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Amy Elizabeth Houpt*

The Transformation of the Eastern German Economy

The eastern German economy has experienced a great deal in the five years since German reunification: an unexpectedly profound collapse following the Monetary, Economic and Social Union of July 1990; a massive loss of jobs with resulting social and political consequences; and an increasingly stable economic recovery. In which branches is recovery most dynamic? Where does the structural transformation seem to be leading? And which branches have the best chances of self-sustained growth in the future? This short analysis attempts to answer these questions, to demonstrate the different trends among the branches of the economy and thereby to underscore the differentiation within the economic transformation process in the new Länder.¹

The introduction of the D-Mark in the German Democratic Republic (GDR) on July 1, 1990 initiated the process of economic union even before official reunification on October 3, 1990. The exchange rate, influenced more by political than by economic considerations, greatly accelerated the collapse of the eastern German economy and in particular of its industry.² Monetary union was a political necessity at the time and a prerequisite for reunification.

In the first six months following economic and monetary union, east Germany's gross domestic product (GDP) and industrial production sunk to about half the level of the previous year.³ The highly overestimated capital stock of the GDR industrial Kombinate, or large state-owned conglomerates, together with the rapid rise in wages toward parity with western German levels, caused a wage-productivity gap in the economy as well as a gap between costs and returns for individual businesses. Following the introduction of the German mark (DM), eastern German goods were immediately confronted with competition from higher-quality, more cheaply produced western products. Eastern German consumers flocked to purchase these western goods that were previously unavailable to them under the GDR regime. As a result, eastern German imports ("imports" from west Germany and foreign imports) soared and sales of eastern German products fell dramatically. In addition, former markets to the East fell apart with the collapse of Comecon, the Soviet-led trading system of the eastern bloc.⁴

This combination of unfavorable factors produced the greatest shock in the goods-producing sector of the economy. Particularly hard hit were the tradeable manufactured goods. Of the four main subsectors of manufacturing (primary goods, capital goods, consumer goods and foods, beverages and tobacco), the export-oriented capital goods were most injured from international competition. Capital goods contribute the largest share of total sales to the manufacturing sector.⁵

From 1990 until the end of 1994, the Treuhandanstalt was assigned the task of privatizing and restructuring the state-owned companies of the former GDR. The Treuhand's main goal was to sell the companies as fast as possible and thereby preserve east Germany's industrial base. Within four years the Treuhand succeeded in reducing its portfolio of firms

¹ The five new Länder, or new German states, are Brandenburg, Mecklenburg-Pommern, Saxony, Saxony-Anhalt and Thuringia. Statistics for east Germany often include East Berlin.

² According to the German Bundesbank, the official exchange rate amounted on average to 1.8:1. 2,000 East Marks could be exchanged at a 1:1 rate for children under the age of 15, 4,000 East Marks for adults up to age 60, and 6,000 for people over 60. Most other currency was exchanged at a 2:1 rate. Private and business debts and loans were converted at a 2:1 rate. The 1:1 rate applied to price and wage contracts and pensions. Cf.: Gerlinde Sinn and Hans-Werner Sinn: Kaltstart: Aspekte der deutschen Wiedervereinigung, Tübingen 1991, p. 34.

³ Statistisches Bundesamt, Wiesbaden.

⁴ The market in the Comecon countries cannot be considered an export market as such. The Comecon system functioned more like a domestic trading system, with the division of labor and trade directed by Moscow.

⁵ Deutsches Institut für Wirtschaftsforschung (DIW), Berlin, Institut für Wirtschaftsforschung Halle (IWH), Institut für Weltwirtschaft (IFW), Kiel: Gesamtwirtschaftliche und unternehmerische Anpassungsfortschritte in Ostdeutschland, Zehnter Bericht, in: DIW-Wochenbericht No. 15/94, April 14, 1994.

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by about 95%.⁶ The rapid privatization wave, however, was accompanied by firm closings and the loss of a majority of jobs in manufacturing. Some misallocation of funds and faulty decisions also resulted. The successes and failures of the Treuhand and its successor organizations will surely be the topic of debate for years to come.

While manufacturing productivity levels fell by one-third shortly after the introduction of the D-Mark, eastern German wages rose considerably.⁷ German industrial and labor unions for individual branches of the economy made agreements on increases in wages, which reached on average 71.9% (gross) of western German wages in 1994.⁸ Employment fell rapidly as a result, with some branches of industry cutting 80% of jobs. The rate of unemployment, officially non-existent under the GDR regime, rose vigorously to two-digit figures. Women, over 95% of whom had participated in the workforce in GDR times, now represent over two-thirds of the unemployed in many regions and have an average unemployment rate of over 20%. All in all, the collapse of the eastern German economy was more dramatic than even the pessimists had predicted.⁹

Beginnings of the Growth Trend

Some sectors of the eastern German economy were able to bounce back from the economic collapse relatively quickly, indicating the first signs of general economic recovery. Following a 10% fall of east Germany's gross domestic product (GDP) in the first half of 1991 (compared with the second half of 1990), the economy achieved a growth rate of 7.8% in 1992

over the previous year.¹⁰ The increase in GDP was primarily the result of government capital inflows and an increase in domestic demand following monetary union. Between the second half of 1990 and the end of 1994, DM 525 billion flowed into the new Länder from west Germany, most of it to support investment and develop the infrastructure.¹¹ The rate of growth slowed slightly to 5.8% in 1993 on account of the recession in west Germany, but gained ground again in 1994 as GDP rose by 9.2%. The rate of growth of GDP in west Germany in comparison was 2.3% in 1994 and -1.7% in 1993. Even with these impressive growth rates, it will take a long time before the growth becomes self-sustaining and before the standard of living in east Germany reaches western German levels. In 1994, GDP per capita in the East was still only 48.3% of western German per capita GDP.¹²

Production began to recover in some sectors as early as 1991-92. The upswing came about particularly quickly in the construction industry, financed through heavy state transfers for public projects and through private investment. The services and crafts sectors also expanded in this early period. Even eastern German industry, after having suffered the hardest fall, has joined the path to progressive recovery. In 1993 industrial production as a whole rose faster than domestic demand for the first time since 1990, and net production in manufacturing increased in 1994 by 21.9% over the previous year.¹³

The increase in overall production last year led to a slight rise in employment in the economy as a whole. The number of employed persons rose 1.1% in 1994, after having fallen 3.0% in 1993.¹⁴ The unemployment

Table 1

Comparative Development 1990-1994 Major Subdivisions of Manufacturing and Mining (East Germany)

	Net Production Index 2nd half 1990 = 100 ¹				Sales % Change ²		
	1991	1992	1993	1994	1992	1993	1994
Total manufacturing	66.1	64.3	70.1	84.8	-1.8	6.0	18.9
Manufacture of:							
Primary goods	75.8	78.5	85.5	109.9	-8.1	4.0	23.0
Capital goods	56.2	50.7	55.5	66.0	-0.5	6.1	17.6
Consumer goods	69.1	71.4	80.2	98.5	4.0	8.3	26.6
Foodstuffs ³	90.7	94.3	99.6	114.6	0.7	6.8	12.5
Mining	70.3	50.4	39.1	32.9	-29.9	-19.0	-19.8

¹ Calendar adjusted.

² Business units, changes against previous year.

³ Food, beverages and tobacco.

Source: Statistisches Bundesamt.

⁶ As of the end of September 1994, 354 of the 12,363 firms taken over by the Treuhand since July 1, 1990 were still in its portfolio. Included here are fully privatized firms, mostly privatized firms, fully reprivatized firms and firms in liquidation. Cf. Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung: Jahresgutachten 1994/95, Stuttgart, November 1994.

⁷ Statistisches Bundesamt.

⁸ Statistisches Bundesamt: Volkswirtschaftliche Gesamtrechnungen, Fachserie 18, Reihe 1.1, 1994.

⁹ Gerlinde Sinn and Hans-Werner Sinn, *op. cit.*

¹⁰ Sachverständigenrat: Jahresgutachten 1994/95; own calculations.

¹¹ Friedrich Bohl: Die Neuen Bundesländer: Eine Erfolgsstory, in: Berichte aus Bonn, March 8, 1995.

¹² Statistisches Bundesamt: Volkswirtschaftliche Gesamtrechnungen, *op. cit.* 1994.

¹³ Base year 2nd half of 1990. DIW-Wochenbericht, No. 15/94, *op. cit.*; Statistisches Bundesamt.

¹⁴ DIW Berlin, HWWA-Institut für Wirtschaftsforschung-Hamburg, Ifo Institut für Wirtschaftsforschung, Munich, Institut für Weltwirtschaft Kiel, Institut für Wirtschaftsforschung Halle, Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI), Essen: Die Lage der Weltwirtschaft und der deutschen Wirtschaft im Frühjahr 1995, April 1995. Hereafter "Frühjahrgutachten der Institute 1995".

rate for the new Länder and East Berlin also fell slightly, from a yearly average of 15.0% in 1993 to 14.8% in 1994.¹⁵ It is important to note, however, that this official unemployment rate does not include the so-called "second labor market" of short-time jobs, early retirement pensions, and government job creation schemes and retraining programs. When the actual number of persons without employment is counted, the rate of unemployment comes to approximately 28% for 1994.¹⁶ In addition, the employment situation varies widely among the different sectors.

Despite the convincing growth and progressively broadly based recovery, many eastern German businesses are still struggling to survive. At the top of their list of troubles is a lack of the capital resources needed for investments in modernization, increased production and new product development. Small and medium-sized firms are especially handicapped by the dearth of capital that hinders their chances for the

future.¹⁷ A second problem for eastern German businesses is the continually increasing competition from western German and foreign firms. Only a handful of industrial firms have been able to gain supraregional markets. They lack the necessary marketing know-how and the capital to invest in marketing efforts.

Rising wages and the persistent wage-productivity gap represent a further problem for eastern German firms. With the move to bring eastern wages into line with western wages by as early as 1996 in some branches of industry, many employers (especially small business owners) fear they will not be able to carry their rising personnel costs. As a result, some firms are leaving their industrial organizations and may be tempted to pay lower wages than those set in the wage agreements. A large portion of employees is willing to consider waving a rise in salary if it means being able to keep their jobs.¹⁸

Recovery of Eastern German Industry

The progressive recovery of east Germany's industrial sector since 1994 marks the definitive economic upswing in the new Länder. The collapse brought about changes in the economic structure that certainly will affect the future path of development. Manufacturing's share of total value added for east Germany fell by about 12% from the first half of 1990 to the second half of 1992, causing many observers to speak of a "deindustrialization" of the economy.¹⁹ The manufacturing sector has recovered slightly since

¹⁵ Ibid.

¹⁶ Jobless persons include the officially unemployed, workers employed under job creation schemes ("ABM-Stellen"), persons taking early retirement and persons participating in full-time retraining programs. Yearly average 1994. Source: Frühjahrsgutachten der Institute 1995; own calculations.

¹⁷ "Der Mittelstand in den neuen Bundesländern", in: Berichte aus Bonn, No. 13/94, July 18, 1994.

¹⁸ "Stufentarif erweist sich als schwerer Fehler", in: Handelsblatt, February 27, 1995; Ralf Neubauer, in: "Zum Überleben Zuviel", in: Die Zeit, March 31, 1995.

¹⁹ DIW: Sectoral Development in the new Länder, in: Trends, November 1992, Dresdner Bank.

Helen Winter

Interdependenzen zwischen Industriepolitik und Handelspolitik der Europäischen Gemeinschaft

It is worth analyzing the various and often subtle connections between industrial policy and trade policy, because these policies are becoming more important and they are used as substitutes or as complements to one another. After defining both policies and their relationships, the study examines the industrial and trade policy of the EC as a whole.

The key targets of industrial policy are to prevent or promote structural change and to improve international competitiveness. The various instruments of European industrial policy are designed to deal with international problems, but they also influence the trade relationships between other countries.

In addition to that, the EC uses trade policy instruments as some kind of industrial policy, or to protect industrial policy. This is sometimes cheaper as subsidies. But in some cases industrial policy substitutes trade policy because the application of traditional trade policy instruments is restricted by international agreements.

■ The book is published in German.

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Table 2
Net Production

Branch of industry	Seasonally adjusted, index 2nd half 1990 = 100				Change over previous year in %		
	1991	1992	1993	1994	1992	1993	1994
Manufacturing	66.1	64.3	70.1	84.8	-4.8	3.6	21.9
Mining	70.3	50.4	39.1	32.9	-28.3	-22.3	-16.0
Quarrying	62.1	96.6	136.4	208.9	55.4	41.3	53.1
Petroleum refinery	124.3	131.9	133.3	144.1	6.1	1.0	8.1
Iron and steel	66.2	60.2	59.7	73.9	-9.1	-0.7	23.7
Non-ferrous metals	83.0	89.9	94.1	81.5	8.4	4.7	-13.5
Chemicals and chemical products	78.1	65.8	57.6	69.0	-15.7	-12.4	19.7
Metal construction/rail vehicles	109.4	140.3	163.1	190.2	28.3	16.3	16.6
Mechanical engineering	51.6	32.6	31.8	33.9	-36.8	-2.5	6.5
Motor vehicles	49.1	54.9	83.6	113.1	11.8	52.3	35.3
Ship building	50.1	35.0	39.1	38.7	-30.3	12.0	-1.2
Electrical engineering/electronics	47.7	47.8	50.0	62.3	0.1	4.7	24.5
Precision engineering/optics	23.6	29.1	20.9	24.9	23.5	-28.4	19.4
Fabricated metal products	109.4	121.1	129.0	140.3	10.7	6.5	8.8
Glass production	87.1	80.2	90.5	121.9	-7.8	12.8	34.6
Wood and wood products	75.6	79.0	96.1	105.5	4.5	21.7	9.8
Paper and paper processing	74.1	79.3	92.8	127.0	7.0	17.0	36.9
Paper products and printing	113.6	128.9	126.3	150.3	13.4	-2.0	19.0
Plastic products	65.8	110.5	189.3	306.2	68.0	71.3	61.7
Textiles	43.0	32.1	31.0	36.6	-25.2	-3.5	18.1
Clothing	40.8	25.8	27.4	30.1	-36.9	6.4	9.9
Food, beverages and tobacco	90.7	94.3	99.6	114.6	3.9	5.6	15.1

Yearly averages.

Source: Statistisches Bundesamt.

1992, yet its share of total value added remains low compared to its original level and to that in west Germany. The share of total value added from the services sector is relatively low and that from the government relatively high.

The recovery in the manufacturing sector is no longer simply the result of layoffs. Production has risen in practically all branches of industry, and a greater number of businesses expect to increase production further in 1995. Despite the comprehensive upswing, production, new orders and sales in many branches of industry have not yet caught back up to their 1990 levels.

The producers and suppliers of goods for local markets displayed the fastest recovery after the collapse, along with the firms that succeeded in modernizing and reducing their wage costs. The rail vehicle industry, the construction materials industry, the paper and printing industries and the food, beverage and tobacco industry were among the first to bounce back. In 1994 nearly 40% of the nominal gross value added of the eastern German manufacturing sector came from regionally oriented branches, such as quarrying (stones, sand and gravel; with 14.7% of gross value added), foodstuffs (13.4%) and metal construction (10.0%). Their total share of gross value added in west Germany is 13%.²⁰

The foodstuffs industry was able to recover after suffering from the "boycott" of eastern German products after the Berlin Wall fell and western goods

became accessible. The gradual return to local goods and severe job cuts of three-quarters of the workforce helped the recovery along. The foodstuffs industry, which in 1994 accounted for nearly 20% of total sales receipts from the manufacturing and mining sectors, enjoyed increases in sales of 6.8% in 1993 and 12.5% in 1994.²¹

Also among the "winners" of the economic transformation are the branches of industry that profited indirectly from government transfers and the resulting high domestic demand. The plastics industry, metal construction and quarrying in particular were able to ride on the coat-tails of the booming construction and services sectors. The rail vehicle construction industry also expanded, but mainly thanks to financing from government-supported Hermes guarantees for exports to the countries of the former Soviet Union.²² The plastics industry exhibited the highest production and sales increases in the manufacturing sector; however, because plastics were hardly produced in the GDR, the high growth rates primarily reflect a catching up from the low starting-point.²³

On average the primary goods manufacturing

²⁰ Institut für Wirtschaftsforschung Halle (IWH): Der Strukturumbbruch im Osten ist noch nicht abgeschlossen, in: Handelsblatt, May 9, 1995.

²¹ Statistisches Bundesamt; includes beverage and tobacco production.

²² Sachverständigenrat, op. cit.

²³ IWH: Wirtschaft im Wandel, No. 12, 1994.

REPORT

Table 3
Sales and Exports

Branch of Industry	Sales, change against previous year in %			Sales share, in % 1994	Export share, in % 1994	Export quota, in %		
	1992	1993	1994			1992	1993	1994
Manufacturing	-1.8	6.0	18.9	95.8	96.4	15.1	13.3	12.0
Mining	-29.9	-19.0	-19.8	4.2	4.6	4.9	4.5	10.0
Quarrying	56.5	45.4	47.1	8.8	0.8	0.8	1.7	1.1
Petroleum refinery		-14.2	-3.2	2.3	0.2	0.4	0.9	1.0
Iron and steel	-21.7	-2.2	4.6	2.4	5.3	27.2	24.4	26.0
Non-ferrous metals	-4.0	-16.4	7.8	1.3	1.8	14.8	13.0	16.8
Chemicals and chemical products	-26.4	-3.9	16.2	6.8	13.3	27.5	24.0	23.3
Metal construction/rail vehicles	13.9	-5.6	5.2	6.3	5.4	25.5	13.9	10.3
Mechanical engineering	-20.3	-5.8	1.3	8.9	19.1	29.0	31.4	25.4
Motor vehicles	32.8	31.4	43.3	7.5	6.0	12.5	15.3	9.6
Ship building	13.7	11.5	32.3	2.2	9.4	50.6	29.0	50.4
Electrical engineering/electronics	-2.3	12.2	19.9	9.2	7.2	9.9	10.8	9.3
Precision engineering/optics	35.9	1.4	53.6	0.9	1.8	17.5	21.4	24.1
Fabricated metal products	30.3	30.2	18.9	2.3	1.2	5.1	5.1	6.5
Glass production	-3.1	14.1	33.8	1.1	1.3	15.7	13.3	13.7
Wood and wood products	3.9	19.9	17.8	3.0	1.3	4.5	5.1	5.4
Paper and paper processing	5.4	29.8	29.4	0.8	0.9	6.9	10.3	13.1
Paper products and printing	21.2	-26.7	18.7	1.6	0.4	6.8	7.2	3.3
Plastic products	70.3	70.2	58.7	3.0	1.4	8.6	6.0	5.6
Textiles	-17.0	-3.4	20.2	1.6	2.0	17.5	13.4	15.3
Clothing	-21.4	-3.1	7.4	0.6	0.5	6.5	6.5	8.3
Food, beverages and tobacco	0.7	6.8	12.5	19.9	-	-	-	-

Share of sales and exports as share of total exports of manufacturing and mining. Export quota is foreign sales as a percentage of total sales for the branch.

Sources: Statistisches Bundesamt; own calculations.

branches and the foodstuffs sector experienced the fastest recovery. In contrast, the capital goods manufacturing industries are still struggling to catch up with their 1990 levels of production and sales. Within the manufacturing sector the export-oriented branches, most of which fall under the capital goods subdivision, have fared the worst (cf. Table 1). The export-oriented industries include chemicals and chemical products, mechanical engineering, electrical engineering, iron and steel, non-ferrous metals, foundries, fabricated metal products and textiles and clothing.

The recovery of east Germany's chemical industry was retarded by delays in the privatization process. The successful privatization of two important former Kombines has sparked hope in the future growth of this branch. Schwarzheide in the state of Brandenburg was bought by the western German firm BASF, and the American company Dow Chemical took over the Buna factory in Saxony-Anhalt in April 1995.²⁴ The chemicals sector experienced in 1994 its first increases in production and sales since 1990 (cf. Tables 2 and 3).

Privatization in the electrical engineering sector, nearly completed, has resulted in a large proportion of small and medium-sized firms due to the breakup of the Kombinate in this branch. The electrical engineering and electronics sector contributes the most to total sales in manufacturing and mining, with

a share of 9.2% (cf. Table 3). Despite rising production and a boom in new orders, the eastern German electrical engineering and electronics firms still achieved only 4% of the sales receipts of their western German counterparts. Productivity in the sector is still only half of the western German level.²⁵

Mechanical engineering, once a model of GDR industry and an important source of hard currency, experienced a profound fall and just began to recover in 1994. Net production and sales rose last year for the first time since 1990, but only slightly (cf. Tables 2 and 3). Employment continued to fall in 1994, by 19.1% compared with 1993.²⁶ In the states of Saxony and Thuringia, the mechanical engineering sector will continue to play a role in the economy despite its precarious state. The survival of the eastern German mechanical engineering industry will depend on its finding new markets.

The eastern German mining industry also took a deep plunge but in contrast has shown little sign of recovery. Sales dropped by 19.8% in 1994, net

²⁴ Cf. Abschied von der alten Giftküche, in: Süddeutsche Zeitung, December 6, 1994; Statistisches Bundesamt: Der Olefinverbund wird abgesegnet, in: Frankfurter Allgemeine Zeitung, April 6, 1995.

²⁵ Cf. Im Osten grassiert das High-Tech-Fieber, in: Süddeutsche Zeitung, December 20, 1994; Zwei Jahre vor Produktionsbeginn schon Hunderte von Mitarbeitern, in: Handelsblatt, February 24, 1995.

²⁶ Cf. Das Tafelsilber bekam schnell Flecken, in: Süddeutsche Zeitung, December 8, 1994; Statistisches Bundesamt.

Table 4
Employment

Branch of industry	Share of total employed, in %		Total employed, change against previous year in %		
	1994	1992	1993	1994	Dec. 94/Jan. 91
Manufacturing	94.5	-47.3	-20.6	-7.5	67.9
Mining	5.5	-34.1	-35.5	-28.0	-75.5
Quarrying	5.6	-37.4	1.6	8.9	-40.8
Petroleum refinery	0.8	-36.7	-34.1	-21.1	-73.9
Iron and steel	1.5	-52.5	-42.9	-27.7	-84.3
Non-ferrous metals	0.7	-59.4	-28.2	-10.0	-81.5
Chemicals and chemical products	5.9	-43.6	-25.8	-23.4	-74.2
Metal construction/rail vehicles	11.7	-13.6	3.9	-2.5	-11.1
Mechanical engineering	13.0	-49.1	-33.4	-19.1	-77.6
Motor vehicles	5.5	-49.9	-5.4	-3.4	-62.8
Ship building	1.8	-39.6	-19.7	-12.4	-64.8
Electrical engineering/electronics	11.0	-54.8	-20.9	-2.6	-72.1
Precision engineering/optics	1.8	-61.2	-24.0	-10.7	-77.6
Fabricated metal products	2.6	-51.8	1.9	-4.1	-61.4
Glass production	1.3	-44.2	-20.1	-6.7	-66.8
Wood and wood products	3.6	-40.0	-15.7	-1.6	-56.4
Paper and paper processing	0.8	-47.3	-12.9	7.0	-57.7
Paper products and printing	1.9	-21.4	-25.3	1.6	-37.5
Plastic products	2.6	-25.6	17.4	29.8	-8.2
Textiles	2.5	-67.8	-30.2	-12.3	-85.5
Clothing	1.6	-62.6	-41.6	-6.4	-83.2
Food, beverages and tobacco	10.8	-35.9	-15.7	0.5	-52.2

Number of employed persons as a percentage of total employed in manufacturing and mining.

Sources: Statistisches Bundesamt. own calculations.

production by 16.0% and employment by 28% over 1993. Brown coal, or lignite, which supplied 60% of primary energy consumption in the GDR, is gradually being replaced by more environmentally friendly forms of energy.²⁷

Net Production

Selected branches of the manufacturing sector exhibit wide variation in their development since 1990, as measured by the index of net production (base 2nd half 1990 = 100). As early as 1991 the petroleum refinery, rail vehicle construction, fabricated metal products and printing and publishing industries reached their levels of production of the previous year. Quarrying, metal construction, plastics and beverage production followed suit in 1992. By the second half of 1993 production of wood products and certain areas of steel production had exceeded 1990 levels, in the first half of 1994 the production of motor vehicles, paper products, glass and foodstuffs joined the list. Net production in the mining sector and in the manufacture of capital goods in general, and specifically in the mechanical engineering and electrical engineering branches, in the chemicals

industry, shipbuilding, iron and steel, precision engineering and optical instruments and the textiles and clothing branches remains below 1990 levels. Of the most important branches of eastern German industry, just under half had exceeded their 1990 production levels by the end of 1994 (cf. Table 3).²⁸

Sales

Industrial sales have increased as well, though again with great variation among the different branches. In 1994 business unit sales for manufacturing rose 18.9% over the previous year, a considerable improvement over the development in 1993 (6.0%) and 1992 (-1.8%). Overall, sales in the new Länder and East Berlin amounted to only 6.6% of western German levels, nevertheless an improvement over 5.4% in 1993.²⁹

The highest shares of total sales in manufacturing and mining are produced in the electrical engineering and electronics branch (with 9.2% of total sales, average 1994), mechanical engineering (8.9%), quarrying (8.8%) and motor vehicles (7.5%).³⁰ The largest increases in sales for the 1994 year were noted in the plastics, precision engineering and optical instruments, quarrying, motor vehicles, glass and shipbuilding industries. In 1994, the chemical industry, mechanical engineering, rail vehicle production, textiles and clothing industries, iron and steel and non-ferrous metal production were able to increase their sales over the previous year for the first time since 1990. A decline in sales in 1994 against

²⁷ Statistisches Bundesamt: Ohne Braunkohle gehen die Lichter aus, in: Süddeutsche Zeitung, December 29, 1994.

²⁸ The selected branches of industry are the most important sectors in terms of share of sales and employed persons (cf. Tables 4 and 5).

²⁹ November 1994 figure; Statistisches Bundesamt.

³⁰ Statistisches Bundesamt and own calculations, cf. Table 4. All figures are yearly averages for 1994.

1993 was noted in mining and petroleum refinery (cf. Table 3).

The biggest market for eastern German industrial products is east Germany itself. According to a poll taken by the German Institute for Economic Research (DIW), Berlin, 54% of total industrial sales in 1993 were made in east Germany, half of those within a 30-kilometer radius of the production site. Sectors oriented toward regional markets include the plastics industry, quarrying, the building industry and the crafts sector.

Employment

Growth in production is slowly beginning to have positive effects on the employment situation in east Germany, yet with differing results for the individual branches of industry. The total number of employed persons rose in 1994 against the previous year for the first time since reunification, by a modest 1.1%. Employment in the manufacturing sector continued to fall in 1994 by 7.5%, a relative improvement from a decline of 20.6% in 1993.³¹ Further decline is expected in the branches with markets outside the local region, as well as in the large firms and firms still owned by the Treuhand's successor organizations. Only the regionally oriented industries, small businesses and newly established firms are expected to create jobs in the near future. The number of employees in mining, in the iron and steel industry, in the chemical industry and in mechanical engineering decreased by approximately or more than 20% in 1994. In contrast, quarrying, paper processing, publishing, and the plastics and foodstuffs branches reported increases in the number of workers in 1994 over 1993 (cf. Table 4).

Exports

Self-sufficient economic growth in east Germany will depend to a great extent on the ability to increase exports of manufactured goods. Eastern German exports increased by 1.7% in 1994, rising for the first time since reunification, but still are at only one-third of their 1990 level.³² At present the share of foreign

sales as a percentage of total industrial sales is only 11.9%, compared with 28.5% in western Germany. East Germany's contribution to the foreign sales receipts in Germany as a whole is a mere 1.8% (data for January-November 1994).³³ Priority must be given to making eastern German products known abroad and to supporting eastern German foreign trade (including know-how in marketing and exporting).

Foreign sales of manufactured products rose by 7.4% in 1994, with comparatively larger increases in the consumer goods industries. The export quota (foreign sales as a percentage of total sales of a particular branch), however, fell in many of the most important exporting industries, including mechanical engineering, the chemicals industry, electrical engineering and electronics, and motor vehicle and rail vehicle construction. Some industries, such as shipbuilding, textiles and clothing, iron and steel, non-ferrous metals and fabricated metal products, were able in 1994 to regain foreign sales lost in the previous year. Only the mining, precision engineering and optical instruments, and paper and paper processing industries were able to increase their export quotas significantly. Unfortunately, they account for only a small share of total foreign sales of the manufacturing and mining sectors (cf. Table 3).

Eastern German exports to eastern Europe and the former Soviet Union fell drastically following the breakup of Comecon. In contrast, the share of exports to western European countries has risen. Still, only a few eastern German firms have been successful in gaining a foothold in western markets (cf. Table 5). Russia remains the main importer of eastern German goods, though the share of exports going to Russia (19.9% Jan.-Sept. 1994) continues to fall. Other major countries for eastern German exports are France (with 5.9% of exports), Austria (4.7%), the Netherlands (4.3%) and Italy (3.8%). The Czech Republic (4.3%), Poland (3.8%) and Ukraine (3.8%) are the most important eastern European consumers of eastern German goods.³⁴ Trade with the former eastern bloc countries is kept alive through Hermes guarantees. Even with this export financing, however, trade with Russia and eastern Europe continues to shrink.³⁵

Outlook for the Future

The economic recovery that now encompasses all sectors, including industry, is a positive sign that the economic division between east and west Germany can be overcome. According to the five most regarded German economic institutes, eastern

³¹ Statistisches Bundesamt; IWH: Deutschland 1995: Anhaltender Aufschwung im Westen – stetiges Wachstum im Osten, in: Konjunkturbericht No. 9/94, December 1994.

³² German Economics Ministry: Ostdeutscher Export wächst, in: Frankfurter Allgemeine Zeitung, May 18, 1995.

³³ Statistisches Bundesamt, Fachserie 7, Reihe 1.1: Zusammenfassende Übersichten für den Außenhandel, September 1993 and 1994.

³⁴ Statistisches Bundesamt, Fachserie 7, Reihe 1.1; own calculations.

³⁵ Sachverständigenrat, op. cit.

German GDP will grow by 8.5% in 1995 and by as much again in 1996.³⁶ Given such growth rates, the new Länder could reach 80% of western German GDP by the year 2005. This, however, will require continued massive transfers from the West.³⁷ Even as more businesses succeed in increasing their sales outside the local region, eastern German goods are still a long way from being competitive on international markets.

The manufacturing sector will continue to gain ground in the next years. Increases in production and productivity will cause employment to rise, but at a disproportionately low rate. Jobs will continue to be created only in the regionally oriented branches. New orders rose 17.9% in 1994 and reached their 1990 levels for the first time. The positive developments in orders would suggest increases in production and sales in the future.³⁸ Particularly impressive increases in orders for 1994 were reported by the motor vehicle, plastics, quarrying, textile, precision engineering/optics and metal construction industries. It is important to note that the orders do not necessarily indicate a growth boom in these branches. Many businesses, particularly in mechanical engineering, have a backlog of unpaid orders and are having problems bridging the gap between order date and actual payment.

Investment spending, a much more useful indicator of future growth, is essential for the creation of new jobs and the preservation of existing jobs. Investment per capita in east Germany reached 132.9% of

western German levels in 1994. Investment activity has, however, slowed down since 1993.³⁹ The largest share of investment capital at first went to the transportation and communications sectors, in particular for modernizing the postal and railway systems. Investment in the services sector now exhibits the highest rate of expansion but still has a small share of total investment. In 1993, 10.6 billion DM were invested in the services sector, compared with 35.3 billion DM in trade and transportation and 27.3 billion DM in the manufacturing sector.⁴⁰

Investment is most dynamic in the chemicals, foodstuffs, quarrying, mechanical engineering, vehicles and electrical engineering branches of the manufacturing sector.⁴¹ Highly government-subsidized large investments, for example in the chemicals industry (Buna) and steel industry (EKO-Stahl), often determine the investment progress in a particular branch. Large investments and investments that include purchase of property are becoming less important, while more is being invested in buildings, equipment modernization and production and capacity increases. Approximately 40% of investment capital goes into construction.⁴²

Naturally there is much variation within and among the five new Länder concerning the prospects for future growth. Saxony, Thuringia and Saxony-Anhalt have an industrial tradition, having been leaders in the production of vehicles, airplanes, precision engineering, optic instruments and chemicals before WWII. Industry will continue to play the major role in these regions. In Mecklenburg-Pommern, in contrast, agriculture and tourism contribute the most to the region's economic output. Brandenburg, with its mixture of industry and agriculture, will benefit from the growth in and around the capital Berlin. The fact that Saxony and Thuringia together account for over

Table 5
Exports by Country Groups
(export value in % of total exports)

	Eastern Germany		Western Germany	
	Jan.-Sep. 1994	Jan.-Sep. 1993	Jan.-Sep. 1994	Jan.-Sep. 1993
European Union ¹	30.3	20.4	58.2	58.2
Eastern Europe ²	42.2	54.3	6.3	5.9
Asia	14.0	10.2	13.0	8.6
NAFTA	3.5	2.4	9.4	8.7
Africa	2.2	1.8	2.2	2.1

¹ The countries of the European Union (EU), excluding Germany, are Austria, Belgium, Denmark, Spain, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Finland, Sweden and the United Kingdom. Although Austria, Finland and Sweden joined the EU only on January 1, 1995, they are included here in the 1993 and 1994 figures for the sake of comparison.

² The countries falling here under the group "eastern Europe" are Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Albania, Ukraine, Belorussia, Moldova, Russia, Georgia, Armenia, Azerbadjan, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan and Kirgizstan.

Sources: Statistisches Bundesamt, Fachserie 7 Reihe 1.1: Zusammenfassende Übersichten für den Außenhandel, September 1993 and September 1994; own calculations.

³⁶ Jahresgutachten der Institute 1995.

³⁷ Dresdner Bank, Department of Economic Research: Ostdeutschland holt auf, August 1994. Achieving 80% of average western German GDP would mean reaching the same level as the economically weaker western Länder, for example Schleswig-Holstein, and therefore is an appropriate goal for the new Länder.

³⁸ Statistisches Bundesamt.

³⁹ Statistisches Bundesamt: Volkswirtschaftliche Gesamtrechnungen 1994; IWH: Wirtschaft im Wandel, February 1995.

⁴⁰ DIW, IWH, Institut für Weltwirtschaft Kiel: Zwölfter Bericht, in: DIW-Wochenbericht No. 3/95, January 19, 1995.

⁴¹ Ibid. Measured on the basis of investment agreements until the year 2000 of firms purchased from the Treuhandanstalt (as of September 30, 1994).

⁴² Ibid.

half of the GDP growth in east Germany since 1991, and that unemployment is higher in the northern regions, has caused some observers to predict a widening north-south gap in the eastern German economy.⁴³ Regional policy in the form of aid to disadvantaged regions and support for small and medium-sized businesses and research and development will continue to play a vital role. The north-south differences, however, are unlikely to be any more extreme than those in west Germany and will in the medium run remain overshadowed by the economic gap between east and west Germany.

Future growth in particular branches of the economy will be determined as well from the business level. Branches with a high proportion of firms whose owners and managers are innovative, flexible, creative and not adverse to risk will have the greatest chances for success. Sales and marketing know-how at the management level are essential, too, for increasing exports. A few eastern German businesses have succeeded in raising the name recognition of their products outside the local region. Most of these are traditional firms that were well-known for decades before World War II. Names like Meißen (porcelain) and Jena (glass), as well as foodstuffs firms such as Rotkäppchen (sparkling wine), Thüringer Würstchen (sausages) and Rügener Camembert (cheese), many now under western German management, have been able to regain their regional market shares and are showing signs of supraregional success. The firms under eastern German ownership and management have a harder time making important contacts to suppliers and retailers outside the local region and lack the know-how and funds to market their products.

The branches with the best chances for future growth can be categorized under three general headings: high-tech industries, "new" sectors that cross traditional sector lines, and services.

High-tech

Eastern German wages, now nearly caught up to western German levels, rule out the possibility of

international competitiveness in labor-intensive industries. Eastern German industry can be competitive only by producing and marketing high-value-added finished products. The economics ministries and economic development agencies in all of the new Länder are giving priority to their high-tech industries in order to create high-skilled and high-paid jobs.⁴⁴ Growth in the high-tech branches in turn would facilitate expansion of the industry-related supplier chains and services.

On average the electrical engineering and electronics sector is the most important high-tech industry for the new Länder. Dresden, Jena, Erfurt, and Frankfurt (Oder), centers for electrical engineering already prior to the Second World War and during the GDR regime, are still functioning and are particularly active in microelectronics. The western German electronics giant Siemens founded Simec, a microchip factory in Dresden. The Siemens project, which is due to commence production next year, has given a boost to the branch in general.⁴⁵

Other high-tech branches with growth chances in east Germany include precision engineering (with its core in Jena), some areas of the chemicals industry such as pharmacology, and motor vehicle production. The best chances in the latter branch lie in the production of high-tech vehicle parts and possibly the production of electric autos. Success in this branch has up to now come from big-name western German firms that have moved production to east Germany.⁴⁶ In all of these high-tech industries growth and recovery are proceeding slowly, with self-sustaining dynamic upswing still a distant goal. Much will depend on future investments in these branches, and in particular in research and technology development at the regional and firm level.

"New" Sectors

The so-called "new" sectors are also high-tech and cross over traditionally defined industry, service and trade sectors. One such sector which has future potential in east Germany is the environment. Often mentioned by state government officials and development agents in discussions about "future" sectors, the environment sector is made up of the following three subdivisions: environmental technology; environmental planning and consulting; and disposal, clean-up and recycling. Due to high local demand, production-oriented services such as sewage and waste disposal, air pollution control, water pollution prevention and (toxic) waste clean-up have expanded greatly in east Germany since

⁴³ Statistisches Landesamt für Wirtschaft und Arbeit: Wirtschaftstelegramm, February 1995.

⁴⁴ Personal and telephone interviews with employees of the economic development agencies (Wirtschaftsfördergesellschaften) or economics ministry officials of the new Länder, autumn 1994 to spring 1995.

⁴⁵ Rainer Narendorf: Zwei Jahre vor Produktionsbeginn schon Hunderte von Mitarbeitern, in: Handelsblatt, February 24, 1995.

⁴⁶ Eine Schwalbe macht noch keinen Sommer, in: Süddeutsche Zeitung, January 5, 1995.

reunification. Strict environmental laws and state support for environmental measures will ensure continued high demand in the short and long run.⁴⁷

Saxony has the most firms falling under the environment sector, most of them located in Leipzig and Dresden. They numbered 670 at the end of 1994.⁴⁸ Producers of environmental technology are also prevalent in Saxony-Anhalt (in Halle) and Thuringia (in Erfurt).⁴⁹

East Germany's environmental sector is hardly active in export markets. Geographic proximity to the eastern European countries badly in need of environmental technology and services represent potential markets for eastern German environmental firms. This comparative advantage and the potential for success are overshadowed, however, by growing competition in the environmental sector on the German market. Eastern German firms lack the capital and the marketing skills to compete with western German and foreign firms on the international market.

Telecommunications is another "new" sector of increasing importance for the world as well as for the future of the eastern German economy. Billions of German marks were invested in the comprehensive and rapid development of the most modern telephone and communications systems.⁵⁰ Telecommunications play a vital role in linking production and services and increasing their productivity and efficiency. Eastern German businesses should attempt to jump on the "information highway" and supply the growing domestic demand in this sector. Here, too, they will be confronted with competition from western German and foreign firms who are setting up shop in the East to take advantage of the high demand and modern communications infrastructure.

Services

The services sector in Germany, especially in east Germany, is small relative to other industrialized countries. Germany lags behind in service areas such as customer service, marketing, telebanking and On-

Line and Internet information systems. Now is the chance for eastern German firms, particularly the small and medium-sized businesses, to take advantage of this sector's potential and supply the demand, first in local regions and later perhaps supraregionally. The modern telecommunications infrastructure represents a comparative advantage in the services sector as well.

Again, the problem with this picture is the lack of capital for new technology. Experience of the last four years has shown that services in east Germany, in particular those with supraregional character, are offered mainly by western German and foreign firms. The services sector is predicted to grow by 7% in 1995, compared with an 8.5% growth in industry.⁵¹ Linking development, production, marketing, delivery and export will become increasingly vital in the future, in order to achieve a balanced economic structure of industry and services.

Conclusion

The fifth anniversary of German reunification presents an opportunity to assess the economic transformation that has taken place in the new eastern Länder. The high growth rates for the economy as a whole and for eastern German industry signify a stable upswing. Yet measured against the eastern German's original euphoric expectations and the massive transfers from west Germany, the progress seems too little and too slow. Still, there have been considerable structural economic changes with varying results for the different regions and branches of the economy. The process of transformation is far from complete.

The new Länder now face the test of whether they can create growth and jobs on their own. With domestic demand currently over 150% of economic output, self-sustaining growth is still far off.⁵² In the long run east Germany will pass the test if its firms succeed in selling their goods on the international market. The necessary investments are thwarted by financial difficulties. The high rate of official and unofficial unemployment is another negative factor.

Among the positive factors is the attractiveness of the new Länder as a *Standort*, or place of investment, aided by an improved infrastructure. In addition, east Germany, in its central geographic position, will benefit from the future widening of the European Union. The economic upswing can be accelerated through an economic policy that accentuates these advantages and supports the sectors with particular chances for the future.

⁴⁷ Jens Horbach: Der Umweltschutzmarkt in den neuen Bundesländern, in: Institut für Wirtschaftsforschung Halle: IWH-Kurzinformation, December 10, 1993.

⁴⁸ Wirtschaftsförderung Sachsen GmbH, interview April 26, 1995.

⁴⁹ Cf. Jens Horbach, op. cit.

⁵⁰ IWH Halle: Konjunkturbericht No. 9/94, December 1994.

⁵¹ Dresdner Bank: Deutschland holt auf, August 1994.

⁵² Sachverständigenrat 1994/95; IWH Halle: Konjunkturbericht No. 9/94, December 1994.