

German Trade with the EMU Stepping Up

The foundation of the single market in the EU was expected at the time to give a strong boost to trade between the member countries, and this expectation has been largely fulfilled. In nominal terms Germany increased its exports to the other EMU countries by 73% between 1993 and 2000. Trade between the euro zone and non-EMU countries expanded at a similar rate to intra-EMU trade during this period (cf. figure 1), suggesting that the growth in trade between EMU countries did not exceed the general growth in world trade. However, it must be noted that many eastern European countries have only recently been integrated into the world market and that the growth in trade with these countries was thus particularly dynamic.

Germany is the most important trading partner within the euro zone, accounting for over a fifth of all intra-EMU trade.¹ In the second half of the 1990s, the nominal growth in German exports to other EMU countries was lower than the growth in intra-trade between the rest of the EMU countries (cf. figure 2). This trend is initially surprising, because there had been a significant improvement during this period in the competitiveness of German firms, which had substantially lower unit labour costs than the average for the other EMU countries (cf. figure 3). This may have led to a less substantial increase in German export prices compared with the rest of the euro zone, so that the increase in the value of exports was accordingly weaker. Calculations of the real values might reveal a different picture. The weaker intra-EMU trade on the part of domestic German firms might also be explained by the fact that the markets in the other EMU countries are served by German subsidiaries in the country in question or in another EMU country. German firms did better in external trade than those in the other EMU countries, probably because Germany has particularly close trade links with the countries of eastern Europe.

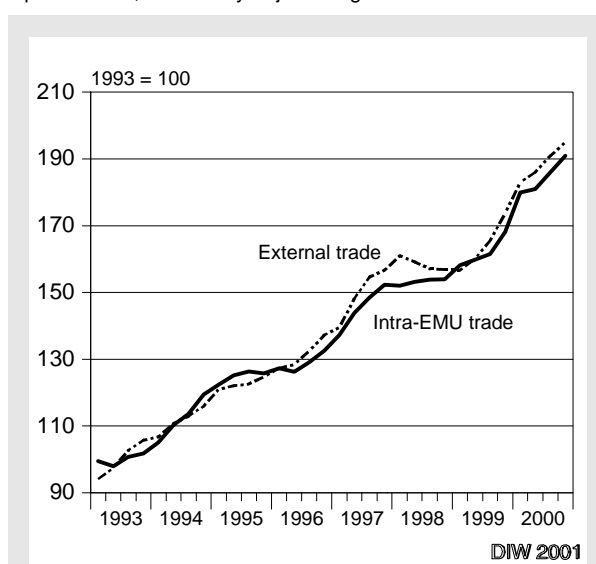
¹ The DIW's database for intra-EMU trade compiled on the basis of monthly data from the International Monetary Fund's *Direction of Trade Statistics*. The data are adjusted for inadequacies and the time series are adapted to the data published by Eurostat. Each EMU country's bilateral exports and imports with the other partner countries are determined. The database has been compiled on a quarterly basis since 1980 and the figures are presented in euros; the values for the pre-euro period were converted into euros at the prevailing exchange rate. The analysis in this report is based on the nominal figures; the calculations based on the real values have not yet been completed.

Decrease in current account deficit

Germany has traditionally achieved a high surplus in its goods trade with the EMU countries. The goods trade surplus increased from DM 38 billion in 1993² to DM 73 billion in 1999, and thus almost doubled. The surplus for the first three quarters of 2000 was already a hefty DM 62 billion (cf. table 1). The higher goods trade surplus now almost offsets the deficits in the other areas of the current account. The high deficits recorded between 1995 and 1997 were already significantly reduced in 1998. The current account for 2000 is likely to have closed with a deficit of only DM 2 billion, although imports grew at an accelerated rate that year owing to the increase in the prices of crude energy products, which are largely imported from the Netherlands.

A detailed analysis of German exports by country shows that exports to Spain, Portugal, Finland and Ireland – in other to words countries that have only gradually been integrated into the euro zone – have grown particularly briskly since 1997. This must be seen

Figure 1
EMU (12):¹
External Trade and Intra-EMU-trade
Special trade, seasonally adjusted figures²



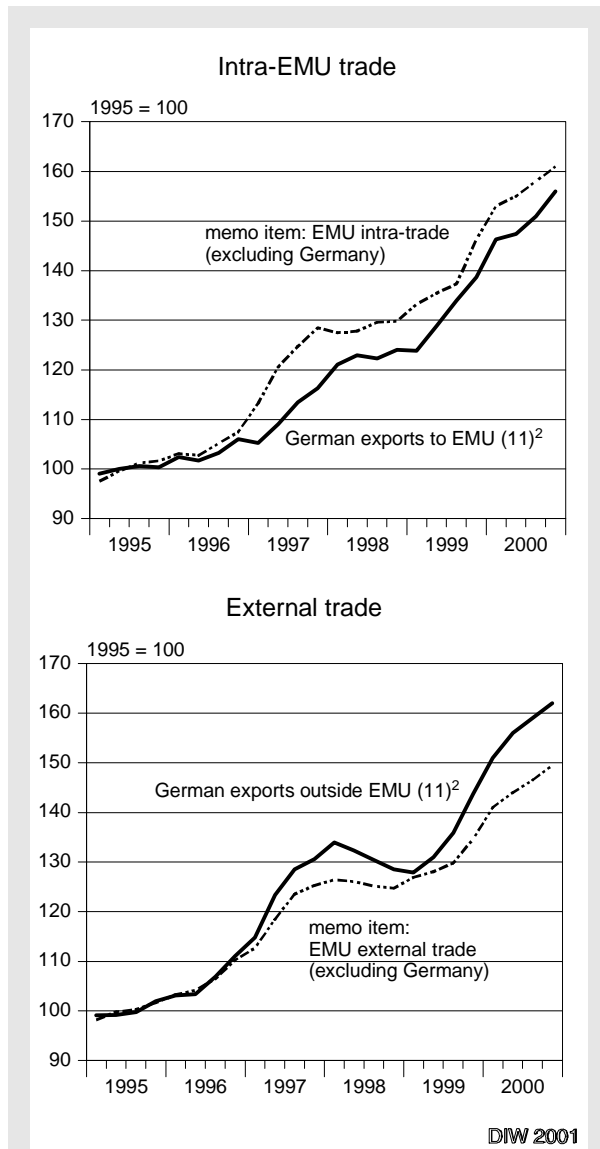
¹ Germany, France, Italy, Belgium, Luxembourg, Netherlands, Spain, Austria, Portugal, Ireland, Finland and Greece. — ² Seasonally adjusted using Berlin method (BV4).
Sources: IMF; DIW calculations and estimate (2000).

² It was extremely difficult to calculate intra-community trade for the years 1993 and 1994, and some of the data are thus analysed in detail only from 1995 onwards.

Figure 2

German Exports

Special trade, seasonally adjusted figures¹



1 Seasonally adjusted using Berlin method (BV4). – 2 France, Italy, Belgium, Luxembourg, Netherlands, Spain, Austria, Portugal, Ireland, Finland and Greece. Sources: IMF; Federal Statistical Office; DIW calculations and estimate (2000).

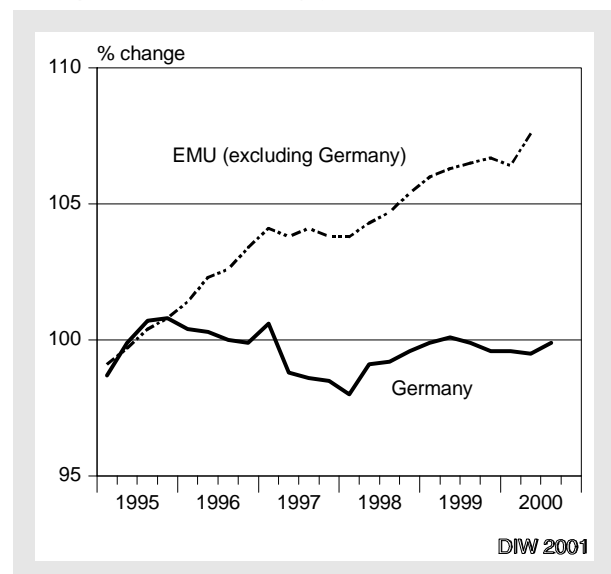
against the background of above-average growth in these countries. However, there was little growth in exports to the Netherlands, where the strength of economic growth between 1997 and 1999 was similar to that in Spain. Clearly the structure of exports is significant here: Spain is an important production location for the automobile industry. Trade in intermediate products for industry accounts for a large share of intra-EMU trade, for example with Spain and Ireland.³

The increase in Germany's surplus in goods trade with the EMU countries is largely based on the exchange of goods with the big trading partners, especially France. Goods trade with the Netherlands and Ireland, by contrast, has regularly shown deficits since 1997. In the case of the Netherlands this is due in part to large-scale importing of energy products (natural gas) and in the case of Ireland – following extensive direct investment on the part of Germany – to a boom in imports of chemical products.

Germany's trade in services within the euro zone increased at a much slower rate overall than trade in goods (cf. figure 4). It must be remembered here that it is extremely difficult to compile statistics on services, and that this also applies to the tourist trade, the most important item in the service trade balance with the other EMU countries. Around half of German expenditure on services bought from other EMU countries is due to tourism. The figures are highest for the traditional holiday destinations of Italy, Spain and Austria, while France, Greece and the Netherlands follow at some distance. In addition, Germany also has a surplus

Figure 3

German Unit Labour Costs¹ Compared with EMU (7)²



1 Gross income from dependent employment as share of real GDP; seasonally adjusted using Berlin method (BV4). – 2 France, Italy, Belgium, Netherlands, Spain, Austria and Finland. Sources: Federal Statistical Office; national statistics; DIW calculations.

³ Cf. Jörn Kleiner: 'Growing Trade in Intermediate Goods: Outsourcing, Global Sourcing or Increasing Importance of MNE Networks?', *Kiel Working Papers*, No. 1006, Kiel 2000.

Table 1

Germany's Current Account with the Euro Zone (11)

In DM billions, seasonally adjusted figures¹

	Goods trade ²			Services ³			Income from employment and assets			Current transfer balance	Current account balance
	Exports (fob)	Imports (fob)	Balance	Revenue	Expenditure	Balance	Revenue	Expenditure	Balance		
EMU (11)											
1993	296.15	257.87	38.28	38.08	75.54	-37.47	50.54	48.16	2.38	-5.83	-2.64
1994	321.01	278.78	42.24	37.78	79.89	-42.11	46.37	49.88	-3.51	-6.24	-9.62
1995	341.75	303.07	38.68	42.87	83.49	-40.62	43.20	54.83	-11.63	-5.60	-19.16
1996	353.14	310.81	42.33	46.27	87.88	-41.60	47.24	59.45	-12.21	-5.62	-17.10
1997	379.15	337.40	41.75	48.98	93.99	-45.01	55.39	67.38	-11.98	-5.77	-21.03
1998	418.30	362.26	56.04	51.36	99.76	-48.39	61.45	69.18	-7.73	-5.89	-5.97
1999	448.21	375.22	73.00	54.06	107.53	-53.48	67.19	87.28	-20.08	-6.25	-6.81
1999 I	105.69	89.90	15.79	12.60	25.92	-13.32	15.99	20.22	-4.23	-1.57	-3.32
1999 II	109.92	92.64	17.28	13.86	26.86	-13.00	17.67	21.73	-4.06	-1.54	-1.31
1999 III	114.22	95.35	18.87	13.52	26.78	-13.26	16.57	21.85	-5.29	-1.51	-1.19
1999 IV	118.38	97.33	21.05	14.07	27.98	-13.90	16.98	23.48	-6.50	-1.64	-0.99
2000 I	124.75	102.50	22.25	14.39	28.26	-13.87	19.34	23.23	-3.89	-1.64	2.85
2000 II	125.60	104.34	21.26	13.50	28.40	-14.90	18.92	23.66	-4.74	-1.68	-0.06
2000 III	128.80	109.91	18.90	13.73	27.77	-14.04	20.50	28.84	-8.34	-1.47	-4.96
EMU (6) ⁴											
1993	238.82	212.06	26.76	30.14	54.02	-23.88	43.75	44.29	-0.54	-3.63	-1.30
1994	260.86	227.96	32.90	29.58	57.26	-27.68	40.24	45.69	-5.45	-3.56	-3.79
1995	277.94	252.06	25.88	33.22	60.91	-27.69	36.72	50.08	-13.36	-3.22	-18.39
1996	283.87	257.92	25.94	35.22	64.72	-29.51	41.83	55.13	-13.30	-3.16	-20.02
1997	305.40	280.53	24.87	37.45	69.50	-32.05	44.09	61.66	-17.56	-3.23	-27.97
1998	335.36	295.46	39.90	39.15	74.28	-35.12	50.31	63.11	-12.80	-3.50	-11.53
1999	357.27	296.81	60.46	41.46	79.67	-38.20	56.49	80.21	-23.71	-3.75	-5.21
1999 I	84.41	71.56	12.85	9.40	19.27	-9.87	13.33	18.48	-5.15	-0.94	-3.11
1999 II	87.64	74.34	13.30	10.76	19.74	-8.98	14.87	19.94	-5.07	-0.84	-1.60
1999 III	91.02	74.33	16.69	10.36	19.82	-9.46	13.87	20.06	-6.19	-0.95	0.09
1999 IV	94.20	76.59	17.61	10.95	20.83	-9.89	14.42	21.73	-7.31	-1.01	-0.60
2000 I	99.50	82.74	16.76	11.35	21.03	-9.68	16.03	21.38	-5.35	-1.06	0.66
2000 II	100.55	84.51	16.03	10.07	21.23	-11.16	15.50	21.76	-6.26	-1.10	-2.48
2000 III	103.01	89.16	13.85	10.63	20.86	-10.24	17.01	26.85	-9.85	-0.84	-7.07

1 Quarters seasonally adjusted using Berlin method (BV4). — 2 Special trade according to official export statistics, including supplements to goods trade and minus freight and insurance costs. — 3 Including freight and insurance costs for imports. — 4 France, Italy, Belgium, Luxembourg, the Netherlands, Spain.
Sources: Federal Statistical Office; German Bundesbank; DIW calculations.

in expenditure to these countries, with the exception of the Netherlands, for transport services, the second, most important services item. In 1999 the six most important tourist countries accounted for around 87% of German trade in services with the EMU countries. These countries account for 97% of Germany's total services account deficit with the euro zone.

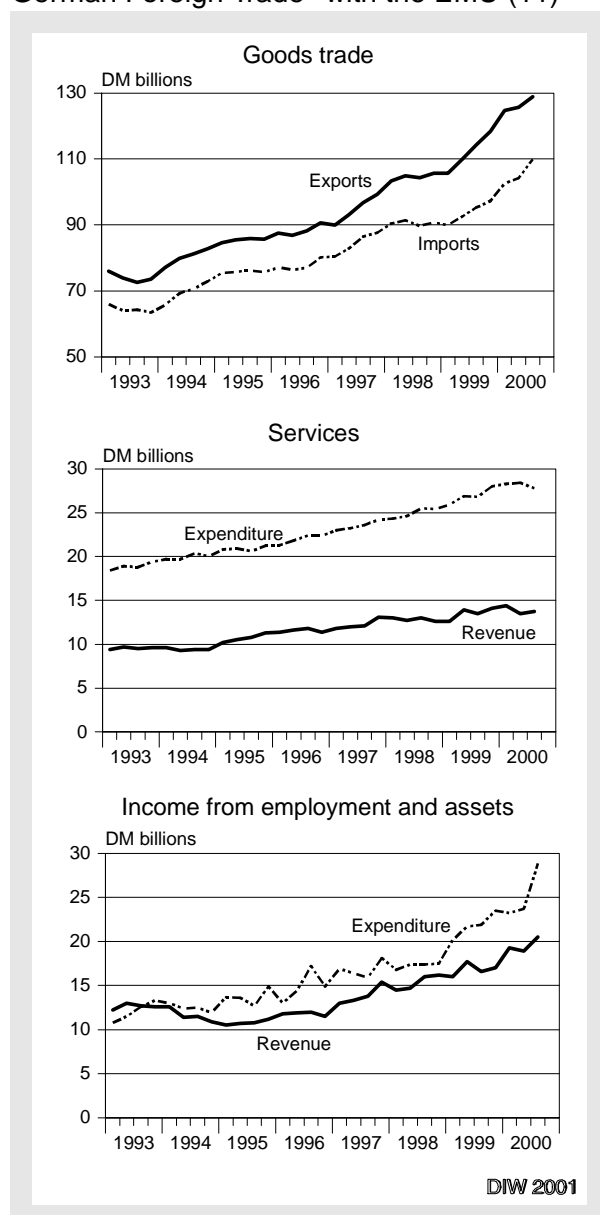
Since 1994 Germany has shown a deficit in the balance of income from employment and assets – which mirrors trade in goods and services – because the capital accumulated through trade is exported again. The deficit increased sharply in 1995 and 1999. This development was closely related to the change in Germany's net capital investments balance – in each of the previous years there had been a significant shift in the net position in favour of the partner countries (cf. table 2). Although Germany has shown a surplus since 1995 in the balance of income from employment and assets against most of the EMU countries, with the exception of Italy, the surplus was always marginal. It was the high deficit in income from assets from Belgium/Luxembourg and the Netherlands that led to the overall nega-

tive balance for income from employment and assets. It is striking that in 1999 interest payments on loans from the EMU partners exceeded the interest received on German loans by over DM 7 billion. This was due to substantial transfers of net capital investments in the banking sector the previous year. Germany showed a deficit of around DM 13 billion for securities investments in 1999. The balance for net capital investments as regards investment in securities had also increased sharply to Germany's disadvantage in 1998. The fact that this balance worsened again in 1999 implies that the deficit for income from investment in securities will increase further in 2000.

Automobiles main export-good category ...

Automobiles, which accounted for almost a fifth of total exports to EMU countries in the first half of 2000, are Germany's most important export commodity (cf. table 3). This sector is also highly important with

Figure 4
German Foreign Trade¹ with the EMU (11)



¹ Seasonally adjusted using Berlin method (BV4).
Sources: Federal Statistics Office; German Bundesbank; DIW calculations.

respect to German direct investments in the EMU. Car manufacturers safeguard their competitive position by investing in foreign production plants, and especially in retail and maintenance firms.⁴

⁴ The effect of direct investments is particularly evident in the smaller countries. Exports of automobiles to Portugal and Ireland expanded briskly between 1995 and 2000, increasing as a share of total exports to these two countries from 14% to 21% and from 8% to 23%, respectively. Increased direct investment also led to above-average growth in automobile exports to Spain, Italy and the Netherlands.

Automobiles account for a much higher share of exports than electrical products (12%) and machinery (10%), but together these three categories make up around 60% of total German sales of finished products to EMU countries. Export trends have varied considerably across the individual sectors in recent years. Following the sharp increase in the first half of 1999, sales of automobiles to EMU countries increased only slightly up to the first half of 2000. The trend was similar in the machinery sector, where, after the sharp increase in the first half of 1999, and exports then actually declined. Exports of electrical products, by contrast, as well as office and computing equipment, expanded briskly.

The dynamic growth in aircraft exports is notable. This sector's share of total exports increased from 2.7% in 1995 to 3.8% in the first half of 2000. The main destination for these exports in the euro zone is France, and they are related to the production of the Airbus. This is a typical example of an international production process based on division of labour, which is why there has also been a sharp increase in imports in this sector.

The strong position of the German chemical industry in intra-EMU trade is not as obvious as for the other sectors because of the heterogeneity of the goods involved. Like machinery manufacture, this sector's share of total exports has remained more or less stable in recent years.

Table 2
German Capital Transactions
with EMU Countries (10)¹

As defined by balance of payments statistics, DM billions

	Net capital investment		
	From Germany to EMU ²	From EMU to Germany ³	Balance
	Total		
1995	-44 016	49 509	-93 525
1996	-53 285	43 869	-97 154
1997	-127 143	50 831	-177 974
1998	-291 810	130 506	-422 316
1999	-372 742	93 156	-465 898
2000 I to III	-260 420	-49 680	-210 740
	Direct investment		
1995	-17 621	5 402	-23 023
1996	-16 672	3 107	-19 779
1997	-19 911	8 143	-28 054
1998	-40 782	13 686	-54 468
1999	-21 954	63 171	-85 125
2000 I to III	17 385	40 716	-23 331

¹ EMU minus Greece. — ² Capital exports: (-). — ³ Capital imports: (+)
Source: German Bundesbank.

Table 3
Structure of German Foreign Trade with EMU Countries (10)¹

	% share						% change ²			
	Year			Half year			Year	Half year		
	1995	1998	1999	1999/I	1999/II	2000/I	1999	1999/I	1999/II	2000/I
	Exports									
Foodstuffs	6.4	6.1	5.8	5.6	6.0	5.5	0.7	-5.1	6.5	16.9
Raw materials, semi-finished goods	1.4	0.9	0.8	0.8	0.8	0.9	-5.2	-13.2	3.9	25.7
Finished goods: primary products of which:	22.5	20.2	18.5	18.3	18.8	19.6	-3.3	-11.9	6.5	27.1
other chemical products	3.0	2.4	2.3	2.3	2.4	2.4	2.5	-6.8	13.4	23.7
steel tubing, iron, sheet metal	2.7	2.3	1.8	1.9	1.8	1.9	-15.9	-22.4	-7.9	20.3
Finished goods: finished products of which:	65.4	66.4	67.8	68.6	67.0	65.2	7.3	6.9	7.8	12.9
automobiles	16.9	18.7	19.0	20.2	17.9	18.2	7.1	11.8	2.4	7.0
electrical goods	11.4	10.6	11.3	10.7	11.9	11.5	11.5	5.0	17.7	27.9
machinery	10.4	10.3	10.8	12.4	9.3	9.8	10.3	25.2	-4.5	-6.3
aircraft	2.7	3.8	4.3	4.8	3.9	3.8	19.7	21.4	17.7	-5.8
office and computing equipment	2.4	2.5	2.6	2.4	2.8	2.8	9.3	1.7	16.5	39.3
iron goods	2.9	2.8	2.6	2.6	2.6	2.5	-2.1	-5.6	1.4	15.2
pharmaceutical products and cosmetics	2.2	2.3	2.4	2.4	2.4	2.2	6.4	9.1	4.0	11.0
Other ³	4.3	6.4	7.1	6.7	7.4	8.8	15.4	-4.2	40.6	55.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	5.2	1.2	9.3	18.7
Total in DM billions	335.7	408.7	429.9	211.7	218.2	251.3				
	Imports									
Foodstuffs	12.9	11.5	10.7	10.9	10.6	9.7	-3.5	-3.4	0.1	3.8
Raw materials, semi-finished goods	1.1	0.8	0.7	0.7	0.7	0.7	-9.5	-13.4	-5.1	16.0
Finished goods: primary products of which:	26.5	22.7	20.1	19.9	20.3	22.2	-8.4	-14.0	-2.3	30.7
other chemical products	2.3	2.1	1.9	1.8	2.0	1.9	-6.6	-16.3	3.9	26.2
steel tubing, iron, sheet metal	3.5	2.7	2.4	2.4	2.4	2.5	-10.6	-11.8	-9.4	23.0
Finished goods: finished products of which:	51.6	51.0	51.7	52.5	50.9	47.8	4.7	3.4	6.1	6.5
automobiles	14.2	13.9	13.4	13.9	13.0	12.3	0.2	0.0	0.4	3.8
electrical goods	7.6	7.3	7.3	7.3	7.4	7.5	3.3	2.8	3.7	20.2
machinery	5.4	5.2	5.3	5.4	5.1	4.9	4.6	4.5	4.8	5.0
aircraft	2.2	3.9	3.9	4.0	3.8	4.1	3.8	-7.5	18.9	18.0
office and computing equipment	1.9	2.4	2.7	2.6	2.8	2.3	14.7	22.9	8.2	3.3
iron goods	2.5	2.2	2.1	2.1	2.1	2.0	-1.2	-4.1	1.8	9.7
pharmaceutical products and cosmetics	2.1	2.5	4.0	4.0	3.9	2.9	65.0	70.8	59.7	-14.3
Other ³	8.0	14.1	16.7	16.0	17.5	19.5	22.8	11.0	35.8	42.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	3.2	-0.8	7.5	16.9
Total in DM billions	301.5	352.0	363.4	179.1	184.3	209.4				

¹ France, Italy, Belgium, Luxembourg, The Netherlands, Spain, Austria, Portugal, Ireland, Finland. — ² Absolute change on previous year. — ³ Returned goods, replacement deliveries and unregistered intra-trade.

Sources: Federal Statistical Office; DIW calculations.

... and main import category

Automobiles, which accounted for over 12% of total imports from within the euro zone in the first half of 2000, are also the most important import category. As in the case of exports, electrical goods and machinery are in second and third place, respectively. Automobile imports grew at a below-average rate in 1999 and the first half of 2000; however, it must be remembered that

it is particularly difficult to compile statistics on intra-EMU imports.⁵ The strong growth in the 'other' category, which includes returned goods, replacement deliveries and unregistered imports, distorts the significance of the data on the structure of imports by sector. The share of 'other' imports increased from 8% in 1995 to almost 20% in the first half of 2000.

⁵ Eurostat, External and internal trade of the European Union, Statistical Yearbook 1999, p. 6.

Similar to exports, imports of electrical goods and office and computing equipment expanded extremely rapidly. The rapid growth in imports of pharmaceutical products, by contrast, has not continued in recent years.

Looking at the imports by country of origin it is possible to identify sectors which are presumably closely linked to German firms through direct investments. These links helped the small countries on the periphery of the euro zone to catch up economically. There was a boom in imports of pharmaceutical products and computing equipment from Ireland: imports of these goods as a share of total imports from Ireland increased from 44% in 1995 to 62% in 1999. Among the imports from Portugal, electrical goods and automobiles are extremely important (44% of imports in 1999)⁶: the import share of knitted goods and clothing declined, by contrast, from 20% in 1995 to 19% in 1999.

Additional impulses from the single market

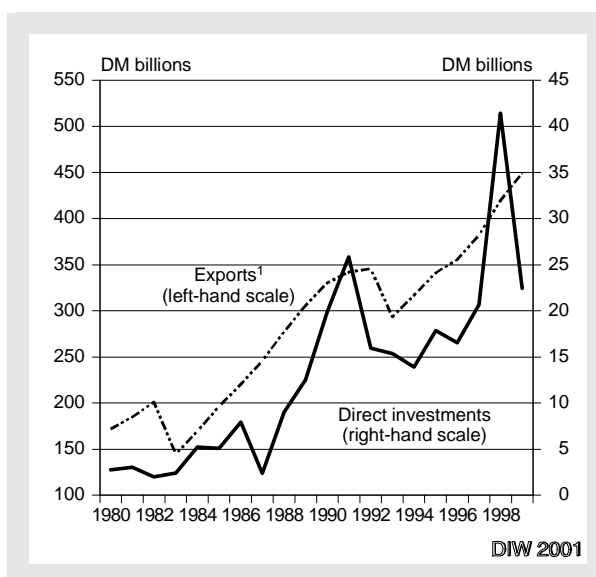
Exports to the euro zone (11) account in nominal terms for 45% of total German exports, and this share has remained more or less unchanged since the foundation of the single market. In part this is due to the fact that the growth dynamic in the core countries (France, Belgium, Netherlands and Italy) has been much lower than in the newly integrated countries, and especially than in other export markets (North America and Eastern Europe). The share of German exports going to EMU core countries decreased from over 34% in 1993 to 31% in 2000.

The continued expansion of intra-trade in the euro zone has been highly favoured by the introduction of the euro in 1999 and by the constant pressure to rationalise production in view of increasingly tough international competition. The automobile industry plays a key role here: the EU is the biggest automobile manufacturer, followed by the USA and Japan.⁷ As production is geared towards the single market, which is visibly becoming increasingly standardised thanks to harmonisation efforts, cost reductions will be favoured and production will be concentrated in just a few production locations. However, there will be more intensive trading between firms in these production locations in the EMU countries. Similar developments will emerge in the other large export sectors (electronics and chemicals). Inter-

⁶ These figures show that direct investment can also act as a substitute for German exports. Cf. Lionel Fontagné: 'Foreign direct investment and international trade'. In: *OECD STI Working Papers* 3, Paris 1999. It must be pointed out that investment in countries on the periphery of the EU is supported by substantial subsidies.

⁷ Eurostat, 'Structural surplus of the EU in global automobile trade between 1990 and 1997', *Statistics in Focus*, 8/1998.

Figure 5
German Exports and Direct Investments to EMU Countries (11)



¹ Special trade.
Sources: Federal Statistics Office; German Bundesbank.

industry trade can be expected to become increasingly dynamic. And German direct investments in the euro zone (cf. figure 5), which show a growth trend, are likely to promote sales there.⁸

Services, which are still inadequately depicted in the statistics, must be given closer attention. In some EMU countries services already account for a larger share of GDP than industry. Cross-border trade in services will become much more important in the future. However, even higher barriers than in the case of the goods trade still have to be removed in the services sector. The trade barriers that still exist⁹ are probably the reason why revenue and expenditure in Germany's trade in services with the EMU countries expanded at a much slower rate than the goods trade in the 1990s. The share of total foreign trade with the euro zone accounted for by revenue from services has remained more or less stable at around 11% since 1993, while expenditure on services amounted to 22% in 1999. The increased transparency brought about by the introduction of the euro as the means of payment is likely to lead to further intensification of trade, especially in the services sector.

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⁸ On the influence of direct investment on exports, cf. German Bundesbank, 'Development and determining factors of cross-border direct investment', *Monthly Report*, 8/1997.

⁹ Cf. Paolo Cecchini, *Europe '92. The advantages of the single market.*