.9	2.3	2.4	12.0
28.7	Other fabricated metal products	3.0	28.5	16.8	20.9	9.2	15.0	17.6
DJ	**Basic metals and fabricated metal products**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	in EUR mn	**924.0**	**2725.8**	**1313.5**	**3178.5**	**908.9**	**917.2**	**851.4**

Source: Eurostat, WIIW calculations.

Table 10

Detailed import structure of the metals sector, 2000, in %

		Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
27	**Basic metals**	**55.3**	**55.7**	**44.6**	**50.3**	**44.3**	**47.8**	**61.4**
27.1	Basic iron and steel, ferro-alloys (ECSC)	8.7	19.4	14.6	19.8	13.5	10.2	24.0
27.2	Tubes	18.4	7.6	5.9	6.3	7.9	7.8	5.0
27.3	Other first processing of iron and steel	4.7	7.9	7.0	5.7	3.9	7.8	8.7
27.4	Basic precious and non-ferrous metals	23.5	20.9	17.2	18.4	19.0	22.0	23.7
28	**Fabricated metal products**	**44.7**	**44.3**	**55.4**	**49.7**	**55.7**	**52.2**	**38.6**
28.1	Structural metal products	9.1	4.8	5.6	7.8	11.7	4.1	5.6
28.2	Tanks, reservoirs, central heating radiators and boilers	3.0	2.1	4.2	5.8	9.2	3.2	2.0
28.3	Steam generators	0.6	0.5	0.6	1.0	1.6	0.6	0.2
28.6	Cutlery, tools and general hardware	11.2	14.5	17.0	14.1	11.5	16.3	11.4
28.7	Other fabricated metal products	20.8	22.4	27.9	21.0	21.7	28.0	19.3
DJ	**Basic metals and fabricated metal products**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	in EUR mn	**183.0**	**2491.5**	**1580.6**	**2947.9**	**456.7**	**475.2**	**904.1**

Source: Eurostat, WIIW calculations.

ferro-alloys (ECSC)' was in fact the largest loser in exports in terms of its competitive loss (except in Slovenia), while 'basic precious and non-ferrous metals' was a major winner (except in Poland). In addition, 'cutlery, tools and general hardware' and 'other fabricated metal products' exports also experienced a competitive gain.[14]

The import structure of the metals sector was evenly distributed between 'basic metals' and 'fabricated metal products', each accounting for about half of the sector's imports in 2000. Main import sub-branches were 'other fabricated metal products', 'basic precious and non-ferrous metals', 'basic iron and steel, ferro-alloys (ECSC)' and also 'cutlery, tools and general hardware' (see Table 10). Between 1995 and 2000, the import structure at industry level (looking at 'basic metals' and 'fabricated metal products') remained the same and also at the level of sub-branches there were on average less changes than in exports.

Price/quality gap indicator

The price/quality gap indicator reveals differences in export prices which under certain conditions can be interpreted as differences in product quality. This indicator is measured by the CEE export unit values (value per kg) to the EU(15) compared to the overall EU import unit value. For the average of 1995-2000 as well as for the year 2000, the price/quality gap indicator was negative for exports from the metals sector of all CEECs to the EU(15) – and quite substantial: for the average it ranged between -9% in Slovenia and -19% in the Czech Republic (see Table 11). Between 1995 and 2000, the indicator improved and the gap became smaller.

Also, at a more detailed level, the price/quality gap was mostly negative, with only rare exceptions (see Table 11). In general, the gap was larger for 'fabricated metal products' than for 'basic metals', pointing to a relatively lower quality of higher value-added products.

Prominent position on the EU market

In 1995, CEEC(7) metals sector exports to the EU(15) had a market share of 15%, which remained fairly constant in the following period and still stood at 15% in 2000 (all shares without intra-EU trade). Compared to total manufacturing market shares (9% in 1995 and 11% in 2000) the metals sector shares were larger, reflecting their significant position on the EU market – although the gap was slightly decreasing (see Table 12). In 2000, the largest exporters to the EU were Poland and the Czech Republic with market shares around 4%, followed by Hungary with 2%. The other countries held shares of around 1%.

[14] Measured by 'shift and share analysis'. See Havlik, Landesmann and Stehrer (2001).

Table 11

Basic metals and fabricated metal products

Price/quality gap indicator for CEEC exports to the EU[1)]

			Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
27.1	Basic iron and steel, ferro-alloys (ECSC)	**2000**	-0.044	-0.097	-0.016	-0.080	0.003	-0.065	0.127
27.2	Tubes	**2000**	-0.306	-0.205	-0.245	-0.287	-0.363	-0.221	-0.211
27.3	Other first processing of iron and steel	**2000**	-0.208	-0.120	-0.224	-0.199	-0.173	-0.098	-0.016
27.4	Basic precious and non-ferrous metals	**2000**	-0.015	-0.010	0.057	-0.054	-0.028	-0.004	-0.038
28.1	Structural metal products	**2000**	-0.406	-0.249	-0.093	-0.118	-0.214	-0.225	0.126
28.2	Tanks, reservoirs, central heating radiators and boilers	**2000**	-0.546	-0.307	-0.180	-0.255	-0.074	0.282	0.519
28.3	Steam generators	**2000**	1.820	-0.455	0.770	-0.122	-0.258	-0.185	-0.494
28.6	Cutlery, tools and general hardware	**2000**	-0.513	-0.229	-0.174	-0.112	-0.477	-0.308	-0.201
28.7	Other fabricated metal products	**2000**	-0.342	-0.222	-0.142	-0.281	-0.445	-0.351	-0.188
DJ	**Basic metals and**	**1995**	-0.168	-0.230	-0.120	-0.173	-0.219	-0.179	-0.099
	fabricated metal products	**1996**	-0.132	-0.129	-0.052	-0.053	-0.219	-0.124	-0.066
		1997	-0.116	-0.224	-0.146	-0.138	-0.154	-0.154	-0.121
		1998	-0.122	-0.195	-0.131	-0.179	-0.148	-0.132	-0.091
		1999	-0.101	-0.196	-0.153	-0.172	-0.164	-0.175	-0.103
		2000	**-0.055**	**-0.175**	**-0.041**	**-0.140**	**-0.115**	**-0.121**	**-0.056**
		average 1995-2000	**-0.116**	**-0.192**	**-0.107**	**-0.143**	**-0.170**	**-0.148**	**-0.089**

Notes: 1) Defined as the unit value ratio uvr_t^c of country c, which shows the percentage deviation from the average EU import unit value.

Source: Calculations by R. Stehrer, WIIW.

Table 12

Basic metals and fabricated metal products

CEECs' exports to the EU(15) in EUR million, market shares in %

	EU(15) extra-EU imports, EUR mn	Bulgaria		Czech Republic		Hungary		Poland	
		EUR mn	%	EUR mn	%	EUR mn	%	EUR mn	%
1995	47933.3	560.7	1.17	1554.4	3.24	921.2	1.92	2187.2	4.56
1996	43399.9	371.1	0.86	1483.1	3.42	826.7	1.90	1797.9	4.14
1997	50090.4	488.6	0.98	1760.3	3.51	938.9	1.87	2123.5	4.24
1998	58361.8	575.5	0.99	2023.2	3.47	1014.9	1.74	2344.7	4.02
1999	53978.6	511.2	0.95	2183.6	4.05	975.3	1.81	2316.0	4.29
2000	72474.2	924.0	1.27	2725.8	3.76	1313.5	1.81	3178.5	4.39

	Romania		Slovak Republic		Slovenia		CEEC(7)		Total Manufacturing CEEC(7)[1)]	
	EUR mn	%	EUR mn	%	EUR mn	%	EUR mn	%	EUR mn	%
1995	679.7	1.42	639.6	1.33	548.2	1.14	7091.0	14.79	38401	8.93
1996	567.5	1.31	669.5	1.54	515.1	1.19	6230.9	14.36	40903	9.05
1997	726.8	1.45	703.5	1.40	596.5	1.19	7338.1	14.65	49447	9.48
1998	802.9	1.38	755.7	1.29	628.6	1.08	8145.4	13.96	59900	10.43
1999	666.7	1.24	684.0	1.27	672.1	1.25	8009.0	14.84	67623	10.71
2000	908.9	1.25	917.2	1.27	851.4	1.17	10819.4	14.93	86379	10.83

Notes: 1) CEEC(7) total manufacturing exports to the EU and their market shares.

Source: Eurostat, WIIW calculations.

Slovak and Polish trade surplus with Austria in the metals sector

Metal imports from the CEEC(7) had a remarkably larger share on Austria's market than on the EU(15) market, accounting for 38% of Austria's non-EU metal imports in 1995 and reaching 50.5% in 2000. Import volumes nearly doubled in that period. In 2000, the main import items were 'basic metals' (accounting for 63% of all metal imports from Slovakia, 70% from Romania and 80% from Poland). The most important source of metal imports from the CEECs was the Czech Republic, with 14% of all Austrian extra-EU imports, followed by Hungary, Slovenia, Poland and Slovakia. Imports from Romania and Bulgaria were smaller (see Table 13).

Metal exports from Austria to the CEECs

The CEEC(7) market is a major export destination for Austria's non-EU metal exports, although a significant decline was observed last year. In 1995, the CEEC(7) accounted for 35% of Austria's extra-EU(15) metal exports, steadily increasing to 40% in 1999 but then falling again to 32% in 2000. Exports were equally divided between 'basic metals' and 'fabricated metal products', major export destinations were Hungary and the Czech Republic (both 9%), followed by Slovenia (see Table 14).

Table 13

Basic metals and fabricated metal products

CEECs' exports to Austria in EUR million, market shares in %

	Austria extra-EU(15) imports, EUR mn	Bulgaria EUR mn	%	Czech Republic EUR mn	%	Hungary EUR mn	%	Poland EUR mn	%
1995	1370.6	4.8	0.35	170.7	12.45	110.1	8.03	73.7	5.38
1996	1201.5	4.0	0.33	166.0	13.82	129.4	10.77	68.0	5.66
1997	1534.3	5.3	0.35	240.0	15.64	151.5	9.87	87.9	5.73
1998	1749.3	10.5	0.60	233.8	13.37	159.1	9.10	128.2	7.33
1999	1700.1	10.5	0.62	227.6	13.39	176.2	10.36	118.7	6.98
2000	1942.8	14.0	0.72	267.8	13.78	204.8	10.54	148.8	7.66

	Romania EUR mn	%	Slovak Republic EUR mn	%	Slovenia EUR mn	%	CEEC(7)[1] EUR mn	%
1995	8.1	0.59	75.5	5.51	75.6	5.52	518.5	37.83
1996	10.2	0.84	97.0	8.08	82.0	6.82	556.6	46.33
1997	35.3	2.30	119.2	7.77	92.0	6.00	731.2	47.66
1998	50.8	2.91	124.7	7.13	107.3	6.13	814.5	46.56
1999	23.5	1.38	126.2	7.42	118.6	6.97	801.3	47.13
2000	29.5	1.52	140.5	7.23	175.3	9.02	980.6	50.48

Note: 1) Including Bulgaria, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic and Slovenia.

Source: Eurostat, WIIW calculations.

Table 14

Basic metals and fabricated metal products

CEECs' imports from Austria in EUR million, market shares in %

	Austria extra-EU(15) exports, EUR mn	Bulgaria EUR mn	%	Czech Republic EUR mn	%	Hungary EUR mn	%	Poland EUR mn	%
1995	1557.0	11.3	0.72	177.0	11.37	143.7	9.23	52.3	3.36
1996	1544.4	12.3	0.80	147.2	9.53	139.8	9.05	45.7	2.96
1997	1885.1	13.8	0.73	162.9	8.64	181.1	9.61	53.9	2.86
1998	2015.8	12.8	0.63	218.0	10.81	227.7	11.29	78.8	3.91
1999	2080.4	13.4	0.64	228.1	10.97	222.8	10.71	84.9	4.08
2000	3012.2	16.0	0.53	268.7	8.92	276.0	9.16	97.0	3.22

	Romania EUR mn	%	Slovak Republic EUR mn	%	Slovenia EUR mn	%	CEEC(7)[1] EUR mn	%
1995	14.2	0.91	40.0	2.57	106.8	6.86	545.3	35.02
1996	17.4	1.13	48.8	3.16	109.6	7.10	520.9	33.73
1997	24.7	1.31	59.2	3.14	148.2	7.86	643.8	34.15
1998	24.8	1.23	54.0	2.68	166.0	8.23	781.9	38.79
1999	36.3	1.75	59.4	2.86	193.0	9.28	837.8	40.27
2000	42.8	1.42	64.5	2.14	208.5	6.92	973.5	32.32

Note: 1) Including Bulgaria, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic and Slovenia.

Source: Eurostat, WIIW calculations.

In fact, metal exports from Austria to the CEEC(7) had been smaller than imports from these countries, leading to a deficit for Austria and a surplus for the CEECs in most years (except in 1995 and 1999). Austria's trade deficit in the sector reached EUR -7 million in 2000, mainly due to a trade deficit with Slovakia and Poland which compensated the trade surplus with the other countries.[15]

Declining revealed comparative advantage

Revealed comparative advantage values (RCAs)[16] in relation to the EU(15) for the metals sector were positive for most CEECs between 1995 and 2000, except for Hungary and Slovenia in the last few years and Poland in 1998 and 1999, reflecting their respective sectoral trade balances (see Table 15). When compared to manufacturing as a whole,[17] data indicate a comparative advantage of the metals sector in all CEECs, again except Hungary. In 2000 the advantage was largest in Bulgaria, followed by Romania and Slovakia. Relative RCAs declined over time and were smaller in 2000 than in 1995 (see Table 16).

Table 15

Metals sector RCAs

	1995	1996	1997	1998	1999	2000
Bulgaria	0.69	0.53	0.63	0.65	0.56	0.67
Czech Republic	0.13	0.06	0.08	0.09	0.08	0.04
Hungary	0.14	0.06	-0.03	-0.08	-0.12	-0.09
Poland	0.31	0.11	0.06	-0.02	-0.03	0.04
Romania	0.53	0.32	0.43	0.40	0.31	0.33
Slovak Republic	0.43	0.34	0.30	0.30	0.27	0.32
Slovenia	0.03	0.01	-0.06	-0.09	-0.08	-0.03
Greece	-0.28	-0.35	-0.28	-0.28	-0.25	-0.18
Portugal	-0.56	-0.54	-0.59	-0.55	-0.52	-0.46
Spain	-0.18	-0.16	-0.19	-0.20	-0.24	-0.23

Measured as: RCA = (exports – imports) / (exports + imports).

Source: Eurostat, WIIW calculations.

[15] In fact, between 1995 and 2000 only Poland and Slovakia showed a constant trade surplus in trade with Austria, the Czech Republic only between 1996 and 1998, Romania only in 1997 and 1998. All other countries registered a trade deficit.

[16] Measured as RCA = (exports - imports) / (exports + imports).

[17] Measured as relative RCA = RCA (sector) - RCA (total manufacturing).

Table 16

Relative position of metals sector RCAs

	1995	1996	1997	1998	1999	2000
Bulgaria	0.75	0.53	0.55	0.68	0.65	0.68
Czech Republic	0.27	0.24	0.22	0.15	0.12	0.08
Hungary	0.22	0.12	0.01	-0.06	-0.14	-0.12
Poland	0.43	0.35	0.34	0.25	0.21	0.21
Romania	0.57	0.40	0.48	0.49	0.35	0.39
Slovak Republic	0.43	0.41	0.37	0.31	0.22	0.27
Slovenia	0.11	0.10	0.07	0.02	0.02	0.08
Greece	0.26	0.19	0.30	0.33	0.36	0.47
Portugal	-0.38	-0.36	-0.38	-0.31	-0.27	-0.23
Spain	-0.05	-0.03	-0.05	-0.05	-0.05	-0.03

Measured as: RCA (sector) - RCA (total manufacturing).

Source: Eurostat, WIIW calculations.

Within the metals sector, differences occurred between industries and sub-branches (see Table 17). On the industry level 'basic metals' showed an overall positive trade balance in 2000, 'fabricated metal products' a trade deficit, reflecting the respective areas of competitiveness in the CEECs. However, exceptions to this pattern existed: In 'basic metals', Bulgaria, Romania and Slovakia reached the highest positive RCA values, while the Czech Republic and Slovenia showed negative ones. In 'fabricated metal products', all countries had a trade deficit, with the only exception of the Czech Republic (to a lesser extent also Slovakia), which seems to have its comparative advantage here.

Table 17

Detailed RCA structure of the metals sector, 2000

	Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
27 Basic metals	**0.79**	**-0.08**	**0.07**	**0.11**	**0.58**	**0.49**	**-0.02**
27.1 Basic iron and steel, ferro-alloys (ECSC)	0.90	0.04	0.07	0.05	0.65	0.74	-0.31
27.2 Tubes	-0.39	-0.12	-0.33	-0.26	0.18	0.23	-0.25
27.3 Other first processing of iron and steel	-0.28	-0.05	-0.66	-0.27	0.42	0.16	-0.06
27.4 Basic precious and non-ferrous metals	0.86	-0.20	0.28	0.29	0.63	0.39	0.20
28 Fabricated metal products	**-0.27**	**0.16**	**-0.28**	**-0.05**	**-0.29**	**0.00**	**-0.05**
28.1 Structural metal products	-0.63	0.48	0.18	0.25	-0.44	0.45	0.00
28.2 Tanks, reservoirs, central heating radiators and boilers	-0.44	0.35	-0.18	-0.35	-0.57	0.31	-0.15
28.3 Steam generators	-0.02	0.13	0.39	0.43	-0.50	0.47	-0.22
28.6 Cutlery, tools and general hardware	-0.23	-0.10	-0.55	-0.54	-0.43	-0.56	-0.01
28.7 Other fabricated metal products	-0.16	0.16	-0.33	0.04	-0.09	0.02	-0.08
DJ Basic metals and fabricated metal products	**0.67**	**0.04**	**-0.09**	**0.04**	**0.33**	**0.32**	**-0.03**

Measured as: RCA = (exports - imports) / (exports + imports).

Source: Eurostat, WIIW calculations.

4 Foreign direct investment

The metals sector has not been a prominent target for foreign direct investors, mostly due to problems in privatization and restructuring of the iron and steel industry (failed privatization programmes, annulling of contracts, renationalization of companies etc.). Although EU investors have been interested in CEE steel companies, participation of large EU groups in privatization has largely failed to date. On the part of the CEECs, this might be due to the heavy involvement of political interests, trying to put strict structural and employment conditions on private investors, as well as due to high debts and huge restructuring needs. On the part of the EU, the CEECs prove to be an interesting export market for over-capacities in the West and EU companies might be reluctant to build up competitors. Interest from non-European groups comes from U.S. Steel in the Slovak VSŽ Košice, and the Indian company Ispat in Polish and Romanian steel companies.[18] However, it will be difficult to raise investment for modernization of steel companies without foreign help. Foreign investors are more interested in CEECs' non-ferrous metallurgy, especially aluminium production (see Part II).

Looking at the shares of the metals sector in the *distribution* of nominal capital of foreign investment enterprises (FIEs)[19] in total manufacturing and comparing them to shares in current production, the metals sector was less prominent in the former reflecting its lower priority for foreign investors (except to some degree in Hungary). Shares ranged between 3% in Slovenia and 7.5% in Hungary in 1999; only in Slovakia did the FIE share in the metals sector reach 13.5% already in 1996 (see Figure 7).

Foreign *penetration* of the metals sector (measured by the share of nominal capital of the sector's FIEs in the nominal capital of all metals companies) has always been below the levels of foreign penetration for total manufacturing. It was lowest in Slovenia, with 5% in 1999, somewhat higher in Slovakia, the Czech Republic and Poland, and reached 65% in Hungary. This might be explained by differences within industries: while in the Czech Republic and Poland foreign penetration was lower in 'basic metals' and higher in 'fabricated metal products', in Hungary both industries achieved nearly the same level of foreign penetration (see Figure 8).

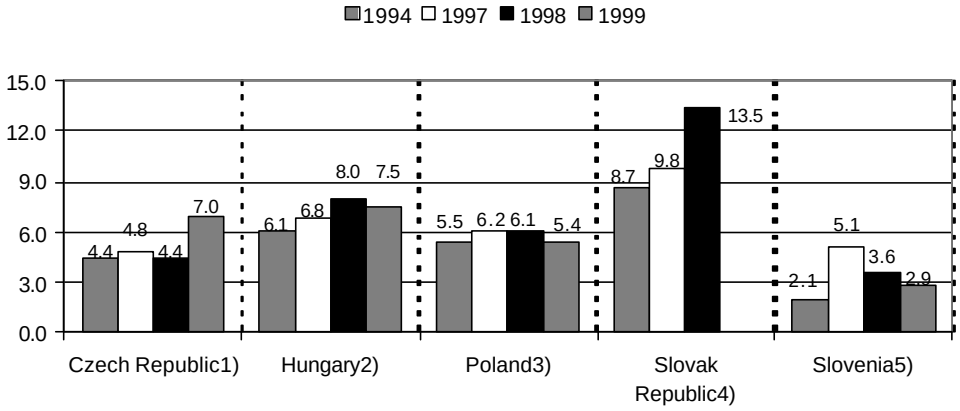
[18] *Neue Zürcher Zeitung* (2001), 1/2 September.

[19] Firms with any share of foreign ownership, including minority stakes.

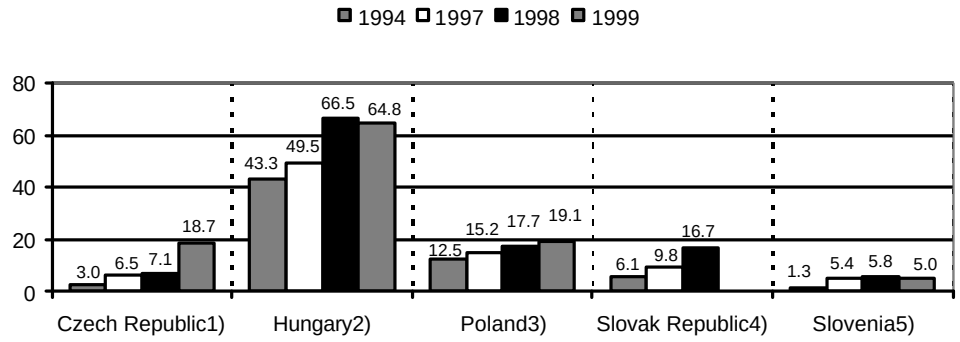
Figure 7

Basic metals and fabricated metal products

A. Position of the sector in the distribution of foreign capital
Percentage share of the sector in total manufacturing's
nominal capital of foreign investment enterprises (FIEs)
Manufacturing = 100



B. Foreign penetration of the sector
Share of nominal capital of FIEs in
the nominal capital of all companies (FIEs + all others)



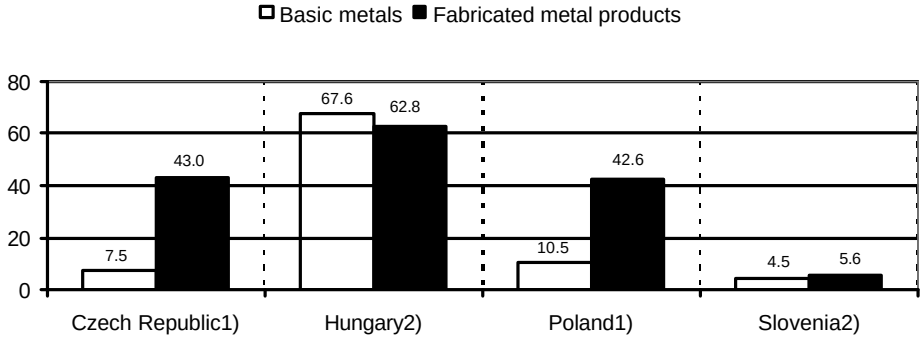
Notes: 1) 1994 own capital, 1997-1999 equity capital. - 2) Nominal capital. - 3) Equity capital. - 4) Output of companies; 1995 data instead of 1997, 1996 data instead of 1998. - 5) Nominal capital.

Source: WIIW, FIE Database.

Figure 8

Basic metals and fabricated metal products

Foreign penetration of individual industries in 1999
Share of nominal capital of FIEs in
the nominal capital of all companies (FIEs + all others)



Notes: 1) Equity capital. - 2) Nominal capital.

Source: WIIW, FIE Database.

5 Prospects

Generally, the metals sector is of major importance in the Central and Eastern European countries in terms of production, employment and exports: production shares are still larger than in Western European countries, employment accounts for a major part of manufacturing if not for the largest one, exports hold an above-average position on the EU market and are very important in the domestic economy. After the collapse of communism, however, restructuring needs in the metals sector became evident, explaining the overall weak development of the sector: stagnation of production in most countries, relative downsizing of production shares and overall employment figures, slower growth of metal exports than of manufacturing, declining revealed comparative advantage. General weaknesses of the sector became apparent: slow restructuring and changes, exports concentrated on low value-added products (basic metals), and low quality of higher value-added products (fabricated metal products). High debts and losses of large steel companies have deterred foreign investors who would be vital for survival.

In the individual countries, the metals sector has shown the following peculiarities:[20]

- The *Slovak Republic* is the only country which has clearly specialized on the metals sector and might do so in the future. The relative productivity level is better than in other countries, production is almost back at the 1989 level, perhaps due to the large share of non-EU exports (55%). However, the EU export structure is still concentrated on 'basic metals'.
- In contrast, the *Czech Republic* has shown a declining specialization, falling production and a relatively low productivity level. However, the production and EU export structure are favourable, due to a large share of 'fabricated metal products'.
- Also *Bulgaria and Romania* have shown a specialization on the metals sector. Concentration on 'basic metals' points to delayed restructuring. Notably in Romania, 'fabricated metal products' developed worse than 'basic metals' in contrast to the other CEECs.
- In *Poland and Slovenia*, the metals sector has been relatively smaller than in the other CEECs, and changes have been small too. While in Poland the metals sector has surpassed the 1989 production level (favourable domestic market) and features a comparatively high productivity level, in Slovenia production in the sector is less capital-intensive and hence productivity is lower.
- *Hungary* is clearly not specializing on the metals sector as other sectors of manufacturing have gained in importance (in particular transport equipment and electrical & optical equipment). However, the metals sector might benefit from this development.

[20] Ranked by the specialization on the metals sector in the region by production at constant prices (see Figure 1).

Future prospects are generally overshadowed by delayed and complex **privatization** processes of large steel companies in the region and will depend on the success of subsequent **restructuring**. This will entail further capacity and employment reductions. The latter are however difficult to realize because of a strong regional concentration of large companies and their dominant role as employers (regional unemployment). Yet investment and modernization are urgently needed in order to upgrade production and to meet environmental requirements. Raising of sufficient funding is difficult as the metals sector is not a prominent target for foreign investment. Further restructuring is also necessary in light of **EU accession**, which requires capacity reductions, the viability of companies, and the solving of social, technical and environmental problems. In addition, the CEECs will have to comply with the EU rules of state aid, which are already important in the accession negotiations in the closing of the competition chapter.

On the **domestic market**, growth potentials for the metals sector exist as there is still pent-up demand for products (e.g. for consumer goods but also for investment goods, infrastructure and especially for construction). Growth impulses might also come from dynamic small and medium-sized enterprises in the 'fabricated metal products' industry. Developments in GDP and gross industrial production are currently quite favourable and forecasts are positive for all CEECs in 2002 and 2003 (except Poland). The trends in industrial production are most promising in Hungary, followed by the Czech Republic and Slovakia. The growth rates for Romania, Bulgaria and Slovenia are lower but still pronounced, while those for Poland were markedly scaled down (see most recent WIIW forecasts, Appendix Table A5). However, domestic markets might get under pressure from West European high-quality imports as well as from Russian and Ukrainian low-price products.

On the **export markets**, CEECs' exports to the EU hold an important position and trade volumes have increased, but EU market shares have stagnated. In addition, the role of metal exports in total CEE exports to the EU declined (shares decreased) and revealed comparative advantages diminished. However, expansion was constrained by the relevant trade regime, i.e. anti-dumping procedures, which will cease with EU accession, entailing better export opportunities and also protection from cheap imports from outside the EU for future EU members. In the meantime, Central and Eastern markets pose an interesting alternative to Western markets with good growth prospects. Here too, quality upgrading will be necessary in the long run to withstand competition. Also exports to developing countries can be considered.

Part II: COMPANY PROFILES

This second part presents a more detailed micro-analysis of the metals sector and contains the following information for each country, as far as available:

- Detailed structure of the sector (on the 2-digit NACE level differentiating between the 'basic metals' industry and 'fabricated metal products', and on the 3-digit NACE level describing certain sub-branches)[21]
- Number and size structure of companies
- Profitability and investment / foreign direct investment
- List of major companies
- Description of selected companies / branches (e.g. the iron and steel industry as part of 'basic metals')

Bulgaria

In the structure of the Bulgarian metals sector in 2000, 'basic metals' dominated gross output with 78%, while 'fabricated metal products' accounted for 22% only. 'Basic iron and steel' was by far the largest sub-branch, 'basic precious and non-ferrous metals' and 'other metal products' were already relatively smaller (16% and 14% respectively, see Table 18).

Table 18

Bulgaria: Gross output of the metals sector

EUR million[1)], distribution in %

ISIC rev. 3	1999	2000	2000 in %
27 Basic metals	**716**	**779**	**78.3**
271 Basic iron and steel	382	584	58.7
272 Basic precious and non-ferrous metals	263	154	15.5
273 Casting of metals	71	40	4.0
28 Fabricated metal products	**187**	**216**	**21.7**
281 Structural metal products; tanks; steam generators	69	81	8.1
242 Other metal products; metal working services	118	135	13.6
DJ Basic metals and fabricated metal products	**902**	**995**	**100.0**

Notes: ISIC rev. 3 classification system. 1) Average exchange rate Bulgarian lev 1999 BGL/EUR 1.956 and 2000 1.956.

Source: Bulgarian National Statistical Institute, data inquiry.

[21] Special attention should be paid to the definition of production statistics comprising enterprises with differing numbers of employees.

In the Bulgarian *metallurgy industry* foreign direct investment plays an important role today: between 1998 and 2000 the sector was the fourth largest recipient of FDI in manufacturing (USD 102.5 million), with the highest inflow in 1999 (USD 72.2 million). The largest foreign direct investors include Halcor (Greece, acquired KOZM – Sofia copper products maker in May 2000), Union Minière (Belgium, acquired MDK – Pirdop copper plant in 1997) and FAF Metal (Turkey, acquired a majority share in Alumina – Shumen in 1999).

Table 19

The largest Bulgarian basic metals companies, ranked by 2000 net sales[1)]

Name, location	Net sales in ths. EUR[2)]	Profit in ths. EUR[2)]	Employees	Sub-branch
Kremikovtzi, Sofia	398,638	-19,825	9,300	Ferrous-metallurgy
Stomana, Pernik	8,198	-23,882	1,925	Ferrous-metallurgy
Kremikovtzi-ZSNM, Sofia	5,065	1	317	Ferrous-metallurgy
Promet, Bourgas	2,959	-2,024	759	Ferrous-metallurgy
Umicore Med (Union-Minière Pirdop Med), Pirdop	203,777	-2,557	1,281	Copper anodes & cathodes
KCM S.A., Plovdiv	97,559	4,779	1,400	Lead & zinc
Olovno-Zincov Complex, Kurdzhali	53,566	-1,326	1,136	Lead & zinc
Eliseina, Eliseyna	28,167	-3,627	570	Copper anodes & cathodes
Alkomet (Alumina), Shoumen	16,634	-3,763	950	Aluminium
Petrov i Ko Metali, Sofia	8,565	17	15	Non-ferrous metallurgy

Notes: 1) Ferrous metallurgy and non-ferrous metallurgy ranked separately by 2000 net sales. Not included are companies from 'fabricated metal products'. - 2) Converted with average exchange rate Bulgarian lev 2000 BGN/EUR 1.956.

Source: Bulgarian Enterprises Information System BEIS (www.bia-bg.com).

- Kremikovtzi AD: Kremikovtzi is the largest flat steel mill in Bulgaria and exports about 70% of its output. In mid-1998, the government opened a tender for a 71% stake in the highly indebted company and received several bids.[22] In 1999, the local Daru Metals acquired 71% of shares in Kremikovtzi.
- Stomana AD: After the government had been unable to sell the highly indebted former Lenin Iron and Steelworks, Stomana was declared bankrupt and an insolvency procedure was opened in June 1999. The company continued operation and the chief

[22] *Business Central Europe* (1998), July/August.

assets were leased to Eurometal-Bulgaria and Metal Traders of Germany.[23] Sidenor from Greece, together with Eurometal, acquired a 75% stake in the company in 2001.[24]

– Promet AD: While the other two companies managed to increase exports and to produce close to capacity, Promet was hit hard by the drop in domestic consumption and its situation constantly worsened from 1993.[25] In 1999, the international Neva Holding with its main activities in trade and production of steel products acquired Promet.

Czech Republic

In 1990 the Czech Republic accounted for 77% of the production of the former Czechoslovak iron and steel industry and for 71% of non-ferrous metallurgy.[26] In the structure of the Czech metals sector, both 'basic metals' and 'fabricated metal products' held half of the sector's sales revenues in the year 2000. The main sub-branches were 'basic iron and steel, ferro-alloys', 'other fabricated metal products' and 'structural metal products' (see Table 20). Between 1994 and 1999 'basic metals' lost in share-size, mostly affected by the decline in 'other first processing of steel', while 'fabricated metal products' grew over-proportionately (see Table 20).

In 1999, there were about 1650 companies with more than 20 employees in the Czech metals sector, accounting for 19% of all manufacturing companies and hence representing the largest share within manufacturing. Of these, 80% employed less than 100 employees, while 18 companies had more than 1000 employees. Large companies played a decisive role in *'basic metals'*, due to the dominant position of ferrous metallurgy. In this industry, companies employing more than 1000 persons accounted for almost 70% of sales and 60% of value added in 1999. The privatization process in 'basic metals' has not yet been completed: two main metallurgical companies are still in majority state ownership (Nová Hut', Vítkovice). In *'fabricated metal products'* companies with 50 to 249 employees were most important, accounting for 39% of the industry's sales and 37% of value added.[27] Companies have almost completely been privatized, less than 1% is held by the state.[28]

[23] *Business Eastern Europe* (1999), 29 November.

[24] *Business Eastern Europe* (2001), 25 June.

[25] *Business Central Europe* (1998), July/August.

[26] J. Fath et al. (1993), p. 55.

[27] Including all companies. See Ministry of Industry and Trade (2001), p. 326 and p.356.

[28] See Ministry of Industry and Trade (2001).

Table 20

Czech Republic: Sales revenues of the metals sector

EUR million, distribution in %

		1994	1999	2000[1)]	2000	2000 level
		EUR million, current prices			in %	in % of 1994
27	**Basic metals**	**2724**	**3293**	**3723**	**50.0**	**136.7**
27.1	Basic iron and steel, ferro-alloys (ECSC)	1044	1880	2113	28.4	202.4
27.2	Tubes	145	209	196	2.6	135.5
27.3	Other first processing of iron and steel	1049	460	520	7.0	49.6
27.4	Basic precious and non-ferrous metals	289	286	344	4.6	119.4
27.5	Casting of metals	198	459	550	7.4	277.9
28	**Fabricated metal products**	**2090**	**3416**	**3717**	**50.0**	**177.9**
28.1	Structural metal products	355	658	751	10.1	211.5
28.2	Tanks, reservoirs, central heating radiators and boilers	193	325	319	4.3	165.4
28.3	Steam generators	197	347	269	3.6	136.1
28.4	Forging, pressing, stamping and roll forming of metal	87	157	213	2.9	246.4
28.5	Treatment and coating of metals	194	520	577	7.7	297.5
28.6	Cutlery, tools and general hardware	591	604	600	8.1	101.6
28.7	Other fabricated metal products	473	806	988	13.3	208.8
DJ	**Basic metals and fabricated metal products**	**4814**	**6709**	**7440**	**100.0**	**154.6**

Notes: Average exchange rate Czech koruna 1994 CZK/EUR 34.06; 1999 CZK/EUR 36.88; 2000 CZK/EUR 35.61. - 1) Estimate.

Source: Ministry of Industry and Trade (2001).

In 2000, investment outlays in the metals sector totalled about EUR 354 million, representing 10% of total manufacturing investment. With this the metals sector ranked third in manufacturing, behind the transport equipment and the electrical & optical equipment sectors. Investment fell significantly (by 44%) between 1999 and 2000, mainly due to a decline in investment in 'basic metals' – reflecting financial difficulties of metallurgical companies (see below).[29] Hence, investment in 'basic metals' was for the first time lower than that in 'fabricated metal products'. Investment in 'basic metals' is mainly aimed at sustaining the competitiveness of products, increasing the efficiency and flexibility of existing production equipment, decreasing energy and material intensity and at gradually removing ecological burdens. However, investment is insufficient and there is an urgent need for restructuring, the solution of ecological problems and the intensification of research and development.[30] Foreign investors modernized production and ensured marketing of products in non-ferrous metallurgy (e.g. Alusuisse Decin majority foreign-owned) and had a non-negligible influence on 'fabricated metal products' (e.g. ABB Brno). The metals sector was the largest loss-maker in manufacturing in 1999 and 2000, with

[29] Ministry of Industry and Trade (2001a).

[30] Ministry of Industry and Trade (2001), p. 345.

losses amounting to EUR -191 million in the latter year. While 'fabricated metal products' registered a profit (EUR 91 million), 'basic metals' made losses (EUR -282 million).[31]

The Czech iron and steel industry remains in crisis due to the sluggishness of restructuring, uncompleted privatization and non-transparent ownership relations. The industry struggles with grave financial problems – severe limitation of enterprise resources and increase indebtedness of firms, with the risk of collapse. The decline in steel prices, rising imports, weak domestic demand and a credit squeeze aggravated the situation and resulted in difficulties in financing production in 1999/2000.[32] Restructuring is difficult as the industry is regionally concentrated and large steel companies are the largest employers in Northern Moravia (Ostrava region). A further painful reduction of workforce has to follow.

Table 21

The largest Czech metals companies, ranked by 2000 revenues

Name, location	Revenues in mn EUR[1)]	Net profit/loss in mn EUR[1)]	Employees	Sub-branch
Nová Hut', a.s.	1,209	-18.1	13,500	Integrated steelworks
Moravia Steel, a.s.	1,029	0.9	200	.
Trinecké Železárny, a.s.	625	6.2	7,100	Integrated steelworks
Vítkovice, a.s. (1999)	434	-283.2	15,303	Integrated steelworks
ŽDB, a.s. (1999)	308	-68.4	3,200	Steel wire and related products
Vítkovice-Export, a.s. (1999)	147	-1.2	71	.

Notes: 1) Converted with average exchange rate Czech koruna 1999 CZK/EUR 36.88 and 2000 CZK/EUR 35.61.

Source: *Prague Business Journal* (2001), 23-29 July, and *Prague Business Journal* (2000).

At the end of August 2001 the Czech government adopted a programme for the restructuring of the Czech steel industry: The plan was to merge the state-controlled steel mill Nová Hut', the pig-iron producer Vysoké Pece Ostrava and the metallurgy unit of Vítkovice into Ceský Ocelárský Podnik (COP) by the end of December 2001. The proposed next step was to find a strategic partner by tender until mid-2002, with the state going to retain a 35% stake at least until 2007. The government estimated that the programme would cost CZK 79 billion (EUR 2.3 billion) up to 2010 and suggested covering this sum in the following way: CZK 41 billion by the enterprises themselves, CZK 22.2 billion by the state, CZK 10.8 billion should be financed by the strategic partner and almost CZK 5 billion by the EU.[33] Experts regarded this programme as non-viable, arguing that it overestimated the efficiency of the projected reform steps. Brussels reacted

[31] Data including firms with 100 or more employees. See Ministry of Industry and Trade (2001a).

[32] See *Financial Times* (1999), 9 November and Ministry of Industry and Trade (2001), p. 322.

[33] See *Neue Zürcher Zeitung* (2001), 1/2 September and the Homepage of the Czech Steel Federation, Inc. Hutnictví Zeleza, a.s. (HZ) at www.hz.cz.

negatively and was thus not willing to close the competition chapter on accession. State aids have to be in line with the Europe Agreements as well as with the competition chapter on EU accession. They are only allowed when a viable turnaround strategy is proposed and capacity reductions envisaged. (The Czech Republic lost the exception to grant state aids in 1997 because it did not have a restructuring plan.)

Together, Nová Hut', Trinecké Zelezárny and Vítkovice account for some 85% of the Czech steel output. Of these, only Trinecké Zelezárny is privately owned and profitable respectively viable. A brief description of the three companies is given below:

- Nová Hut', a.s., Ostrava: Nová Hut', the largest Czech steel company, is an integrated steelworks partly oriented also towards engineering products. In 2000 employment reached 13,500 people (17,000 in 1996) and exports made up 35% of production, of which 9% went to Slovakia and 37% to the EU. As privatization failed during the 1990s, Nová Hut' is still mainly owned by the state, with 49% of shares belonging to the National Property Fund, 18% to Credit Suisse First Boston Ltd., and the rest to others. Nová Hut' has several subsidiaries, including Vysoké Pece Ostrava a.s.[34], Nová Hut' Hungária Rt., Válcovny Plechu a.s., and Jäkl Karviná a.s.[35] In 1996, Nová Hut' began an ambitious (USD 650 million) investment programme which was aimed at modernizing production and cutting down on pollution. It included the building of a new mini-mill for production of hot rolled strips of an annual capacity of 1 million tons and was constructed in co-operation with the US group IFC Kaiser International. It was financed by the International Finance Cooperation, the private sector financing arm of the World Bank, and syndicates of foreign and Czech banks. However, the project has since run into major delays and contributed to overdue-debt. In 2000 the heavily indebted company had to turn to the state for assistance.
- Trinecké Zelezárny, a.s., Trinec: Trinecké Zelezárny (TZ) is an integrated steelmaking company producing long rolled products. In 2000 it reached revenues of EUR 625 million and employed about 7100 people (down from 16,020 in 1993 and 12,000 in 1996). Hence, steel production increased from 142 tons per employee in 1993 to 320 tons in 2000.[36] In September 1995, TZ was privatized in a tender and Moravia Steel, a Czech consortium consisting of a trade and finance firm and a non-ferrous scrap collector, became the major shareholder. In 2000 Moravia Steel sold 11% to the strategic partner US Commercial Metal Company (CMC), a small steel producer and trader.
- Vítkovice, a.s., Ostrava-Vítkovice: The metallurgical engineering complex Vítkovice reached revenues of EUR 434 million in 1999 and employed about 15,300 people then (down from 19,000 in 1996). It is majority-owned (67%) by the National Property Fund

[34] In 1997 pig iron production was transferred to Vysoké Pece Ostrava in full extent.

[35] See Nová Hut' Internet Homepage www.nuvathut.cz.

[36] See Trinecké Zelezárny Internet Homepage trz.cz.

and is a large loss-maker. At the end of July 1998, Vitkovice closed its three outdated blast furnaces because of serious environmental problems in Ostrava as part of the ongoing restructuring process. In 1999 the heavily indebted company was on the verge of bankruptcy.[37] In 2000 the state had to step in again with a restructuring package and plan, intending to split the company into four main units and selling them off to investors.[38] In August 2001 a subsidiary, Vítkovice Steel, a.s., was established in order to become part of Ceský Ocelárský Podnik (COP).

– Poldi Ocel, Kladno: Poldi Kladno has become as a symbol of the declining Czech steel industry: Founded in 1889, Poldi Kladno was merged with the Prague Iron Works after the Second World War to become the Poldi United Steel Works, producing steel and building machinery. After the collapse of communism, the renamed Poldi Kladno was hit hard by the loss of the CMEA market and later by diminishing demand from the Slovakia-based defence sector, so that in 1993 output was at 30% of the pre-transition level and employment at 45%. The company had sold off all its subsidiary activities (e.g. energy production) in 1989, when it employed about 20,000 people, and concentrated on the production of steel and machinery. In 1993, Vladimir Stehlik and his Bohemia Art Company became majority owner (54.8%) of the remaining Poldi steelworks through public tender. The rest was held by Holding Kladno, which in turn was in the hands of the National Property Fund. Liquidity problems led to severe cutbacks in production and to further debts, especially with the power company Energetické Centrum Kladno (ECK). In 1994 and again in 1996, power was shut off due to unpaid bills. The crisis peaked in 1996 when Stehlik failed to meet his financial obligations. In addition, Poldi had debts arising from unpaid taxes with the state as well as from unpaid social and health insurance contributions and from bank loans. Finally, bankruptcy proceedings were instituted at the beginning of 1996. In addition, privatization authorities tried to annul the 1993 sale of Poldi to Stehlik because of his 1996 arrest on charges of drawing down interest-free loans for Bohemia Art as well as unlawfully transferring capital and trademarks to the newly established company, Poldi Steel. In the meantime, employment had decreased to 6000 in 1995 and finally production stopped in 1996. In March 1997, the steelworks was declared bankrupt.

  In 1998 the industrialist Zdenek Zemek took over Poldi Kladno for CZK 200 million (EUR 5.5 million) and merged it with his steel company Zelezárny Hradek. However, the company remained in trouble and in mid-1999 Zemek was in search for a buyer again. Trinecké Zelezárny is interested and has already hoovered up parts of the company.[39] In the meantime, the forging part of the plant has been leased to the German Scholz Edelstahl for two years.[40]

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[37] See *Business Eastern Europe* (1999), 19 July.

[38] See *Business Eastern Europe* (2000), 5 June.

[39] *Business Central Europe* (2001), June.

[40] *New Europe* (1999), 8-14 November.

Hungary

In the structure of the Hungarian metals sector, both 'basic metals' and 'fabricated metal products' held half of the sector's sales revenues in 1999. The main sub-branches were 'basic iron and steel, ferro-alloys' and 'basic precious and non-ferrous metals', followed by 'other fabricated metal products' and 'structural metal products' (see Table 22). The export orientation of the metals sector was considerably below that of total manufacturing, realizing about 45% of total sales from exports as compared to 57%. Above-average export quotas were achieved by 'basic precious and non-ferrous metals', earning the largest amount of export sales in the sector, and by 'casting of metals' and 'cutlery, tools and general hardware' (see Table 22).

At the end of 1999, there were about 3230 companies with legal entity active in the Hungarian metals sector, representing 14.5% of all manufacturing operations in the country (largest amount of companies among all sectors!). Of these, 2960 were operating in 'fabricated metals products', only 270 in 'basic metals'. In terms of company size, 48.5% of all companies had less than 5 employees, 30% employed between 5 and 19 persons, 20% between 20 and 249 persons and the rest had more than 250 employees. In terms of legal form, about 95% of all active corporations were private limited companies and about 3% were public limited companies.[41]

The Hungarian *iron and steel industry*, under the socialist regime made up of the three big enterprises Ózdi Kohászati Uzemek (today ÓAM), Lenin Kohászati Müvek (today DAM) and Dunai Vasmü (today Dunaferr), was in trouble already in the 1980s, due to an increase in energy prices and hence financial difficulties. The branch was declared as a crisis branch as early as 1983.[42] After the collapse of communism a difficult transition process followed and output dropped drastically. In the past few years the industry experienced some recovery thanks to a shift in the production focus and stabilization of its role as a supplier to the growing Hungarian construction, machinery and automotive sectors.[43] However, future prospects are rather dim, due to modernization needs (financing?), the small domestic market and possible capacity reductions.[44]

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41 Hungarian Central Statistical Office (2000).

42 K. Farkas (1988).

43 EBRD (2001a).

44 Wolf (2001).

Table 22

Hungary: Gross output, total sales and export sales in the metals sector

Code[1)]		Gross output		Total sales	Export sales	Total sales
		1999	1999	1999	1999	1999
		EUR mn	in %	EUR mn	EUR mn	in %
27	**Basic metals**	1295	**51.1**	**1305**	**655**	**50.2**
27.1	Basic iron and steel, ferro-alloys (ECSC)	591	23.3	604	201	33.3
27.2	Tubes	25	1.0	26	4	17.4
27.3	Other first processing of iron and steel	51	2.0	51	18	35.1
27.4	Basic precious and non-ferrous metals	527	20.8	524	366	69.9
27.5	Casting of metals	101	4.0	100	65	65.3
28	**Fabricated metal products**	**1238**	**48.9**	**1249**	**490**	**39.3**
28.1	Structural metal products	346	13.6	347	131	37.6
28.2	Tanks, reservoirs, central heating radiators and boilers	161	6.3	161	74	45.9
28.3	Steam generators	35	1.4	34	11	31.3
28.4	Forging, pressing, stamping and roll forming of metal	28	1.1	28	9	32.9
28.5	Treatment and coating of metals	148	5.9	149	52	34.7
28.6	Cutlery, tools and general hardware	114	4.5	114	63	54.7
28.7	Other fabricated metal products	407	16.1	415	151	36.5
DJ	**Basic metals and fabricated metal products**	**2534**	**100.0**	**2554**	**1145**	**44.9**
D	**TOTAL MANUFACTURING**	**31198**	**.**	**31061**	**17717**	**57.0**

Notes: Average exchange rate Hungarian forint 1999 HUF/EUR 252.80. Data of companies with 5 or more employees. - 1) TEAOR'98 (Standard Industrial Classification of All Economic Activities) was introduced on 1 January 1998.

Source: Yearbook of Industrial and Construction Statistics Hungary (2000).

Table 23

The largest companies of the Hungarian metals sector, ranked by 2000 net sales

Name	Net sales in EUR mn	Profit bef. tax in EUR mn	Employees	Export Share	Main activity
Dunaferr-Group[1)]	666	20.9	9,347	41	Crude iron, hot rolled prod., processed p.
Alcoa Köfém Kft.	429	15.0	1,863	79	Aluminium products
MAL Magyar Alumínium Termelö és Kereskedelmi Rt.[2)]	165	15.6	2,061	68	Production of aluminium alloys
Csepeli Fémmü Rt.	137	1.7	1,149	45	Prod. of non-ferrous metal products
DWA Dunaferr-Voest Alpine Hideghengermü Kft.	128	4.4	712	25	Manuf. of cold rolled sheets and coils

Notes: Converted with average exchange rate Hungarian forint 2000 HUF/EUR 260.04. - 1) Non-consolidated data. - 2) Consolidated data.

Source: Figyelö TOP 200 (2001), October.

- Dunaferr steelworks, Dunaújváros: After the collapse of communism, Dunaferr, the only flat steel producer and the country's largest steelworks, was transformed into a holding-type company and in 1992 into a shareholders' company with lots of subsidiaries. Dunaferr Acélmüvek Kft. (Dunaferr Steelworks Ltd.), the primary division, was responsible for iron and steel production and hot rolling. Joint ventures have been formed in downstream areas, including a cold rolling mill with Austria's Voest-Alpine, and a galvanizing line with Metab Metal Processing, a company formed with Austria's Taborszky & Son in 1988.[45] In 1996, Acel 21, a company established by the managers of Dunaferr, won a tender to run the steelworks for five years, scheduled for privatization in 2002. In the meantime, the company remains in the hands of the Hungarian government and several local city councils.
- Diósqyöri Acélmüvek (DAM), Miskolc: After the transformation in 1989, 30% of the holding company Dimag was sold to an Austrian, Russian and Ukrainian consortium. However, only part of the raw material supplies were provided by the buyers and shares were not paid at all, so that Dimag went bankrupt in 1992 and DAM was re-nationalized thereafter.[46] At the beginning of 1998, the Slovak VSZ acquired 68% of the loss-making company for a symbolic USD 1. However, it took over Dam's debts and committed itself to an investment of USD 21 million which the company needed urgently. DAM's workforce has been reduced from 18,000 at its peak to currently 1650 and produces

[45] United Nations Economic Commission for Europe (1996), p. 39.

[46] United Nations Economic Commission for Europe (1996), p. 40.

higher-value long steel.[47] Sales reached EUR 77 million in 2000. In 2001, Cogne from Italy took over the company in liquidation.[48]

- Ózd Steelworks (ÓAM), Ózd: In the 1980s, ÓAM was one of the largest steel factories in Hungary. However, after the collapse of communism, a large part of ÓAM's operations was closed down because of outdated and inefficient plants. In mid-1997, Max Aicher from Germany bought the remaining facilities and since then invested heavily in the restructuring of the company. An EBRD loan helped in financing the reconstruction of a new electric arc steel mill, which was put in operation in August 2000. It contributed to the ÓAM's good performance in 2000, reaching sales of EUR 44 million then.[49]
- Hungalu-Hungarian Aluminium Corp.: The former aluminium monopoly Hungalu was transformed into a holding company and its subsidiaries were privatized piecemeal: A joint venture between Hungalu and the Aluminium Company of America (Alcoa), the world's largest aluminium company, was established in 1993. In 1996, Alcoa gained 100% ownership of Alcoa-Köfém, which produces flat-rolled aluminium products and extrusions. In 1995, Hungalu's Almasfuzito plant was leased out for three years to a consortium, consisting of the Hungarian Metal Service, Austria's Alford Holding and UK's Alcuan Metal, which in 1996 took full control of the plant, preventing its being closed. In the sale of the largest aluminium plant Ajka, Norway's Norsk Hydro failed and the local firm Inotai Aluminium acquired the company in 1997.[50]

Poland

In the year 2000 there were about 870 companies with more than 50 employees in the Polish metals sector (170 in 'basic metals' and 700 in 'fabricated metal products'), accounting for 10% of total manufacturing enterprises (with more than 50 employees). Looking at the sold production of these companies, the sector was however dominated by 'basic metals', accounting for 62% of the sector's sold production, while 'fabricated metal products' held 38% only. The largest sub-branch by far was 'basic iron and steel, ferro-alloys (ECSC)' with 38%, followed by 'structural metal products' (13%), 'other fabricated metal products' and 'basic precious and non-ferrous metals' (both about 12%). Between 1994 and 1999, 'fabricated metal products' did better than 'basic metals' and growth was most pronounced in 'treatment and coating of metals', 'tanks, reservoirs, central heating radiators and boilers' as well as in 'structural metal products' (see Table 24).

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47 *Business Central Europe* (1998), February and *Business Eastern Europe* (2001), 5 March.

48 *Business Eastern Europe* (2001), 19 March.

49 EBRD (2001a).

50 *Business Eastern Europe* (1997), 16 June.

Table 24

Poland: Sold production of the metals sector[1)]

EUR million, distribution in %

	1994	1996	1999	1999	1999 level
	EUR million, current prices			in %	in % of 1994
27 Basic metals	**4099**	**4953**	**4560**	**62.0**	**111.2**
27.1 Basic iron and steel, ferro-alloys (ECSC)	2715	3312	2770	37.7	102.0
27.2 Tubes	183	217	206	2.8	112.7
27.3 Other first processing of iron and steel	220	286	266	3.6	121.0
27.4 Basic precious and non-ferrous metals	654	744	887	12.1	135.6
27.5 Casting of metals	328	395	431	5.9	131.5
28 Fabricated metal products	**1187**	**1861**	**2797**	**38.0**	**235.7**
28.1 Structural metal products	233	501	927	12.6	398.0
28.2 Tanks, reservoirs, central heating radiators and boilers	56	135	224	3.0	403.2
28.3 Steam generators	170	220	260	3.5	152.9
28.4 Forging, pressing, stamping and roll forming of metal	55	86	118	1.6	215.1
28.5 Treatment and coating of metals	21	52	133	1.8	631.4
28.6 Cutlery, tools and general hardware	112	158	220	3.0	195.8
28.7 Other fabricated metal products	540	708	915	12.4	169.4
DJ Basic metals and fabricated metal products	**5286**	**6814**	**7357**	**100.0**	**139.2**

Notes: Average exchange rate Polish zloty 1994 PLN/EUR 2.70, 1996 PLN/EUR 3.38, 1999 PLN/EUR 4.23.
1) Companies with more than 50 employees.

Source: Polish Statistical Yearbook, Polish Industrial Yearbook, various issues.

The financial standing of companies differs among industries: While in 'basic metals' net profitability was negative over the whole period observed (1998 to 2001), in 'fabricated metal products' it was better than the manufacturing average for most years. Investment growth was rather volatile, but again negative for 'basic metals' and better for 'fabricated metal products' (see Table 25). Foreign direct investment is small given the size of the sector: according to PAIZ, the metals sector accounted for only 2% of all capital investment in manufacturing as of end-2000.[51] This is a result of the postponed privatization of the sector, with the largest three companies still in state ownership (see Table 26; in the iron and steel industry the Italian company Lucchini entered into the bankruptcy-threatened Warsaw Steelworks at the beginning of the 1990s).

[51] PAIZ Homepage www.paiz.gov.pl.

Table 25

Poland: Net profitability in the enterprise[1)] sector and real growth rates of investment outlays

in %

		Net profitability[2)]				Investment growth			
		1998	1999	2000	2001 I-IX	1998	1999	2000	2001 I-IX
27	Basic metals	-1.7	-8.8	-4.3	-7.1	1.8	-22.7	-20.1	0.5
28	Fabricated metal products	2.3	1.5	0.8	0.4	11.6	9.1	33.0	-44.1
D	Total manufacturing	1.2	0.1	0.7	0.6	30.9	1.2	-4.1	-13.7

Note: 1) Firms with 50 or more employees. - 2) Ratio of net profits to all revenue.

Source: Podkaminer (1998) and Central Statistical Office (1998, 1999, 2000, 2001).

Table 26

Largest companies of the Polish metals sector, ranked by 2000 revenues

NACE Code[1]	Name, Location	Revenues[2)] in PLN mn	Revenues in EUR[3)] mn	Employees	Share of exports[4)]	Gross profit, in %	Owner-ship[5)]
27.10	Huta Katowice SA, Dabrowa Górnicza	3,893	971	6,417	38.8	-7.71	A
27.10	Huta im. Tadeusza Sendzimira SA, Kraków	3,371	841	9,955	10.2	2.28	A
27.10	Huta Czestochowa SA, Czestochowa	1,225	305	2,509	12.5	-14.14	A
27.10	Huta L. W. sp.z.o.o., Warszawa	933	233	1,744	26.3	12.16	E, A
27.10	Huta Zawiercie SA, Zawiercie	810	202	1,248	18.1	0.85	D, A
27.10	Huta Ostrowiec SA, Ostowiec Swietokrzyski	771	192	3,024	5.5	-17.9	D, B, A
28.72	Can Pack GK SA, Kraków	722	180	.	.	6.33	E, D
27.32	Stalprodukt Zakl. Przetw. Hutniczego SA, Bochnia	692	173	1,448	29.7	3.4	D, B
27.42	Huta Aluminium Konin SA, Konin	668	167	1,181	0.01	1.87	D, A, B
28.72	Pol-Am-Pack SA j.v., Brzesko	619	154	.	.	1.17	D, E

Notes: The large producer of copper and silver KGHM Polska Miedz SA, Lublin is not included in the list, as it is classified under 14 'Other mining and quarrying'. In 2000, KGHM achieved revenues of EUR 1,438 million and had 18,562 employees. - 1) NACE Codes: 27.10 Manufacture of basic iron and steel and of ferro-alloys (ECSC); 27.32 Cold rolling of narrow strip; 27.42 Aluminium production; 28.72 Manufacture of light metal packaging. - 2) Total revenues. - 3) Preliminary average exchange rate Polish zloty 2000 PLN/EUR 4.01. - 4) As per cent of revenues of main activity. - 5) Ownership defined as State treasury (A), State or state agency (B), communal ownership (C), private ownership (D), foreign ownership (E).

Source: *Rzeczpospolita* (2001).

The *iron and steel industry* has a very long tradition in Poland: 18 steel mills began operation before World War I, two during the period between the wars, and six after World War II. In the 1950s important new mills, such as Huta T. Sendzimira and Huta Warszawa, were established, to be followed in the 1970s by Huta Katowice. Rigid prices for steel products set by planners during that period kept profitability low so that internal financial resources for modernization were limited. With the introduction of the market economy, the Polish steel industry was thus in heavy need of restructuring:[52]

- First, the *technology* was at least in part old and outmoded: The use of open-hearth techniques was still widespread in Poland, although this technique had been virtually displaced by the basic oxygen furnace in Western Europe by the end of the 1970s. By 2000, about 3% of crude steel was still produced by open-hearth furnaces, 65% by basic oxygen furnaces and 31% by electric arc furnaces (compare Table 27). There was also little use of continuous casting in Poland in 1992: While in Western Europe continuous casting processes made up 92% of all steel production, it accounted for only 3% in Poland. However, that share had grown to 30% by 1995, 55% by 1997 and finally to 72% by 2000 (compare Table 27).
- Second, as a consequence *inefficiencies* prevailed, measured by low productivity, high energy use, high consumption of raw materials and high levels of pollution.
- Third, in addition, *high fixed costs* placed the Polish steel industry, with its integrated works, at a competitive disadvantage in comparison to mini-mills in Western Europe. Mini-mills have a lower standard capacity, lower capital costs, and lower personnel costs per tonne, and can in general react more flexibly to changing market requirements than integrated works.[53]
- Fourth and most importantly, the Polish steel industry was and still is handicapped by *over-capacity* and *surplus-employment*. In 1980, Poland produced 19.5 million tonnes of crude steel, ranking eighth among the crude steel producing nations. Production fell to 13.6 million tonnes in 1990, 11.6 million t in 1997 and 10.5 million t in 2000 (see Appendix, Table A2). Employment stood at 147,000 at the beginning of transition in 1990 and fell to 38,000 by the end of 2000. A further 8600 employees are said to have lost their jobs in 2001. However, further cuts are necessary in both fields.
- Fifth, the *production mix* has been and continues to be bad and consists of low-price, low value-added products for which demand is more volatile. Domestic car producers, such as Fiat or Daewoo, import almost all of the steel for their Polish production. This imported steel however is of higher quality and can therefore generate higher revenues.[54] Most of steel sheets for local car makers are imported from Slovakia.[55]

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[52] See also *Business Eastern Europe* (1998), 27 April.

[53] See ABN-AMRO (1998), p. 11.

[54] Price of imported steel is two to three times higher per tonne than the price of exported steel. See also *Business Eastern Europe* (1998), 27 April.

Today, the restructuring and privatization process in the iron and steel industry is still unfinished and the industry receives state aid. Steel companies generate hefty losses and total debts exceeded PLN 10 billion (EUR 2.5 billion) in 2000, due to the crisis on the steel markets in 1999 and their poor production profile (see above). The share of imported steel within apparent consumption amounted to 35% in 2000, rising to 40% at the end of 2001. The European Union is the largest trading partner (Germany), the second largest are the CEFTA countries (Czech Republic, Slovakia), Russia and Ukraine). The steel industry recorded a negative trade balance of EUR -325 million in 2000.

Table 27

Crude steel production by process and product, 2000

	Production million metric tonnes	Production by process in percentage of total				Production by product in percentage of total
		OH	BOF	EAF	Total	Continuous casting
Czech Republic	6.2	0.6	91.0	8.4	100.0	87.1
Hungary	1.9	.	87.5	12.5	100.0	100.0
Poland	10.5	3.8	64.8	31.4	100.0	72.4
Romania	4.8	.	72.2	27.8	100.0	65.3
Slovak Republic	3.7	.	92.3	7.7	100.0	99.3
Russia	59.1	27.4	58.1	14.6	100.0	49.7
Ukraine	31.4	50.0	46.9	3.1	100.0	19.6
European Union(15)	**163.2**	**.**	**60.3**	**39.7**	**100.0**	**96.3**

Notes: OH = open hearth furnace, BOF = basic oxygen furnace, EAF = electric arc furnace.

Source: International Iron and Steel Institute Internet Homepage www.worldsteel.org.

Poland: The Metallurgical Chamber of Industry and Commerce www.hiph.com.pl.

In order to overcome structural problems the government launched several reform programmes during the past ten years, with differing success:

– The first one was launched in December 1992 when the government adopted a set of proposals made in a study by a Canadian consortium in 1992: These included the reduction of production from 14.9 million tonnes in 1991 to 9.8 million t in 2000, the production of higher-quality products, the closure of several steel mills of which two were to be completely liquidated (Bobrek and Stettin) and the reduction of employment from 140,000 to 43,000. Total costs for this programme were estimated at USD 4.5 billion over ten years.[56] Unfortunately, the proposals were never fully implemented. Only Bobrek was closed, Stettin was restructured and the other mills, in the meantime, have tried to modernize on their own.

[55] See *Business Central Europe* (2001), June.

[56] W. Quaisser (1996), p. 34 or B. Pytel (1995), p. 11.

– The latest programme for restructuring was approved by the government on 5 June 2001. It includes the creation of a single steel giant called Polish Steel Concern on the basis of four key plants[57] – Huta T. Sendzimira, Huta Katowice, Huta Florian and Huta Cedler – and the selling of a majority stake to a foreign buyer. Potential investors are Ispat International and a consortium of Usinor (France), Arbed (Luxembourg), ThyssenKrupp and Salzgitter (both Germany).

The two largest steel mills in Poland are Huta Katowice and Huta Szendzimira, which produce about 60% of the country's steel:

– Huta Katowice S.A.: In 1991, the metallurgical combine was transformed into a state-owned joint-stock company. Non-core companies were spun off and took over part of the workforce. Employment in the Huta Katowice steelworks declined from 25,000 in 1989 to 22,000 in 1994, and to 5570 as of May 2001. In the course of transition, modernization of the steelworks started. In 1998, privatization proceedings attracted potential foreign investors, with Voest Alpine Stahl from Austria, British Steel and Danieli from Italy expressing interest in the steelworks. Finally, British Steel was selected as the preferred investor, but the privatization was stopped. In 1999, the company was divided into three entities: long parts, flat parts and steel making. Corus, founded by a merger of British Steel and Hoogovens in 1999, wanted to take over the long-parts division, Danieli from Italy the flat-parts division in 2000, and CVARD from Brazil the steel-making division. However, Corus backed out in November and put Huta Katowice at the verge of bankruptcy so that the state had to step in. Huta Katowice is outmoded and produces low value-added long products, while Huta Sendzimira is more modern and specialized in higher-quality flat products.

– Huta Tadeusza Sendzimira S.A. (HTS): In the 1980s, the former Lenin Steel Works in Krakow was the largest steelworks in Poland, employing almost 40,000 people and paying the highest wages. After the collapse of communism the first restructuring proposal, based on the study of a Canadian consortium in 1992, was to combine HTS and Huta Katowice. This plan was however abandoned. In 1992, HTS was transformed into a State Treasury company and internal modernization and restructuring began, including installing a continuous casting facility and spinning off non-core divisions (hotels, restaurants). Overall, employment was reduced to approximately 17,000 by 1994 and 9955 in 2000.[58] In 1998, foreign investors made offers for a stake in HTS, including the Austrian company Voest Alpine Stahl together with the Dutch company Hoogovens and the German Thyssen-Krupp together with the British-Indian consortium Ispat Int. Finally, HTS began talks with the first two, which however withdrew their bid at the end of 1998, due to the unclear future of Huta Katowice. Foreign investors wanted

[57] The number was increased lately to include five companies. See *Business Eastern Europe* (2001), 10 December.

[58] See J. Hardy et al. (1996), p. 237.

to bundle HTS with Huta Katowice, in order to co-ordinate production profiles to avoid potentially lethal competition in flat-steel products.

Romania

At the starting point of the large-scale Romanian iron and steel industry in 1965, Romania built the giant Galati-steel mill against the wish of the Soviet Union, who suggested that Romania should supply agricultural products to its partners. Hence, the steel mill was built with Western loans although the country lacked iron ore and energy resources (apart from oil) and was not supported by cheap supplies from the Soviet Union in contrast to the other CMEA countries.[59] After the collapse of communism, the metals sector faced a pronounced decline, which was even more severe in 'fabricated basic products' than in 'basic metals', particularly evident in employment figures. In 1990, the 'fabricated metal products' industry employed more persons (189,000) than the 'basic metals' industry (173,000). In 1993, the ranking reversed and in 1999 'basic metals' had 107,000 employees, 'fabricated metal products' only 87,000 (55% and 45% respectively of the sector's employees). This was due to delayed privatization and restructuring in the former industry, which is also handicapped by obsolete technology. In terms of production, 'basic metals' accounted for 78% of the sector's production in 1999, 'fabricated metal products' for 23% (see Table 28).

Table 28

Romania: Industrial production and employment in the metals sector

		Industrial production			Employment		
		1994	1999	1999	1994	1999	1999
		EUR mn, c.p.		in %	ths. persons		in %
27	Basic metals	2127	2164	76.6	165	107	55.2
28	Fabricated metal products	991	662	23.4	136	87	44.8
DJ	**Basic metals and fabricated metal products**	**3318**	**2826**	**100.0**	**301**	**194**	**100.0**

Notes: Converted with average exchange rate Romanian lei 1994 ROL/EUR 1967.56 and 1999 ROL/EUR 16295.57.

Source: Statistical Yearbook Romania, various issues.

[59] Lavigne (1999), p. 51.

Table 29

The largest Romanian metals companies, ranked by 1999 turnover

Name, location	Turnover in ROL mn	Turnover in EUR[1)] mn	Employees	Sub-branch
Combinatul Siderurgic SIDEX SA, Galati	10597,896	650	31,352	Ferrous metals and semi-products
Alro SA, Slatina	3798,915	233	3,853	Aluminium production
COST SA (Combinatul de Oteluri Speciale Târgoviste)	1215,619	75	6,160	Ferrous metals and semi-products
Siderurgica SA, Hunedoara	1130,376	69	10,453	Ferrous metals and semi-products
B.B.G. Alum SA, Tulcea	968,568	59	1,298	Aluminium production
Alprom SA, Slatina	816,008	50	1,921	Aluminium processing
Petrotub SA, Roman	769,186	47	4,267	Steel pipes
Silcotub SA, Zalau	763,046	47	1,512	Steel pipes
Industria Sarmei SA, Câmpia Turzii	747,253	46	4,999	Ferrous metals and semi-products
Ductil SA, Buzau	539,799	33	621	Ferrous metals and semi-products
Combinatul Siderurgic Resita SA, Resita	415,442	25	4,445	Ferrous metals and semi-products

Notes: 1) Converted with average exchange rate Romanian lei 1999 ROL/EUR 16295.57.

Source: Chamber of Commerce and Industry of Romania and Bucharest (2001).

- Sidex S.A., Galati: The largest integrated iron and steel works of Romania is responsible for 50% of Romania's steel production, accounts for 4% of Romania's GDP and meets 90% of Romania's flat products domestic demand. About 50% of Sidex production is exported. Large losses and debts urged the state to privatize the company in 2001, in order to prevent looming bankruptcy. At the beginning of November 2001, LNM Holdings finally acquired the entire state stake in Sidex. The whole contract is said to be worth a total of USD 600 million, the steel group will pay USD 65 million for around 90% in Sidex, and the name will be changed into Ispat Sidex.[60]
- Alro S.A., Slatina: Alro is the largest aluminium producer in Central and Eastern Europe, the seventh largest in Europe and the nineteenth in the world. It is the most successful and prosperous state-owned company in Romania. It supplies high-quality pure aluminium and aluminium alloys, with some 75% of total output exported. Since 1995 Alro invested in upgrading its facilities and improving environmental protection using its own financial resources. In 2000, the government offered Alro together with Alprom SA, a smaller and less profitable aluminium product manufacturer, for privatization.

[60] *Bucharest Business Week* (2001), 12 November. The forgiven debt amounted to USD 950 million.

A number of the world's leading aluminium producers showed interest, the privatization process was however halted as general elections approached.[61] In January 2002 the metals trader Marco International (US), already owning 42% of Alro, seemed to be ahead in the privatization of a majority stake in Alro, when privatization was again postponed.[62]

Slovak Republic

In 1990 the Slovak Republic accounted for 23% of production of the former Czechoslovak iron and steel industry and for 29% of non-ferrous metallurgy.[63] After the collapse of communism, the Slovak metals sector was hit by the disintegration of the CMEA market, the breakdown of military production and the liberalization of the market. The share of imports from EU countries was rising, imports from the CEFTA countries – primarily the Czech Republic – offset the absence of long products production as well as the entire range of products from alloyed steels, and cheap flat products from Ukraine and Russia came into the market lately.[64] Anti-dumping procedures put a risk on exports to the important EU market. In 2000, problems of the steel industry seemed to be solved by the entry of U.S. Steel into VSŽ Košice and also aluminium production seems to be over the worst.[65] Both branches are oriented towards the automotive industry.

Looking at the company structure, about 1300 companies were operating in the Slovak metals sector at the end of 2000, representing 15% of all manufacturing enterprises (largest share within manufacturing!). In terms of company size, small companies with less than 20 employees dominated, accounting for 75% of all companies. About 23% of companies had between 20 and 249 employees, and only 2% employed more than 250 persons (the latter share being especially small compared to total manufacturing). In terms of ownership, 99% of all companies were private, 7% were under total foreign ownership (96 companies), another 10% in mixed ownership (136 companies).[66] Foreign direct investment played a major role in the sector already before the sale of VSŽ Košice to U.S. Steel in 2000 (cf. the EBRD loan to Slovalco in 1994; for joint ventures with VSŽ and foreign companies see below). At the end of 1999, the metals sector accounted for 23% of the stock of foreign direct investment in total manufacturing (63% 'basic metals' and 37% 'fabricated metal products') and was hence the largest FDI recipient in manufacturing. At the end of 2000, the share had climbed to 43% (88% 'basic metals' and 12% 'fabricated metal products').

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61 EBRD (2001b).

62 *Bucharest Business Week* (2002), 21 January.

63 J. Fath et al. (1993), p. 55.

64 Ministry of Economy of the Slovak Republic (1999).

65 *Trend Top* (2001), October.

66 Statistical Office of the Slovak Republic (2000).

Between 1996 and 1999, the metals sector (including only companies with 20 and more employees) registered a loss before taxation, which turned into a profit in 2000 and reached SKK 1.6 billion (EUR 39 million).[67]

Table 30

The largest companies of the Slovak metals sector, ranked by 2000 net revenues

Name, location	Net revenues in EUR mn[1)]	Pre-tax profit in EUR mn[1)]	Employees	Export share	Main activity/products
VSŽ, a.s., Košice[2)]	1147	88.42	459	54	Integrated steelworks
ZSNP, a.s., Žiar nad Hronom	352	34.30	2,055	85	Aluminium firm (parent)
Slovalco, a.s., Žiar nad Hronom	288	36.68	701	86	Largest aluminium smelter
Železiarne Podbrezová, a.s., Podbr.	138	8.50	3,893	65	Steel tubes
OFZ Trading, a.s., Istebné[3)]	112	0.61	90	71	Marketing for OFZ, a.s., a ferroalloy producer
Alufinal, a.s., Žiar nad Hronom	51	0.03	992	60	Aluminium products
Drôtovna Drôtny, a.s., Hlohovec[4)]	42	-1.31	1,070	.	Steel wires
Rannila, s.r.o., Košice	21	0.56	90	34	Roofing and claddings
Drôtovna Kordy, a.s., Hlohovec[5)]	20	0.14	600	.	Tyre & conveyor belt cords
Obal - Vogel & Noot, a.s., Nové Mesto nad Váhom	16	0.04	310	41	.

Notes: 1) Average exchange rate Slovak koruna 2000 SKK/EUR 42.59. - 2) Parent company VSŽ Group. Due to capital investment of U.S. Steel company excluding basic metallurgy production and some services in 2000. - 3) Company started production and sales on 05/01/1999. - 4) Company was established 10/18/1999. - 5) Company was established 09/21/1999.

Source: Trend Top (2001), October and Trend Top 200 (2001), June.

– VSŽ a.s. Košice: Východoslovenské Železiarne (VSŽ, East Slovak Iron and Steel Works) is the country's only integrated steelworks and one of Slovakia's largest companies. It is also a major exporter and employer and said to be the highest-quality steel producer in Central and Eastern Europe. Established in 1959, the company was turned into a fully state-owned joint-stock company in 1990 and privatized under the first voucher privatization in 1992. Major stakes got into the hands of the top management, favoured by the former government, as part of a pattern of abuse of the privatization process often called 'clientelism'.[68] During 1992 and 1993, the company was transformed into a holding company with seven subsidiaries.[69] In 1997 a joint venture

[67] Statistical Office of the Slovak Republic (2001).

[68] Most important were Alexander Rezes, minister of post and telecommunications in the Meciar Cabinet from December 1994 and April 1997, his son Július Rezes and Ján Smerek. At the beginning of 1998, Július Rezes replaced Jan Smerek as president of VSŽ. See S. Szomolányi and J. Gould (1997), p. 71.

[69] See VSZ Internet Homepage and J. Gács (1996), p. 304. – These limited-liability companies were fully owned by VSŽ and called VSŽ Ocel, s.r.o., VSŽ Inziniering, s.r.o., VSŽ Keramika, s.r.o., VSŽ Servis, s.r.o., VSŽ Industria, s.r.o., VSŽ

was set up between Rautaruukki, a Finnish steel concern, and VSŽ called Rannila. In 1998 VSŽ acquired 68% of the troubled Hungarian state-owned steel-maker DAM and formed a joint venture with U.S. Steel to produce tin-plated steel for the food industry. Falling steel prices, the poor and politicized management and a series of diversification into unrelated activities ranging from banking and insurance to football and newspapers led the company into crisis. In November 1998, VSŽ defaulted on a USD 35 million syndicated loan, putting it at the verge of bankruptcy. After a change of management and the selling of non-core businesses, metallurgical activities were finally sold to U.S. Steel in 2000, representing one of the largest investments in Slovakia. For the future, U.S. Steel Košice wants to build up a strong position in supplying the canning industry and to meet increasing demand of the car and white goods industry.[70]

Slovenia

The *Slovenian steel industry* has fairly modern plants for special steel (100% electric arc furnace production) and hence faces no major restructuring problems.[71] A privatization programme for the structural reform of the ironworks was adopted by the government in September 2000 and is mainly based on the privatization of the Slovenian Steelwork Group by 2003 (see below).[72] At the end of 2001, the state assumed the bulk of liabilities of the Slovenian Steelworks, taking this opportunity for the last time as after 31 December 2001 the state had to stop granting state aids based on previous legislation on the restructuring of the Slovenian Steelworks.[73]

2000 was a successful year for the *metals sector* in Slovenia: Profits amounted to EUR 14 million in 'basic metals' (as compared to losses in 1999) and to EUR 34 million in 'fabricated metal products'. Hence the sector was among the more successful sectors of manufacturing (favourable world economic business cycle).[74]

ZOS, s.r.o. and VSŽ Informatika, s.r.o. VSŽ Ocel was the most important subsidiary, with revenues of SKK 29.9 billion in 1996 and 11,630 employees. It was responsible for steel production and the main manufacturing programme.

70 *Business Central Europe* (2000/2001), December/January.

71 European Commission (1998).

72 The programme envisaged EUR 210 million in state aid up until 2023, prescribed the privatization of the core companies and the reduction of its employment from 3000 to 2500 employees, the liquidation of inactive companies and privatization of non-core companies. *Slovenian Weekly* (2000), 26 September.

73 *Slovenia Business Week* (2001), 24 December.

74 *Slovenian Business Report* (2001), Fall.

Table 31

The largest companies of the Slovenian metals sector, ranked by 2000 income

Name, location	Total income in EUR mn[1)]	Net profit in EUR ths.[1)]	Employees	Export Share	Main activity[2)]
Impol, d.d., Slovenska Bistrica	205	6,960	895	80+	28.40
SŽ Acroni, d.o.o., Jesenice	168	1,727	1,476	60-80	27.10
Cinkarna Celje, d.d., Celje	132	6,570	1,264	63	Metallurgy & chemicals company
Unior, d.d., Zrece	92	3,341	2,135	80+	28.40
SŽ Metal Ravne, d.o.o., Ravne	77	1,473	1,113	60-80	27.10
Kovinoplastika Lož, d.d., Stari Trg pri Ložu	74	4,316	1,118	60-80	28.63
Alpos, d.d., Šentjur pri Celju	54	312	479	60-80	27.22
Mariborska Livarna, d.d., Maribor	50	239	863	60-80	28.40
TCG Unitech LTH-OL, Škofja Loka	41	2,941	608	80+	27.53
Inexa Štore, d.o.o., Štore[3)]	38	24	480	40-60	27.10

Notes: The aluminium smelter Talum, d.d., Kidricevo was missing from the list of largest companies ranked by 2000 income. - 1) Converted with average exchange rate Slovenian tolar 2000 SIT/EUR 205.03. - 2) 27.10 Manufacture of basic iron and steel and of ferro-alloys (ECSC); 27.22 Manufacture of steel tubes; 27.53 Casting of light metals; 28.63 Manufacture of locks and hinges; 28.40 Forging, pressing, stamping and roll-forming of metal; powder metallurgy. - 3) Former SŽ Jeklo, d.o.o., Štore. The Swedish group Inexa AB became the majority owner of SŽ Jeklo Štore on 1 July 1999.

Source: *Slovenian Business Report* (2001), Fall; SLO Export Internet Homepage www..gzs.si/sloexporta/default.htm.

– Slovenske Železarne d.d. Group (Slovenian Steelworks Group): The Slovenian Steelworks is organized as a holding company majority-owned by the Republic of Slovenia and comprises several production, service and commercial companies. Its core business included three steel plants called SŽ Acroni d.o.o. in Jesenice, SŽ Metal Ravne d.o.o. and SŽ Jeklo Štore d.o.o. (the company has been sold to Swedish company Inexa AB). The first company produces high-quality flat rolled products and is Slovenia's largest mini-mill steel producer. The latter ones produce long steel. On 2 November 2001, the public tender of Noži Ravne, the largest Slovenian producer of industrial blades, Energetika Ravne and Energetika Štore was announced. Privatization of SŽ Acroni Jesenice, SŽ Metal Ravne and SŽ STO Ravne will follow.[75]

[75] See Slovenske Železarne Internet Homepage www. sl-zel.si.

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APPENDIX OF TABLES AND FIGURES

Table A1

Key data on total manufacturing

		1989	1992	1993	1997	1998	1999	2000	Average annual growth in % 1993-2000
BULGARIA									
Industrial production (at current prices)	in BGN mn	59	177	201870	13511	13501	12531	14796	.
Industrial growth (at constant prices)	in %	.	-17.2	-12.7	-13.5	-12.0	-8.9	5.7	.
Employment	in 1000	1420	883	767	720	690	616	529	.
Employment growth	in %	.	-16.3	-13.2	-2.7	-4.3	-10.7	-14.1	.
Wage growth (EUR basis)	in %	.	46.0	44.5	-1.6	25.9	5.0	11.8	.
Productivity growth	in %	.	-1.0	0.6	-11.1	-8.1	2.0	23.1	.
ULC growth (EUR basis)	in %	.	47.5	47.5	10.6	37.0	3.0	-9.2	.
Total exports to EU	in EUR mn	445	809	855	1940	2095	2099	2911	
Total imports from EU	in EUR mn	1275	1029	1240	1674	2225	2480	2988	
Trade balance with EU	in EUR mn	-830	-220	-385	266	-130	-381	-77	.
Exports to the EU: Market shares	in %	0.13	0.21	0.23	0.37	0.36	0.33	0.37	.
CZECH REPUBLIC									
Industrial production (at current prices)	in CZK mn	558351	652893	655289	1330877	1442259	1438096	.	.
Industrial growth (at constant prices)	in %	.	-8.0	-8.4	7.6	4.4	-1.5	5.6	2.5
Employment	in 1000	1658	1181	1098	1163	1147	1078	1062	.
Employment growth	in %	.	-13.2	-7.0	-2.4	-1.4	-6.0	-1.5	-3.6
Wage growth (EUR basis)	in %	.	20.0	33.7	8.1	9.5	4.5	11.2	14.5
Productivity growth	in %	.	6.0	-1.5	10.2	5.8	4.9	7.2	6.3
ULC growth (EUR basis)	in %	.	13.2	35.7	-1.9	3.5	-0.3	3.7	9.7
Total exports to EU	in EUR mn	.	.	4460	10989	13899	16023	20576	.
Total imports from EU	in EUR mn	.	.	5612	14617	15854	17177	22261	.
Trade balance with EU	in EUR mn	.	.	-1152	-3628	-1955	-1154	-1685	.
Exports to the EU: Market shares	in %	.	.	1.18	2.11	2.42	2.54	2.58	.
HUNGARY									
Industrial production (at current prices)	in HUF mn	1461100	1497321	1721479	5197367	6615642	7886728	10538103	.
Industrial growth (at constant prices)	in %	.	-17.5	3.0	15.9	17.4	18.6	23.4	11.9
Employment	in 1000	1171	857	747	637	659	743	.	.
Employment growth	in %	.	-14.5	-12.9	0.7	3.4	1.2	.	-3.5 [1)]
Wage growth (EUR basis)	in %	.	14.5	18.4	10.8	2.3	10.4	.	6.2 [1)]
Productivity growth	in %	.	-3.5	18.2	15.2	13.6	17.2	.	14.4 [1)]
ULC growth (EUR basis)	in %	.	18.6	0.2	-3.8	-9.9	-5.8	.	-7.1 [1)]
Total exports to EU	in EUR mn	2245	3620	3616	11007	13791	16710	20978	.
Total imports from EU	in EUR mn	2713	3785	4621	11819	14317	16022	19729	.
Trade balance with EU	in EUR mn	-468	-165	-1004	-812	-527	688	1249	.
Exports to the EU: Market shares	in %	0.67	0.96	0.96	2.11	2.40	2.65	2.63	.
POLAND									
Industrial production (at current prices)	in PLN mn	.	78975	104441	299825	334887	367025	.	.
Industrial growth (at constant prices)	in %	.	4.9	10.2	13.3	5.3	5.6	7.1	9.6
Employment	in 1000	3326	2767	2700	2821	2801	2611	2455	.
Employment growth	in %	.	-13.1	-2.4	0.7	-0.7	-6.8	-6.0	-1.5
Wage growth (EUR basis)	in %	.	2.6	13.8	11.1	8.5	3.8	16.7	11.8
Productivity growth	in %	.	20.7	12.9	12.5	6.1	13.2	14.0	11.2
ULC growth (EUR basis)	in %	.	-15.0	0.0	-1.3	2.3	-8.4	2.4	0.5
Total exports to EU	in EUR mn	2924	6070	6616	12772	14763	16239	21686	.
Total imports from EU	in EUR mn	3308	7103	8785	22634	25527	26642	30917	.
Trade balance with EU	in EUR mn	-384	-1033	-2169	-9863	-10764	-10403	-9230	.
Exports to the EU: Market shares	in %	0.87	1.61	1.75	2.45	2.57	2.57	2.72	.

Table A1 (continued)

Table A1 (continued)

		1989	1992	1993	1997	1998	1999	2000	Average annual growth in % 1993-2000
ROMANIA									
Industrial production (at current prices)	in ROL bn	.	5484	15302	171363	205445	292302	376414	.
Industrial growth (at constant prices)	in %	.	-23.1	-1.2	-6.7	-11.4	-6.6	-1.4	-1.7
Employment	in 1000	.	2811	2590	2032	1907	1660	1566	.
Employment growth	in %	.	-12.5	-7.9	-5.4	-6.2	-13.0	-5.7	-7.1
Wage growth (EUR basis)	in %	.	-37.0	35.5	-7.1	24.7	-12.0	8.5	8.8
Productivity growth	in %	.	-12.1	-12.1	-1.4	-5.6	7.3	4.5	5.8
ULC growth (EUR basis)	in %	.	-28.3	-28.3	-5.8	32.0	-18.1	3.8	2.8
Total exports to EU	in EUR mn	2502	1355	1625	4297	4991	5534	7395	.
Total imports from EU	in EUR mn	603	1592	2003	4709	5956	5950	8250	.
Trade balance with EU	in EUR mn	1898	-237	-378	-412	-965	-416	-854	.
Exports to the EU: Market shares	in %	0.74	0.36	0.43	0.82	0.87	0.88	0.93	.
SLOVAK REPUBLIC									
Industrial production (at current prices)	in SKK mn	.	.	266525	419028	545700	599075	708367	.
Industrial growth (at constant prices)	in %	.	-15.7	-11.9	2.6	7.5	3.4	10.4	3.0
Employment	in 1000	.	527	472	439	516	501	486	.
Employment growth	in %	.	-12.6	-10.4	-3.6	-4.4	-2.9	-2.9	-3.7
Wage growth (EUR basis)	in %	.	11.3	23.6	13.0	3.9	-3.2	12.9	11.2
Productivity growth	in %	.	-3.6	-1.6	6.5	11.1	6.5	13.7	6.8
ULC growth (EUR basis)	in %	.	15.4	15.4	6.1	-6.5	-9.2	-0.7	4.1
Total exports to EU	in EUR mn	.	.	1092	3846	5230	5797	6762	.
Total imports from EU	in EUR mn	.	.	1089	4446	5347	5217	6160	.
Trade balance with EU	in EUR mn	.	.	3	-601	-117	581	602	.
Exports to the EU: Market shares	in %	.	.	0.28	0.74	0.91	0.92	0.85	.
SLOVENIA									
Industrial production (at current prices)	in SIT mn	.	809602	998161	1868671	2077927	2165820	.	.
Industrial growth (at constant prices)	in %	.	-13.9	-4.0	-2.6	4.5	0.2	7.1	1.6
Employment	in 1000	370	282	257	229	227	224	225	.
Employment growth	in %	-1.4	-10.1	-9.0	-3.2	-0.8	-1.4	0.1	-3.7
Wage growth (EUR basis)	in %	.	-4.8	14.6	5.3	7.5	5.0	.	8.8 [1)]
Productivity growth	in %	.	-4.2	5.5	0.7	5.3	1.6	7.0	5.5
ULC growth (EUR basis)	in %	.	-0.6	8.6	4.6	2.1	3.3	.	3.3 [1)]
Total exports to EU	in EUR mn	.	1549	2798	4596	5132	5222	6072	.
Total imports from EU	in EUR mn	.	1323	2902	5922	6318	6499	7569	.
Trade balance with EU	in EUR mn	.	226	-104	-1326	-1186	-1277	-1497	.
Exports to the EU: Market shares	in %	.	.	0.74	0.88	0.89	0.83	0.76	.

Notes: 1) 1993-1999.

EU: European Union (12), from 1997 European Union (15). - *Bulgaria:* 1989-1995: Total manufacturing excluding petroleum refineries. - *Czech Republic:* Up to 1996 enterprises with 100 employees or more, from 1997 enterprises with 20 employees or more. Industrial production at constant prices: 1997 and 1998 industrial output index calculated from production statistics of businesses with 20 employees or more. - *Hungary:* Industrial production: Enterprises with more than 20, from 1996 enterprises with more than 10 employees, from 1999 enterprises with more than 5 persons. Employment and wages: Enterprises with more than 20 employees, from 1999 enterprises with more than 5 persons. - *Poland:* Industrial production at current prices: From 1993 excluding VAT; including import duties; from 1996 basic prices, the years before producer prices. Average monthly gross wages: Enterprises with more than 5 employees, from 1999 including mandatory premium for social security and all enterprises. - *Romania:* Net wages. - *Slovak Republic:* Enterprises with 25 and more employees, 1997 enterprises with 20 and more employees, from 1998 all enterprises. - *Slovenia:* Employment in enterprises, companies and organizations: 1989-1996 private enterprises are included only if they have 3 or more persons in paid employment and armed forces staff, from 1997 all enterprises. Wages in enterprises, companies and organizations.

Source: WIIW Industrial Database.

Table A2

Crude steel production

in thousand metric tonnes

	1980	1986	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Bulgaria	2,567	2,898	2,180	1,615	1,552	1,941	2,491	2,724	2,457	2,628	2,216	1,890	2,017
Czech Rep.[1)]	14,925	15,112	14,877	12,071	11,044	6,769	7,085	7,184	6,509	6,750	6,498	5,616	6,200
Hungary	3,764	3,715	2,963	1,931	1,541	1,753	1,938	1,861	1,872	1,690	1,816	1,813	1,900
Poland	19,485	17,144	13,633	10,403	9,867	9,939	11,113	11,890	10,432	11,591	9,916	8,848	10,500
Romania	13,175	14,276	9,761	7,110	5,376	5,446	5,800	6,555	6,082	6,674	6,393	4,354	4,770
Slovak Rep.	.	.	.	.	.	3,922	3,948	3,921	3,554	3,784	3,388	3,534	3,700
Slovenia	.	.	.	.	401	355	424	407	328	426	458	445	465
CEEC (7)	**53,916**	**53,145**	**43,414**	**33,130**	**29,781**	**30,125**	**32,799**	**34,542**	**31,234**	**33,543**	**30,685**	**26,500**	**29,552**
EU (12)	142,116	125,776	136,800	137,365	132,381	132,186	138,910	142,682	134,287	145,775	145,136	141,295	148,178
EU (15)	153,486	137,364	148,693	148,693	143,768	144,182	151,696	155,801	146,940	159,822	159,542	155,523	163,225

Note: 1) Until 1993 CSFR.

Sources: United Nations Economic Commission for Europe (1994), p.126 and Iron & Steel Society (1998), p.2.
United Nations Economic Commission for Europe (2000), International Iron and Steel Institute Internet Homepage www.worldsteel.org.

Table A3

Basic metals and fabricated metal products

Estimated ranges for Unit Labour Costs in 2000, Austria 1999 = 100[1)]

	Bulgaria	Czech Republic	Hungary[2)]	Poland	Romania	Slovak Republic	Slovenia
PPP for GDP (lower range)	12	38	21	28	12	22	79
PPP for fixed capital formation (upper range)	30	58	34	37	29	34	93

Notes: 1) Defined as wages in EUR divided by productivity (measured as output at constant prices 1996 converted with EUR-based purchasing power parities (PPPs) divided by employees); gross wages used for calculation. - 2) 1999.

Source: WIIW

Table A4

Exports of individual industries in total manufacturing exports to the EU(15), 2000, in %

	Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
D Manufacturing total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
DA Food products; beverages and tobacco	4.7	1.5	3.6	5.0	1.1	0.7	1.2
DB Textiles and textile products	29.0	6.7	6.3	11.2	36.8	8.5	8.8
DC Leather and leather products	5.1	0.9	1.8	1.1	12.3	4.0	1.6
DD Wood and wood products	1.9	2.7	1.1	4.9	3.4	2.4	4.0
DE Pulp, paper & paper products; publishing and printing	0.9	2.9	1.0	2.8	0.5	3.4	4.4
DF Coke, refined petroleum products & nuclear fuel [1)]	1.9	1.2	1.3	2.0	0.4	3.5	0.0
DG Chemicals, chemical products & man-made fibres	8.0	4.6	4.7	5.4	3.5	6.1	5.0
DH Rubber and plastic products	1.0	4.8	2.4	3.1	1.2	2.6	3.8
DI Other non-metallic mineral products	2.2	3.9	1.1	2.4	1.9	2.7	2.7
DJ Basic metals and fabricated metal products	**31.7**	**13.2**	**6.3**	**14.7**	**12.3**	**13.6**	**14.0**
DK Machinery and equipment n.e.c.	6.0	12.5	6.5	6.3	5.2	10.3	13.9
DL Electrical and optical equipment	3.8	18.6	37.9	11.9	11.7	14.2	12.7
DM Transport equipment	1.5	21.6	23.9	19.8	3.4	25.1	19.1
DN Manufacturing n.e.c.	2.2	5.0	2.1	9.4	6.3	3.0	8.8

Source: Eurostat, WIIW calculations.

Table A5

Developments in GDP and gross industrial production

real change in % against preceding year

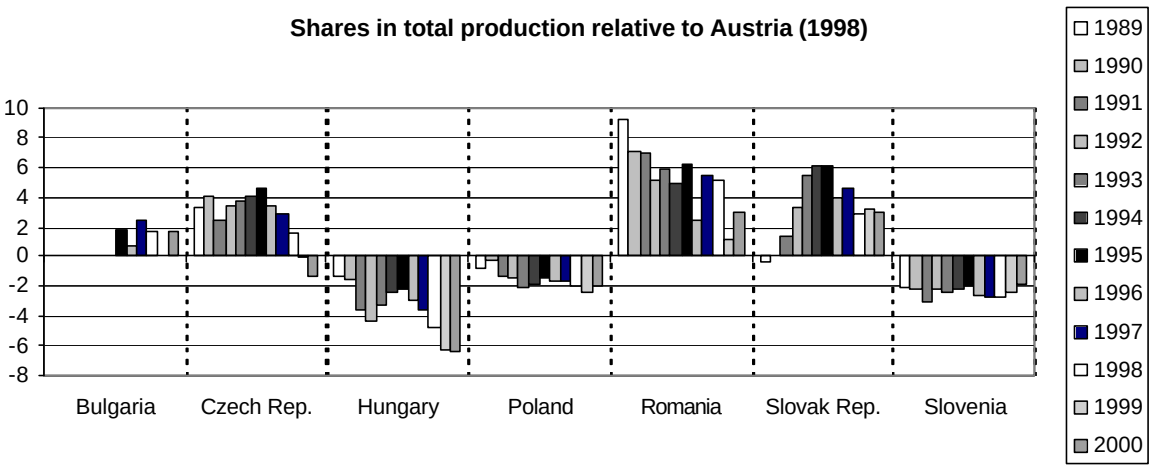
	Gross domestic product				Gross industrial production				
	2000	**2001**	**2002**	**2003**	**2000**	**2001**[1)]	**2002**	**2003**	**2001**
			forecast				forecast		1990=100
Czech Republic	2.9	3.7	3	4	5.4	6.8	5	7	90
Hungary	5.2	4.0	3.8	4	18.6	4.1	5	9	158
Poland[2)]	4.0	1	0	2	7.2	0.0	0	2	172
Slovak Republic	2.2	3	3	4	9.1	5.0	5	6	97
Slovenia	4.6	3.4	3	4	6.2	2.9	3	4	92
Bulgaria	5.8	4.5	3	4	5.8	2	4	4	61
Romania	1.6	4	2	3	8.2	8	4	4	67

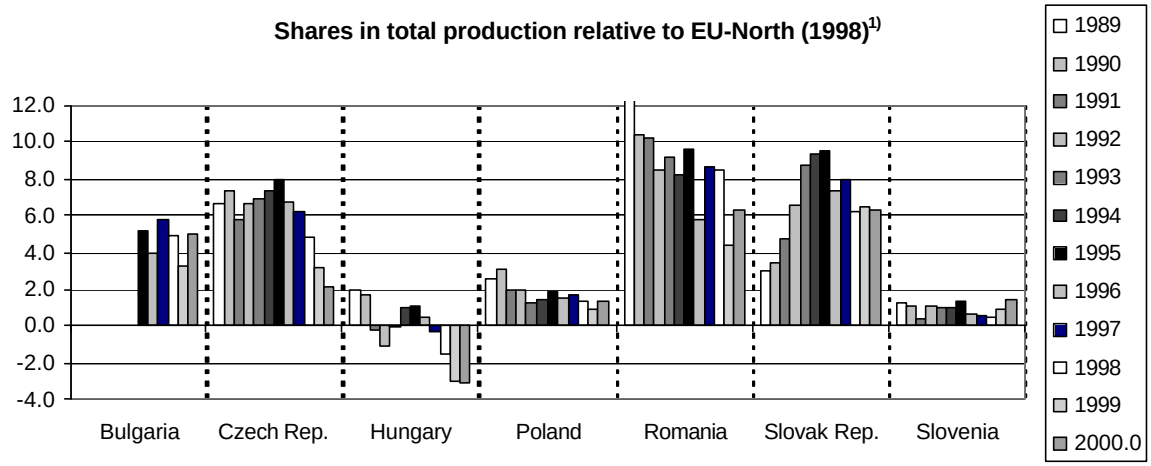
Notes: 1) Preliminary.- 2) Sales.

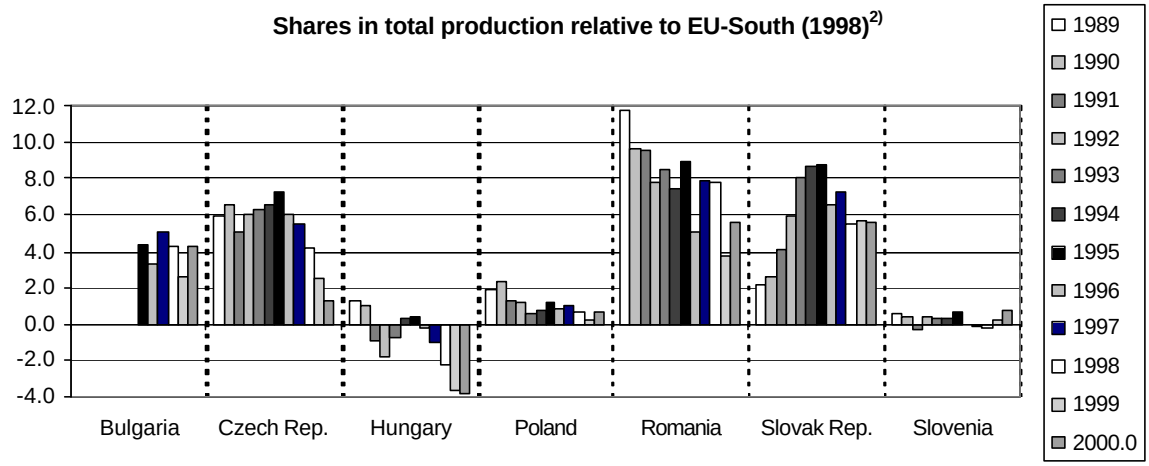
Source: WIIW (January 2002).

Figure A1

Basic metals and fabricated metal products
Shares of CEECs (at constant prices 1996) relative to other countries





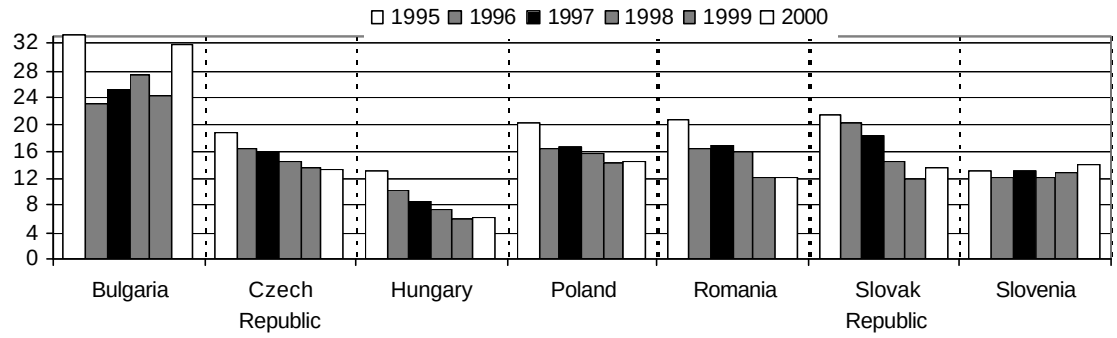


Notes: 1) Including UK, France, Germany and Belgium.- 2) Including Greece, Portugal, Spain.
Source: WIIW Industrial Database, Eurostat.

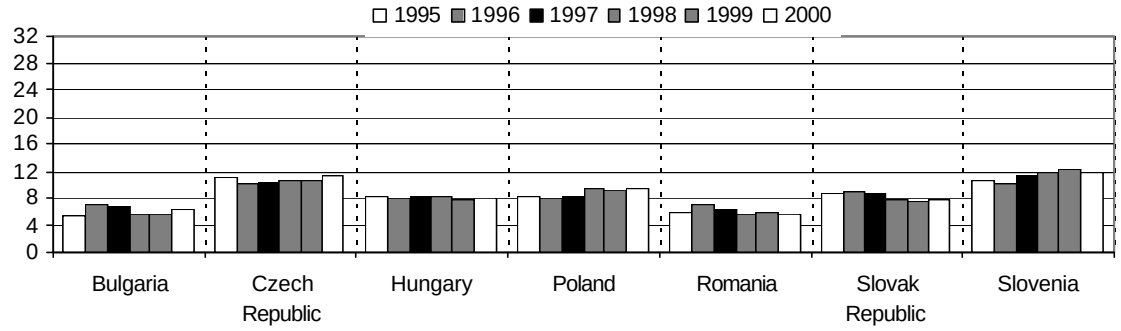
Figure A2

Basic metals and fabricated metal products

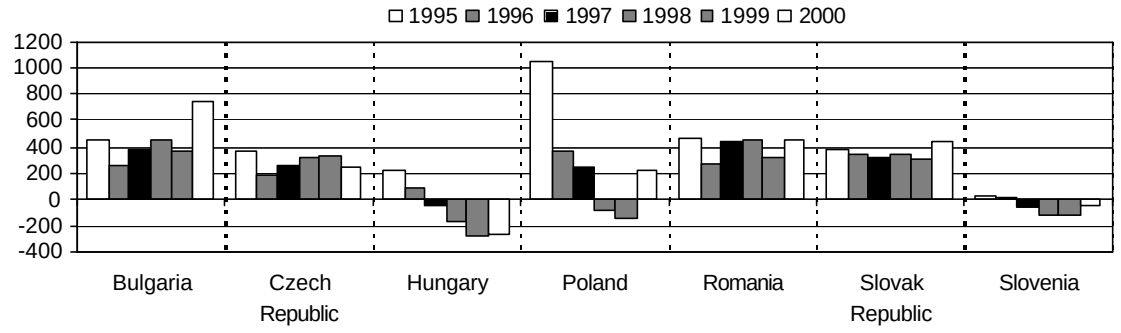
Share in manufacturing exports to the EU(15), in %



Share in manufacturing imports from the EU(15), in %



CEECs trade balance with the EU(15), EUR mn



Source: Eurostat, WIIW calculations

WIIW Industrial Database Eastern Europe

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Topics covered:

Industrial production (current prices), national currency million
Production structure (current prices), manufacturing = 100
Industrial production (constant prices), national currency million
Production structure (constant prices), manufacturing = 100
Production growth, annual changes in %
Employment, thousand persons
Employment structure, manufacturing = 100
Employment growth, annual changes in %
Average monthly gross wages (national currency)
Average monthly gross wages (EUR)
Average monthly gross wages (DEM)
Average monthly gross wages (USD)
Average monthly gross wages, manufacturing = 100
Average monthly gross wages, annual changes, real (deflated with CPI)
Labour productivity, manufacturing = 100
Labour productivity, annual changes in %
Unit Labour Costs (national currency), manufacturing = 100
Unit Labour Costs (national currency), annual growth rates in %
Unit Labour Costs (EUR), annual growth rates in %
Unit Labour Costs (DEM), annual growth rates in %
Unit Labour Costs (USD), annual growth rates in %
Unit Labour Costs EUR, Austria = 100
Exports to the EU, 1000 EUR
Imports from the EU, 1000 EUR
Foreign trade with the EU, Balance, 1000 EUR

WIIW Industrial Database Eastern Europe

Tables contained in the database:

	By NACE industries	**Dimension**
D	Manufacturing total	Countries X 1989-00
DA	Food products; beverages and tobacco	Countries X 1989-00
DB	Textiles and textile products	Countries X 1989-00
DC	Leather and leather products	Countries X 1989-00
DD	Wood and wood products	Countries X 1989-00
DE	Pulp, paper & paper products, publishing & printing	Countries X 1989-00
DF	Coke, refined petroleum products & nuclear fuel	Countries X 1989-00
DG	Chemicals, chemical products and man-made fibres	Countries X 1989-00
DH	Rubber and plastic products	Countries X 1989-00
DI	Other non-metallic mineral products	Countries X 1989-00
DJ	Basic metals and fabricated metal products	Countries X 1989-00
DK	Machinery and equipment n.e.c.	Countries X 1989-00
DL	Electrical and optical equipment	Countries X 1989-00
DM	Transport Equipment	Countries X 1989-00
DN	Manufacturing n.e.c.	Countries X 1989-00

By country	**Dimension**
Czech Republic	NACE X 1989-2000
Hungary	NACE X 1989-2000
Poland	NACE X 1989-2000
Romania	NACE X 1989-2000
Slovak Republic	NACE X 1989-2000
Slovenia	NACE X 1989-2000
Bulgaria	NACE X 1989-2000

By year	**Dimension**
1989	NACE X Countries
1990	NACE X Countries
1991	NACE X Countries
1992	NACE X Countries
1993	NACE X Countries
1994	NACE X Countries
1995	NACE X Countries
1996	NACE X Countries
1997	NACE X Countries
1998	NACE X Countries
1999	NACE X Countries
2000	NACE X Countries

The WIIW Industrial Database Eastern Europe is available on diskette (MS Excel format; two updates a year) at a price of € 654.06 (ATS 9,000). Reduced rate for Member companies: € 436.04 (ATS 6,000).

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