

WIIW INDUSTRY STUDIES
1999/2

**Development and
Prospects of the
Paper and Printing
Sector in the Central
and Eastern
European Countries**

WIIW INDUSTRY STUDIES

In this new series, The Vienna Institute for International Economic Studies (WIIW) publishes results which stem from its research on structural developments in CEEC economies. In 1996/97 the WIIW has started to build up its Industrial Database Eastern Europe which comprises time series for the Czech Republic, Hungary, Poland, Slovakia, Slovenia, Bulgaria and Romania.

Research results are published in the form of

- **Structural Reports** (biannually) as well as
- **Industry Studies** (4-6 studies a year)

The Industry Studies cover 14 individual branches:

- *Food products; beverages and tobacco*
- *Textiles and textile products*
- *Leather and leather products*
- *Wood and wood products*
- *Pulp, paper & paper products, publishing & printing*
- *Coke, refined petroleum products & nuclear fuel*
- *Chemicals, chemical products and man-made fibres*
- *Rubber and plastic products*
- *Other non-metallic mineral products*
- *Basic metals and fabricated metal products*
- *Machinery and equipment n.e.c*
- *Electrical and optical equipment*
- *Transport Equipment*
- *Manufacturing n.e.c.*

Each of these studies presents a detailed picture of the development and prospects of the particular industry in central and eastern Europe. The first part of each study concentrates on: the patterns of production and employment; international competitiveness and trade performance with the EU (productivity, labour costs, price and quality indicators, revealed comparative advantage, etc.); and foreign direct investment. The second part provides more detailed industry data and valuable information about the leading domestic firms and the foreign investors in the industry.

*Michael Landesmann
Research Director, WIIW*

So far published:

- *1999/1 Development and Prospects of the Mechanical Engineering Sector in the Central and Eastern European Countries (March 1999)*
- *1999/2: Development and Prospects of the Paper and Printing Sector in the Central and Eastern European Countries (May 1999)*

*For details concerning the new **Industrial Subscription Service** and the **WIIW Industrial Database Eastern Europe** see the back of this report.*

May 1999

Doris Hanzl

**Development and
Prospects of the
Paper and Printing
Sector in the Central
and Eastern
European Countries**

Contents

<i>Executive Summary</i>	<i>i</i>
PART I: INDUSTRY SURVEY	1
1 Overview: Trends in growth and structure.....	2
2 International competitiveness	7
3 Trade performance with the EU	9
4 Significance of foreign direct investment	15
5 Prospects	17
PART II: COMPANY PROFILES	19
Bulgaria	20
Czech Republic	21
Hungary.....	23
Poland.....	26
Romania.....	29
Slovak Republic	30
Slovenia.....	31
References	34
Appendix of Tables and Figures	36

List of Tables and Figures

Table 1	Production shares of individual industries in total manufacturing (at current prices), 1997, in %.....	2
Table 2	Pulp, paper and paper products; publishing and printing: Production shares (at constant prices), in %, Manufacturing = 100.....	4
Table 3	Pulp, paper and paper products; publishing and printing: Production growth, average annual changes in %	4
Table 4	Pulp, paper and paper products; publishing and printing: Employment shares, in %, Manufacturing = 100.....	6
Table 5	Pulp, paper and paper products; publishing and printing: Employment, thousand persons	6
Table 6	Pulp, paper and paper products; publishing and printing: Average annual growth rates, 1993-1997, in %	9
Table 7	Pulp, paper and paper products; publishing and printing: Unit Labour Costs (national currency), Manufacturing = 100.....	9
Table 8	Pulp, paper and paper products; publishing and printing: Price/quality gap indicator, Average import quality =1	12
Table 9	Pulp, paper and paper products; publishing and printing: Exports to the EU(12) in ECU mn, market shares in %.....	13
Table 10	Pulp, paper and paper products; publishing and printing: Exports to Austria in ECU mn, market shares in %	13
Table 11	Paper and printing RCAs	14
Table 12	Relative position of paper and printing RCAs	14
Table 13	Detailed RCA structure in paper and printing, 1997	14
Table 14	Developments in GDP and outlook, real change in % against previous year	18
Table 15	Basic indicators for the paper industry, Forest area 1994, Production of paper and paperboard.....	19
Table 16	Hungary: Gross output, total sales and export sales in the paper and printing sector, HUF mn, distribution in %	24
Table 17	Poland: Net profitability in the enterprise sector and real growth rates of investment outlays, in %.....	26
Table 18	Poland: Different indicators of the Polish pulp and paper industry	27
Table A1	Key data on total manufacturing	36
Table A2	Pulp, paper and paper products; publishing and printing: Estimated ranges for Unit Labour Costs in 1997, Austria 1996 = 100	38
Table A3	Exports of individual industries in total manufacturing exports to the EU, 1997, in %	38

Figure 1	Pulp, paper and paper products; publishing and printing: Production shares in total manufacturing (at constant prices) relative to CEEC-average, percentage points	3
Figure 2	Pulp, paper and paper products; publishing and printing: Industrial production index (at constant prices, national currency), 1989=100	5
Figure 3	Pulp, paper and paper products; publishing and printing: Shares in production (at constant prices) and employment in total manufacturing, in %	6
Figure 4	Pulp, paper and paper products; publishing and printing: Wages, Productivity, Unit Labour Costs, Austria 1995=100.....	8
Figure 5	Pulp, paper and paper products; publishing and printing: Export index (ECU mn), 1989=100	10
Figure 6	Pulp, paper and paper products; publishing and printing: A. Position of paper and printing in the distribution of foreign capital B. Foreign penetration of the paper and printing sector	16
Figure 7	Pulp, paper and paper products; publishing and printing: Foreign penetration of individual industries in 1996.....	17
Figure A1	Pulp, paper and paper products; publishing and printing: Shares of CEECs (at constant prices) relative to other countries (in total production).....	39
Figure A2	Pulp, paper and paper products; publishing and printing: Shares in manufacturing exports and imports, trade balance	40

Executive Summary

*In Central and Eastern Europe, as in most economies, the paper and printing sector is of national importance because of its role in publishing and the media, and can be classified as a low technology, but very skill-intensive, sector. Under the communist system, the paper and printing sector was neglected and even suppressed in all Central and Eastern European countries (CEECs). Since 1989, the sector has **seized growing opportunities**. After the transformational recession, recovery took place in most countries and growth is now influenced by business cycles on domestic and foreign markets, which led to a temporary decline in growth in 1996. Since 1997, however, growth rates in the paper and printing sector have been again on the rise and promise a positive future trend everywhere in the region except in Slovenia.*

Part One of the study investigates the development and prospects of the paper and printing sector in the following countries:

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

*In size, the paper and printing sector plays only a **minor role** in total manufacturing output and contributes only between 3 and 7.5% of output, with **Slovenia** and the **Slovak Republic** showing the largest shares of the CEECs analysed. But while the sector's size had slightly increased in all countries by 1997, it had decreased in Slovenia as a consequence of the disintegration of the Yugoslav market. When compared with Austria and other EU-countries (advanced and less advanced), all CEECs show a lesser representation of the paper and printing sector in total manufacturing, with the only exception of Slovenia.*

In the first phase of transition, which lasted from 1989 to around 1992, the output of the paper and printing sector declined relatively less than total manufacturing. This was due to the catch-up demand for paper and printing products following the significant underrepresentation of this sector under socialism. From 1993 on, growth returned in the whole economy and the sector again did relatively well – growth rates were higher than for total manufacturing, except in Hungary and Slovenia.

As an employer, the paper and printing sector was of only minor importance at the beginning of transition but has grown slightly since then. However, employment shares have remained relatively small and range from 3% in Bulgaria to 7% in Slovenia today. Output shares were larger than employment shares in most countries, indicating an above-average productivity level.

As is typical for all CEECs and all sectors of manufacturing, wages, productivity and unit labour costs in the paper and printing sector were and are much lower than in Western countries, for which we have used Austria as a point of reference. In general, wages and

productivity in the paper and printing sector were above manufacturing average in most CEECs, while relative unit labour costs differed across countries. From 1993 to 1997, wages and productivity grew in all countries, but only in Hungary the productivity increase was larger than the wage increase, so that unit labour costs declined there. In the other CEECs unit labour costs increased, but still remained on a much lower level than Austria:

Ranges for CEECs' unit labour costs in the paper and printing sector in 1997 are as follows, calculated as a percentage of the Austrian level of 1996:

Czech Republic	21% - 30%	Romania	9% - 23%
Hungary	18% - 31%	Slovakia	17% - 26%
Poland	21% - 28%	Slovenia	62% - 72%

(The lower range is calculated at purchasing power parities (PPP) for GDP, the upper range at PPP for fixed capital formation; figures are from 1997, with the exception of Romanian and Austrian levels which are for 1996)

In CEECs' manufacturing exports to the EU, the paper and printing sector holds an insignificant position in all CEECs due to its primarily **domestic orientation**. In Romania and Hungary, its share in total manufacturing exports is less than one, in Slovakia and Slovenia, where it reached the largest share, it is only 3.6%. Export activity is mainly concentrated in 'pulp, paper and board', import activity in 'processed paper and board', placing the CEEC products at the lower end of the value-added chain. However, some improvement in the export pattern has taken place since 1989, which is also reflected in the price/quality gap indicator, measuring the quality of paper and printing exports from the CEECs to EU markets. However, the export quality generally remained below average.

The paper and printing sector is also an insignificant importing sector, accounting for only 2%-3.5% of total CEEC-manufacturing imports in 1997. However, higher absolute imports than exports led to growing sectoral trade deficits in some countries, with the largest in Poland. Only in Slovakia and Slovenia did the sector achieve small sectoral trade surpluses.

On the EU market, CEECs paper and printing exports had a market share of 1.2% in 1989, which increased to 3.3% in 1997. When compared to total manufacturing exports, these market shares were thus significantly below the average of 2.8% in 1989 and of 6.9% in 1997. CEECs' paper and printing exports to Austria were, however, of particular importance and accounted for 37% of Austria's non-EU paper and printing imports in 1997.

The paper and printing sector has attracted a reasonable number of **foreign investors** to the CEECs, especially to Slovenia, and thus gained a relatively high rate of foreign penetration. This was due to the ongoing world-wide process of concentration and globalization of the sector, but also due to the attractiveness of markets, natural resources, large plants and low labour costs in the CEECs.

Being a domestically oriented sector, future prospects are quite positive for the paper and printing sector, as consumption levels in the CEECs have so far not reached that of Western Europe. Although the paper and printing sector has the greatest significance in Slovenia and Slovakia, in terms of production, employment and exports, the **most favourable future trend** is probably for the **Polish** paper and printing sector. Here, growth prospects for the country's large domestic economy are bright and international competitiveness is good: In the period 1989-1997, the sector experienced a 70% increase in production and a 600% rise in exports. While the economies of the **Czech and Slovak Republics** show a more gloomy picture, the paper and printing sector itself displayed an upward trend in the last years, which may continue because of specialization and internationally low prices. Prospects for the paper and printing sector in **Hungary** show an upward trend as well, besides prospects for the overall economy being more promising than in the former two countries. In **Bulgaria and Romania**, the sector may still need some more time to restructure. Although overall growth of the economy is relatively high and stable in **Slovenia**, the paper and printing sector is still experiencing a downsizing trend, combined with stagnant productivity due to the heavy concentration on the former Yugoslav market, which has not yet been compensated for through exports to the EU.

Part Two of the study presents a more detailed micro-analysis of the paper and printing sector, containing **company profiles** of major domestic enterprises and foreign investors.

Within the paper and printing sector, the **pulp and paper industry** has different characteristics than the publishing and printing industry: The former consists mainly of large enterprises, is highly capital and energy intensive and needs to realize economies of scale. In the CEECs, foreign investors were attracted by the large existing paper plants and have invested throughout the region. In Hungary, for example, Austrian firms own about 60% of the Hungarian paper plants, with the **Prinzhorn Group** owning the largest Hungarian producer **Dunapack**. In addition, the Austrian **Frantschach Group**, for example, has gained a controlling interest in the large pulp and paper mill **Celuloza Swiecie** in Poland, while **Mayr-Melnhof**, also from Austria, has invested in Romania as well. The Swedish company **Assi Domän** also extended its presence in the CEECs and acquired the largest Czech pulp and paper company **Sepap**. In the packaging business, **Cofinac** is very active, while in Slovenia the Spanish/Italian company **Sarrío** has acquired the cardboard producer **Papirnica Kolicevo**, renaming it to Sarrío Slovenija Domžale.

The **publishing and printing industry** is more labour intensive than the paper and printing industry and has a more mixed company structure. Small companies have found very favourable conditions in printing and their number increased enormously during transition in the CEECs. On the other hand, large foreign media conglomerates have also entered the new market and acquired stakes in domestic companies - such as the German **Westdeutsche Allgemeine Zeitung** in Bulgaria.

Developments and Prospects of the Paper and Printing Sector in the Central and Eastern European Countries

PART I: INDUSTRY SURVEY

In general, the paper and printing sector does not belong to the strategic industries of most economies and is usually relatively small. Nevertheless, it is of national importance because of its role in the transfer of news and opinion through publishing and printing. Usually, the *pulp and paper industry* consists of large enterprises and is characterised by high capital and energy intensity and the need to realize economies of scale.¹ *Publishing and printing*, on the other hand, is more labour intensive and has a more mixed company structure – with conditions favourable to small companies, while large companies decentralize due to the ongoing process of globalization. Both industries generally belong to the low technology sector, they are not R&D intensive but need high-skilled labour and are supplier-dominated, meaning that innovations come into the sector mainly from suppliers of equipment and material.

This study gives a thorough two-part picture of the paper and printing sector in the Central and Eastern European Countries (CEECs). The first part provides a more macro-economic survey of the developments and prospects of the sector, while the second presents detailed further information on industries as well as on company profiles of major domestic and foreign enterprises. In the first part there are four sections: The first section analyses trends in growth and structure in the paper and printing sector, including characteristics and changes of production and employment. The next section considers indicators of international competitiveness, presenting wages, productivity and unit labour costs. The third section examines various aspects of trade performance with the European Union, while section four takes a closer look at foreign direct investment in this sector. A conclusion provides an outlook on future prospects. The appendix presenting additional tables and figures completes the whole study.

The paper and printing sector is termed 'manufacture of pulp, paper and paper products; publishing and printing' in the NACE rev.1 classification system and contains the 'pulp, paper and paper products' industry and the 'publishing, printing and reproduction of recorded media' industry.² Much of the analysis of the sector in the first part is based on

¹ At a more detailed level it is especially one sub-branch, the production of 'pulp, paper and board', that shows these features.

² These again consist of the following sub-branches: The pulp and paper industry includes the manufacture of 'pulp, paper and paperboard' (21.1) and of 'articles of paper and paperboard' (21.2). The publishing and printing industry consists of 'publishing' (22.1), 'printing and service activities related to printing' (22.2), and 'reproduction of recorded media' (22.3).

data from the WIIW Industrial Database of Central and Eastern European Countries, including Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia.³

1 Overview: Trends in growth and structure

Relatively small share in total manufacturing output

The paper and printing sector has a long tradition in many CEE-countries, but could not evolve beyond a certain point in the command economy with its pronounced bias towards heavy industry. Hence, the sector did not receive enough investment for modernization and was often suppressed because of its political role. After the collapse of communism, the paper and printing sector gained back its independence and seized growing opportunities. Although a severe transformational recession hit the whole region, the paper

Table 1

Production shares of individual industries in total manufacturing (at current prices), 1997, in %

		Czech			Slovak			
		Bulgaria ¹⁾	Republic	Hungary	Poland	Romania ²⁾	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	20.4	18.6	21.4	24.8	21.7	16.2	15.4
DB	Textiles and textile products	6.2	4.5	3.7	5.7	6.9	3.5	7.1
DC	Leather and leather products	1.6	0.9	0.8	1.2	1.8	1.1	1.9
DD	Wood and wood products	1.1	2.1	1.5	3.4	2.4	1.8	3.3
DE	Pulp, paper & paper products; publishing & printing	3.2	4.5	4.4	5.6	3.2	6.4	7.5
DF	Coke, refined petroleum products & nuclear fuel	16.1	3.6	6.7	4.7	7.8	9.0	1.0
DG	Chemicals, chemical products & man-made fibres	12.5	7.1	9.7	7.5	9.6	9.1	10.5
DH	Rubber and plastic products	2.5	3.8	3.6	4.0	2.6	4.4	4.2
DI	Other non-metallic mineral products	5.0	6.2	3.3	4.7	4.7	4.3	4.7
DJ	Basic metals and fabricated metal products	13.6	17.3	10.0	12.0	16.3	18.3	11.5
DK	Machinery and equipment n.e.c.	10.8	9.1	5.2	6.6	6.9	7.8	10.0
DL	Electrical and optical equipment	3.8	6.6	16.9	6.6	5.4	6.2	9.1
DM	Transport equipment	2.2	12.1	11.7	8.7	7.2	9.4	9.2
DN	Manufacturing n.e.c.	1.1	3.7	1.2	4.5	3.7	2.4	4.7

Notes: 1) Mechanical engineering includes fabricated metal products and casting of metals, normally included in the basic metals and fabricated metals sector (DJ). - 2) 1996.

Source: WIIW Industrial database

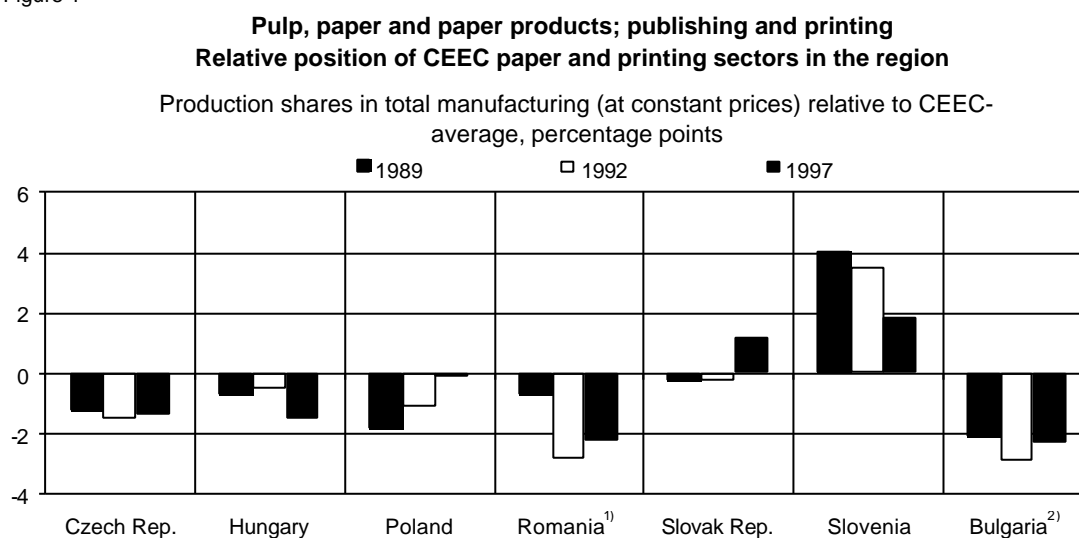
³ However, proper data for Bulgaria and Romania are sometimes not available or not perfectly comparable. Especially for Bulgaria, data are not consistent over the whole time period. Data before 1996 can be compared with those for 1996 and 1997 only to a limited extent.

and printing sector did relatively well. In absolute figures, however, production declined in all CEECs. With the transformational recession bottoming out, production in the paper and printing sector started to recover even faster than the overall economy. New small companies in the printing business flourished and the heritage of large paper plants attracted the inflow of foreign investors. After a while however, these growth differentials weakened. Hence, over the whole period 1989-1997, the paper and printing sector increased only by some percentage points and therefore kept its relatively moderate size in the economy: In 1997, production shares at current prices measured only between 3% in Bulgaria and 7.5% in Slovenia (see Table 1).⁴

Slovenia and Slovakia are the 'regional size leaders' in paper and printing

Size differences in the paper and printing sector were rather small in the CEECs. In 1997, the largest shares in the region were measured in Slovenia and Slovakia, possibly due to a larger resource base in these two countries (see Part II, Table 14). The Polish paper and printing sector followed closely, while the Czech and Hungarian sectors were slightly smaller. In Romania and Bulgaria, the paper and printing sector was the smallest in the region, largely because of a lag in overall economic development (see Figure 1).

Figure 1



Notes: 1) Romanian figures from 1990, 1992 at constant prices, 1996 at current prices.-

2) Bulgarian data are not consistent over the whole period. Data before 1996 can be compared with those for 1996 and 1997 only to a limited extent.

Source: WIIW Industrial database

⁴ Only here, current data are used, all following comparisons are made with output data at constant prices: Bulgaria 1996, the Czech Republic 1993, Hungary 1992, Poland 1992, Romania 1993, Slovakia 1993 and Slovenia 1995 prices. Evolution over time can be tracked with this indicator, but it always implies some arbitrariness as to the relative price structure adopted for the base year, especially in the periods of major adjustments.

When compared to Austria, the more advanced EU-countries ('EU-North')⁵ and the less-advanced EU-countries ('EU-South'), the paper and printing sector in the CEECs showed the same pattern everywhere: Against all countries, the sector maintained a structural deficit⁶ in 1997, except in Slovenia (see Appendix, Figure A1 and also Table 2). In the Czech Republic, Hungary and Slovenia, the situation improved at first but then deteriorated again beginning in 1994/1995. The positive trend continued however, in Poland and the Slovak Republic. In Romania, the structural deficit grew slightly at first but declined again in recent years.

... but paper and printing in Poland is the 'regional growth leader'

During the first phase of transition, which lasted from 1989 to about 1992, all CEECs experienced a severe transformational recession and production of the paper and printing sector declined along with the larger economy. However, other than in Romania, the decline was significantly less than in total manufacturing, making the sector one of the major 'winners'⁷ of this period (see Table 3).⁸ This was due to the high catch-up demand

Table 2

Pulp, paper & paper products; publishing & printing

Production shares (at constant prices), in %
Manufacturing = 100

	1989	1992	1996	1997
EU-North	.	6.9	.	.
EU-South	.	6.2	.	.
Austria	6.6	7.6	7.6	9.8
Bulgaria	1.7	2.4	3.8	3.1
Czech Republic	2.5	3.8	3.9	4.1
Hungary	3.1	4.8	4.0	3.9
Poland	2.0	4.2	5.1	5.3
Romania	3.1	2.5	3.2 ¹⁾	.
Slovak Republic	3.6	5.1	6.1	6.7
Slovenia	7.9	8.8	8.1	7.3

Note: 1) 1996 at current prices.

Source: WIIW Industrial database

Table 3

Pulp, paper & paper products; publishing & printing
Production growth

	Average annual changes in %		Relative to total manufacturing, in percentage points		Index 1997 ¹⁾
	1990-92	1993-97	1990-92	1993-97	
Czech Republic	-2.2	3.5	11.4	1.4	111.2
Hungary	-9.0	4.8	5.9	-4.3	95.0
Poland	-8.3	17.1	4.1	5.6	169.8
Romania	-29.0	.	-5.4	.	87.8
Slovak Republic	-5.1	4.5	10.5	5.6	106.6
Slovenia	-7.8	-3.5	3.5	-3.7	62.3

Note: 1) Hungarian and Polish 1993-1997 production data at constant prices comparable with those before 1992 only through extrapolation on the basis of growth rates.

Source: WIIW Industrial database

⁵ Thereby 'EU-North' denotes Belgium, Germany, France and Great Britain; 'EU-South' denotes Greece, Portugal and Spain.

⁶ We compare the share of the paper and printing sector in total production of the CEECs to the share in Austria, 'EU-North' and 'EU-South'. The resulting positive and negative deviations are interpreted as 'structural deficits' or 'structural surpluses' of the CEECs as compared to the group of Western countries under consideration. For the EU-North and EU-South countries, basis data from 1992, for Austria data from 1993 is used. However, this does not affect the analysis because structures in the Western countries stayed relatively unchanged.

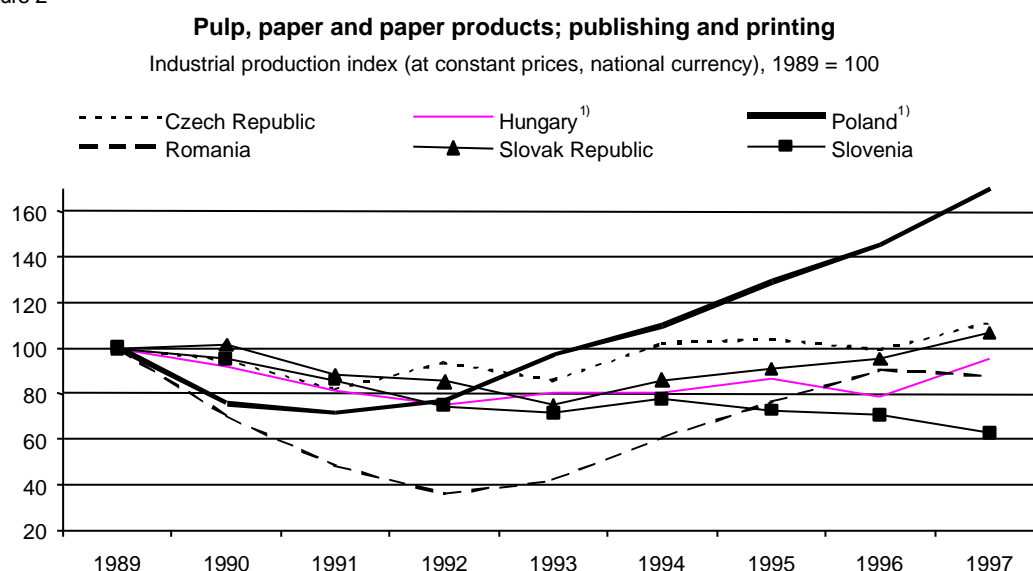
⁷ 'Winners' of transition are industries, which performed better than total manufacturing in terms of production growth, 'losers' those which performed worse, see Urban, W. (1997), page 4.

⁸ In Slovakia, the paper and printing sector was even the largest 'winner' of this period and in the Czech Republic it ranked second. In Romania, on the other hand, the sector was the largest 'loser'.

for paper and printing products such as packaging and advertising, which had been significantly under-represented under socialism. During the second period, from 1993 on, the situation improved and growth re-emerged in all countries, with the paper and printing sector remaining a 'winning' sector. Only in Hungary and Slovenia, did it become a 'loser' during this period, that is, growth in the paper and printing sector was less than average. In the former, this was due to the outstanding growth rates of the transport equipment and electrical and optical equipment sectors, pushing up average manufacturing growth, in the latter one the sector suffered particularly from the disintegration of the former important Yugoslav market and hence the downsizing of the sector.

The paper and printing sector slightly surpassed the 1989 production level by 1997 in the Czech and Slovak Republics and jumped to almost 170% in Poland. Only in Hungary, Romania and especially Slovenia, the paper and printing sector was still performing at below 1989 levels in 1997 (see Table 3 and Figure 2). While in all other countries production began to recover after an initial decline, the Slovenian paper and printing sector continued to decline.

Figure 2



Notes : 1) 1993-1997 production data at constant prices comparable with those before 1992 only through extrapolation on the basis of growth rates.
Source: WIIW Industrial Database.

Only of minor importance as an employer

In total employment, the paper and printing sector is relatively small compared with other sectors of manufacturing and thus played only a minor role: In 1997, shares ranged from 3% in Bulgaria to about 7% in Slovenia (see Table 4). During transition, employment was reduced in most countries, but less than in total manufacturing, so that employment shares

were larger in 1997 than in 1989. Only in Poland was the share-increase due to growth in employment of about 30% (see Table 5).

Table 4

	Pulp, paper & paper products; publishing & printing			
	Employment shares, in % Manufacturing = 100			
	1989	1992	1996	1997
EU-North	.	7.5	.	.
EU-South	.	5.7	.	.
Austria	7.2	7.2	7.1	7.1
Bulgaria	1.8	2.0	3.1	3.0
Czech Republic	2.8	3.6	3.7	3.8
Hungary	2.8	4.4	4.3	4.1
Poland	2.7	3.5	3.9	4.1
Romania	.	2.1	2.3	.
Slovak Republic	.	4.0	5.0	5.0
Slovenia	5.3	5.8	6.5	6.6

Source: WIIW Industrial database

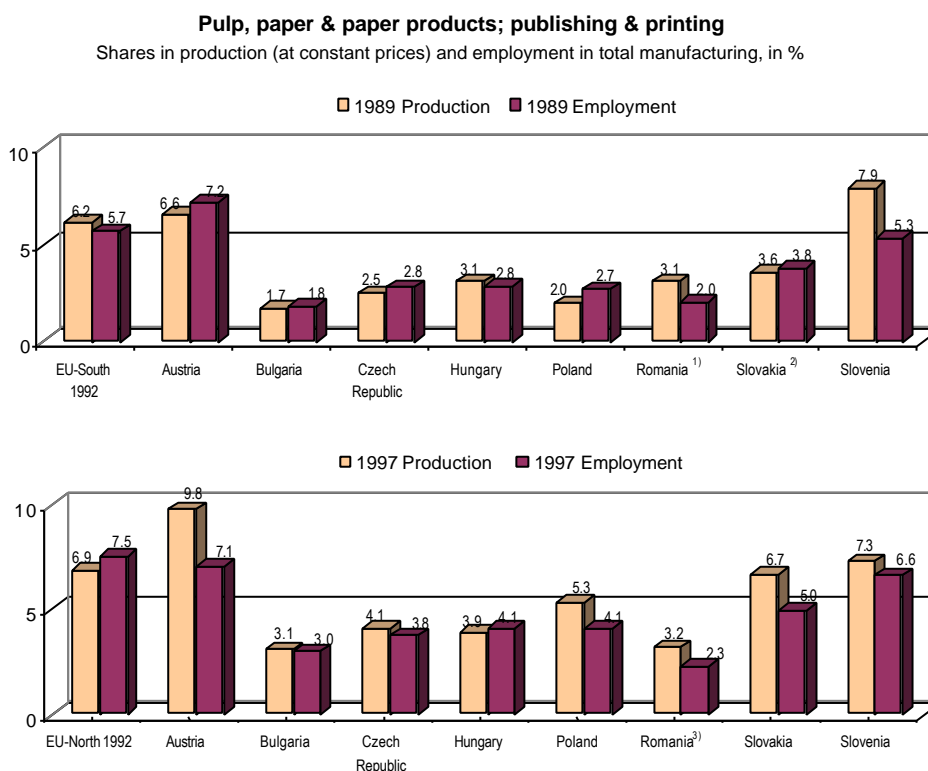
Table 5

	Pulp, paper & paper products; publishing & printing				
	Employment thousand persons				
	1989	1992	1996	1997	1997 1989=100
Bulgaria	26	18	17	13	.
Czech Republic	46	42	36	44	94.8
Hungary	33	38	27	26	78.8
Poland	90	96	108	117	129.9
Romania	.	60	49	.	71.0 ¹⁾
Slovak Republic	.	21	22	22	.
Slovenia	20	16	14	14	71.5

Notes: 1) 1996: 1990=100.

Source: WIIW Industrial database

Figure 3



Notes: 1) Employment share 1990.- 2) Employment share 1991.- 3) Employment and production shares (at current prices) 1996.

Source: WIIW Industrial database

In 1989, paper and printing output shares were slightly larger than employment shares in Hungary, Romania and Slovenia, while in the other CEECs they were slightly smaller (see Figure 3). By 1997, output shares had increased faster than employment shares, so that in all countries output shares were higher than employment shares, except in Hungary. Productivity of the paper and printing sector thus lay above average for this year.

2 International competitiveness

As typical for all CEECs and all sectors of manufacturing, wages, productivity and unit labour costs in the paper and printing sector were and are generally much lower than in Western countries. In 1997, nominal wage rates (per employee) in the paper and printing sector, for example, hovered around 10% of the Austrian level in the Czech and Slovak Republics, Hungary and Poland, while they reached only 3% in Bulgaria and Romania, but over 20% in Slovenia (see Figure 4). The same pattern was visible for unit labour costs, only with different percentage values (20%, 5% and 70% respectively). Productivity of the sector was quite high in all CEECs and ranged between 50% and 60% of the Austrian level, except in Romania, where it was much lower,⁹ and in Slovenia, where it measured about 40% (see Figure 4).¹⁰

During transition, wages and productivity in the paper and printing sector grew throughout the region: Between 1993 and 1997, annual average growth rates of wages were lowest in Hungary and highest in the Czech Republic, while productivity grew fastest from a low level again in Hungary and remained almost constant on a relatively high level in Slovenia (see Table 6). Hence, only in Hungary, the productivity increase was higher than the wage increase, so that unit labour costs declined, while in the other countries unit labour costs grew.

Looking at the relative position of the paper and printing sector in total manufacturing of CEECs, wages lay some percentage points above manufacturing average in all countries in 1997, except in Bulgaria. Paper and printing labour productivity was also mostly above average, except in Hungary and Slovenia, where it lay below. Unit labour costs relative to manufacturing average differed across countries: While in Romania unit labour costs measured only half of manufacturing average, in Slovenia they were significantly higher than average (see Table 7).

⁹ 1994-1996 productivity figures for Romania are probably unreliable due to statistical problems in constant production data.

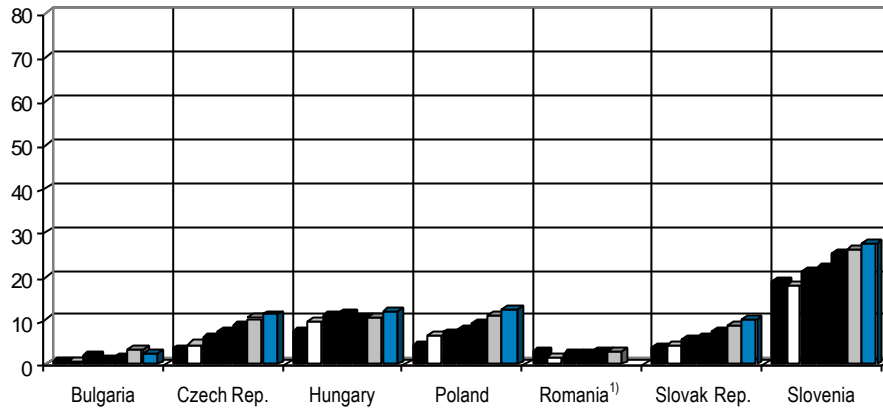
¹⁰ As these figures are strongly affected by different productivity estimates, Table A2 in the Appendix shows the lower and upper range for estimated unit labour costs in 1997, using alternative productivity measurements.

Figure 4

Pulp, paper and paper products; publishing and printing

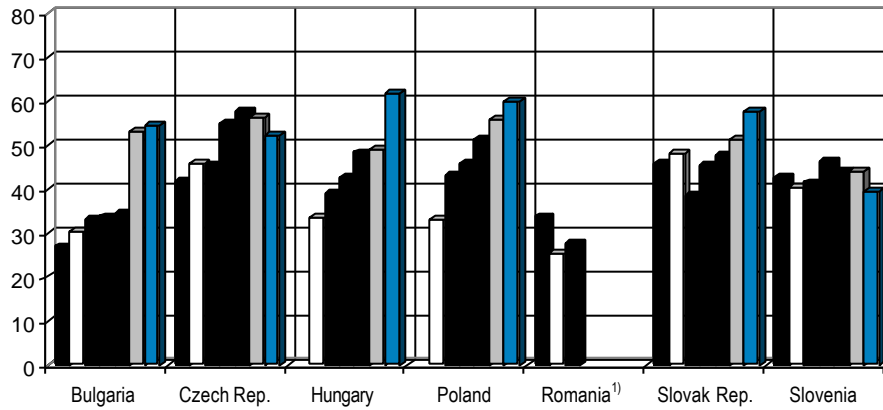
Wages (ECU), Austria 1995 = 100

■ 1991 □ 1992 ■ 1993 ■ 1994 ■ 1995 □ 1996 ■ 1997



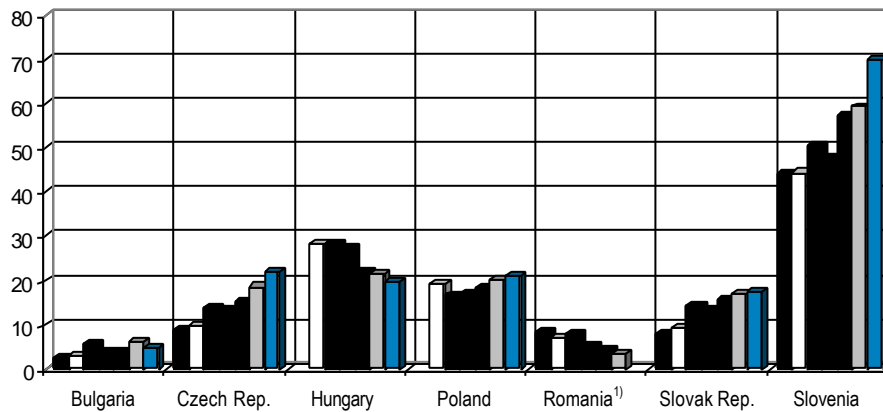
Productivity (PPP), Austria 1995 = 100

■ 1991 □ 1992 ■ 1993 ■ 1994 ■ 1995 □ 1996 ■ 1997



Unit labour costs (ECU), Austria 1995 = 100

■ 1991 □ 1992 ■ 1993 ■ 1994 ■ 1995 □ 1996 ■ 1997



Notes: 1) Net wages; all other countries gross wages. 1994-1996 productivity figures for Romania are unreliable due to statistical problems regarding production data at constant prices.

Source: WIIW Industrial database

Table 6

Pulp, paper & paper products; publishing & printing
Average annual growth rates, 1993-1997
in %

	Output	Employment	Productivity	Exports to EU (ECU basis)	Wage rates (ECU basis)	Unit Labour Costs (ECU basis)
Czech Republic	3.5	-3.2	7.0	19.2 ¹⁾	19.9	12.1
Hungary	4.8	-7.3	13.0	9.4	4.7	-7.3
Poland	17.1	3.9	12.7	22.8	14.6	1.7
Romania	.	-4.9 ²⁾	.	28.3	12.2 ²⁾	.
Slovak Republic	4.5	0.3	4.2	19.0 ¹⁾	17.3	12.6
Slovenia	-3.5	-3.5	0.0	3.2 ¹⁾	9.0	9.0

Notes: 1) 1994-1997.- 2) 1993-1996.

Source: WIIW Industrial database.

Table 7

Pulp, paper & paper products; publishing & printing

Unit Labour Costs (national currency)
Manufacturing = 100

	1992	1995	1996	1997
Bulgaria	32.5	43.8	87.9	81.3
Czech Republic	79.5	77.7	87.5	87.7
Hungary	119.5	124.8	126.3	125.7
Poland	109.9	101.2	103.7	109.3
Romania	94.3	55.2	50.8	.
Slovak Republic	87.3	95.2	95.1	90.5
Slovenia	115.9	130.8	138.4	156.3

Source: WIIW Industrial database

3 Trade performance with the EU¹¹

Insignificant position in international trade

As an exporter to the EU, the paper and printing sector is practically of no importance, due to its mainly domestic orientation, especially in the publishing and printing industry: Export shares within total manufacturing were and continue to be insignificant in all CEECs. In 1997, the sector accounted for less than one percent of total manufacturing exports in Romania and Hungary and was only marginally larger in Bulgaria, Poland and the Czech

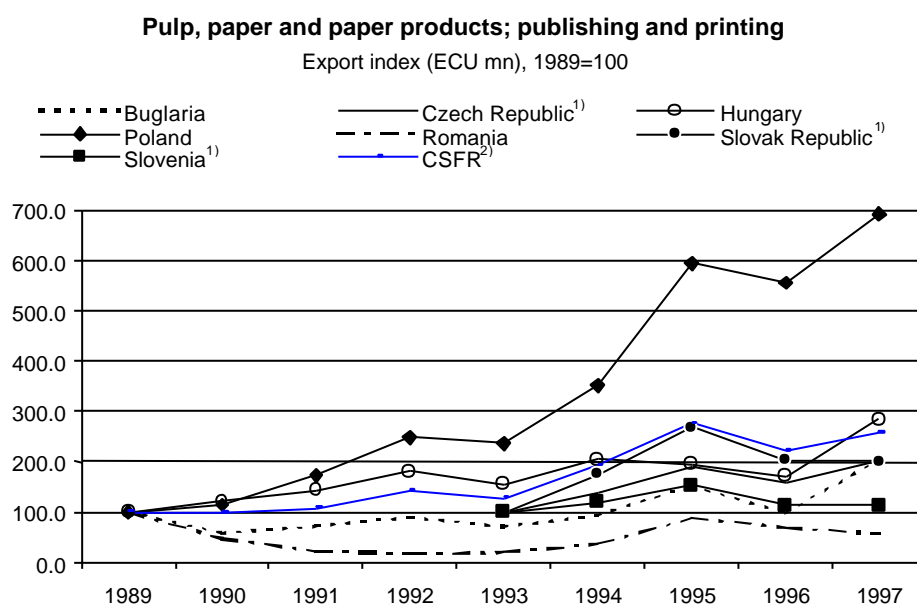
¹¹ Trade with the EU is investigated in more detail because it plays an important role in the CEECs: After the collapse of the CMEA-market, CEEC trade was heavily reoriented towards EU-markets. By 1997, 70% of Hungarian and Slovenian exports went to the EU, for Poland and the Czech Republic the levels were around 60%, and for Bulgaria and Slovakia around 40%. On the import side, the Slovenian imports from the EU accounted for roughly 70%, in the Czech Republic, Hungary and Poland EU imports account for a share of 60%, in Slovakia and Bulgaria for 40%.

Republic. Even in Slovenia and the Slovak Republic, where the paper and printing sector was the largest in the region, it recorded only about 3.5% of manufacturing exports (see Appendix, Table A3 and Figure A2). Export shares were smaller in 1997 than in 1989 in all countries, except in Poland. Here export values grew fastest and reached about 700% of the 1989 level in 1997, which might be due to the positive influence of foreign direct investment. In the other countries exports grew less and even remained under the 1989 level in Romania (see Figure 5).

As an importer from the EU, the paper and printing sector maintained also an insignificant position within manufacturing imports. Although import shares grew slightly during the transition, the paper and printing sector accounted only for small shares in total manufacturing, ranging from 2% in Romania to about 3.5% in Poland and Bulgaria in 1997 (see Appendix, Figure A2).

In absolute terms, higher imports than exports in the paper and printing sector led to a slightly increasing sectoral trade deficit in most CEECs. However, these deficits were small in Bulgaria, the Czech Republic and Hungary, and reached only ECU 450 mn in Poland, as the largest deficit. Only in the Slovak Republic and Slovenia did the paper and printing sector record small sectoral trade surpluses, which turned however into a small deficit of ECU 4 mn in Slovenia in 1997 (see Appendix, Figure A2).

Figure 5



Notes :1) Export data for the Czech and Slovak Republics and Slovenia since 1993, 1993=100.-

2) Until 1992 CSFR, then exports from the Czech and Slovak Republics added together.

Source: WIIW Industrial database

Exports concentrated in ‘pulp, paper and board’ and imports in ‘processed paper and board’, thus placing CEEC products at the lower end of the value-added chain

On a more detailed three-digit NACE-level,¹² the structure of paper and printing exports at the beginning of transition in 1989 was highly concentrated in ‘pulp, paper and board’ exports. Those accounted for roughly 78% of all paper and printing exports in the former Czechoslovakia and around 90% in Poland, Bulgaria and Romania. Only in Hungary, did ‘printing and allied industries’ achieve a high export share of 54%, while in Slovenia exports were even more dispersed and ‘processed paper and board’ did have a relatively high share of 37%.¹³ During transition, concentration on one particular sub-branch declined, although ‘pulp, paper and board’ remained the most important exporter in the paper and printing sector in all CEECs, except in Hungary.¹⁴ However, shares were mostly lower in 1997 than at the beginning of transition, ranging from 48% in Slovenia to 81% in Romania. In most CEECs, the second largest sub-branch was ‘processed paper and board’, except for Bulgaria and the Czech Republic.

On the import side, ‘processed paper and board’ recorded the largest import shares in 1989 of the paper and printing sector nearly everywhere in the region.¹⁵ However, compared to exports, the import pattern was less concentrated and ‘processed paper and board’ import shares ranged from 47% in the former Czechoslovakia to 71% in Romania. During transition, the import pattern stayed fairly constant, leaving ‘processed paper and board’ the largest share in 1997.

Slight quality increase in paper and printing exports

The quality of paper and printing exports from the CEECs to the EU, as measured by the price/quality gap indicator,¹⁶ was somewhat lower than for that of total EU imports of paper and printing products in 1989. It achieved its highest level that year in Bulgaria and its lowest in Hungary. By 1996, the quality of paper and printing exports had improved slightly in all CEECs, except in Slovenia. However, it still remained below average in most CEECs. Only in Bulgaria, exports were able to catch up to average-import quality standards (see Table 8). Within the paper and printing sector, the quality of exports from the paper and printing industry was generally even in all CEECs, while that from the printing and publishing industry differed considerably and was above average in Bulgaria, and the Czech and Slovak Republics (see also Table 8).¹⁷

¹² NACE 1970 classification, codes 471-474. However ‘publishing’ (474) not included in trade data. Therefore this analysis refers only to ‘pulp, paper and board’ (471), ‘processed paper and board’ (472) and ‘printing and allied industries’ (473).

¹³ Slovenian shares for 1993.

¹⁴ In Hungary, ‘processed paper and board’ accounted for 41% of all paper and printing exports in 1997, followed by ‘pulp, paper and board’, with 38% and ‘publishing’, with 21%.

¹⁵ In Bulgaria, ‘processed paper and board’ accounted for only 34% of imports in 1989.

¹⁶ See Landesmann, Burgstaller (1997) and Landesmann, Burgstaller (1999).

¹⁷ However, some care has to be taken when analysing these data, because of possible distortions due to the small number of observations.

Table 8

		Pulp, paper and paper products; publishing and printing						
		Price/quality gap indicator						
		Average import quality = 1 ¹⁾						
		Bulgaria	Czech Republic ²⁾	Hungary	Poland	Romania	Slovak Republic	Slovenia ³⁾
21 Pulp, paper and paper products	1995	0.836	0.911	0.781	0.862	0.865	0.941	0.925
	1996	0.838	0.887	0.825	0.810	0.853	0.792	0.846
22 Publishing and printing ⁴⁾	1995	0.923	0.432	0.378	0.571	.	0.381	0.591
	1996	1.344	1.052	0.709	0.675	0.661	1.221	0.385
DE Paper and printing⁵⁾	1989	0.855	0.728	0.543	0.765	0.718	.	0.778
	1993	0.761	0.731	0.572	0.740	0.749	0.668	0.726
	1995	0.836	0.809	0.624	0.850	0.897	0.884	0.888
	1996	1.122	0.909	0.791	0.798	0.835	0.816	0.755

Note: 1) Average of total (extra) EU-imports.- 2) Until 1992 CSFR.- 3) Until **1992** Yugoslavia.- 4) Data may however be distorted easily due to the low number of products in 221 and 222.- 5) 1998 and 1993 data at NACE 1970 classification (only 471, 472, 473; do not include 474); 1995 and 1996 data at NACE rev.1 classification (211, 212, 221, 222, do not include 223 'recorded media'); therefore data can be compared only to a limited extent.

Source: Landesmann, M., Burgstaller, J. (1999).

Market share developments

In 1989, CEEC(6)¹⁸ paper and printing exports to the EU(12) had a market share of 1.2%, which increased to 3.3% in 1997 (all shares without intra-EU trade). Although exports grew three fold during transition, their importance on the European market remained quite low due to the domestic orientation of this sector: Paper and printing shares were thus always significantly below that for total manufacturing, which measured 2.8% in 1989 and 6.9% in 1997. The most important paper and printing exporting countries in 1997, with shares above 1% on the European market, were Poland and the Czech Republic. All other countries showed much smaller shares, all of which remained below 1% (see Table 9).

Exports from the CEECs(7) to Austria, accounted for a much larger share than on the EU market, reaching 24% of Austria's non EU paper and printing imports (world-wide imports without EU) in 1995 and surging to 37% in 1997. Thus, the volume of exports to Austria more than doubled. In 1997, the largest exporters of paper and printing products were Slovenia and Hungary, with 13% and 12% respectively. The Czech and Slovak Republics followed with 5%, while the other countries had much smaller export shares (see Table 10). Interestingly, from 1995 to 1996 the surge in Hungarian export figures was due to an increase in 'pulp, paper and board' exports, but from 1996 to 1997 due to higher value-added 'processed paper and board' exports, while in Slovenia only 'pulp, paper and board' exports increased markedly.

¹⁸ Bulgaria, the Czech Republic, Hungary, Poland, Romania and the Slovak Republic. Data for Slovenia are available since 1993 only.

Table 9

Pulp, paper and paper products; publishing and printing
Exports to the EU(12) in ECU mn, market shares in %

	EU(12) extra-EU imports	Bulgaria		Czech Republic ¹⁾		Hungary		Poland	
		ECU mn	%	ECU mn	%	ECU mn	%	ECU mn	%
1989	20441.0	15.6	0.08	142.7	0.70	24.2	0.12	39.3	0.19
1992	19323.8	13.9	0.07	203.4	1.05	43.7	0.23	97.5	0.50
1995	24336.6	23.8	0.10	240.0	0.99	47.3	0.19	233.3	0.96
1996	21773.9	15.2	0.07	200.4	0.92	41.4	0.19	218.5	1.00
1997	23183.0	32.1	0.14	253.1	1.09	68.6	0.30	272.3	1.17

	Romania		Slovak Republic		Slovenia		CEE(6) ²⁾		Total Manufacturing CEE(6) ³⁾	
	ECU mn	%	ECU mn	%	ECU mn	%	ECU mn	%	ECU mn	%
1989	24.0	0.12	.	.	.	.	245.8	1.20	9303	2.76
1992	3.9	0.02	.	.	.	.	362.5	1.88	16736	4.43
1995	21.1	0.09	155.1	0.64	188.4	0.77	720.7	2.96	30661	6.44
1996	16.6	0.08	117.7	0.54	138.4	0.64	609.9	2.80	32301	6.52
1997	13.4	0.06	115.9	0.50	140.2	0.60	755.4	3.26	39611	6.85

Notes: 1) Until 1992 CSFR. - 2) Including Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovak Republic. - 3) CEE(6) total manufacturing exports to the EU and their market shares.

Source: WIIW database.

Table 10

Pulp, paper and paper products; publishing and printing
Exports to Austria in ECU mn, market shares in %

	Austria extra-EU(15) imports	Bulgaria		Czech Republic		Hungary		Poland	
		ECU mn	%	ECU mn	%	ECU mn	%	ECU mn	%
1995	219.0 ¹⁾	1.7	0.79	13.8	6.30	6.1	2.80	1.9	0.88
1996	359.5	1.3	0.35	14.4	3.99	31.9	8.89	3.7	1.02
1997	362.8	1.2	0.33	18.2	5.01	43.4	11.96	4.9	1.36

	Romania		Slovak Republic		Slovenia		CEE(7) ²⁾	
	ECU mn	%	ECU mn	%	ECU mn	%	ECU mn	%
1995	0.4	0.17	10.5	4.78	17.4	7.94	51.8	23.65
1996	0.6	0.17	20.3	5.65	28.7	7.99	100.9	28.06
1997	1.7	0.46	16.9	4.66	48.5	13.36	134.7	37.14

Notes: 1) 1995 data for Austria are not strictly comparable to 1996 and 1997 data. - 2) Including Bulgaria, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic and Slovenia.

Source: WIIW database.

Revealed comparative disadvantage in most CEECs

Revealed comparative advantage values (RCAs)¹⁹ in relation to the EU were negative in most CEECs, except more recently in Slovakia and Slovenia, indicating an

¹⁹ Measured as $RCA_i = (\text{exports}_i - \text{imports}_i) / (\text{exports}_i + \text{imports}_i)$.

overproportionate negative trade balance in the paper and printing sector (see Table 11). When compared to manufacturing as a whole,²⁰ data showed the largest comparative disadvantage in Romania, followed by Hungary, Bulgaria and Poland. In the Czech Republic, the disadvantage was slight, and in Slovenia and Slovakia the paper and printing sector even exhibited a small comparative advantage (see Table 12).

Within the paper and printing sector, 'pulp, paper and board' did mostly better compared with paper and printing as a whole. However, in general most sub-branches experienced a negative trade balance, with only a few exceptions: Sub-branches showing a positive trade balance over a prolonged time period were 'pulp, paper and board' in the Czech and Slovak Republics and Slovenia and 'printing and allied industries' in Slovakia and Slovenia (see Table 13).

Table 11

Paper and printing RCAs

	1989	1992	1996	1997
Austria	0.24	0.18	0.05	0.08
Bulgaria	-0.49	-0.29	-0.53	-0.25
Czech Republic	.	.	-0.27	-0.23
Hungary	-0.50	-0.44	-0.71	-0.62
Poland	-0.15	-0.46	-0.46	-0.45
Romania	0.45	-0.74	-0.68	-0.74
Slovak Republic	.	.	0.21	0.10
Slovenia	.	.	0.03	-0.01
Greece	.	.	-0.89	.
Portugal	.	.	0.17	0.15
Spain	.	.	-0.15	-0.15

Measured as: $RCA_i = (exports_i - imports_i) / (exports_i + imports_i)$.
Source: WIIW calculations

Table 12

Relative position of paper and printing RCAs

	1989	1992	1996	1997
Austria	0.36	0.29	0.24	0.25
Bulgaria	0.05	-0.17	-0.54	-0.33
Czech Republic	.	.	-0.09	-0.08
Hungary	-0.40	-0.41	-0.66	-0.57
Poland	-0.08	-0.38	-0.23	-0.19
Romania	-0.01	-0.67	-0.61	-0.71
Slovak Republic	.	.	0.27	0.17
Slovenia	.	.	0.10	0.09
Greece	.	.	-0.30	.
Portugal	.	.	0.35	0.36
Spain	.	.	-0.03	-0.02

Measured as: $RCA(\text{paper and printing sector}) - RCA(\text{total manufacturing})$.
Source: WIIW calculations

²⁰ Measured as $RCA(\text{paper and printing}) - RCA(\text{total manufacturing})$.

Table 13

Detailed RCA structure in paper and printing, 1997

	Czech				Slovak		
	Bulgaria	Republic	Hungary	Poland	Romania	Republic	Slovenia
471 Manufacturing of pulp, paper and board	-0.06	0.13	-0.63	-0.11	-0.30	0.35	0.23
472 Processing of paper and board	-0.72	-0.58	-0.67	-0.60	-0.93	-0.46	-0.21
473 Printing and allied industries	0.06	-0.26	-0.45	-0.76	-0.93	0.11	0.00
47 Pulp, paper and paper products; publishing and printing	-0.38	-0.23	-0.62	-0.45	-0.74	0.10	-0.01

Measured as: $RCA_i = (exports_i - imports_i) / (exports_i + imports_i)$.

Source: WIIW database.

4 Significance of foreign direct investment

The paper and printing sector being relatively small, does not belong to the most prominent targets for foreign investors in absolute terms. However, the sector attracted a reasonable number of investors to the CEECs because of a growing trend in concentration and globalisation, thus leading to a relatively high rate of foreign penetration in this sector. In Slovenia, the sector in fact attracted the largest amount of investment of all manufacturing, which might be due to traditions and a rich resource base in that country. In particular, foreign investors in the pulp and paper industry were mainly drawn by attractive markets, natural resources and large plants.²¹ In addition, promising future forecasts for the sector, substantial investment incentives, export opportunities to neighbouring countries, new markets and skilled labour have played a role as well.²² In publishing and printing, low labour costs might have also played a role.

The share of the paper and printing sector in the distribution of the nominal capital of all foreign investment enterprises (FIEs)²³ in total manufacturing was moderate in most CEECs and fell very slightly between 1994 and 1996. In 1996, paper and printing FIE's accounted for 4% of total nominal capital of FIEs in the Czech Republic and Hungary, and 8% in the Slovak Republic.²⁴ Although the data for Poland are not perfectly comparable,²⁵ the share of paper and printing there also recorded only 7% of the equity capital of all manufacturing entities with foreign participation in 1996. The only exception to this pattern was Slovenia, where the share reached 21% and thus was the largest recipient in total manufacturing (see Figure 6A).

²¹ University' Commerciale Luigi Bocconi (1997), page 52.

²² University' Commerciale Luigi Bocconi (1997), page 52.

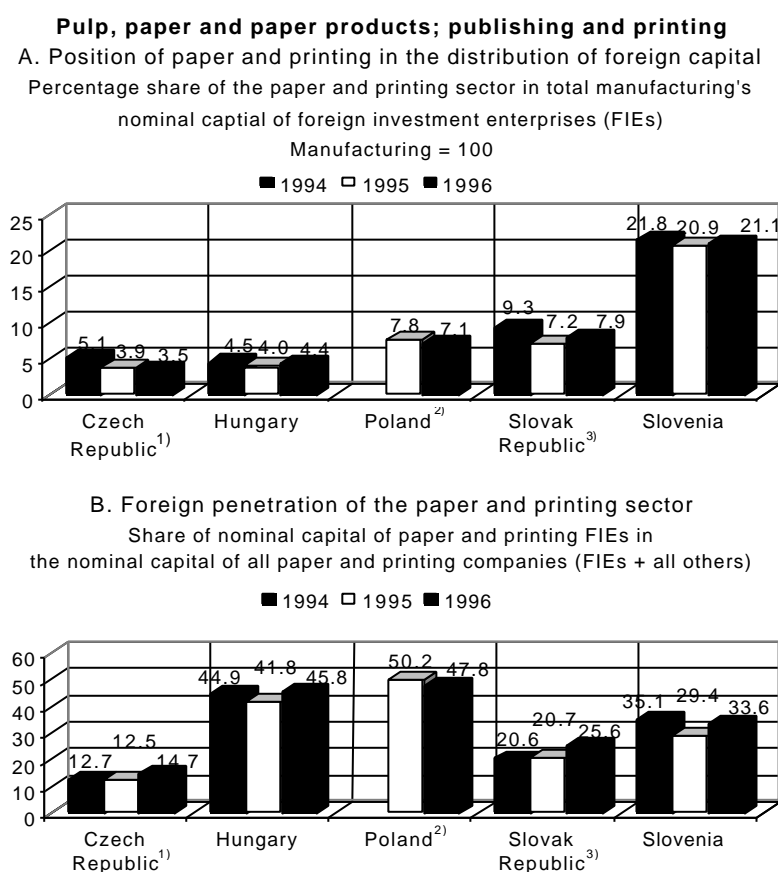
²³ Firms with any share of foreign ownership, including minority stakes.

²⁴ Czech Republic own capital, Slovak Republic output of companies, see Figure 6.

²⁵ Data for the Czech Republic, Hungary, the Slovak Republic and Slovenia come from Hunya, G. (1998), data for Poland from Zagozdzińska, I. (1998) and the Polish Statistical Yearbook of Industry (1997).

Foreign penetration of the paper and printing sector (as measured by the share of the nominal capital of the sector's FIEs in the nominal capital of all paper and printing companies) differed across the CEECs: In 1996, it was highest in Poland and Hungary, with 48% and 46% respectively of the nominal capital in this sector being that of FIEs, followed by Slovenia and the Slovak Republic, with 34% and 26%. Only in the Czech Republic was foreign penetration relatively low, with approximately 15% (see Figure 6B). Compared to the average penetration rate in manufacturing however, it is interesting to note, that foreign penetration in paper and printing was above average in Slovenia, Poland and the Slovak Republic, but below average in the Czech Republic and Hungary. Indeed, foreign penetration of the paper and printing sector was second only to that of the transport equipment sector in Slovenia, and in Poland was the highest of all manufacturing sectors in 1995.²⁶

Figure 6



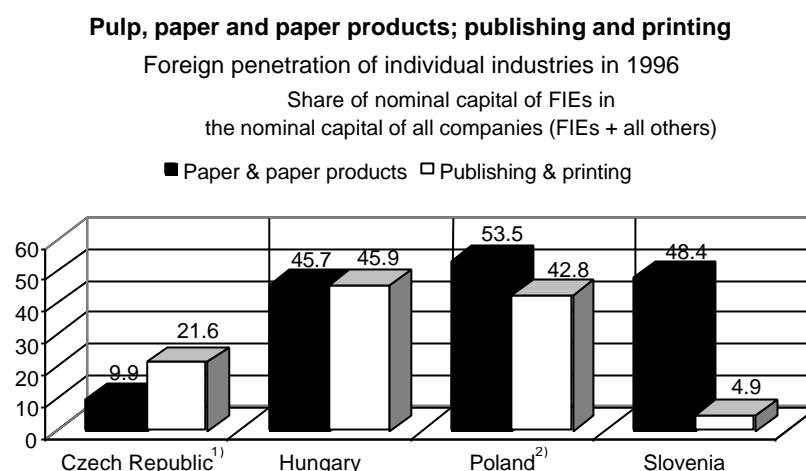
Notes: 1) Own capital.- 2) Polish data from Zagodzinska, I. (1998) and Polish Statistical Yearbook of Industry (1997).

3) Output of companies.

Source: WIIW database

²⁶ In 1996, however, the transport equipment and the other non-metallic mineral products sector showed a distinctive higher penetration rate than the paper and printing sector in Poland.

Figure 7



Notes : 1) Own capital.- 2) Polish data from Zagodzinska, I. (1998) and Polish Statistical Yearbook of Industry (1997).

Source: WIIW database

Throughout the region, foreign penetration in the two sub-industries of paper and printing differed considerably: While publishing and printing showed a higher foreign penetration in the Czech Republic in 1996, it was the other way round in Poland. The difference between industries was especially marked in Slovenia, with 5% foreign penetration in publishing and printing, but 48% in paper and paper products. Foreign interest in the Slovenian printing industry has been low, possibly because of higher labour costs and the small size of the Slovenian market. Only in Hungary did both industries maintain nearly the same high foreign penetration rate (see Figure 7).

5 Prospects

In the long run, it is expected that on the demand side consumption of paper and printing products will reach a certain level of saturation and then settle at a below-average growth rate for the sector. It seems, however, that this level has not yet been reached in the Central and Eastern European Countries, as per capita consumption still lies significantly below that of Western Europe. Main customers include end-users for paper stationery or household and sanitary goods, other sectors of manufacturing such as the food, beverages and tobacco industry for packaging purposes, and the downstream publishing and printing industry for newspapers, books and magazines. Although saturation may have been reached in Western Europe, certain export opportunities might exist due to lower prices. On the supply side, the production of paper and printing products has risen since the end of the transformational recession, because of previously significant underdevelopment during the communist era, and led to an enlargement of the sector in all countries except Slovenia. However, in 1996 production growth declined due to a general economic contraction on domestic and foreign markets, although it recovered again in 1997.

In the region, the paper and printing industry has the **greatest significance** in Slovenia and Slovakia, where it is a larger producer, employer and also exporter than in the other CEECs. It also attracted a larger number of foreign investors, and in both countries the resource base is comparatively big. In Poland, the sector follows closely in production size, and has a large FDI-penetration rate and share on the EU-market. However, it also shows the fastest growing sectoral trade deficit among all the CEECs. Czech and Hungarian paper and printing exports have a relatively large share on EU- and Austrian markets respectively, while the Bulgarian paper and printing exports show a distinctively higher quality than the other CEECs.

Because of the sector's orientation in the domestic market, the **future prospects** of the paper and printing sector depend primarily on future trends in overall domestic growth (see Table 14). Thus, we see the most favourable trend for the Polish paper and printing sector. Here, growth prospects for the large domestic economy are bright and international competitiveness is good: In the period 1989-1997, the sector experienced a 70% increase in production and a 600% rise in exports. While the overall economy in the Czech and Slovak Republics shows a more gloomy picture, the sector itself displayed an upward trend in the last years, which might be continued because of specialization and low prices in international comparison. Especially in Slovakia, the structural deficit has fallen continuously. Prospects for the paper and printing sector in Hungary show an upward trend as well, besides prospects for the overall economy being more promising than in the former two countries. In Romania, the paper and printing sector might still need time to achieve 1989 levels, due to a delay in economic reforms and hence in growth. Although overall growth of the economy is relatively high and stable in Slovenia, the paper and printing sector has gone through a lot of down-sizing, combined with stagnant productivity due to the heavy concentration on the former Yugoslav market, which could not be compensated through exports to the EU. In particular, while pulp and paper attracted a lot of foreign investors, the publishing and printing industry lacks the inflow of foreign investment and has a lower export quality as compared to pulp and paper, indicating structural problems in this industry.

Table 14

	Developments in GDP and outlook			
	real change in % against previous year			
	1997	1998	1999 forecast	2000
Czech Republic	1.0	-2.7	-1.5	2
Hungary	4.4	5.1	4	4
Poland	6.8	4.8	3	4
Slovak Republic	6.5	4.4	0	-2
Slovenia	4.6	3.9	3	3
Bulgaria	-6.9	3.5	-1.5	2
Romania	-6.6	-7.3	-5	0

Source: WIIW.

PART II: COMPANY PROFILES

This second part of the study sets out a more detailed micro-analysis of the paper and printing sector and contains the following data for each country, as available:

- Output structure of the sector in detail (only Hungary)
- Company analysis by company size and type
- Profitability
- Important domestic enterprises
- Major foreign direct investors

The *paper industry* is directly linked to the wood and wood products industry, which serves as its upstream supplier, and to natural resources of wood. In Hungary, the size of the resource base is actually very small because forests account for only 19% of the total land area. In all other countries the relative size is larger, and even reaches 41% in Slovakia and 54% in Slovenia (see Table 15). The production of paper and cardboard declined during the first years after the collapse of communism, due to the transformational recession, but has increased slowly since then. The consumption of paper followed the same pattern of development. In the 1980s, paper consumption in Hungary per capita reached 65 kg, then fell to 45 kg by 1993, and has now recovered again to somewhere above 65 kg. However, this is still only one third of the Austrian level.²⁷ Therefore future consumption is expected to grow in the CEECs. An increase of paper production, a larger need for paper in the downstream industries publishing and printing, and cultural changes – freedom of press and the end of censorship in general, as well as more packaging and

Table 15

Basic indicators for the paper industry

	Forest area 1994		Production of paper and paperboard			
	in 1000 ha	in % of total area	in 1000 t			
			1989	1993	1995	1996
Austria	3240	39.2	2754	3200	3599	.
Bulgaria	3879	35.1	439	150	153	.
Czech Republic ¹⁾	2629	34.0	1305	643	738	616
Hungary	1767	19.1	.	292	321	363
Poland	8783	28.9	1448	1171	1477	1525
Romania	6680	29.0	.	.	363	332
Slovak Republic	1911	41.4	.	.	327	.
Slovenia	1094	54.3	.	401	460	.

Notes: 1) 1989 CSFR.

Source: Statistisches Bundesamt, various issues

advertising – have already led to an increase in consumption since the recession came to an end. However, environmental concerns have to be raised in the production process and

²⁷ Industrie (1998), 25. Juni.

in the disposal of packaging. In addition, future growth will also depend on technological changes, for example in the use of computerised production processes.

Bulgaria

In Bulgaria, the printing industry has a long tradition and has thus attracted foreign interest. Foreign investors in the paper and printing industry include:²⁸

- Thrace Paper Mill S.A., Greece: In November 1997, the Greek paper mill acquired a 58% stake in Belovo-Belovo, producer of tissue paper including towels, napkins and sanitary products, as well as of writing and printing paper. Thrace Paper Mill S.A. is the largest papermaking company in Greece, having 20% of the local tissue market.
- Adut-Adox S.A., Slovakia: At the end of 1997, Adut-Adox bought a 75% stake in ZKO Hadji Dimitar-Svoqe.
- Norekom GmbH, Germany: In May 1998, Norekom acquired 26% of the local pulp and paper producer Velpa 91 in Strazitsa.
- Profitek Enterprises Ltd, Cyprus: In May 1998, the company bought 22% of Unipack in Pavlikeni.
- Asshaklar Holding, Turkey: In August 1998, the Turkish holding company acquired 23% of local cellulose, pulp and paper producer Tzelhart in Stamboliski and thus increased its total stake to 78%.²⁹
- Enerholding Limited, Cyprus: In October 1998, the company acquired 31% of the cardboard factory ZMK Nikopol.

- Westdeutsche Allgemeine Zeitung (WAZ), Germany: In 1996, the German press conglomerate settled a USD 16 mn debt of the local powerful press company 168 Chasa Pressgroup and thus acquired a 70% stake. The Bulgarian company had gotten into trouble through an overambitious printing house project. In 1997, WAZ had to reverse the purchase of 70% of the local Media Holding, because anti-monopoly authorities rejected the deal - citing that it would have given WAZ a 70-80% share of the Bulgarian newspaper market.³⁰
- Wolters Kluwer, Netherlands: In 1997, Wolters Kluwer acquired 40% of Siela, Bulgaria's leading publisher of legal and business literature.³¹

²⁸ List of privatizations with foreign participation, concluded in the period 1993-1996. However, this list only includes paper producing companies. See Privatization-Agency Bulgaria Internet-Homepage ([http:// www. privatisation.online.bg](http://www.privatisation.online.bg)).

²⁹ See Business Eastern Europe (1998), August 31.

³⁰ Business Eastern Europe (1997), May 5 and Business Eastern Europe (1998), June 23.

³¹ Business Eastern Europe (1997), October 27.

Czech Republic

In September 1998, about 9,600 companies were registered in the Czech paper and printing sector, which made up about 4% of all manufacturing enterprises.³² Of these, 74% were small private firms and 24% larger business enterprises, including 2,000 private and 200 public, limited-liability companies. In addition, 27 state-owned enterprises still existed.

Major paper companies in the Czech Republic include:

- Assi Domän Sepap a.s.: In 1997, the company reported revenues of 5 bn Czech Koruna (CZK) and employed about 1,600 persons (2,100 in 1996). It brought in about 53% of its revenues from exports, mainly to Germany (21%), Italy (20%) and France (8%) and was thus the 18th largest exporter in the Czech Republic in 1997. The main export products were heavy paper, wrapping paper and cardboard. In 1995, Assi Domän, the Swedish forestry and paper packaging group had bought 22% of Sepap, the largest Czech pulp and paper company, which is also the leading producer of paper bags in the Czech Republic. Continually increasing its share, its position was challenged by the Stratton Group and Harvard Capital & Consulting, who had acquired a majority stake in Sepap. After a two-year fight, Assi Domän bought 51% from Stratton's survivor Daventree in 1997, establishing a 90% holding in the company. Assi Domän announced plans to increase capacity, rebuild paper machines and improve the quality of paper. In addition, Assi Domän integrated Sepap into the group and used it as an export base to other countries. The newspaper division Roto was sold at the beginning of 1997, and the cardboard-production subsidiary restructured to become Sepap Sack.³³

Assi Domän also invested in the Czech corrugated-cardboard industry: It built a green-field factory for corrugated cardboard packaging in Žebrák and bought the private corrugated packaging producer Empack in April 1997.

- South Bohemian Paper Mill Group (JIP Group): Today the JIP Group is the second strongest paper group in the Czech Republic and produces printing, wrapping and hygienic papers. In 1946, Jihoceské Papírny (South Bohemian Paper Mill) was established in Vetrní, where the history of some manufacturing sites dated back to the 16th century. In 1990, the company was transferred into a share-holding company, two years later Jihoceské Papírny a.s. was transformed into a holding company, with its headquarters in Vetrní. The company was hard hit by the collapse of the CMEA-market and recession in Western Europe - the crisis reached its peak in 1993. Foreign investors got involved in some divisions – the Austrian company Duropack acquired 51% of Bupack in České Budejovice, Holland's Van Leer bought 60% of JIP Pack Pribyslavice, and the German company Mann+Hummel acquired 60% of Jipap Pribyslavice. In 1997, the shares of the first two companies were sold to foreign

³² They were responsible for 4.5% of manufacturing output (at current prices) in 1997.

³³ The Prague Post (1997), 4.-10.6.1997, page A9.

investors. Today the JIP Group has four subsidiaries: JIP Papírny Vetrní a.s., JIP Loucovice a.s., JIP Cerepa Cervená Recice a.s. and JIP Papírny Vrané spol.s.r.o..³⁴ In 1998, the merger of JIP with the Czech pulp producer Biocel was delayed by a court action.

- Biocel: The pulp producer was once part of the expansion strategy of Stratton Investment, which held 33% of the company. Since 1998 however, První Investiční a.s. has been the largest shareholder, with 43%. In 1997, Biocel reported revenues of CZK 2.8 bn but recorded a loss of CZK 127 mn. Export sales accounted for 85% of sales, whereby 19% went to Slovakia. On the domestic market the largest customer was JIP, accounting for 38% of sales. In order to integrate pulp production with papermaking, Biocel acquired 50% of JIP. The company has about 800 employees.³⁵
- Krkonošské Papírny a.s.: In 1992, the company was transformed into a shareholding company with distinct organizational divisions. Purchasing, sales and marketing are carried out by RPA Hostinné s.r.o.. About 60% of its products are sold on the domestic market, and 40% abroad.
- Orlické Papírny, s.r.o.: The company has a workforce of 800 persons and exports about one fifth of its production, mainly to Scandinavia and the German-speaking countries.
- Morpa a.s.: Owned by Delta Papír (49%) and Moraviapapír (34%), Czech's largest wrapping paper producer Morpa was the country's 31st largest exporter in 1997, exporting graphic paper, wrapping paper, special and office paper.

Other foreign direct investors include:

- Model Gruppe AG, Switzerland: The Swiss company planned to invest about USD 21 mn into cardboard production beginning in 1992-1993.
- Westvaco, US: In 1994, Westvaco, one of the world's largest paper and packaging companies, decided to make a green-field investment of USD 25 mn in the Czech Republic. It thus followed its long-time customer Philip Morris and also took advantage of a workforce experienced in paper and packaging. Westvaco met environmental problems by building an incinerator and a water treatment facility. Problems in the Czech economy were solved by exporting, taking advantage of the cheap koruna. Inputs were mainly sourced locally. Paper came from the Czech Republic, the US, Scandinavia and Poland. With a growing number of domestic customers, the bulk of Westvaco's business partners remained mostly multinationals and their subsidiaries, as the company operated at the high-price end of the market. It produces packages for personal-care products, fresh and frozen food, confectionery, overnight mail, media and pharmaceuticals.³⁶

³⁴ See Prager Zeitung (1996), 5. September and JIP Internet-Homepage ([http:// www. ckrumlov. cz/uk/region/firm/t_jip.htm](http://www.ckrumlov.cz/uk/region/firm/t_jip.htm)).

³⁵ See Biocel Internet-Homepage ([http:// www. biocel.cz](http://www.biocel.cz)).

³⁶ Business Eastern Europe (1998), February 9.

- Cofinec, International: In 1993, Cofinec acquired a stake in a local paper packaging company.
- Mayr-Melnhof, Austria: In 1996, the Austrian company, which is also the largest producer of paper packaging in Europe, acquired a 70% stake in the Czech folding-carton producer Solnice Papírny, as a base for exports to Poland and the Ukraine.

The printing industry in the Czech Republic has a long history, dating back until the Middle Ages. Under the communist regime however, business was restricted, censored and centrally planned. Small printers were liquidated and the larger ones concentrated in large groups. New equipment was only bought from the former Soviet-Union and the German Democratic Republic, machines were under police supervision. After the collapse of communism, the printing companies started to modernize their equipment, some of which dated back to the nineteenth century. Later they used loans or the capital of foreign investors. The old machinery was often sold to small businesses, so called garage-printers, with only one to five employees.³⁷

The five largest printing companies in the Czech Republic, ranked by 1997 revenues are:³⁸

- Jihoceske Tiskárny, a.s., with 1997 revenues of CZK 350 mn and 210 employees.
- Typos-Tiskarské Závody, a.s., with 1997 revenues of CZK 190 mn and about 240 employees.
- Helios Praha, s.r.o., with 1997 revenues of CZK 150 mn and about 130 employees.
- Východočeská Tiskárna, s.r.o., with 1997 revenues of CZK 110 mn and about 110 employees.
- Tiskárny Vimperk, a.s., with 1997 revenues of CZK 150 mn and about 190 employees.
- Česká Typografie a.s.: Denationalized in 1991, the company prints newspapers and magazines and employs about 640 persons. The company lost its dominant market position of the early 90s, some major customers and has accumulated debts due to a large investment. Česká Typografie had made overall losses in 1996, and an operating loss in 1997. At the beginning of 1999, the government announced plans to sell the state-owned printing house.

Hungary

In 1997, output of the relatively small Hungarian paper and printing sector (4% of total manufacturing) consisted of the publishing and printing industry and of the pulp and paper industry, accounting for 53% respectively 47%. The largest sub-branches were 'printing and services related to printing', with 32% of all paper and printing output, 'corrugated paper and paperboard', with 27%, and 'publishing', with 20% (see Table 16).

³⁷ Deutsch-Tschechische Industrie- und Handelskammer (1998), page 3.

³⁸ The Prague Post (1999), page 117.

The export orientation of the paper and printing sector was very low, showing an export-ratio of only 15% compared to 49% in total manufacturing in 1997. However, in the pulp and paper industry about 26% of sales were exported, whereas in publishing and printing only 4% (see also Table 16).

Table 16

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

	Gross output		Total sales 1997 HUF mn	Export sales 1997 HUF mn	Export sales/ Total sales 1997 %
	1997 HUF mn	1997 %			
21 Pulp, paper and paper products	105333	46.9	103990	27459	26.4
2101 Pulp, paper and paperboard	32323	14.4	31800	9361	29.4
2102 Corrugated paper & paperboard and containers of paper & paperboard	61359	27.3	60937	15270	25.1
2109 Other articles of paper and paperboard	11651	5.2	11252	2828	25.1
22 Publishing, printing and reproduction of recorded media	119056	53.1	118843	5148	4.3
221 Publishing	45113	20.1	45124	717	1.6
2211 Publishing of books, brochures, musical books and other publications	12876	5.7	12874	540	4.2
2212 Publishing of newspapers, journals and periodicals	30570	13.6	30584	161	0.5
222 Printing and services related to printing	70982	31.6	70783	4013	5.7
2221 Printing	62830	28.0	62638	3807	6.1
2222 Services related to printing	8152	3.6	8145	206	2.5
223 Reproduction of recorded media	2961	1.3	2935	418	14.2
DE Pulp, paper and paper products; publishing and printing	224389	100.0	222833	32607	14.6

Note: Hungarian Classification.

Source: Yearbook of Industry and Construction Statistics Hungary (1998).

In 1997, there were about 3,200 companies with legal entity in the paper and printing sector, representing 14% of all manufacturing corporations in Hungary. Most of the companies in the sector were located in the publishing and printing industry, accounting for 93% of all companies. Of these, small firms with fewer than 11 persons prevailed, making up 86% of all publishing and printing firms. In the pulp and paper industry, on the other hand, the figure was much lower, with small companies with fewer than 11 persons accounting for only 63% of all companies. All the rest were larger. In terms of legal form, 95% of all active corporations in the sector were private limited-liability companies (3,000 firms) and 3% public limited-liability companies (100 firms). In 1997, an additional 3,500 unincorporated businesses (without legal entity) existed in the paper and printing sector, including different forms of partnerships, which accounted for 20% of all unincorporated manufacturing businesses. Again, as much as 95% of these businesses were in the publishing and printing industry. The number of sole proprietors reached 2,000 in the whole sector, making up 4% of all manufacturing sole proprietors.

Overall, the paper and printing sector achieved a moderate gross operating surplus of 24.6 bn Hungarian Forint (HUF) in 1996, accounting for about 5% of total manufacturing surplus.

Foreign investment by Austrian firms has been especially high in the Hungarian paper industry, accounting for about 60% of the Hungarian paper plants (Prinzhorn-Group and Neusiedler AG, see below). The Austrian companies Mayr-Melnhof, the Nettingsdorfer Group and Rondo Ganahl are also engaged in the Hungarian paper processing industry.³⁹

- Hamburger AG, Mosburger Ges.m.b.H., Austria: In 1991, the Austrian Prinzhorn Group, to which Hamburger and Mosburger belong, acquired 40% of Hungary's largest paper products and packaging materials producer Dunapack and extended its share to 100% in 1995. Since its establishment in 1990, Dunapack was reorganized several times and thus the number of employees fell from 4,600 in 1990 to 1,290 now. Modernization occurred through technology transfer and business organizational and environment protection know-how from the parent company. Dunapack has three production sites in Cspepel, Dunaújváros and Nyíregyháza, which include a packaging and corrugated division. In addition, the Dunapack Group comprises Duparec Kft., a paper recycling company, the Halspack packaging Rt. and a new company in Romania called Dunapack-Rambox Kft. (see Romania). Its most important products are corrugated base paper and corrugated products, which are based on 100% waste paper, as the availability of primary resources is limited.⁴⁰ In 1996, reported sales amounted to HUF 26,600 mn.⁴¹
- Neusiedler Group, Austria: The Neusiedler Group, part of the Austrian Frantschach AG, has two locations in Hungary – Szolnok and Dunaújváros. In August 1995, it took over the Szolnok Paper mill, which was closed in 1993 and 51% owned by Prinzhorn.⁴² Szolnok is now a wholly-owned subsidiary of the group, employing 320 persons and producing woodfree writing and printing papers. Since 1990, the Dunaújváros paper mill was part of Dunapack AG. In September 1997, the Neusiedler Group acquired the production site for white paper, which is now a 100% daughter company of Szolnok Paper mill and employs about 190 persons.⁴³
- Mayr-Melnhof, Austria: The Austrian company invested in a new folding carton plant in Hungary, which began production in 1998.
- Cofinec S.A., International: In 1990, the packaging company acquired a 50% share in the Petöfi Printing House in Kecskemét and a majority stake in the Kner Printing House in Békéscsaba in 1992. Since then, Cofinec has bought out minority stakes and merged the two printing houses in 1997. The company's name changed to Cofinec Hungary Rt., 99.9% owned by Cofinec. State granted tax exemptions remained valid

³⁹ Industrie (1998), 25. Juni.

⁴⁰ Only 19% of Hungarian state area is covered by wood, less than in Austria and all other CEECs.

⁴¹ See Industrie (1998), 25. Juni, page 30 and Dunapack Internet-Homepage (<http://www.Dunapack.hu>).

⁴² According to Business Eastern Europe (1995), August 21.

⁴³ See Neusiedler Internet-Homepager (<http://www.Neusiedler.at>).

after the sale, with a 100% exemption through the end of 1999 and 60% through the end of 2000.

- Tetra Pak, Sweden: In 1989, Tetra Pak launched a green-field investment plant in Hungary, which began production of cartons for liquid foodstuffs in 1992. At first, the company encountered a complete lack of any packaging culture and faced stiff competition from cheap milk sold in bags. Indeed, with subsidies still in force, this milk was cheaper than its low-quality packaging material. Rivals on the market included Elopak of Norway in milk packaging and PKL of Germany in fruit juice packaging. In addition, Tetra Pak had to cope with new emerging laws on environmental protection concerning the recycling of waste and on foodstuff packaging.⁴⁴

The leading Hungarian companies in the publishing and printing industry include:

- Állami Nyomda Rt., printing house.
- Alföldi Nyomda Rt.: This traditional printing house is located in Debrecen.
- Gyomai Kner Nyomda Rt., printing house.
- Közgazdasági és Jogi Könyvkiadó, publisher of economic and legal literature.

Poland

Net profitability of the pulp and paper industry compared favourably to total manufacturing in 1995 only, while publishing and printing did better than manufacturing from 1996 onwards. Investment growth was high and above manufacturing average for publishing and printing from 1995 onwards (see Table 17).

Table 17

**Poland: Net profitability in the enterprise¹⁾ sector and
real growth rates of investment outlays, in %**

	Net profitability ²⁾				Investment growth rate			
	1995	1996	1997	1998	1995	1996	1997	1998
21 Pulp and paper	12.7	1.5	0.4	1.1	-13.8	-15.7	23.9	17.6
22 Publishing and printing	0.7	3.0	5.5	4.2	-30.0	49.2	63.6	40.9
D Total manufacturing	2.3	2.3	2.3	1.2	19.0	32.7	38.2	30.9

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

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

In the pulp and paper industry, the number of companies has increased constantly since 1995, whereas the share of firms with net profits has slightly decreased instead (see Table 18). However, sometimes losses are planned in order to pay lower taxes. There is a positive future trend expected, due to rising prices and rising local demand. However,

⁴⁴ See Ballai, J. et al (1997), page 90.

some products have to be imported more often than others, whereby the price of imports is generally twice as high as for exports, which generally reflects their higher quality.

Table 18

Poland: Different indicators of the Polish pulp and paper industry

		1995	1996	1997	first quarter 1998
Number of companies		106	119	129	130
Number of employees	in thousands	36.0	37.3	38.6	39.7
Average wages	in PLN	850.9	1077.9	1281.4	1366.0
Income from the sale of products	in PLN mn	4206.4	4472.6	5260.1	1567.4
Net profits	in PLN mn	550.5	70.2	20.5	73.3
Current assets	in PLN mn	1240.5	1380.4	1919.6	1989.9
Inventories	in PLN mn	522.9	572.9	676.8	681.5
Short-terms liabilities	in PLN mn	685.2	770.5	1235.9	1303.5
Share of firms with net profits	in %	79.2	72.3	58.9	66.2
Liquidity ratio of the first degree	In %	24.1	13.5	16.1	20.9
Price index	previous year = 100	58.8	-5.7	0.5	7.4
Average wage increase	in %	48.4	26.7	18.9	13.5
Investment	in PLN mn	489.3	686.9	740.5	.

Source: Rzeczpospolita (1998), June 23.

Paper and printing companies, ranking among the 100 largest enterprises in Poland, are mostly in foreign hands (International Paper-Kwidzyn SA, Celuloza Swiecie SA and Intercell SA, see below), only one is domestic.⁴⁵

- ‘Agora-Gazeta’ Sp.z.o.o.: Agora is the largest company in the publishing business, reporting revenues of 1,094 mn Polish Zloty (PLN) in 1997 and employing about 2,500 people. It owns the leading national daily Gazeta Wyborcza, which accounts for 97% of the company’s revenues, and was launched in 1989 to give voice to the opposition in Poland’s first free election. In February 1999, Agora listed on the Warsaw and London stock exchanges in order to raise money for two new printing presses, new offices and a further expansion into related businesses.⁴⁶

According to the Polish Agency for Foreign Investment (PAIZ), the paper and printing sector was the third most attractive sector for foreign investors as of the end of June 1997. It followed only the food and transport equipment sector and assumed about 10% of all manufacturing foreign investment (USD 880.4 mn).⁴⁷ The largest foreign investors include:

- International Paper Corporation (IPC), USA (6)⁴⁸: As of December 1997, IPC had invested USD 370 mn into the Polish paper industry and now has three companies:

⁴⁵ See the Top 100 Polish Companies in Central European Economic Review (1998), July & August, page 16 and Lista 500 in Nowe Zycie Gospodarcze (1998), page 18.

⁴⁶ For more details see Business Central Europe (1999), April, page 38.

⁴⁷ PAIZ (1997).

⁴⁸ The number in brackets indicates the rank in the List of Major Foreign Investors in Poland from PAIZ, according to the sum of foreign investment as of 31 December 1997. This includes equity, medium- and long-term loans granted by

International Paper-Kwidzyn SA, International Paper-Klucze SA and Impap Sp.z.o.o.. In the 1970s, the Kwidzyn paper and pulp factory was designed by a Canadian engineering team, with the latest Western technology. In 1992, IPC was drawn to Poland by the low production costs, the large size of the market and future export possibilities to the CIS countries. Over the succeeding months, it acquired 80% of Kwidzyn and increased annual output markedly, exporting about 50% of its products. International Paper-Kwidzyn SA had 35% of the Polish paper market in 1994 and is now the largest paper company in Poland, with 1997 revenues of PLN 1,168 mn and 2,300 employees.⁴⁹ International Paper increased its stake in the Klucze paper plant to 45% in 1996, which produces tissues, paper napkins and toilet paper.⁵⁰ International Paper-Klucze SA reported revenues of PLN 90 mn in 1997 and currently employs about 800 people.

- Framondi, Austria (22): The company has invested USD 175 mn so far in the Polish paper industry. In 1997, the joint venture of the Austrian company Frantschach and the South African Mondi acquired 65% in Zakłady Celulozy i Papieru 'Celuloza Swiecie' SA, another large pulp and paper mill. Fifteen percent was offered on the Warsaw stock exchange. Revenues reached PLN 1,030 mn in 1997, employment 3,100 persons. A cost-cutting and modernization programme should decrease the workforce by 20% over the next three to five years.⁵¹
- Procter & Gamble, USA (31): The American company invested about USD 132 mn in the production of personal hygiene products and plans to invest another USD 190 mn. It has a diaper factory in Warsaw.
- Intercellulosa AB, Sweden (36): The Swedish company invested USD 108 mn in the cellulose, paper and cardboard production, that is in Intercell SA, Scanbox in Lodz, Nordic Box in Tychy and the Intercell Trading Sp.z.o.o. in Warsaw. Intercell SA is the third largest Polish paper company and reported 1997 revenues of PLN 420 mn and employed about 2,600 people. 43% is held by Ostroleckie Zakłady Celulozowo-Papiernicze.⁵²
- Kronospan, Switzerland (39): The Swiss company has invested USD 106 mn so far in paper products, construction and furniture products. It has plans to invest another USD 150 mn. In 1992, Kronospan acquired 80% of Malta Poznan, a specialist in woodgrained decorative paper mainly supplied to the furniture industry.
- Passauer Neue Presse, Germany (46): The German company invested USD 98 mn in the Polish press business.

foreign investors to companies established by them and the value of re-invested profits reduced by the dividend exported. Transactions above USD 1 mn are included only. See PAIZ (1998).

⁴⁹ Tisuanen, T. (1997), page 40 and Business Eastern Europe (1995), July 17.

⁵⁰ Business Eastern Europe (1996), March 18.

⁵¹ Business Central Europe (1998), May.

⁵² For more details see Intercell Internet Homepage ([http:// www. intercell.com.pl](http://www.intercell.com.pl)).

- KZP Projekt Uddeualla AB, Sweden (76): The Swedish company invested a sum of USD 52 mn in the formerly heavy indebted and nearly bankrupt Kostrzyn pulp and paper mill. In addition, Trebuk AB held 7.5% of the shares, Swedfund AB and NEFCO AB 3%. The total value of the project amounted to USD 61 mn. Indeed, in 1993, the Swedish Trebruk Group took over Kostrzyn Paper SA, which now employs 670 people and is said to be the second largest paper producer in Poland by volume.⁵³
- Orkla Media, Norway (83): The Norwegian company invested USD 49 mn in press companies so far, which include Orkla Media Magazines, Orkla Media Newspapers, shares in various newspapers and 51% of Presspublica Sp.z.o.o..
- US West, USA (86): The American company invested USD 45 mn so far, and has plans for another USD 5 mn. It engages in publishing and telecommunication through US West Polska Sp.z.o.o. in Warsaw and Polska Telefonii Cyfrowa.
- Cofinec, International (117): Cofinec has invested USD 30 mn in the packaging business. Cofinec Polska Sp.z.o.o. opened its new packaging printing plant near Warsaw in 1996.
- H. Bauer Verlag, Germany (120): The German company invested USD 29 mn in a printing house in Ciechanów.
- GTE International, USA (126): The American company invested USD 26 mn in the publishing and printing business, holding 51% in Panorama Polska Sp.z.o.o..
- Amcor, Australia (127): The Australian company has invested USD 26 mn so far and plans to invest another USD 10 mn in the paper packaging production. Rentsch Polska Sp.z.o.o. has a package printing house in Łódź.
- David S. Smith Packaging, Great Britain (145): The British company invested USD 22 mn in the paper industry so far and plans another USD 12 mn. Investment were made into David S. Smith Kielce SA, the Kieleckie Zakłady Wyrobów Papierowych corrugated board and cardboard box manufacturer acquired in 1995, and David S. Smith Packaging International Sp.z.o.o. in Warsaw.

Romania

Foreign investors in the Romanian pulp and paper industry include:

- Dunapack Ltd., Hungary: In 1996, the construction of a corrugated products plant in Sfantu Gheorghe started. The green-field investment required more than USD 15 mn and began production in August 1997.
- Mayr-Melnhof, Austria: Mayr-Melnhof built a new folding carton plant in Romania, that began production in 1998.
- Rondo Ganahl AG, Austria: In 1998, the Austrian paper and corrugated board manufacturer began construction of a new corrugated board plant in Romania. The plant will be equipped with modern machinery and will be lead by the subsidiary

⁵³ See Kostrzyn Paper SA Internet Homepage (<http://www.kostrzyn.com>).

Rondocarton. The production of highest quality packaging will start in the summer of 1999.

Slovak Republic

At the end of October 1998, about 930 companies were located in the paper and printing sector, accounting for 10% of all manufacturing companies. Nearly all (99%) were in private hands, of which three-quarters had fewer than 10 employees. Only two companies had more than 1000 employees (see below).

The profit situation of the paper industry worsened sharply between 1995 and 1996: While in 1995, paper companies recorded a profit before taxation of 2 bn Slovak Koruna (SKK), they turned into a deficit the next year due to a general economic contraction. The situation improved again in 1997, with a profit of about SKK 400 mn. In the printing industry, however, company profits increased six fold between 1995 and 1996 but experienced a slight fall in 1997 to about SKK 400 mn. In general, the paper and printing sector was one of the few profitable sectors in total manufacturing in 1997. It recorded the third highest profits behind only the coke and refined petroleum products sector and the chemical sector.

The largest paper companies in Slovakia ranked by 1997 net revenues include:⁵⁴

- Severoslovenské Celulóžky a Papierne (SCP), a.s., Ružomberok: The leading Slovakian pulp and paper producer, SCP reported net revenues of SKK 6.6 bn in 1997 and employed 4,370 people. Privatised in 1996, it is now owned by the Slovakian firm Eco Invest, holding 67%, and Papko, with 30%. Exports increased from 27% of sales in 1990 to about 75% in the first half of 1998, consisting mainly of woodless printing paper and writing paper. At the moment, the company is investing in more environment-conscious methods and a modern paper processing machine.⁵⁵
- AssiDomän Packaging Štúrovo, a.s.: The company reported net revenues of SKK 3.2 bn in 1997, of which 60% came from exports, and employed about 2,300 people. It was formed through the acquisition of the Slovakian JCP Štúrovo company, producer of corrugated and carton board, by the Swedish timber and paper company AssiDomän.
- SAC Mölnlycke, s.r.o., Germerská Horka: The company reported net revenues of SKK 2.2 bn in 1997 and employed about 400 people. The Swedish company SAC Mölnlycke invested heavily in its Germerská Horka plant, which manufactures a variety of hygienic tissue products and provides production support for other transition countries. Exports accounted for 91% of sales in 1997.
- PT, a.s., Žilina: The company reported net revenues of SKK 1.3 bn in 1997 (less than 38% compared to 1996) and employed about 600 people. About 89% of sales came

⁵⁴ Trend Top' 98 (1998), page 11.

⁵⁵ New Europe (1999), January 10-16.

- from exports. Founded in the process of the privatisation of the state enterprise Chemicelolóza in 1995, the company manufactures under the brand name 'Tento'.⁵⁶
- Harmanecké Papierne, a.s. Harmanec: The company reported net revenues of SKK 1 bn in 1997, of which 65% came from exports.

Slovenia

At the end of 1997, about 630 legal, active companies⁵⁷ were registered in the paper and printing sector, accounting for 13% of total manufacturing enterprises. Of these, 94% employed less than 100 persons. In addition there were another 650 natural persons registered as doing business in the paper and printing sector, altogether accounting for 6% of total manufacturing.⁵⁸

There is a strong tradition of the paper industry in Slovenia, which dates back four hundred years in paper-making and 145 years in industrial paper manufacturing. With the intensified activity of foreign partners after the collapse of the socialist system, the workforce of paper companies was reduced and productivity increased. Today, about 65% of total output is exported mainly to Italy, Germany and Croatia. Despite the recent successful performance of the paper industry in Slovenia, it faces two serious problems: First, further investment into the technological modernization of production is needed, which should include more sophisticated products. Second, the paper industry has to take ecological impacts into account and will need to comply with EU environmental standards by 2005 and with the new Slovenian environmental protection law. Some producers have already coped with these problems, such as Sarri Slovenija or the Goricane paper mill installing biological cleaning plants. Investment in machinery, improvement of productivity and product quality is also essential in order to withstand globalization pressures. For the three remaining Slovenian paper mills Paloma, Redece and Goricane the idea of a merger is therefore still alive, though no decision has been taken yet and a network integration seems more possible.⁵⁹

Slovenian paper and cardboard producers (without and with foreign capital) include:

- Paloma d.o.o.: In 1997, the company reported an income of 13 bn Slovenian Tolar (SIT) and employed about 1,700 persons. It sells about 76% of its output in 20 countries, mainly in Western Europe and is the only Slovenian manufacturer of high-quality tissue papers and white and grey cardboard.

⁵⁶ PT Žilina was said to be replaced by the holding company Tento on October 1st, 1997. See Slovak Foreign Trade (1998), No.1, page 8.

⁵⁷ Legal business entities without inactive companies and without companies with no employed persons according to the Statistical Register of Labour Force.

⁵⁸ Including individual private entrepreneurs.

⁵⁹ See also Slovenian Business Report (1998), Spring, page 47 and Slovenian Business Report (1999), Spring, page 15.

- Redece Papir: Led by a crisis-management team since 1996, the company increased output and introduced the production of high-quality special-purpose paper. It exports about 80% of its output to Western and overseas markets.
 - Papirnica Gorican d.d.: Since 1992 in the hands of the Development Company, reorganization and structural changes of the company started only in 1994. Production boosted and productivity increased, mainly due to a cut in the workforce from 300 in 1993 to about 170 in 1997. Papirnica Gorican reported an income of SIT 7 bn in 1997 and exported about 70% of its sales, mainly to Italy, France, Spain and Germany. Efforts are undertaken to partially change the main export destination from Western Europe to CEFTA- and overseas countries.
 - Valkarton d.d.: The cardboard-producer reported an income of SIT 5.6 bn in 1997 and employed about 480 persons. The company accounts for two-thirds of Slovenia's corrugated cardboard production and 50% of corrugated cardboard packaging. At the time of writing, Valkarton was considering investments abroad.
- Papirnica Vevce d.d.: The paper and cardboard producer was the first one to form an alliance with a foreign partner in 1991, namely with Brigl & Bergmeister from Austria. The deal was much criticised at the time, but it allowed the company to pay off its debts and to start optimizing production at once. A modernization programme brought an increase of capacity and a boost in productivity. In 1997, Papirnica Vevce reported an income of SIT 11 bn and employed about 370 persons. It exports 77% of its output, mainly to Western Europe (50%) and the successor states of former Yugoslavia (18%).
 - Sarrio Slovenija Domžale d.o.o: In 1992, the Spanish Sarrio SA, itself majority owned by SAFFA S.p.A. from Italy, acquired 76% in the Slovenian state-owned Papirnica Kolicevo, producer of coated cardboard. By 1995, Sarrio became 100% owner, but sold 4% to the EBRD later in the year. The company was mainly motivated by geographical and strategic considerations - the closeness to South European markets, the ongoing process of concentration in the cardboard industry through mergers and acquisitions and the competitive bid for Papirnica Kolicevo by its major competitor Mayr-Melnhof of Austria.⁶⁰ Established in 1920, Papirnica Kolicevo was in search for a foreign investor since 1989. It was facing a lot of problems, including under-capitalization, considerable indebtedness and thus missed opportunities for investment and modernization. In addition, quality was low. Sarrio brought about the necessary changes, investment, organizational restructuring and technological knowledge. Employment was reduced from 660 to 300 in 1997 and non-core activities were

⁶⁰ Indeed, Mayr-Melnhof was the first one to react to a public tender in 1991. However, the Agency for Privatization rejected its two offers because the implicit value of Papirnica Kolicevo was considered too low. The bidding process was thus reopened, with Mayr-Melnhof and Saffa submitting offers and the latter one being accepted. This was a major step for Saffa to further catch up with Mayr-Melnhof, the largest producer of coated cartonboard for general packaging in Western Europe. In general, the industry is dominated by four major producers (Mayr-Melnhof, Sarrio, Stora and Enso Gutzeit, producing 60%) and the rest are small manufacturers. See Rojec, M., Svetlicic, M. (1996).

'privatized'.⁶¹ In 1997, the company reported an income of SIT 9.7 bn and exported about 70% of its sales.

- Aero Copy Celje: The paper and cardboard producer had about 100 employees in 1997 and used foreign capital from Keller in Germany.
- Tespack Brestanica: The cardboard and packaging producer had about 200 employees in 1997 and is involved with Duropack from Austria.
- Vipap Videm d.d. Krško: Suffering from losses due to high interest rates, weakening demand and inefficiency, Videm was taken over by the development agency (Sklad za Razvoj) in 1993. Recognising the company needed a massive infusion of cash, Sklad declared it bankrupt. Political interests went in but finally the heavily indebted Videm was sold to the Czech company ICEC in 1996.⁶² ICEC Videm Krško increased output steadily, of which it exported about 70%. In 1998, the Czech Investment and Post Bank of Prague, however, became 100% owner of Videm, most possibly in order to cover outstanding debts. Vipap Videm was the 17th largest Slovenian exporter in 1998.

Since the disintegration of the Yugoslav market, the company structure of the Slovenian printing industry has changed significantly: the number of small printers saw a steep rise, while large companies faced severe difficulties and drastically cut their workforces.⁶³ The loss of linkages to Russia and Poland, often via other parts of Yugoslavia, hit the printing industry hard when the market collapsed and when the Russian economy faced a severe crisis. It left the industry with excess capacity and the need to find new export markets.⁶⁴ Although product quality is at a fairly high level, exporting companies still face some difficulties, particularly a lack of established export channels. For the future, a consolidation of small firms seems inevitable due to globalization pressure and fast technological development. In addition, market niches have to be found and specialization strengthened. So far, however, the trend towards mergers is slow and limited to technical co-operation.⁶⁵

- Groenjski Tisk d.d.: In 1997, the leading Slovenian graphic company in the field of advertising material and packaging, Tisk reported an income of SIT 3.6 bn and employed 400 persons.
- Mladinska Knjiga Tiskarna Ljubljana: Mladinska Knjiga is the only Slovenian printing company with foreign participation:⁶⁶ The (German) Horizonte Venture Capital holds a 54.9% stake in the 500 employee-company.

⁶¹ In addition, a new management control system was introduced, people trained and Papirnica Kolicvevo integrated into the Sarrio Group, which has a divisional structure of companies and centralized international purchasing and sales departments. See Rojec, M., Svetlicic, M. (1996).

⁶² For more details on the political influence see Business Central Europe (1997), February, page 30.

⁶³ There are only nine large and eleven medium-sized companies, with the largest four producing 59% of the industry's total revenues. See Slovenian Business Report (1998), Page 56.

⁶⁴ In 1997, about 15% of the printing industry's output was exported. See Slovenian Business Report (1998), page 57.

⁶⁵ For more details see Slovenian Business Report (1998), page 56 and Slovenian Business Report (1999), page 19.

⁶⁶ 'Apart from Austria's Leykam, which bought the failed Tiskarna Maribor a few years ago'. Slovenian Business Report (1999), Spring, page 19.

References

- Ballai, J., Bán, Z., Eller, E., Havas, A., Rejtő, G., Sági, G., Tóth, L. (1997), *Lucrative Successes: Foreign Investments in Hungary*, Napi Gazdaság Kiadó Kft., Budapest, January.
- Business Central Europe*, various issues.
- Business Eastern Europe*, various issues.
- Central Statistical Office (1998), *Statistical Bulletin*, Warsaw, Volume XLII, June.
- Central Statistical Office (1999), *Statistical Bulletin*, Warsaw, Volume XLIII, March.
- Deutsch-Tschechische Industrie- und Handelskammer (1998), *Plus*, Prag, August.
- Europäische Kommission (1997), *Panorama der EU-Industrie 97*, Luxemburg.
- Havlik, P. (1997), 'Trends in Wages, Productivity and Labour Costs', ch. 4 in: *Structural Development in Central and Eastern Europe, WIIW Report 1997*, The Vienna Institute for International Economic Studies, Vienna, December.
- Hunya, G. (ed.) (1998), *Database on Foreign Investment Enterprises in Central European Manufacturing: Austria, the Czech Republic, Hungary, Slovakia, Slovenia 1993-1996*, The Vienna Institute for International Economic Studies, September.
- Industrie (1998), 25. Juni, Wien.
- Landesmann, M., Burgstaller, J. (1997), 'Vertical Product Differentiation in EU Markets: The Relative Position of East European Producers', *WIIW Research Reports*, no. 234 (a+b), The Vienna Institute for International Economic Studies, February.
- Landesmann, M., Burgstaller, J. (1999), 'Trade Performance of East European Producers on EU Markets: an Assessment of Product Quality', *WIIW Research Reports*, no. 255, The Vienna Institute for International Economic Studies, April.
- New Europe*, various issues.
- Nowe Zycie Gospodarcze* (1998), No. 43/179, Warsaw, October.
- PAIZ (1997), *The List of Major Foreign Investors in Poland*, Warsaw.
- PAIZ (1998), *The List of Major Foreign Investors in Poland*, Warsaw.
- Podkaminer, L. (1998), 'POLAND: Medium- and Long-term Economic Prospects', *WIIW Analytical Forecasts*, The Vienna Institute for International Economic Studies, April.
- Polish Statistical Yearbook of Industry* (1997), Polish Statistical Office, Warsaw.
- Prager Zeitung*, various issues.
- Prague Business Journal (1998), *Book of Lists' 99*, Prague.
- Republic of Slovenia (1997), *Statistical Yearbook*, Ljubljana.
- Rojec, M., Svetlicic, M., (1996), 'Sario Slovenija', *Case studies of foreign direct investment in Slovenia*, University of Ljubljana, Ljubljana.
- Rzeczpospolita (1998), June 23, Warsaw.
- Slovak Foreign Trade*, various issues.
- Slovak Statistical Office (1998), *Bulletin*, Bratislava, October.
- Slovenian Business Report*, various issues.

Statistisches Bundesamt, Statistisches Jahrbuch für das Ausland, various issues.

The Prague Post, various issues.

The Prague Post (1999), *Book of Lists*, Prague.

Tiusanen, T. (1997), *Poland in the 1990's*, Studies in Industrial Engineering and Management, No.1, LUT-Lappeenranta University of Technology, Lappeenranta.

Trend Top '98 (1998), November 4th.

Universita' Commerciale Luigi Bocconi (1997), *EU Foreign Direct Investment in Central and Eastern Europe*, Research Project with the Financial Assistance of the Commission of the European Communities, Directorate-General III, Ref. SUB/96/83328/U.B., Milan, November.

Urban, W. (1997), 'Patterns of structural Change in Manufacturing in Transition Countries', in: *Structural Development in Central and Eastern Europe, WIIW Report 1997*, The Vienna Institute for International Economic Studies, Vienna, December.

Yearbook of Industry and Construction Statistics Hungary (1998), Hungarian Statistical Office, Budapest.

Zagozdzińska, I. (1998), 'Foreign Direct Investment in Poland in 1993-1996 (according to GUS data)' in: Foreign Trade Research Institute, *Foreign Investments in Poland*, Warsaw.

Appendix of Tables and Figures

Table A1

Key data on total manufacturing

		1989	1992	1993	1995	1996	1997	Average growth in % 1993-1997
BULGARIA								
Total exports to EU	in ECU mn	394	757	779	1563	1447	1772	18.5
Total imports from EU	in ECU mn	1316	971	1158	1700	1401	1492	9.0
Trade balance with EU	in ECU mn	-921	-214	-380	-137	46	280	.
Exports to the EU: Market shares	in %	0.12	0.20	0.20	0.33	0.30	0.31	.
CZECH REPUBLIC								
Industrial production (at current prices)	in CZK mn	558350	652893	655289	810383	894694	1330877	19.5
Industrial growth (at constant prices)	in %	.	-7.9	-8.2	8.2	4.6	7.1	2.1
Employment	in 1000	1659	1181	1098	1018	983	1161	.
Employment growth	in %	.	-13.2	-7.0	-2.4	-3.4	-2.5	-4.1
Wage growth (ECU basis)	in %	.	20.0	33.7	16.5	17.0	8.2	18.1
Productivity growth	in %	.	4.8	-1.6	11.3	8.3	9.2	6.4
ULC growth (ECU basis)	in %	.	14.5	35.8	4.7	8.1	-0.9	11.0
Total exports to EU	in ECU mn	.	.	4385	7367	7950	9660	21.8 ¹⁾
Total imports from EU	in ECU mn	.	.	5613	9472	11409	12885	23.1 ¹⁾
Trade balance with the EU	in ECU mn	.	.	-1228	-2105	-3460	-3225	.
Exports to the EU: Market shares	in %	.	.	1.13	1.56	1.61	1.68	.
HUNGARY								
Industrial production (at current prices)	in HUF mn	146110	1497321	1721479	2945435	3827038	5194777	36.5
Industrial growth (at constant prices)	in %	.	-17.4	3.4	7.1	3.7	22.8	9.1
Employment	in 1000	1171	860	747	652	633	.	.
Employment growth	in %	.	-14.5	-12.9	-4.0	-2.9	.	-7.3 ²⁾
Wage growth (ECU basis)	in %	.	14.5	18.4	-6.6	3.7	.	5.1 ²⁾
Productivity growth	in %	.	.	18.6	11.6	6.9	.	14.3 ²⁾
ULC growth (ECU basis)	in %	.	.	-0.2	-16.3	-3.0	.	-8.0 ²⁾
Total exports to EU	in ECU mn	2177	3548	3522	5945	6605	8981	20.4
Total imports from EU	in ECU mn	2665	3738	4585	6377	7382	10092	22.0
Trade balance with the EU	in ECU mn	-488	-189	-1063	-432	-778	-1111	.
Exports to the EU: Market shares	in %	0.65	0.94	0.90	1.25	1.33	1.55	.
POLAND								
Industrial production (at current prices)	in PLN mn	.	78975	104441	211533	244193	292266	38.7
Industrial growth (at constant prices)	in %	.	3.9	10.4	11.5	9.5	12.5	11.5
Employment	in 1000	3326	2767	2700	2809	2803	.	.
Employment growth	in %	.	-13.1	-2.4	4.3	-0.2	.	0.3 ²⁾
Wage growth (ECU basis)	in %	.	2.6	13.8	14.9	18.2	.	13.7 ²⁾
Productivity growth	in %	.	.	13.1	6.8	9.8	.	10.9 ²⁾
ULC growth (ECU basis)	in %	.	.	0.6	7.6	7.6	.	2.5 ²⁾
Total exports to EU	in ECU mn	2835	5910	6497	9994	10133	11828	14.9
Total imports from EU	in ECU mn	3289	6952	8658	12394	16030	20465	24.1
Trade balance with the EU	in ECU mn	-454	-1043	-2161	-2400	-5897	-8637	.
Exports to the EU: Market shares	in %	0.84	1.58	1.68	2.12	2.06	2.06	.

Table A1 (continued)

Table A1 (continued)

		1989	1992	1993	1995	1996	1997	Average growth in % 1993-1997
ROMANIA								
Industrial production (at current prices)	in ROL bn	.	5484	15302	50600	76198	.	93.1 ²⁾
Industrial growth (at constant prices)	in %	.	-23.1	-0.56	11.24	14.0	-16.3	6.8
Employment	in 1000	.	2811	2590	2192	2148	.	.
Employment growth	in %	.	-12.5	-7.9	-9.7	-2.0	.	-6.5 ²⁾
Wage growth (ECU basis)	in %	.	-37.0	34.5	16.6	5.8	.	15.1 ²⁾
Productivity growth	in %	.	-12.1	7.9	23.1	16.3	.	16.6 ²⁾
ULC growth (ECU basis)	in %	.	-28.3	24.6	-5.3	-9.1	.	-1.3 ²⁾
Total exports to EU	in ECU mn	1654	1333	1582	3081	3275	4012	24.6
Total imports from EU	in ECU mn	611	1545	1958	3274	3747	4254	22.5
Trade balance with the EU	in ECU mn	1043	-211	-376	-193	-472	-242	.
Exports to the EU: Market shares	in %	0.49	0.35	0.41	0.65	0.66	0.69	.
SLOVAK REPUBLIC								
Industrial production (at current prices)	in SKK mn	.	.	266525	362939	390233	419028	12.0 ¹⁾
Industrial growth (at constant prices)	in %	.	-15.6	-18.6	8.9	2.5	2.6	-1.0
Employment	in 1000	.	527	472	452	447	439	.
Employment growth	in %	.	-12.6	-10.4	1.0	-1.1	-3.6	-3.9
Wage growth (ECU basis)	in %	.	11.3	23.6	14.4	14.8	13.1	15.5
Productivity growth	in %	.	-3.5	-9.1	7.8	3.6	6.5	3.0
ULC growth (ECU basis)	in %	.	15.3	36.0	6.1	10.8	6.2	12.1 ¹⁾
Total exports to EU	in ECU mn	.	.	1069	2521	2748	3221	31.7 ¹⁾
Total imports from EU	in ECU mn	.	.	1084	2516	3125	3729	36.2 ¹⁾
Trade balance with the EU	in ECU mn	.	.	-15	5	-378	-508	.
Exports to the EU: Market shares	in %	.	.	0.28	0.53	0.56	0.56	.
SLOVENIA								
Industrial production (at current prices)	in SIT mn	.	809602	998161	1423672	.	.	.
Industrial growth (at constant prices)	in %	.	-14.7	-4.1	2.0	-0.5	-2.7	0.1
Employment	in 1000	370	282	257	232	220	213	.
Employment growth	in %	.	-10.3	-9.0	-5.1	-5.5	-4.0	-6.1 ²⁾
Wage growth (ECU basis)	in %	.	-4.8	14.6	16.5	3.2	.	11.0 ²⁾
Productivity growth	in %	.	-5.3	5.6	8.2	6.0	2.0	6.7 ²⁾
ULC growth (ECU basis)	in %	.	0.5	8.5	7.7	-2.6	.	2.9 ²⁾
Total exports to EU	in ECU mn	.	.	2808	3736	3684	3960	9.0 ¹⁾
Total imports from EU	in ECU mn	.	.	2852	4065	4217	4886	14.4 ¹⁾
Trade balance with the EU	in ECU mn	.	.	-44	-329	-534	-926	.
Exports to the EU: Market shares	in %	.	.	0.72	0.79	0.74	0.69	.

1) 1994-1997. - 2) 1993-1996.

EU: European Union (12)

Czech Republic: Up to 1996 enterprises with 100 employees or more, since 1997 industrial output index calculated from production statistics of businesses with 20 employees or more.

Hungary: Enterprises with more than 25 employees, from 1997 enterprises with more than 10 employees.

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.

Slovak Republic: Enterprises with 25 and more employees, from 1997 enterprises with 20 and more employees.

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 including private enterprises with 1 and 2 employees. Wages in enterprises, companies and organizations.

Source: WIIW database

Table A2

Pulp, paper & paper products; publishing & printing
 Estimated ranges for Unit Labour Costs in 1997, Austria 1996 = 100

	Czech Republic	Hungary	Poland	Romania ¹⁾	Slovak Republic	Slovenia
PPP for GDP (lower range)	21	18	21	9	17	62
PPP for fixed capital formation (upper range)	30	31	28	23	26	72

Notes: PPP=Purchasing power parities; gross wages used for calculation.- 1) 1996

Source: WIW

Table A3

Exports of individual industries in total manufacturing exports to the EU
 1997, in %

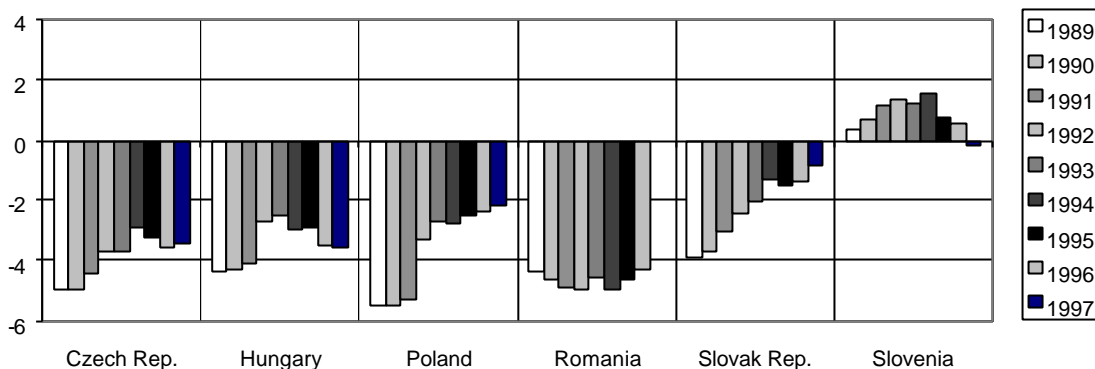
	Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
D Manufacturing total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
DA Food products; beverages and tobacco	4.9	1.7	5.5	6.2	1.0	1.5	1.4
DB Textiles and textile products	25.5	9.1	10.2	16.5	37.9	11.5	14.3
DC Leather and leather products	7.6	1.6	3.5	1.7	13.0	4.6	2.7
DD Wood and wood products	2.4	3.5	1.6	5.7	2.4	2.5	3.9
DE Pulp, paper & paper products; publishing & printing	1.8	2.6	0.8	2.3	0.3	3.6	3.5
DF Coke, refined petroleum products & nuclear fuel ¹⁾							
DG Chemicals, chemical products & man-made fibres	15.3	7.0	6.0	5.9	5.0	9.1	4.0
DH Rubber and plastic products	1.3	5.0	2.2	2.7	1.2	3.3	3.1
DI Other non-metallic mineral products	2.7	5.0	1.4	3.4	2.5	3.3	2.6
DJ Basic metals and fabricated metal products	26.1	17.8	8.7	18.2	17.5	18.1	17.2
DK Machinery and equipment n.e.c.	5.4	12.8	7.9	6.2	5.1	7.2	12.9
DL Electrical and optical equipment	3.1	15.4	28.2	11.3	4.3	12.8	11.7
DM Transport equipment	0.5	13.7	21.6	10.8	2.1	19.5	18.3
DN Manufacturing n.e.c.	3.3	4.7	2.4	9.1	7.8	3.1	4.3

Notes: 1) Coke, refined petroleum products & nuclear fuels not regarded as manufacturing in the trade statistics.

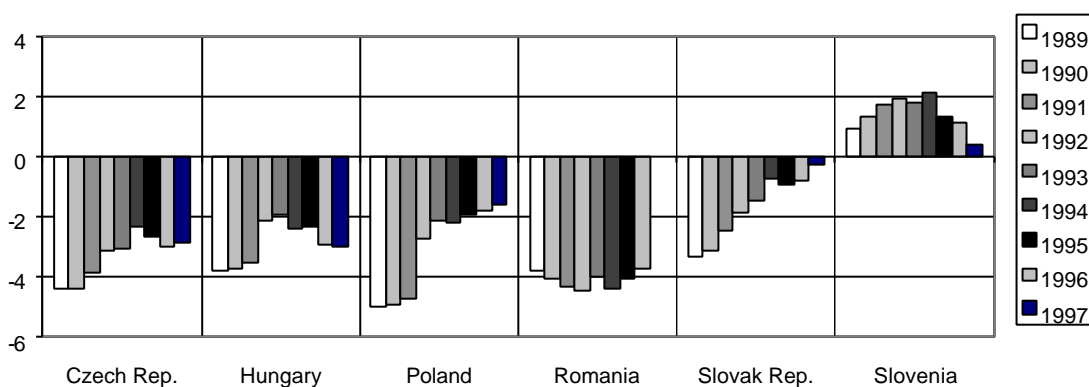
Source: WIW Industrial database

Figure A1

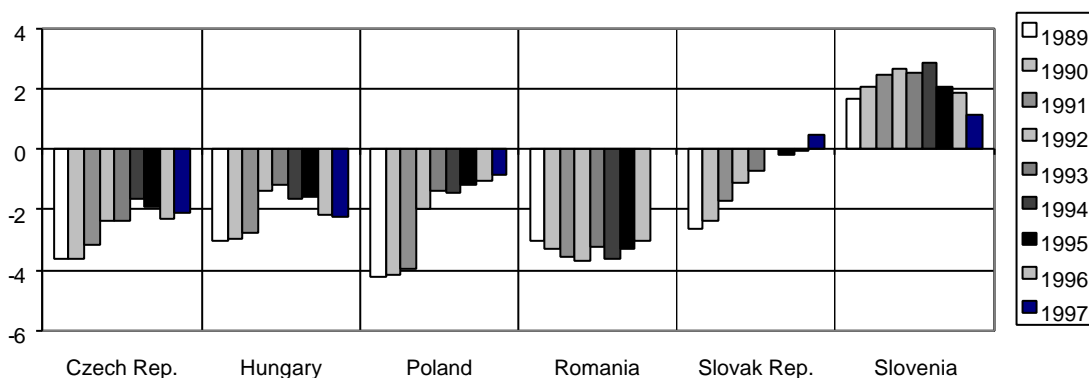
Pulp, paper and paper products; publishing and printing
Shares of CEECs (at constant prices) relative to other countries
Shares in total production relative to Austria (1993)



Shares in total production relative to EU-North (1992)



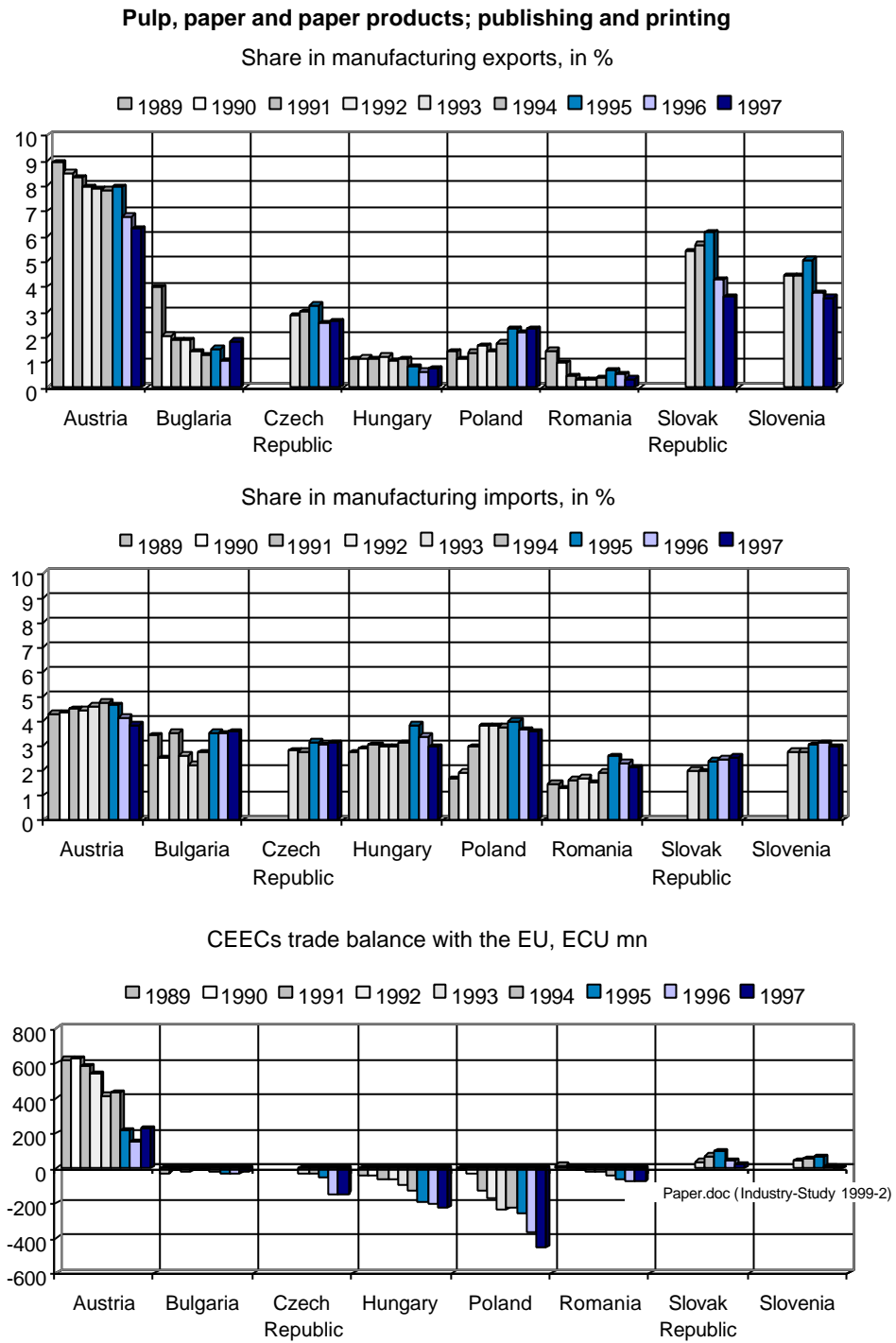
Shares in total production relative to EU-South (1992)



Notes: Romanian shares until 1993 at constant prices, 1994-1996 at current prices

Source: WIIW Industrial database

Figure A2



Source: WIIW database

WIIW Industrial Subscription Service – Central and Eastern Europe

The WIIW Industrial Subscription Service comprises

- the WIIW Structural Report (published biannually, last edition November 1999; see order form last page)
- 4-6 Industry Studies per year (1999: mechanical engineering, paper & printing, transport equipment, wood & wood products)

The **Structural Report** covers structural developments in Central and Eastern Europe, analysing changes in the structure of output and employment, international competitiveness (wages, productivity and labour costs), balance-of-payments structures and the patterns of trade and foreign direct investment. The analysis follows the statistical classification of economic activities in the European Union, which allows for cross-country and cross-industry comparisons (including east-west comparisons). It comprises all manufacturing industries at the 2-digit NACE (rev. 1) level and places them in the context of the CEECs' general economic development.

The **Industry Studies** cover production, labour, foreign trade and foreign direct investment in the Czech Republic, Hungary, Poland, Slovakia, Slovenia, Bulgaria and Romania. The analysis builds on the WIIW Industrial Database, its FDI and FIE Database.

The first part of each study analyses the overall development of the industrial branch under consideration (trends in growth and structure), its international competitiveness, its trade performance with the EU (labour costs, price and quality indicators, revealed comparative advantage, etc.), FDI, and the general prospects. The second part provides company profiles of leading domestic firms and foreign investors in that industry.

*The **WIIW Industrial Subscription Service – CEEC** provides deeper insight into the process of economic development in the individual countries of Central and Eastern Europe. This subscription service is relevant for managers who have to make strategic decisions and assess risk; it will be of great value for financial investors and industrialists interested in longer-term trade relations and direct investments in the region; and it will be invaluable for those engaged in economic research and public policy.*

Subscription fee: ATS 9,000 per year (€654.06)

Special fee for Member companies: ATS 6,000 per year (€436.04)

WIIW Industrial Database Eastern Europe

Patterns of industrial development and restructuring at a glance

This unique annual database reveals transition progress through shifts in industrial structures by manufacturing branch. The database covers 14 CEEC manufacturing industries, consistent under 2-digit NACE classifications that facilitate comparisons over time, across countries and with Western Europe.

Contents: More than 2,500 series on the patterns of industrial development and restructuring in Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia, covering the time span from 1989 to 1998.

Updates: Twice a year (June and December)

Topics covered:

Industrial production (current prices), national currency mn
Production structure (current prices), manufacturing = 100
Industrial production (constant prices), national currency mn
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 (ECU)
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 (ECU), annual growth rates in %
Unit Labour Costs (DEM), annual growth rates in %
Unit Labour Costs (USD), annual growth rates in %
Unit Labour Costs ECU, Austria = 100
Exports to the EU, 1000 ECU
Imports from the EU, 1000 ECU
Foreign trade with the EU, Balance, 1000 ECU

WIIW Industrial Database Eastern Europe

Tables contained in the database:

By NACE industries		Dimension
D	Manufacturing total	Countries X 1989-98
DA	Food products; beverages and tobacco	Countries X 1989-98
DB	Textiles and textile products	Countries X 1989-98
DC	Leather and leather products	Countries X 1989-98
DD	Wood and wood products	Countries X 1989-98
DE	Pulp, paper & paper products, publishing & printing	Countries X 1989-98
DF	Coke, refined petroleum products & nuclear fuel	Countries X 1989-98
DG	Chemicals, chemical products and man-made fibres	Countries X 1989-98
DH	Rubber and plastic products	Countries X 1989-98
DI	Other non-metallic mineral products	Countries X 1989-98
DJ	Basic metals and fabricated metal products	Countries X 1989-98
DK	Machinery and equipment n.e.c	Countries X 1989-98
DL	Electrical and optical equipment	Countries X 1989-98
DM	Transport Equipment	Countries X 1989-98
DN	Manufacturing n.e.c.	Countries X 1989-98
By country		Dimension
	Czech Republic	NACE X 1989-1998
	Hungary	NACE X 1989-1998
	Poland	NACE X 1989-1998
	Romania	NACE X 1989-1998
	Slovak Republic	NACE X 1989-1998
	Slovenia	NACE X 1989-1998
	Bulgaria	NACE X 1989-1998
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

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

WIIW Structural Report 1999

The WIIW Structural Report 1999 covers developments at the industrial level (NACE 2-digit) in Central and East European countries (CEECs). Patterns of industrial structural change are compared over the periods 1989-92 and 1992-98, including changes in output, employment, wages and productivity. Various scenarios of catching up are estimated on the basis of previous international (Asian, Southern European, etc.) experiences. There are detailed analyses of changing patterns of trade specialization, foreign direct investment, and balance-of-payments structures. The analysis follows the statistical classification of economic activities in the European Union, which allows for cross-country and cross-industry comparisons (including East-West European comparisons).

With this **Structural Report** analysts, consultants, strategic investors and business people will have a guide at hand informing them of topical trends and differing developments within the manufacturing sector in Central and East European economies.

123 tables and 33 graphs provide wide-ranging additional information.

Contents:

- Patterns of Structural Change in CEEC Manufacturing
- Structural Change in CEEC Labour Markets
- Structural Change, Trade Specialization and Competitiveness of Manufacturing Industry in the CEECs
- Wages, Productivity and Labour Costs in the CEECs
- Foreign Direct Investment in CEEC Manufacturing
- Patterns of Technological Activity in CEECs
- Catching Up at the Industrial Level – Prospects for the CEECs
- Balance-of-payments Structures in CEECs – a Comparative Analysis

ORDER FORM

- We order "**Structural Developments in Central and Eastern Europe, WIIW Report 1999**" (290 pp. incl. 123 tables and 33 graphs) at a price of ATS 7,500/€ 545.05
- As subscriber to the WIIW Service Package (WIIW member) we order "**Structural Developments in Central and Eastern Europe, WIIW Report 1999**" at a reduced price of ATS 5,000/€ 363.36

.....
Name/Institution

.....
Address

.....
Date/Signature

To
The Vienna Institute
for International Economic Studies

Oppolzergasse 6
A-1010 Vienna

For orders by fax or e-mail:
Ms. Ursula Straka, WIIW

Tel: (+43 1) 533 66 10 11,
Fax: (+43 1) 533 66 10 50,
e-mail: straka@wsr.ac.at

Herausgeber, Verleger, Eigentümer und Hersteller:

Verein "Wiener Institut für Internationale Wirtschaftsvergleiche" (WIIW),
Wien 1, Oppolzergasse 6

Postanschrift: A-1010 Wien, Oppolzergasse 6, Tel: [+431] 533 66 10, Telefax: [+431] 533 66 10 50

Internet Homepage: <http://www.wiiv.ac.at/>

Nachdruck nur auszugsweise und mit genauer Quellenangabe gestattet.

P.b.b. Verlagspostamt 1010 Wien